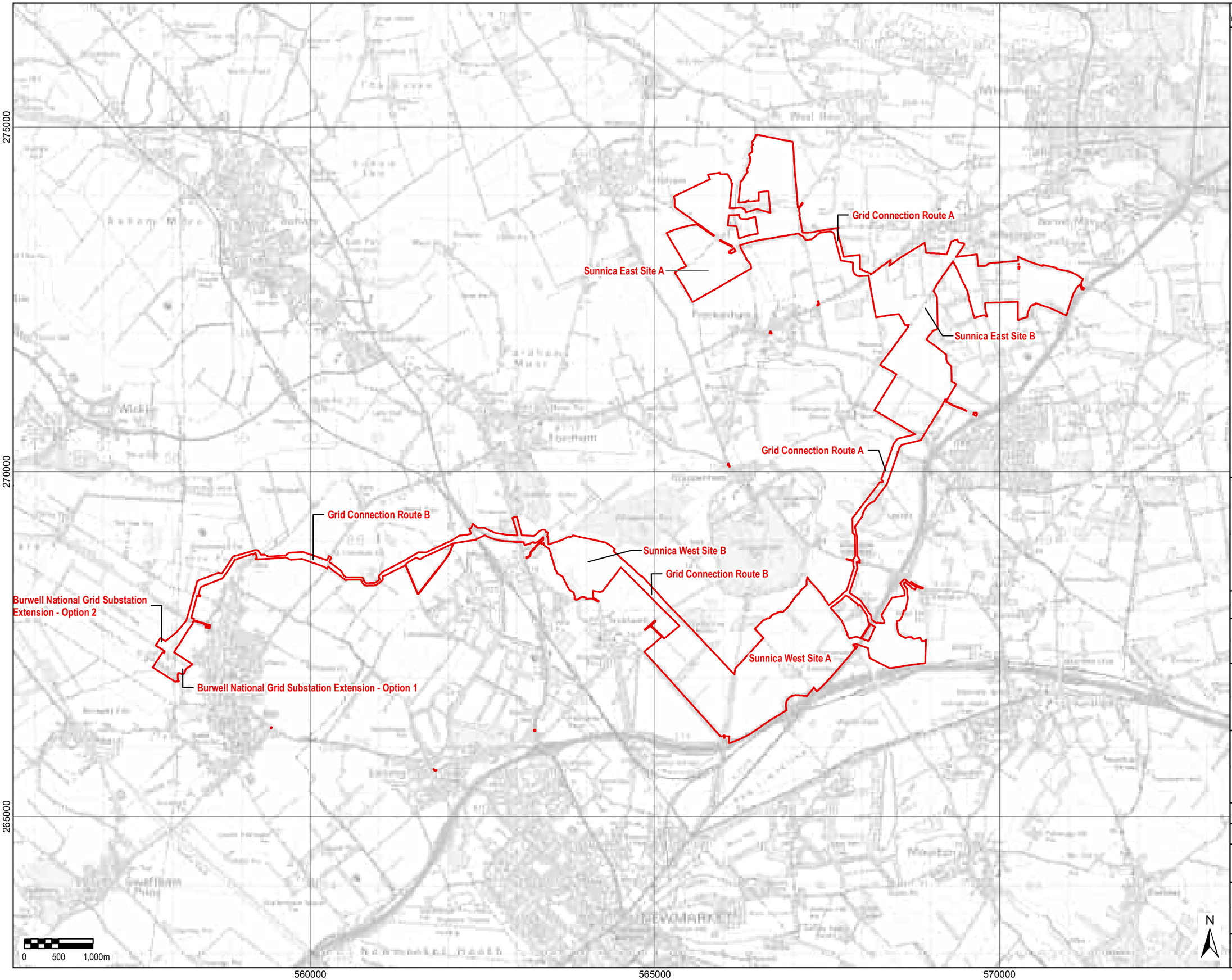
Annex A – Figures



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LEGEND

The Order Limits

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Client
SUNNICA LTD

Project Title

Drawing Title
FIGURE 1
SITE LOCATION

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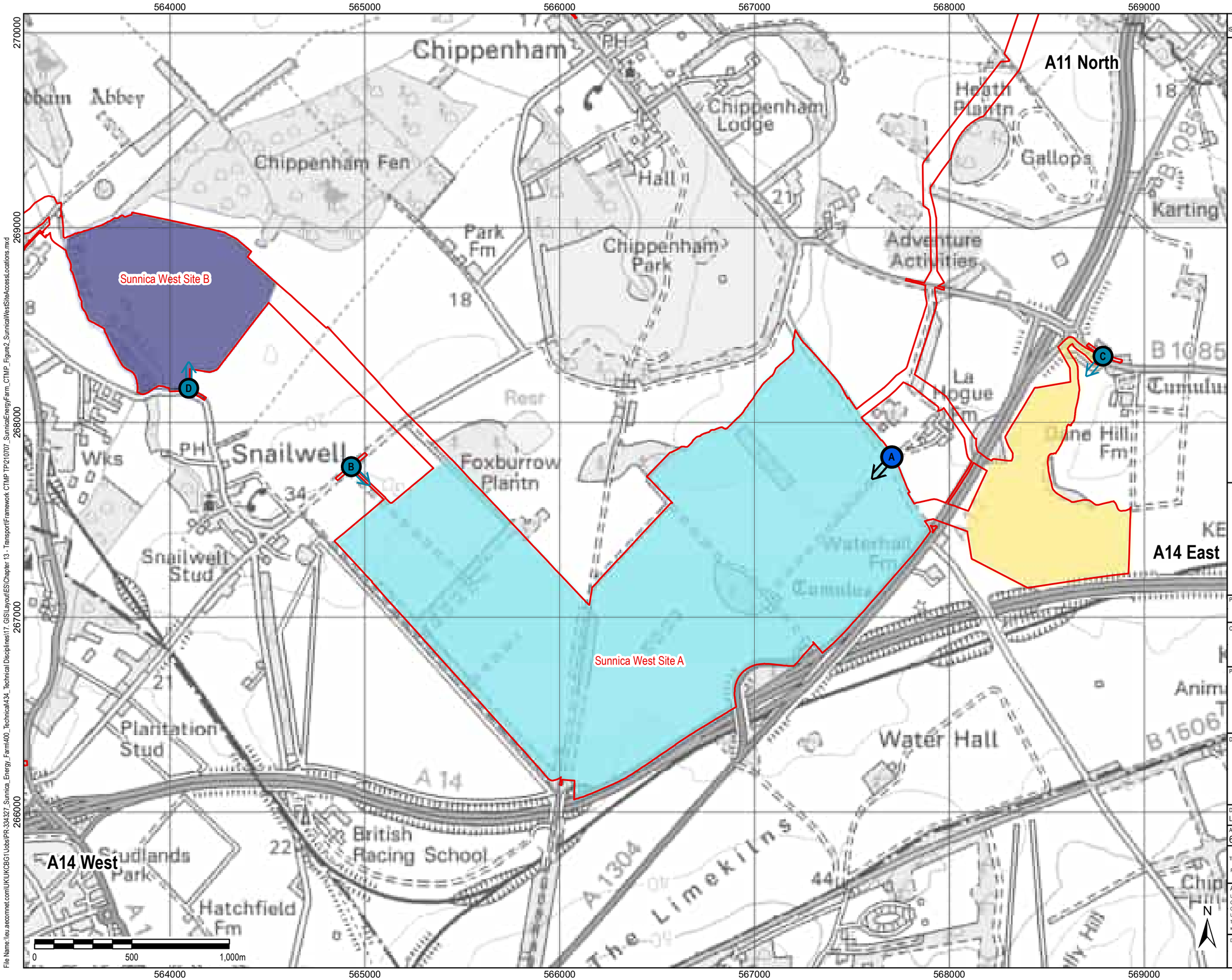

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The Order Limits

Indicative Construction Zone

Sunnica West 1 - 7 Months

Sunnica West 2 - 24 Months

Sunnica West 3 - 10 Months

Access Point

Primary Access: Construction, Operation and Decommissioning

Secondary Access: Construction, Operation and Decommissioning

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FIGURE 2
SUNNICA WEST SITE
ACCESS LOCATIONS

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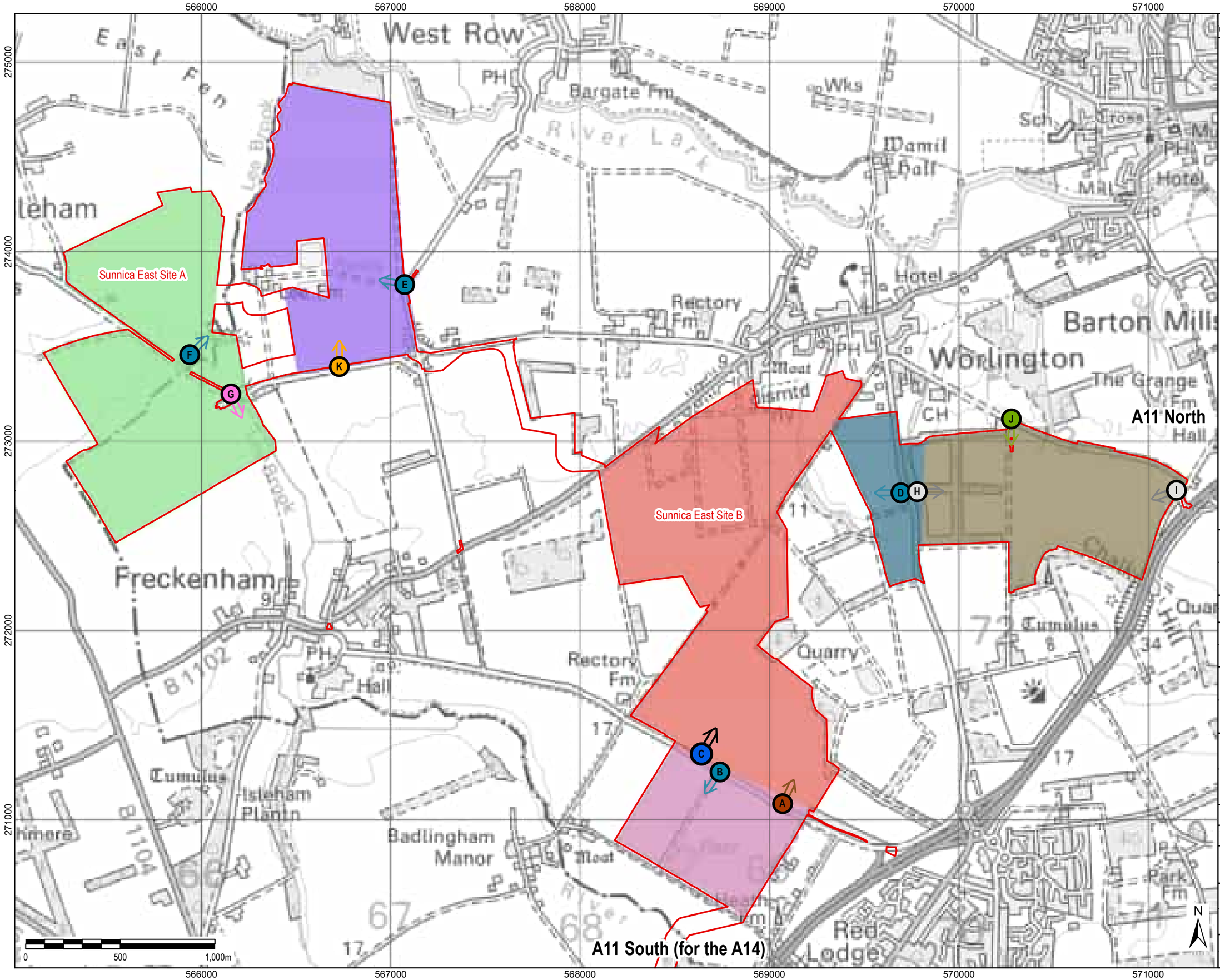

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The Order Limits

Indicative Construction Zone

- Sunnica East 1 - 12 Months
- Sunnica East 2 - 24 Months
- Sunnica East 3 - 24 Months
- Sunnica East 4 - 9 Months
- Sunnica East 5 - 13 Months
- Sunnica East 6 - 12 Months

Access Point

- Primary Access: Construction, Operation and Decommissioning
- Crane Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
- Secondary Access: Construction and Decommissioning Only
- Secondary Access: Construction, Operation and Decommissioning
- Secondary Access: Construction, Operation and Decommissioning (Not for HGV)
- Secondary Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
- Secondary Access: Operation only

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Client
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Project Title

Drawing Title
FIGURE 3
SUNNICA EAST SITE
ACCESS LOCATIONS

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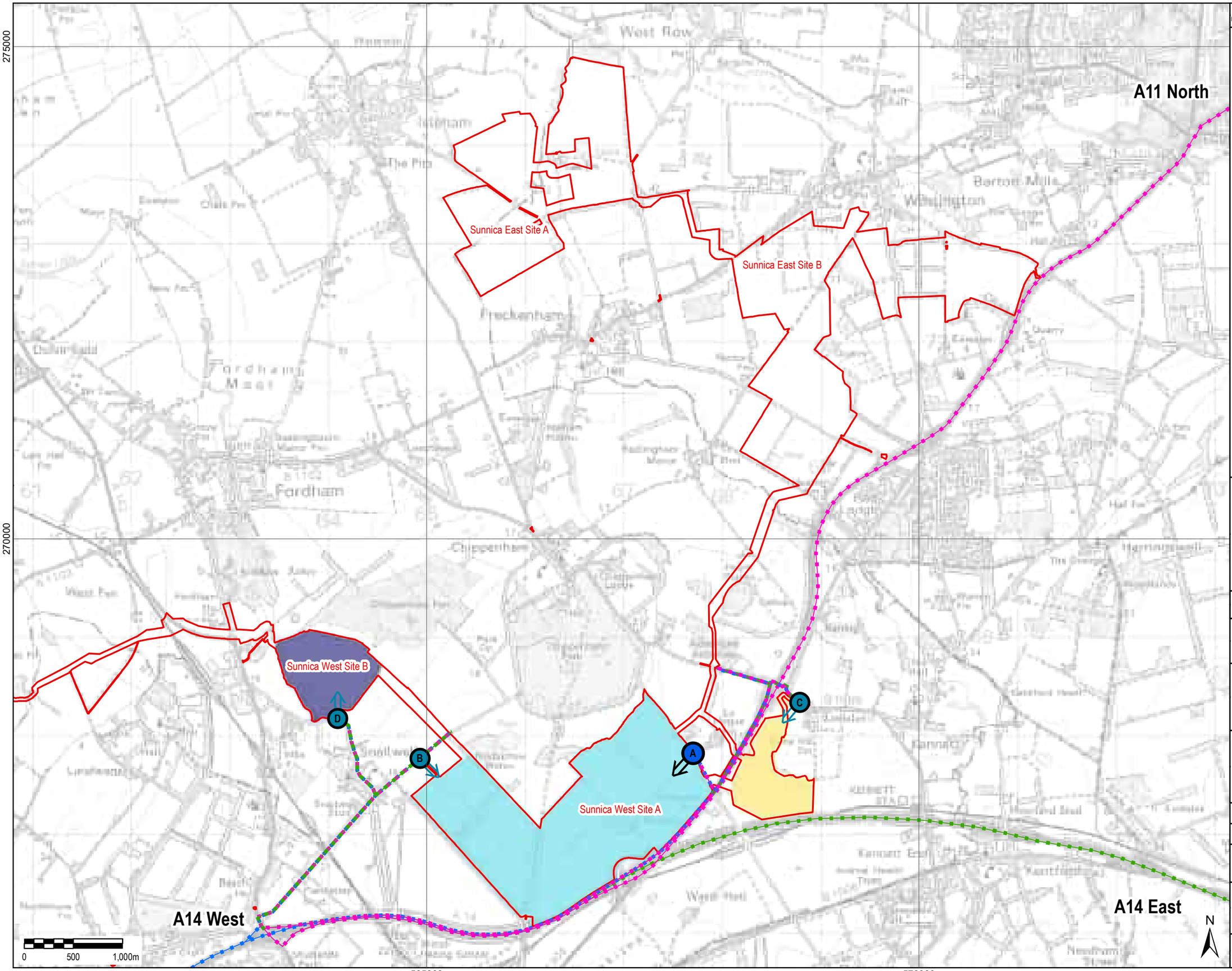

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The Order Limits

Sunnica West HGV Inbound

A14 E

A14 W

A11 N

Indicative Construction Zone

Sunnica West 1 - 7 Months

Sunnica West 2 - 24 Months

Sunnica West 3 - 10 Months

Access Point

Primary Access: Construction, Operation and Decommissioning

Secondary Access: Construction, Operation and Decommissioning

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FIGURE 4
SUNNICA WEST HGV
INBOUND ROUTES

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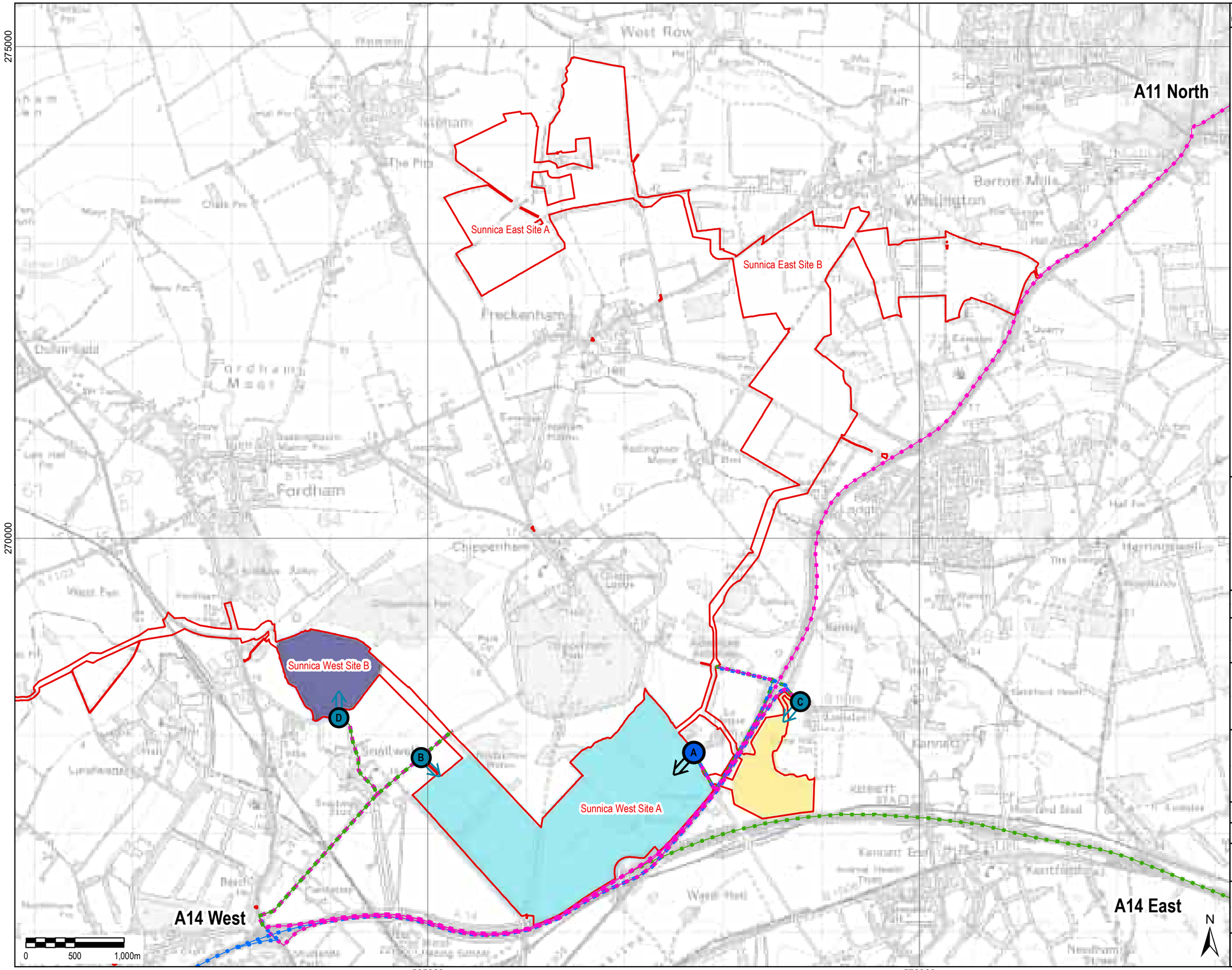

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The Order Limits

Sunnica West HGV Outbound

A14 E

A14 W

A11 N

Indicative Construction Zone

Sunnica West 1 - 7 Months

Sunnica West 2 - 24 Months

Sunnica West 3 - 10 Months

Access Point

Primary Access: Construction, Operation and Decommissioning

Secondary Access: Construction, Operation and Decommissioning

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FIGURE 5
SUNNICA WEST HGV
OUTBOUND ROUTES

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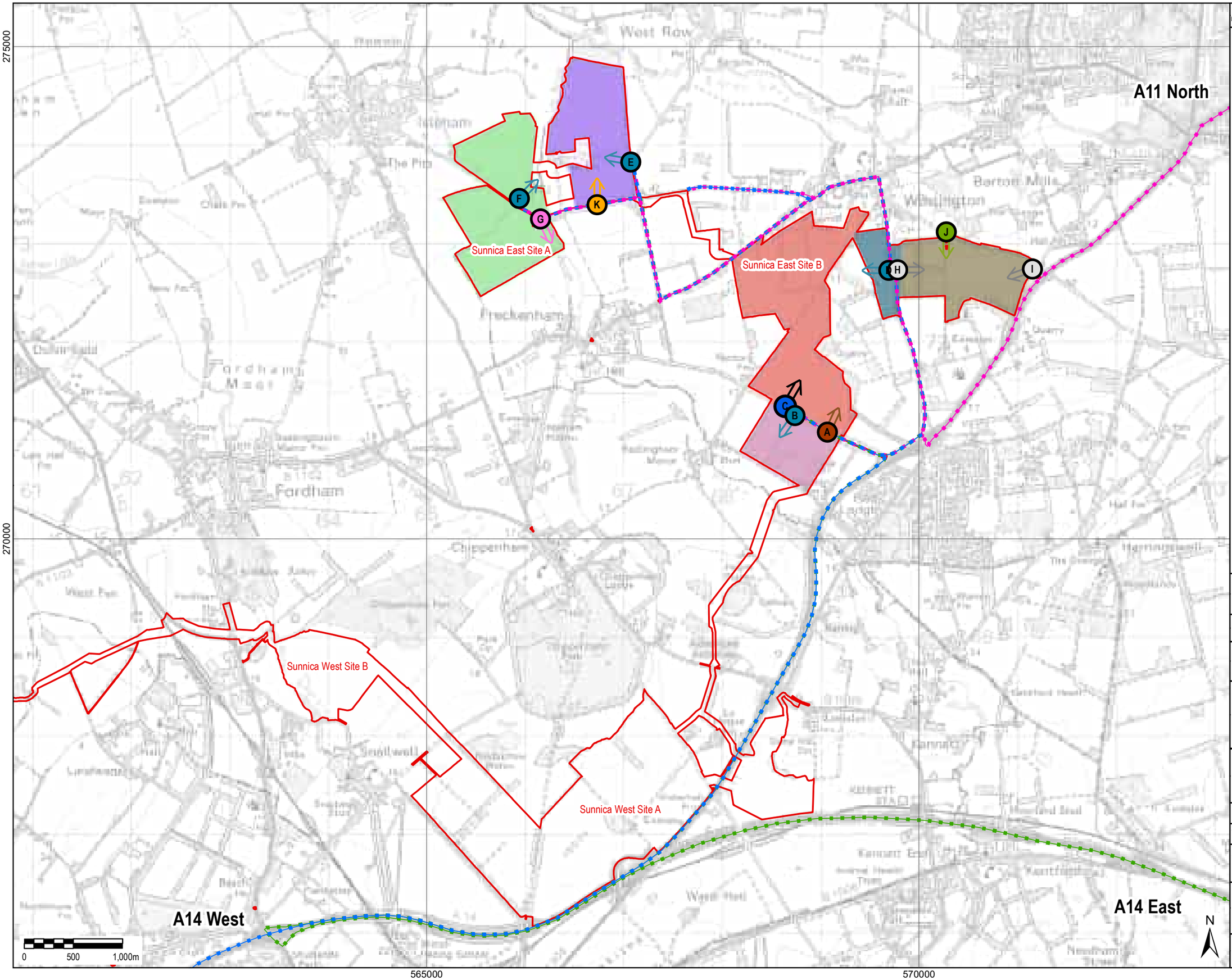

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The Order Limits

Sunnica East HGV Inbound

- A14 E
- A14 W
- A11 N

Indicative Construction Zone

- Sunnica East 1 - 12 Months
- Sunnica East 2 - 24 Months
- Sunnica East 3 - 24 Months
- Sunnica East 4 - 9 Months
- Sunnica East 5 - 13 Months
- Sunnica Esat 6 - 12 Months

Access Point

- Primary Access: Construction, Operation and Decommissioning
- Crane Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
- Secondary Access: Construction and Decommissioning Only
- Secondary Access: Construction, Operation and Decommissioning
- Secondary Access: Construction, Operation and Decommissioning (Not for HGV)
- Secondary Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
- Secondary Access: Operation only

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FIGURE 6
SUNNICA EAST
HGV INBOUND ROUTES

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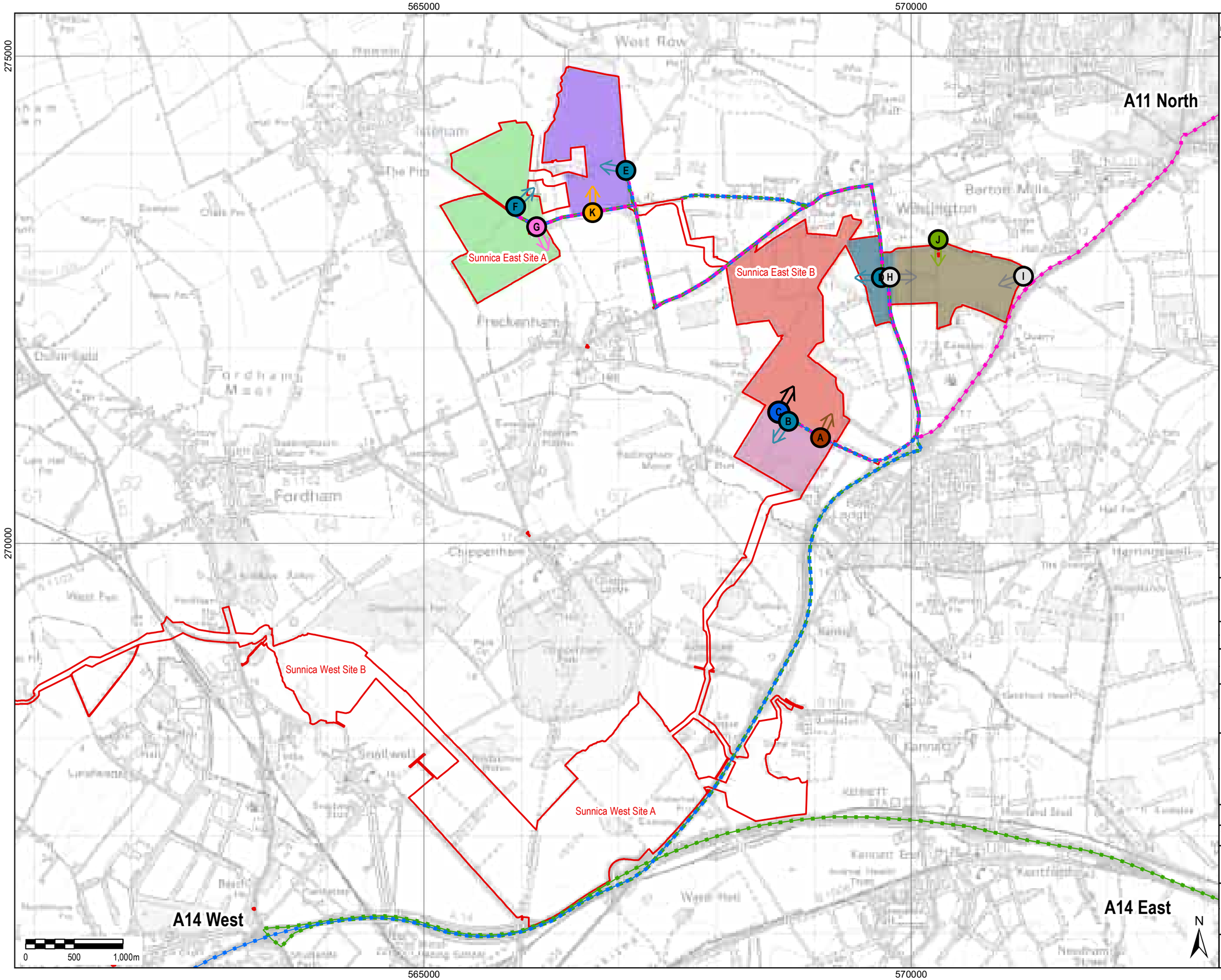

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The Order Limits

Sunnica East HGV Outbound

- A14 E
- A14 S
- A11 N

Indicative Construction Zone

- Sunnica East 1 - 12 Months
- Sunnica East 2 - 24 Months
- Sunnica East 3 - 24 Months
- Sunnica East 4 - 9 Months
- Sunnica East 5 - 13 Months
- Sunnica Esat 6 - 12 Months

Access Point

- Primary Access: Construction, Operation and Decommissioning
- Crane Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
- Secondary Access: Construction and Decommissioning Only
- Secondary Access: Construction, Operation and Decommissioning
- Secondary Access: Construction, Operation and Decommissioning (Not for HGV)
- Secondary Access: Construction, Decommissioning and for Emergency Vehicles in Operation Only
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FIGURE 7
SUNNICA EAST
HGV OUTBOUND ROUTES

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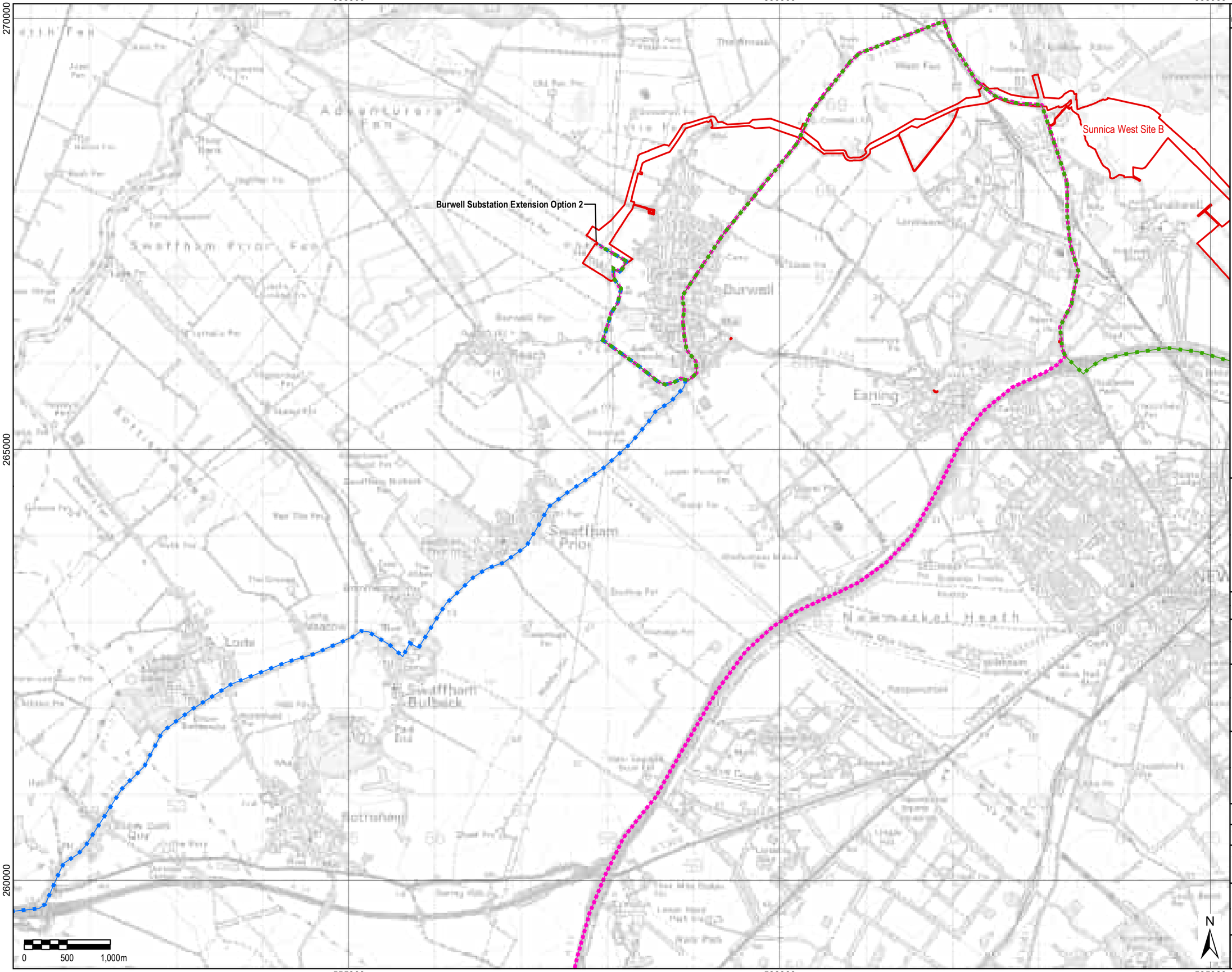

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The Order Limits

Burwell HGV

HGV Routes

A11 S

A14 E

A14 W

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FIGURE 8
BURWELL SUBSTATION
HGV INBOUND ROUTES

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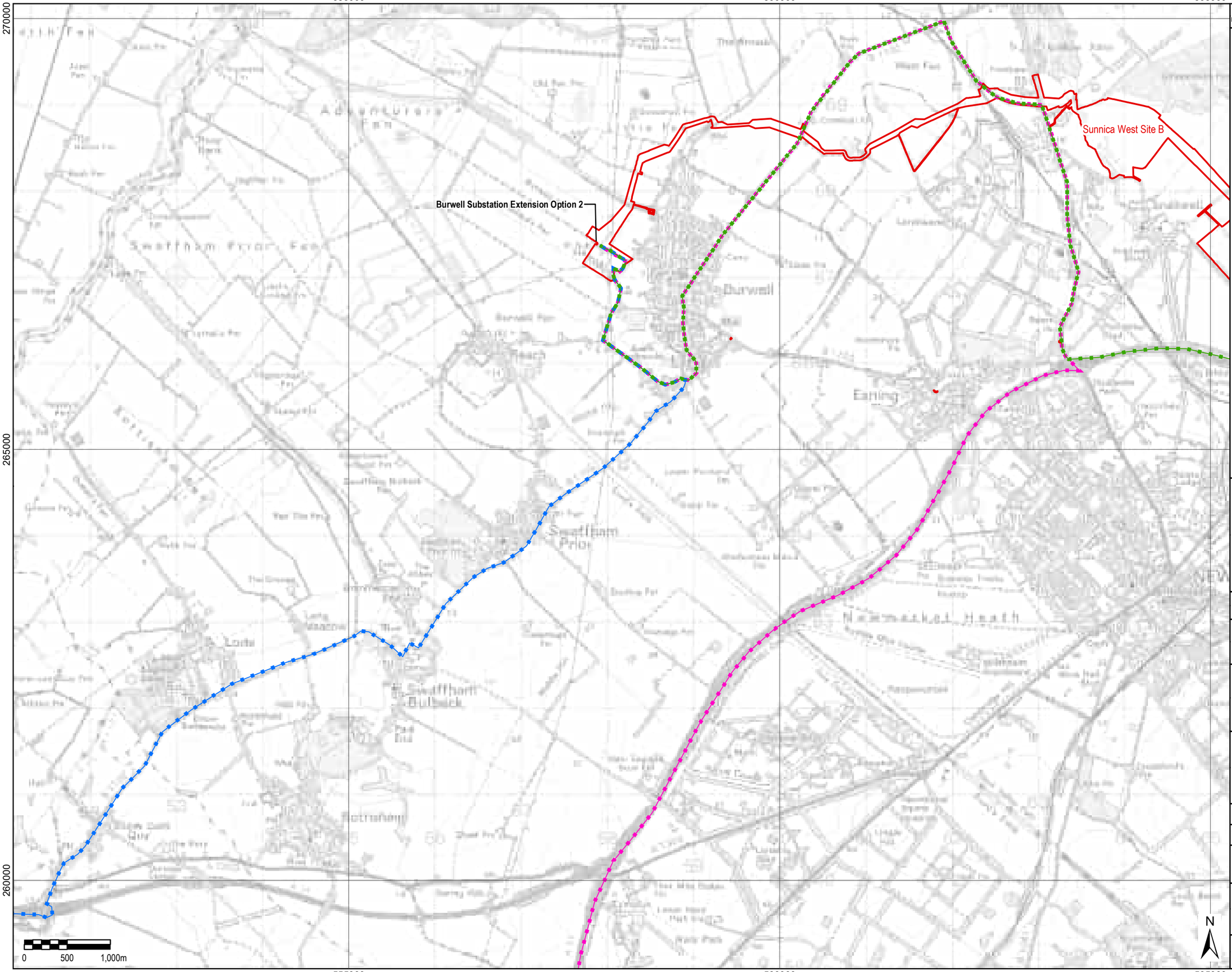

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The Order Limits

Burwell HGV Outbound HGV Routes

- A11 S
- A14 E
- A14 W

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FIGURE 9
BURWELL SUBSTATION
HGV OUTBOUND ROUTES

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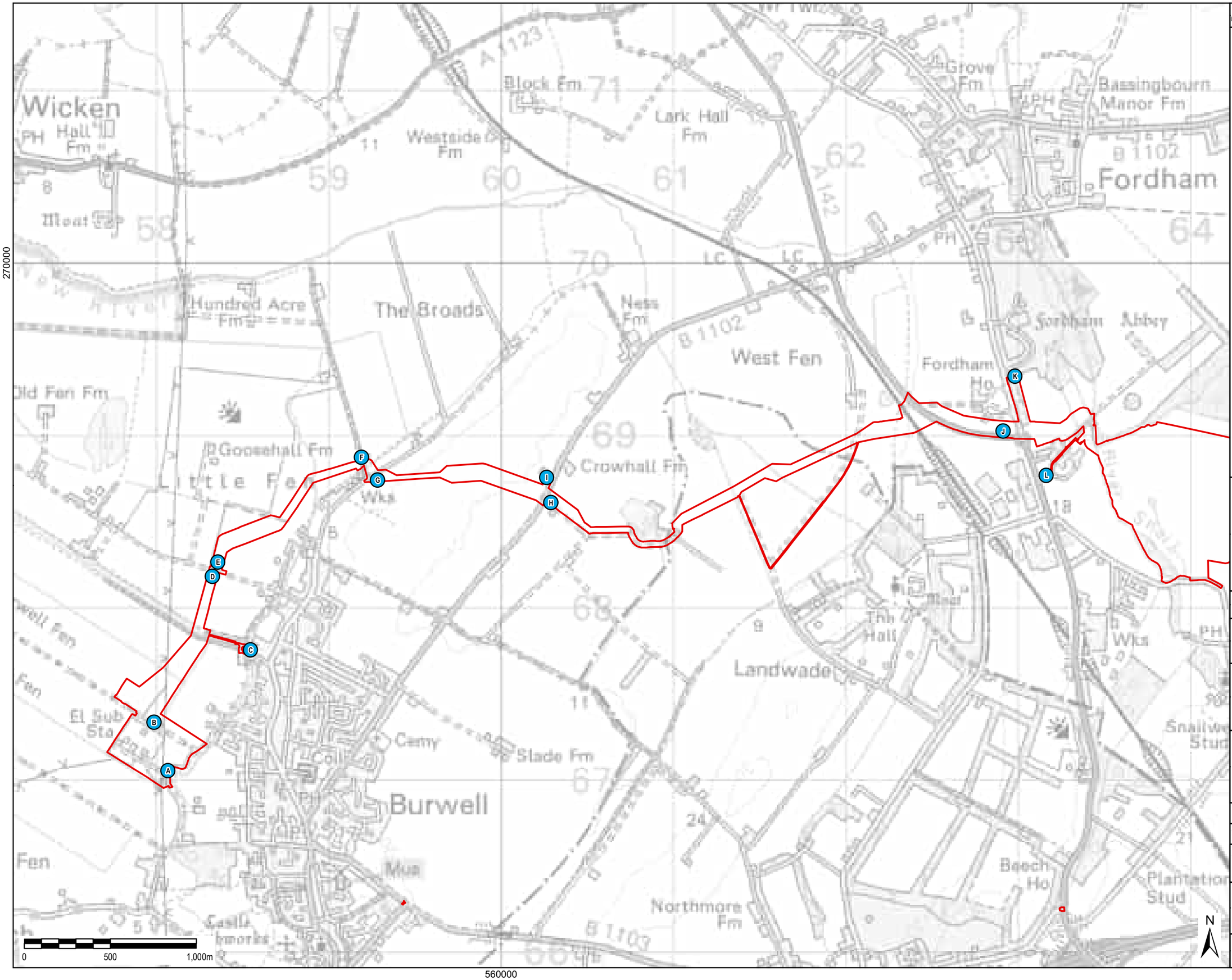

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Client
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Project Title

Drawing Title
FIGURE 10
GRID CONNECTION ROUTE A AND GRID CONNECTION ROUTE B SITE ACCESS LOCATIONS (PLAN 1 OF 4)

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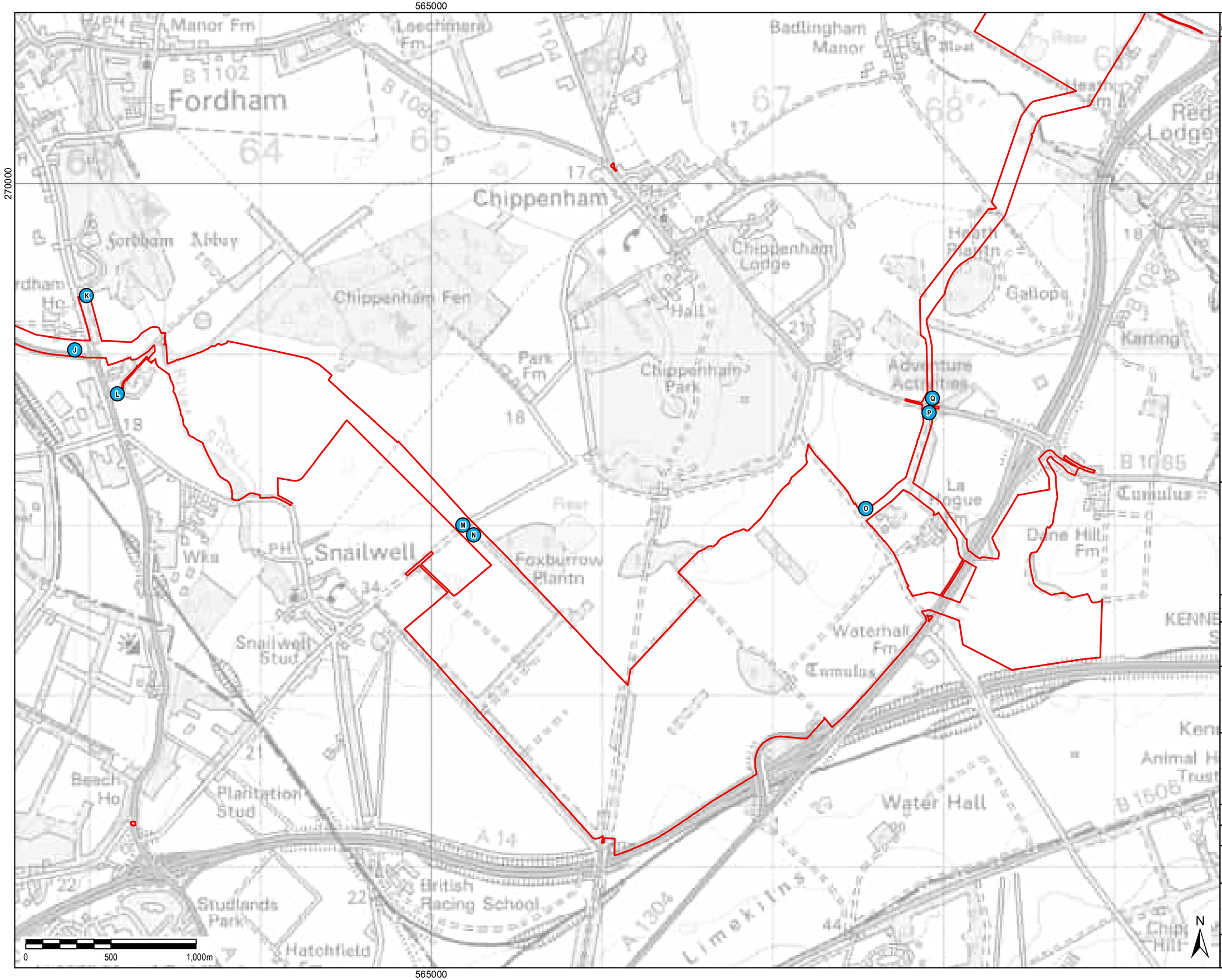

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FIGURE 11
GRID CONNECTION ROUTE A AND GRID CONNECTION ROUTE B SITE ACCESS LOCATIONS (PLAN 2 OF 4)

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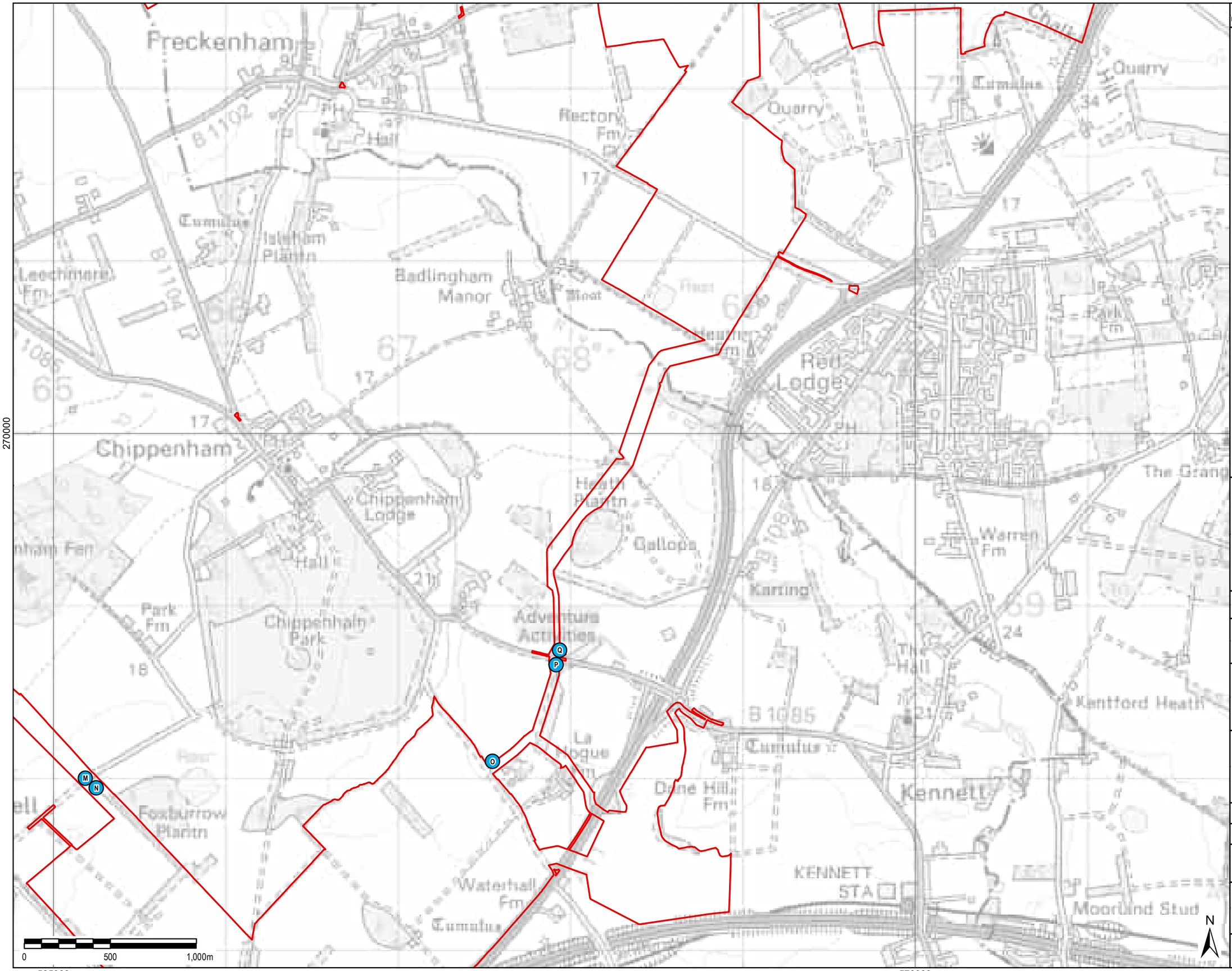

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Drawing Title
FIGURE 12
GRID CONNECTION ROUTE A AND GRID CONNECTION ROUTE B SITE ACCESS LOCATIONS (PLAN 3 OF 4)

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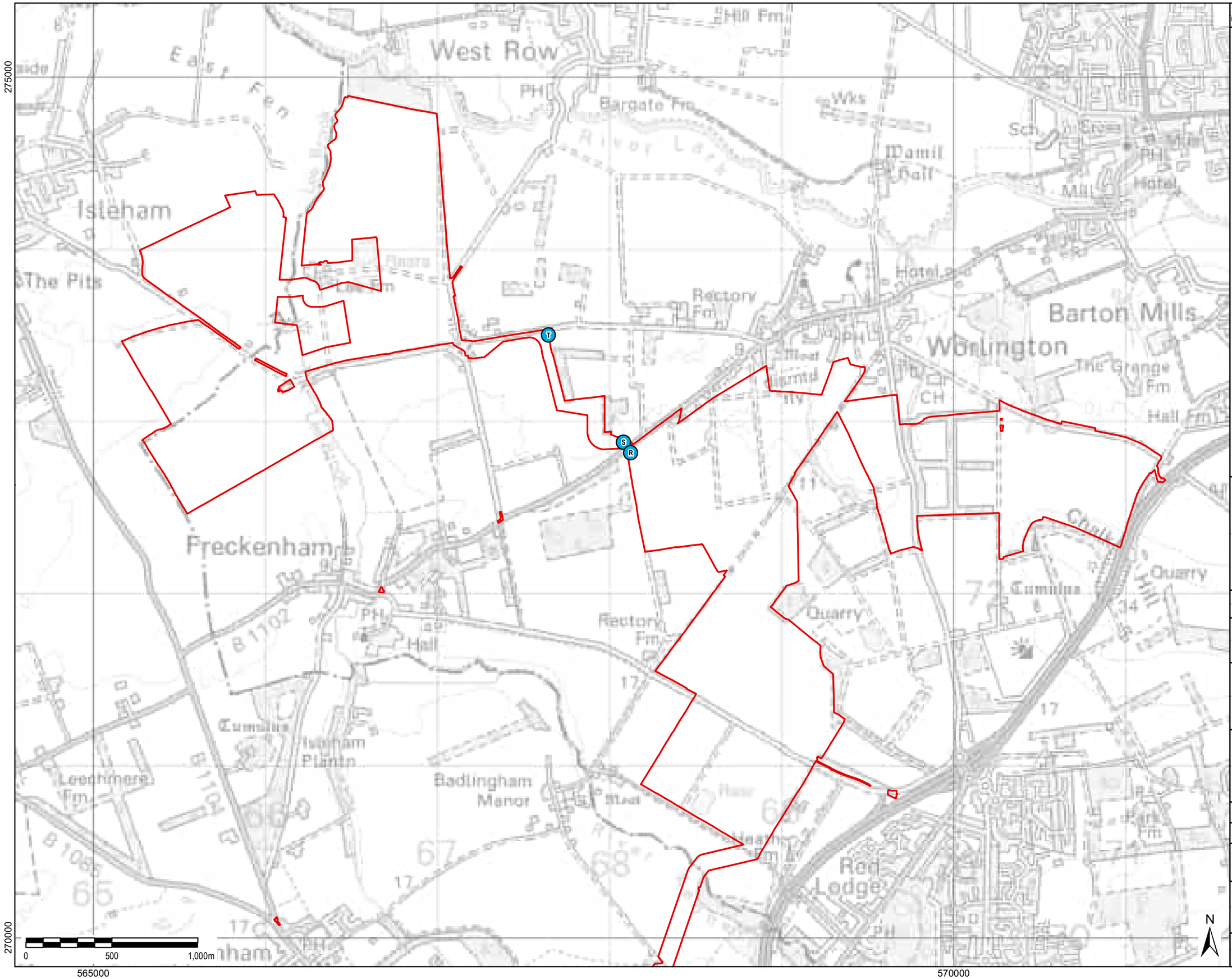
File Name: \\eu.aecomnet.com\UKUKCBG1\Jobs\PR-334327_Sunnica_Energy_Farm\400_Technical\434_Technical Disciplines\17. GIS\Layout\ES\Chapter 13 - Transport\Framework CTMP TP210707_SunnicaEnergyFarm_CTMP_Figure12_CableRouteSiteAccessLocations3.mxd



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LEGEND

- The Order Limits
- Cable Route Site Access

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NOTE:
Document Reference: EN010106/APP/6.3
APFP Regulation: 5(2)(a)

Purpose of Issue
FOR DCO SUBMISSION

Client
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Project Title

Drawing Title
FIGURE 13
GRID CONNECTION ROUTE A AND GRID CONNECTION ROUTE B SITE ACCESS LOCATIONS (PLAN 4 OF 4)

Drawn	Checked	Approved	Date
LL	DW	NC	04/11/2021

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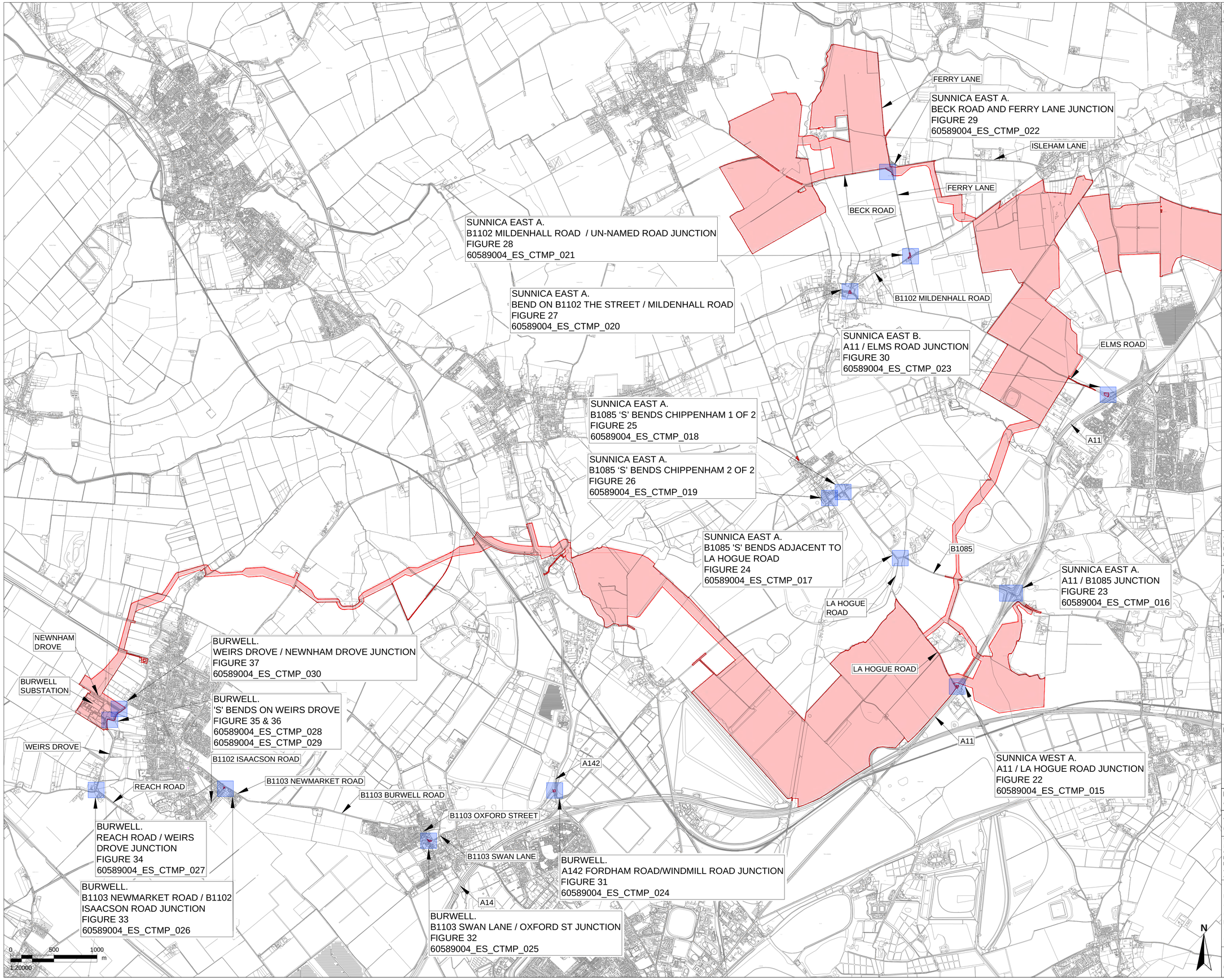
ISO A1 594mm x 841mm



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LEGEND

ORDER LIMITS

Notes:

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2. FOR DETAILS OF SWEPT PATH ANALYSIS, REFER TO INDIVIDUAL FIGURES.

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Project Title

Drawing Title
FIGURE 21
LOCATION OF
AIL AND CRANE SWEPT PATH
ANALYSIS DRAWINGS

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CH	CCAL	CCAR	08/08/2022

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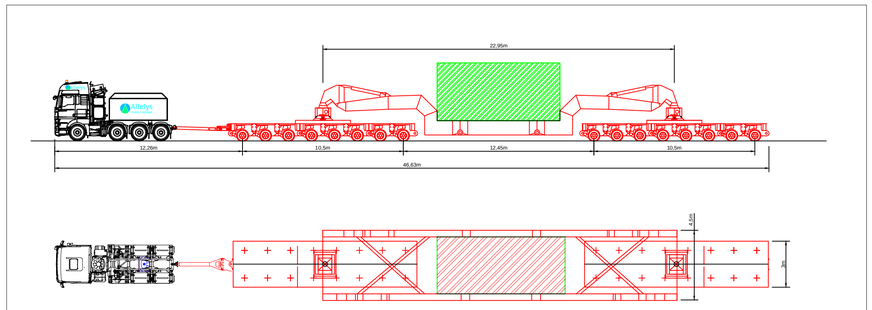
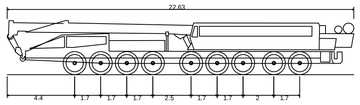


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

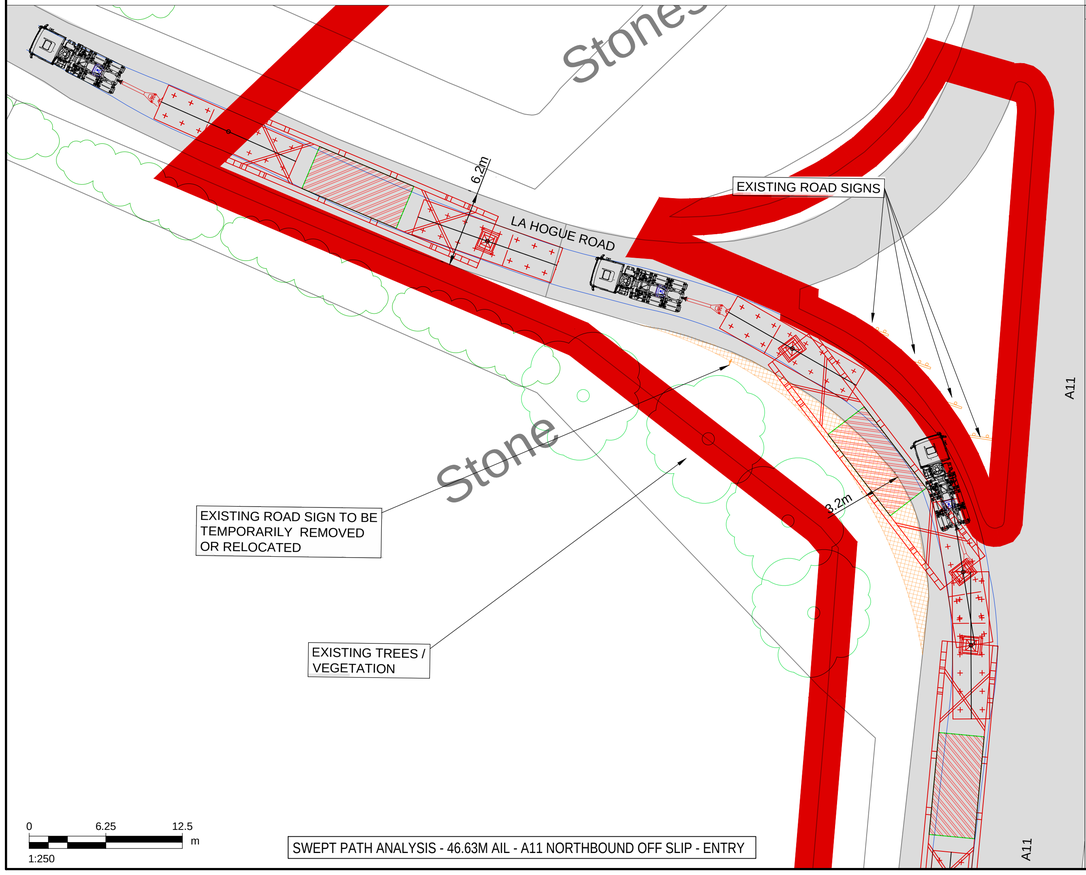


1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - A11 NORTHBOUND ON SLIP - EGRESS



SWEPT PATH ANALYSIS - 46.63M AIL - A11 NORTHBOUND OFF SLIP - ENTRY

SWEPT PATH ANALYSIS - 1000T CRANE - A11 NORTHBOUND OFF SLIP - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

NOTES:

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4. DEFINITIVE VEHICLE TRACKING OF SPECIFIC DELIVERY VEHICLE TO BE CARRIED OUT BY HAULIER, TO ENSURE DESIRED MANOEUVRES ARE ACHIEVABLE, AND TO CONFIRM ANY REQUIRED ROAD WIDENING, TEMPORARY WORKS, etc.

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Client
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Project Title

Drawing Title
FIGURE 22
SUNNICA WEST A.
A11/ LA HOGUE ROAD
JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
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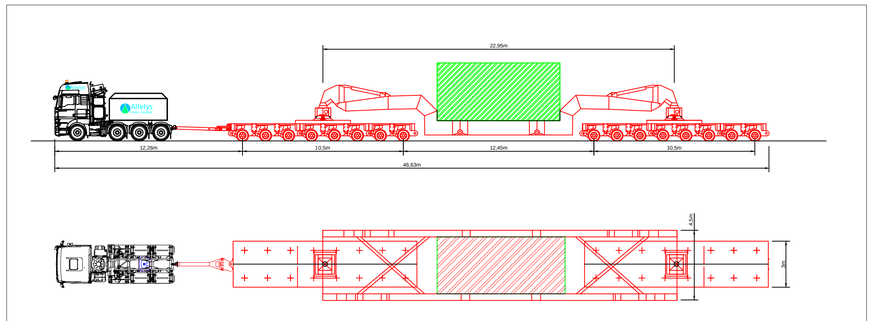
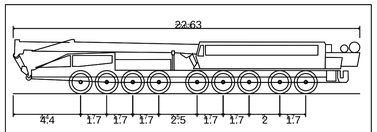


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

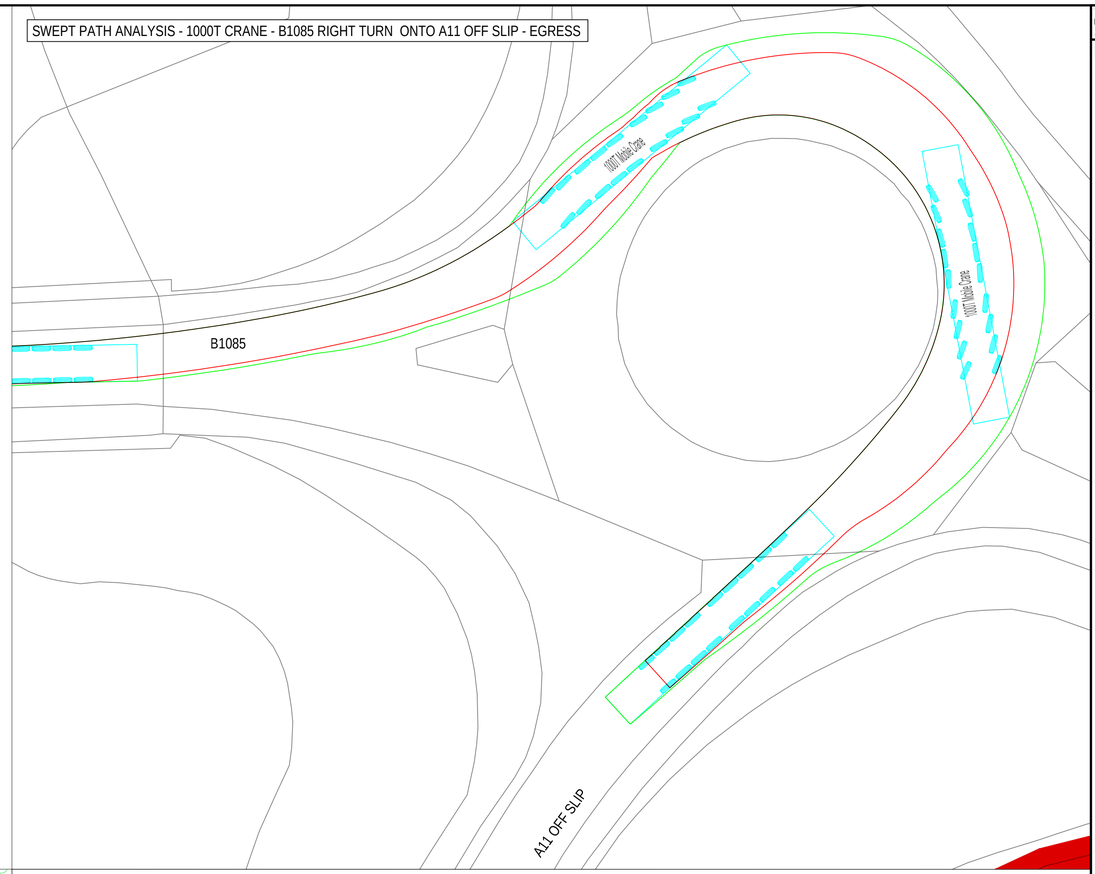


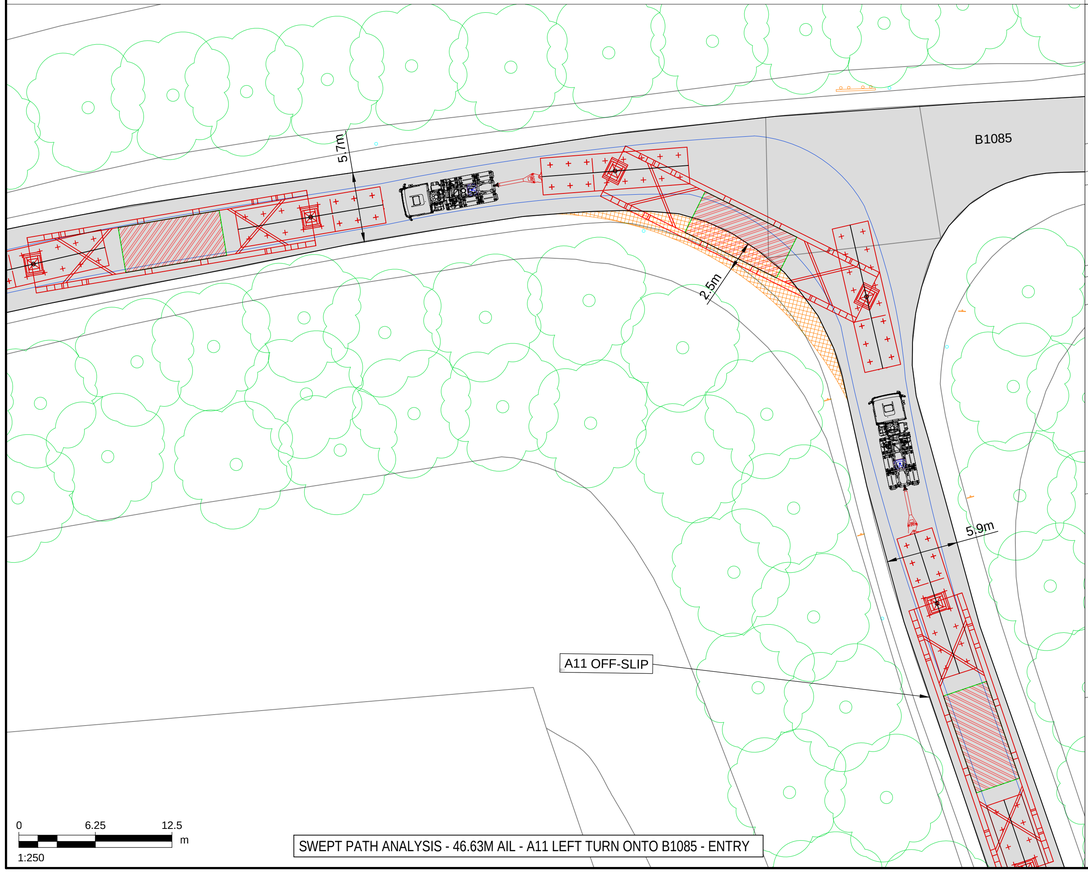
1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

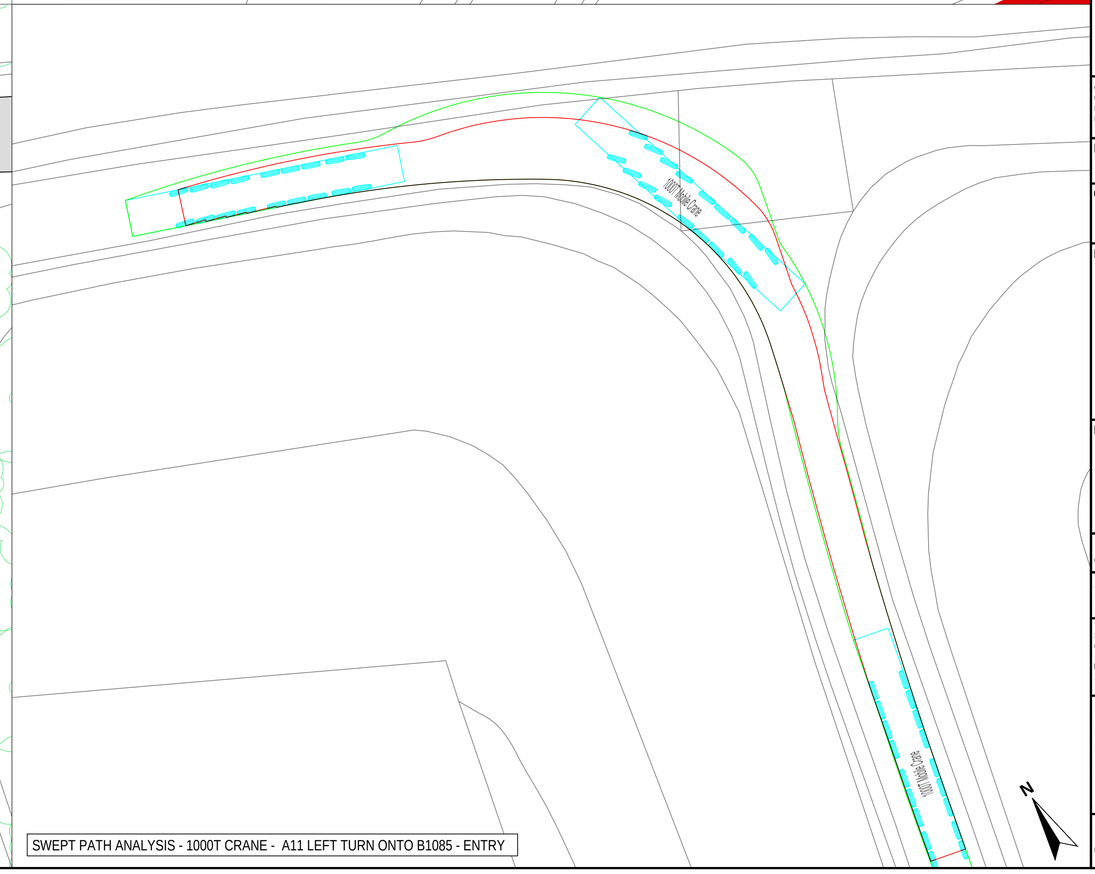
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - B1085 RIGHT TURN ONTO A11 OFF SLIP - EGRESS





SWEPT PATH ANALYSIS - 46.63M AIL - A11 LEFT TURN ONTO B1085 - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - A11 LEFT TURN ONTO B1085 - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)

NOTES

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5. ON-SITE MEASUREMENTS RECORDED BY AECOM ON 05/08/2022.

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Project Title

Drawing Title
FIGURE 23
SUNNICA EAST A.
A11 / B1085 JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

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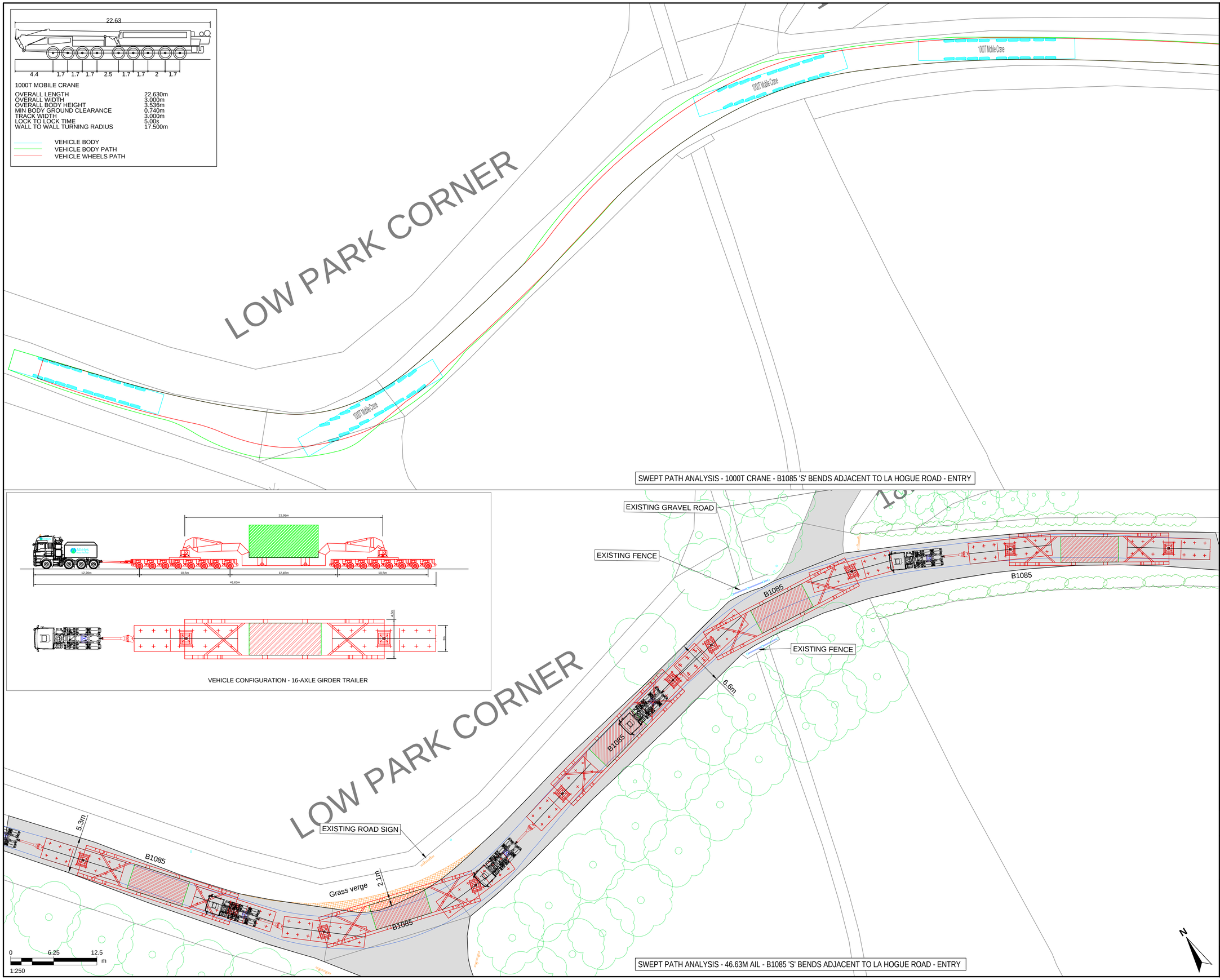
ISO A1 594mm x 841mm

1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH



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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)

NOTES

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Drawing Title
FIGURE 24
SSUNNICA EAST A.
B1085 'S' BENDS
ADJACENT TO LA HOGUE ROAD

Drawn	Checked	Approved	Date
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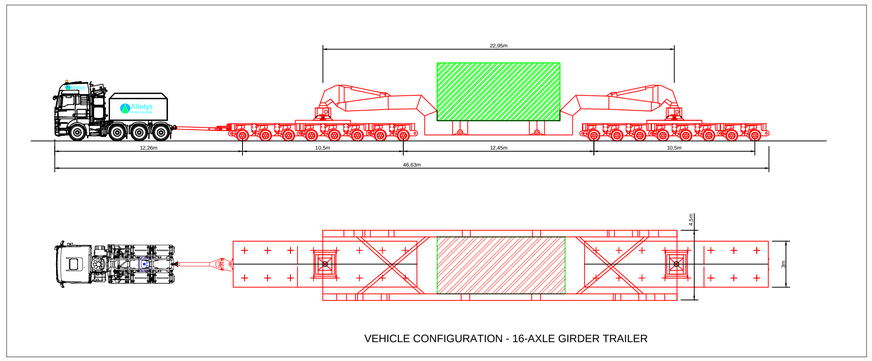
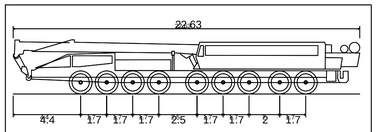


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

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LEGEND

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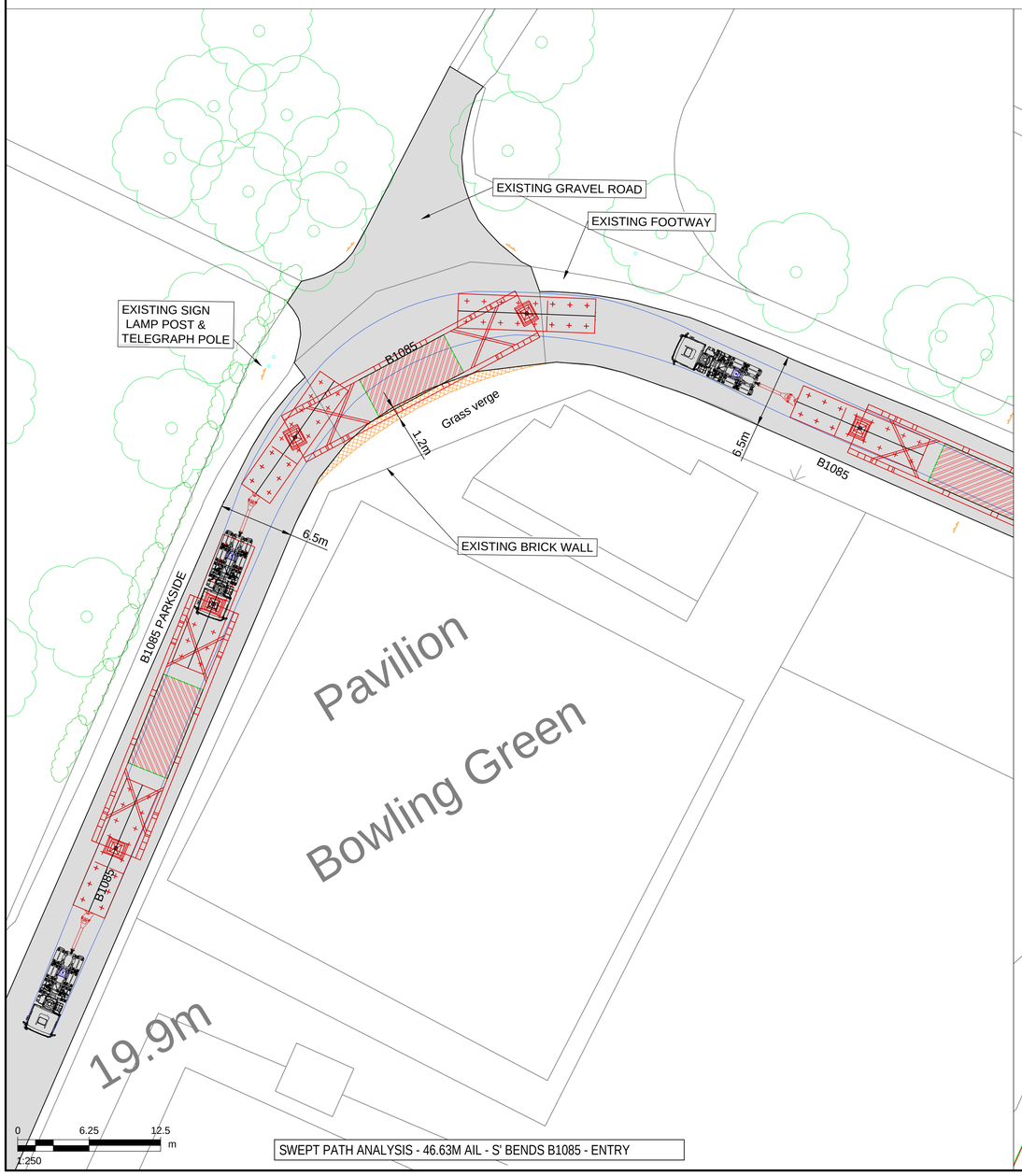
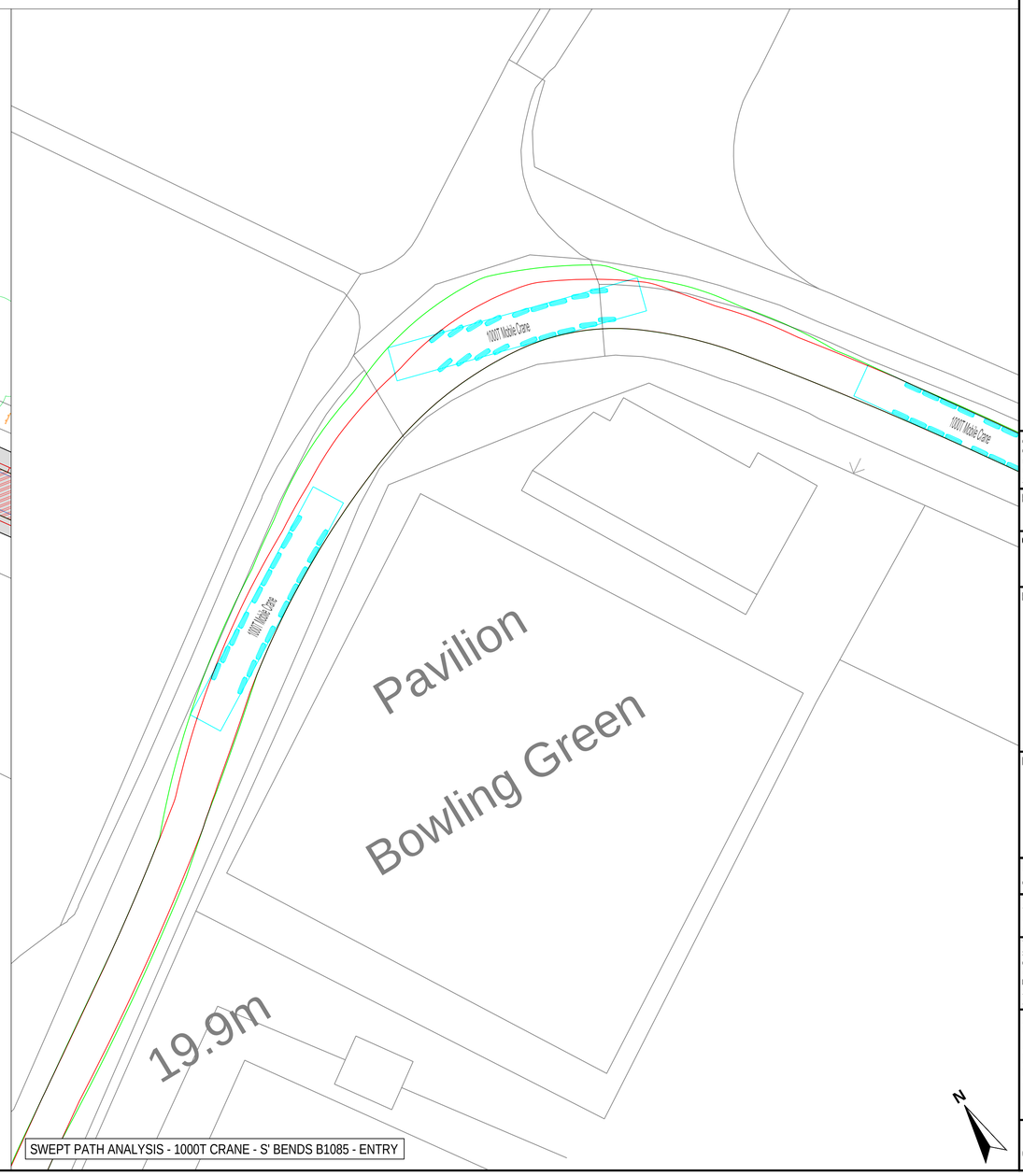
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)



SWEPT PATH ANALYSIS - 46.63M AIL - S' BENDS B1085 - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - S' BENDS B1085 - ENTRY

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Project Title

Drawing Title
FIGURE 25
SUNNICA EAST A.
B1085 'S' BENDS
CHIPPENHAM 1 OF 2

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
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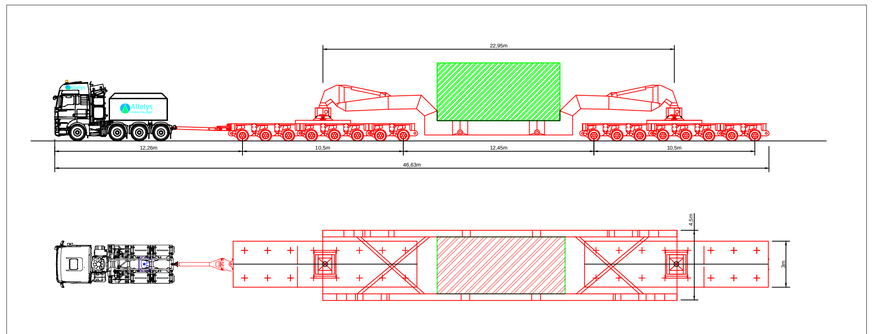
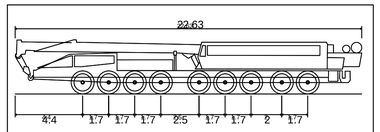


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)

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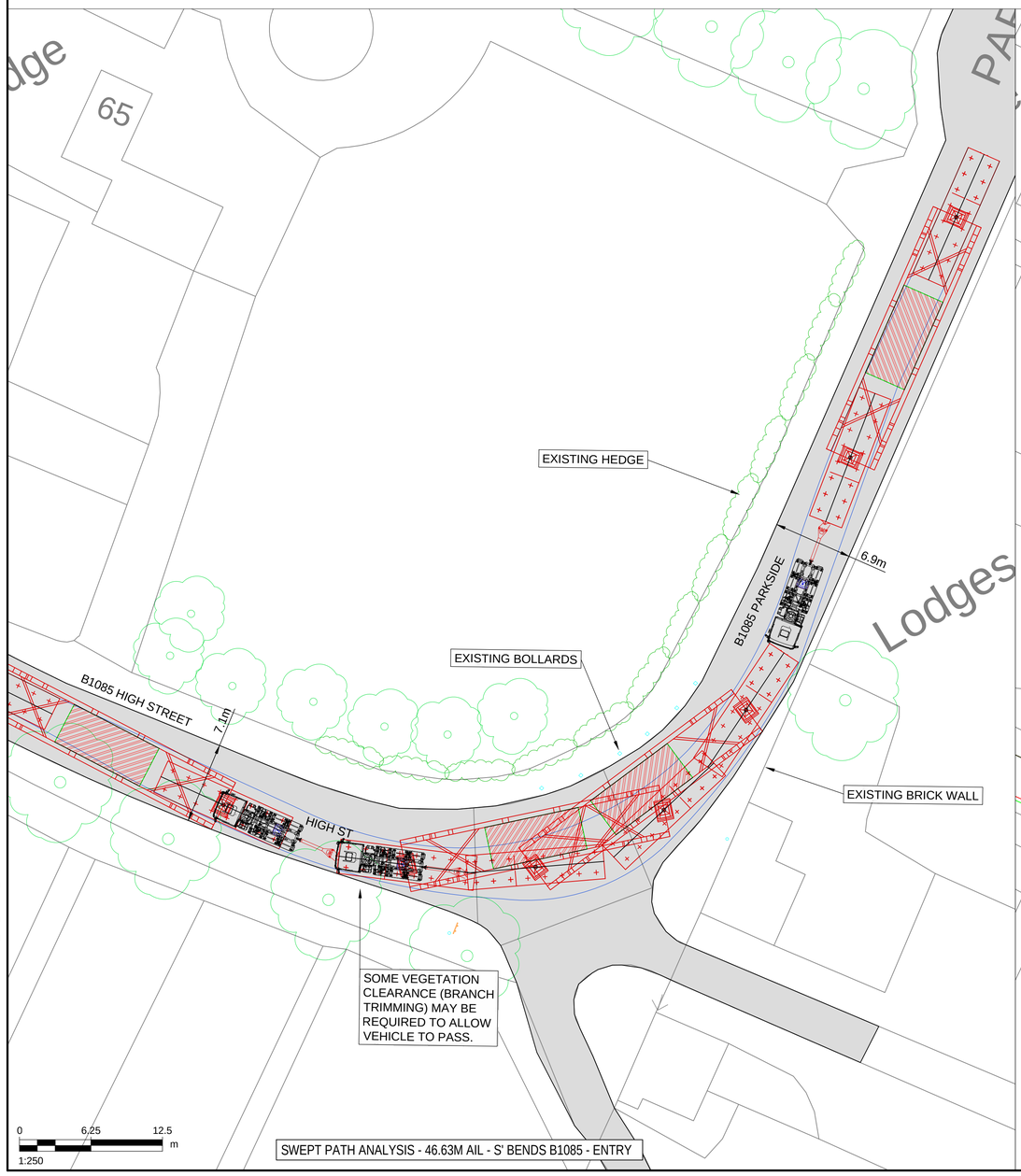
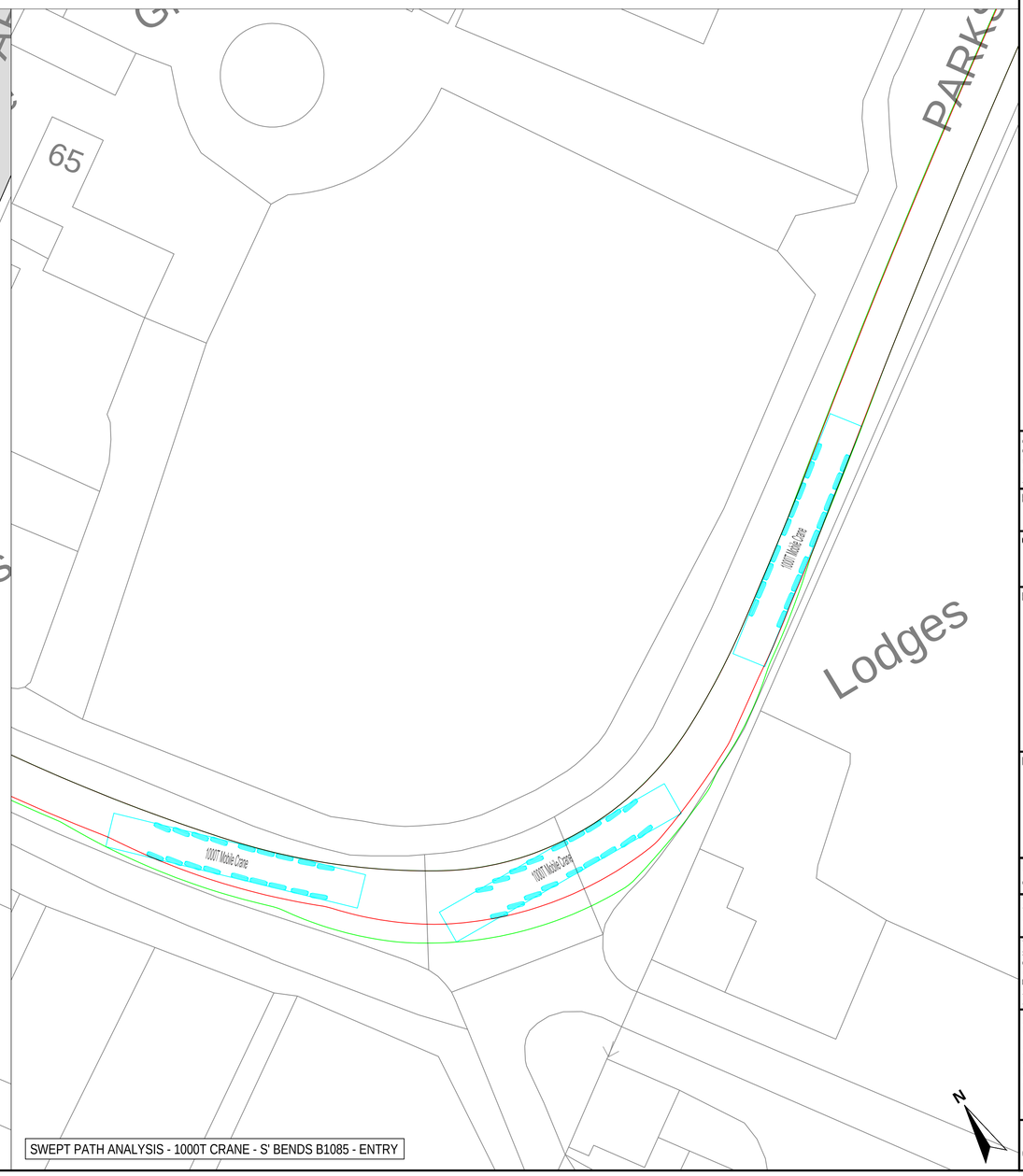


SWEPT PATH ANALYSIS - 46.63M AIL - S' BENDS B1085 - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - S' BENDS B1085 - ENTRY

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Project Title

Drawing Title
FIGURE 26
SUNNICA EAST A.
B1085 'S' BENDS
CHIPPENHAM 2 OF 2

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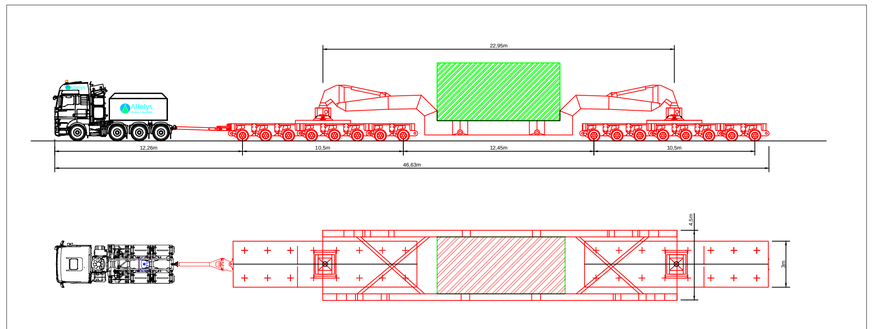
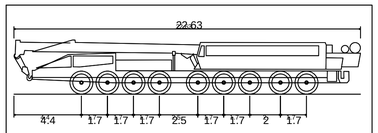


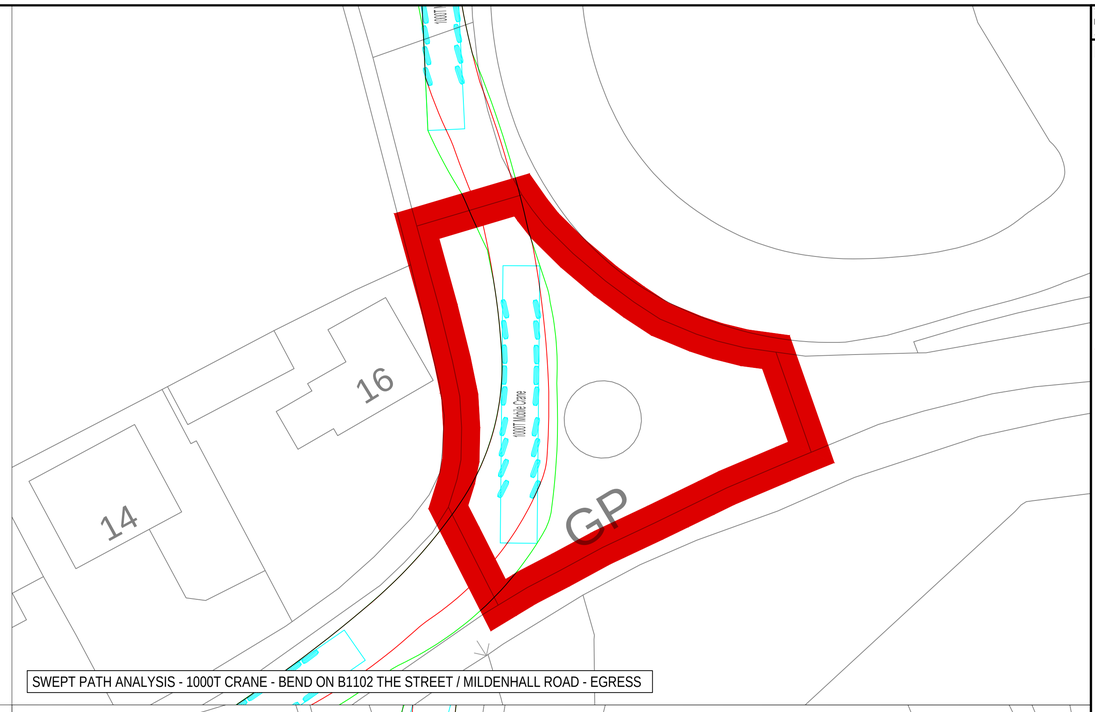
VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



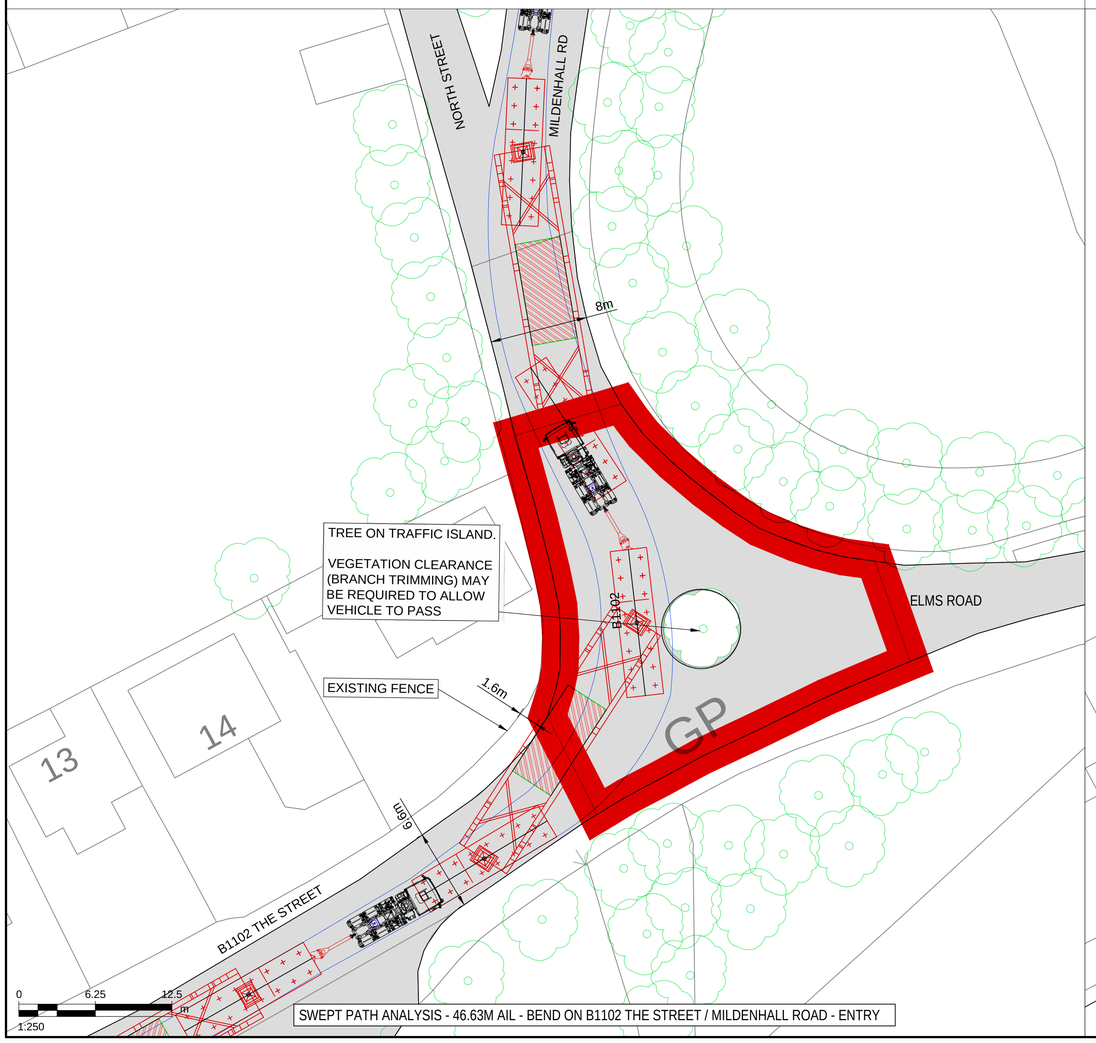
1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

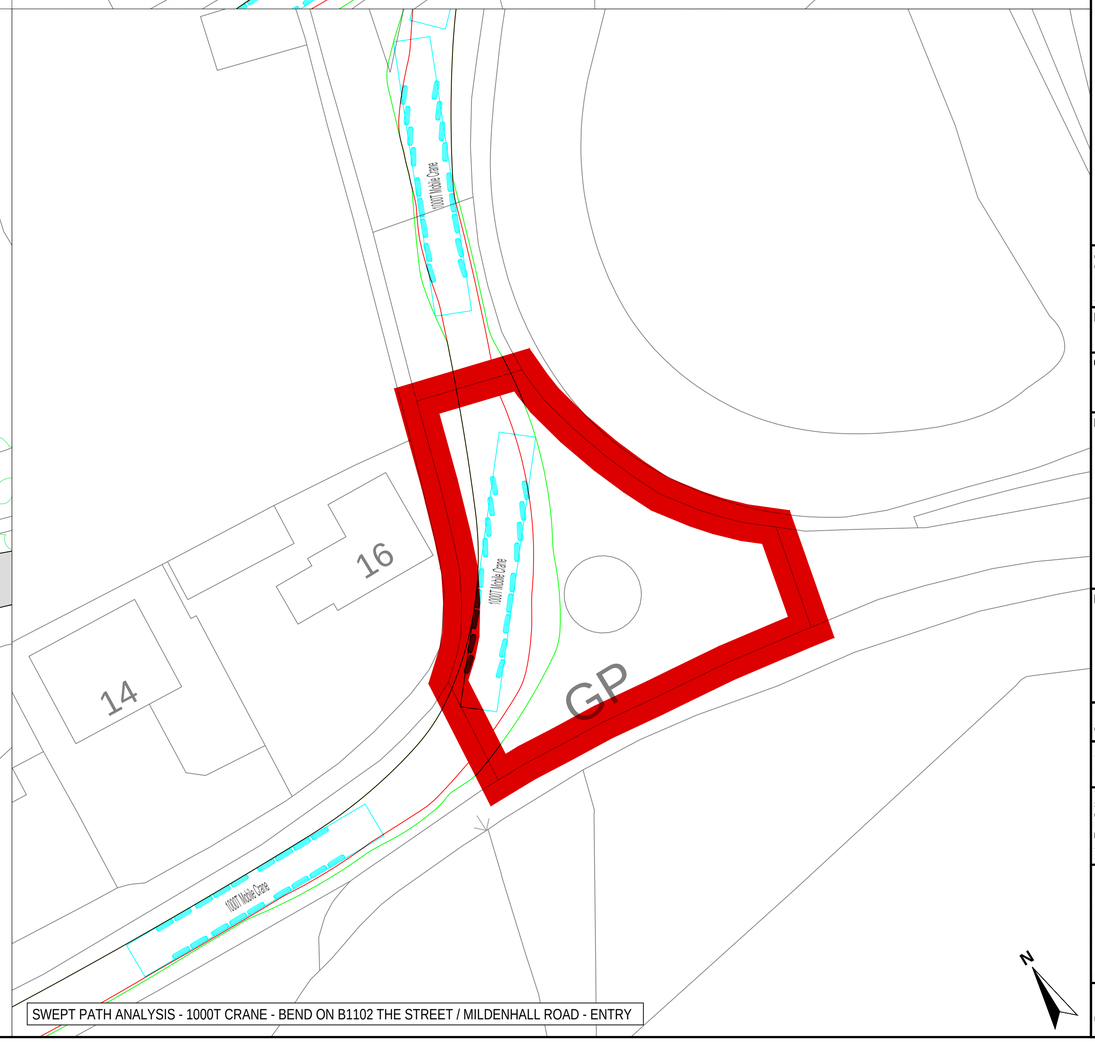
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH



SWEPT PATH ANALYSIS - 1000T CRANE - BEND ON B1102 THE STREET / MILDENHALL ROAD - EGRESS



SWEPT PATH ANALYSIS - 46.63M AIL - BEND ON B1102 THE STREET / MILDENHALL ROAD - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - BEND ON B1102 THE STREET / MILDENHALL ROAD - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

NOTES

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4. DEFINITIVE VEHICLE TRACKING OF SPECIFIC DELIVERY VEHICLE TO BE CARRIED OUT BY HAULIER, TO ENSURE DESIRED MANOEUVRES ARE ACHIEVABLE, AND TO CONFIRM ANY REQUIRED ROAD WIDENING, TEMPORARY WORKS, etc.

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Project Title

Drawing Title
FIGURE 27
SUNNICA EAST A.
BEND ON B1102 THE STREET / MILDENHALL ROAD

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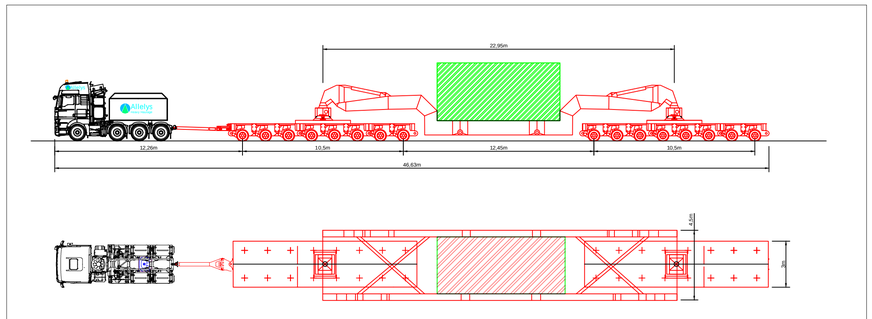
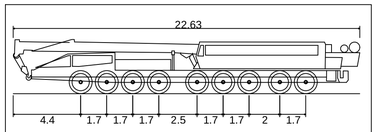


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

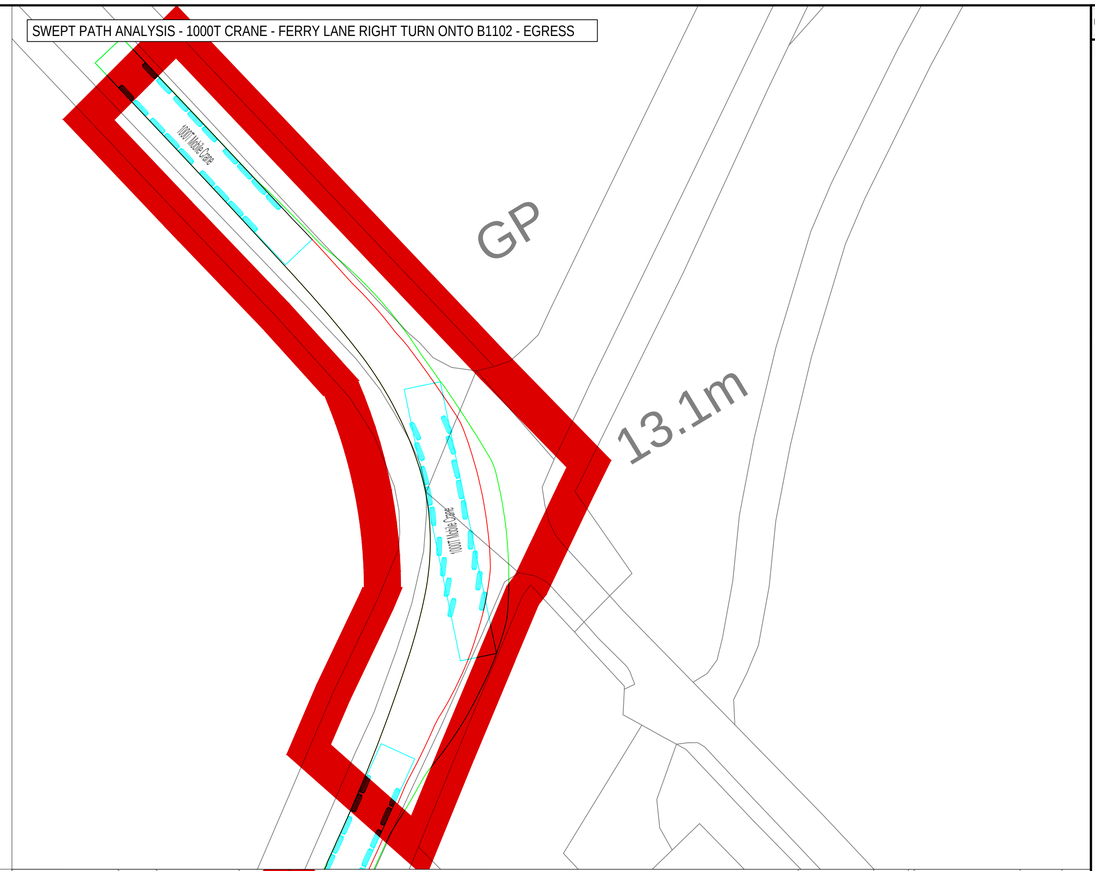


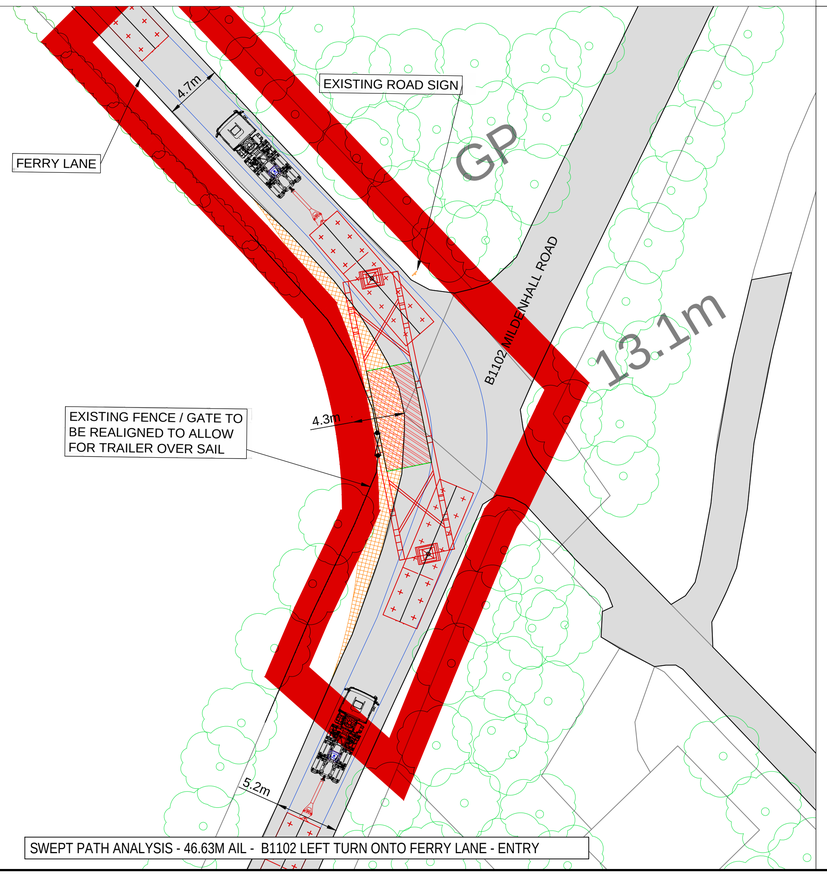
1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

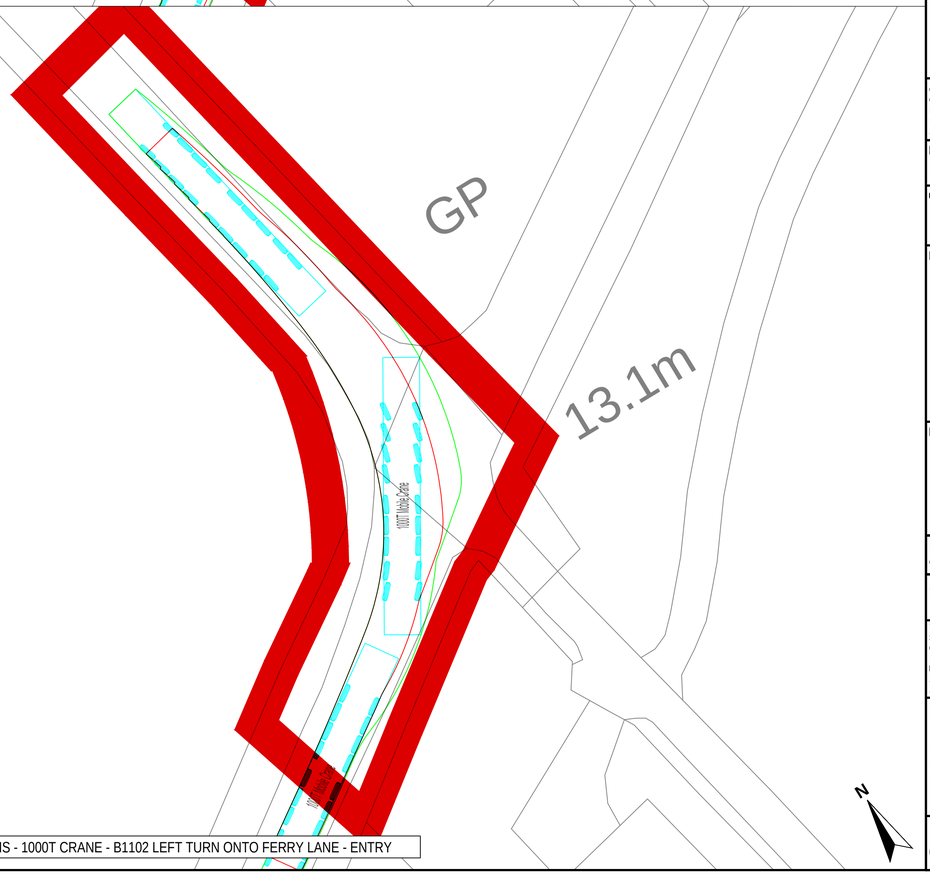
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - FERRY LANE RIGHT TURN ONTO B1102 - EGRESS





SWEPT PATH ANALYSIS - 46.63M AIL - B1102 LEFT TURN ONTO FERRY LANE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - B1102 LEFT TURN ONTO FERRY LANE - ENTRY

0 6.25 12.5 m
1:250

N

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

NOTES

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4. DEFINITIVE VEHICLE TRACKING OF SPECIFIC DELIVERY VEHICLE TO BE CARRIED OUT BY HAULIER, TO ENSURE DESIRED MANOEUVRES ARE ACHIEVABLE, AND TO CONFIRM ANY REQUIRED ROAD WIDENING, TEMPORARY WORKS, etc.

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Project Title

Drawing Title
FIGURE 28
SUNNICA EAST A.
B1102 MILDENHALL ROAD /
UN-NAMED ROAD JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

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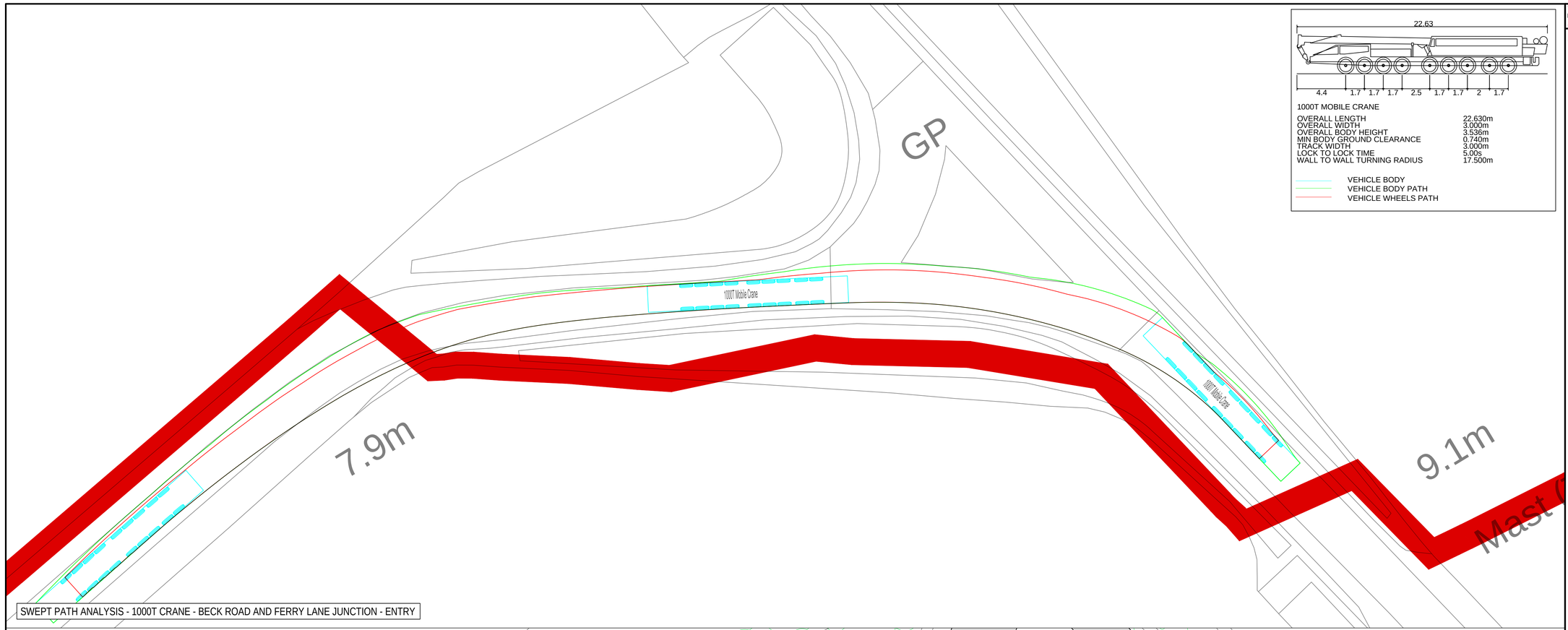
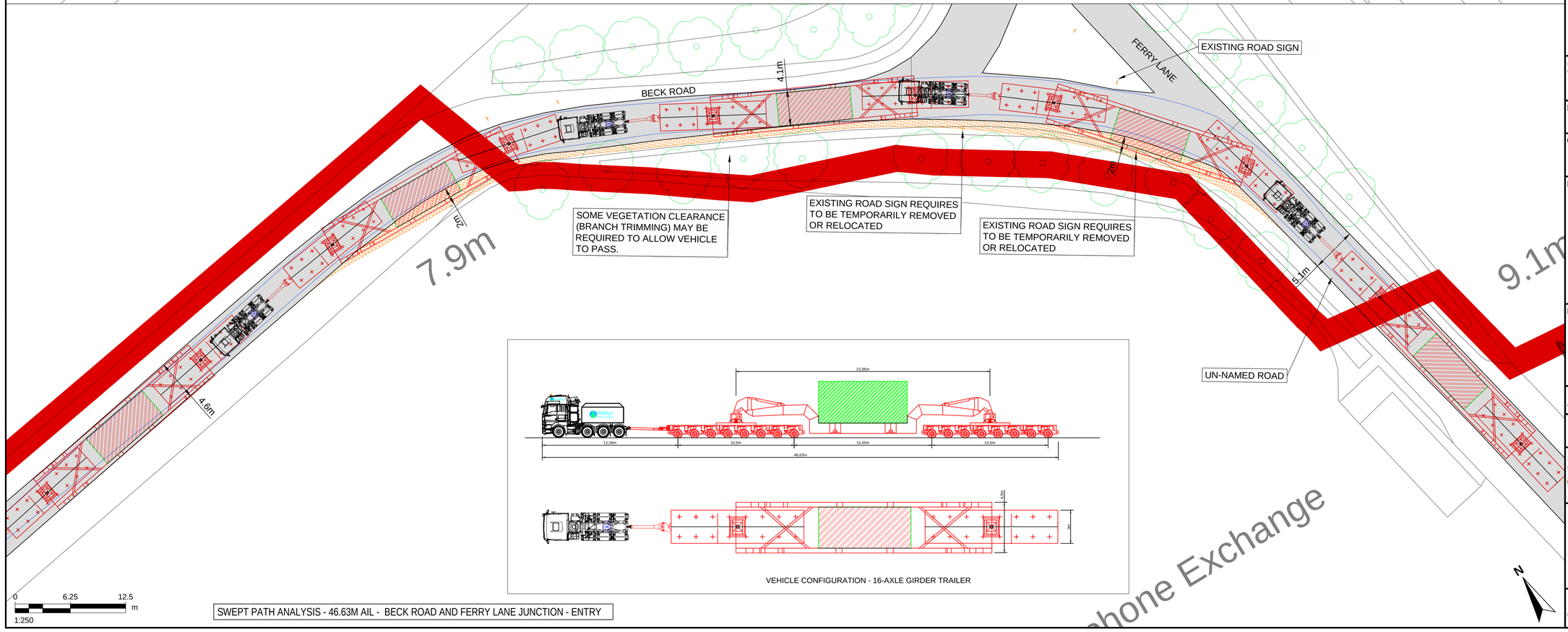


SWEPT PATH ANALYSIS - 1000T CRANE - BECK ROAD AND FERRY LANE JUNCTION - ENTRY

1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH



0 6.25 12.5 m
1:250

SWEPT PATH ANALYSIS - 46.63M AIL - BECK ROAD AND FERRY LANE JUNCTION - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

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FIGURE 29
SUNNICA EAST A.
BECK ROAD AND FERRY LANE JUNCTION

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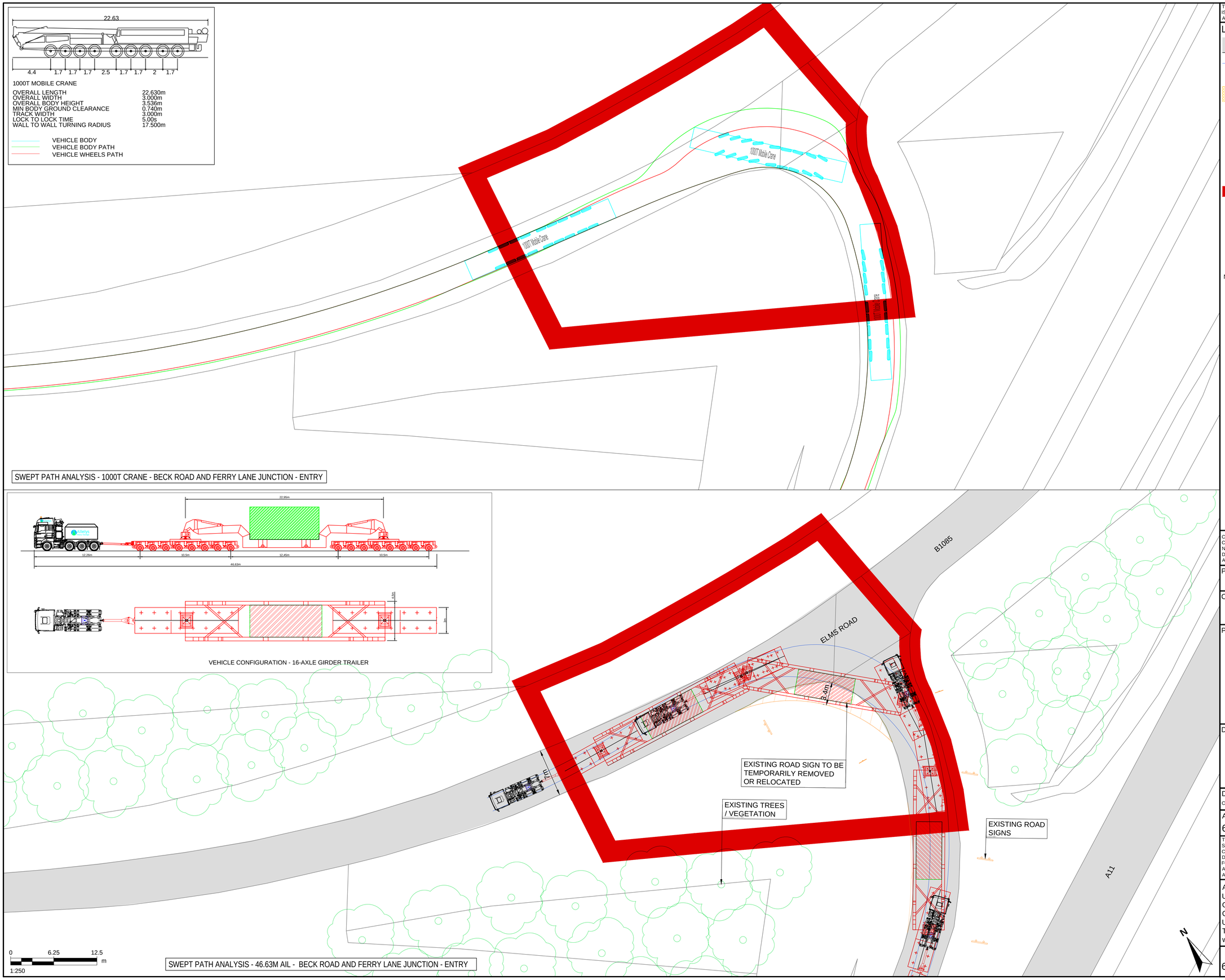
ISO A1 594mm x 841mm

1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH



SWEPT PATH ANALYSIS - 1000T CRANE - BECK ROAD AND FERRY LANE JUNCTION - ENTRY

VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

SWEPT PATH ANALYSIS - 46.63M AIL - BECK ROAD AND FERRY LANE JUNCTION - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

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Drawing Title
FIGURE 30
SUNNICA EAST A.
A11 / ELMS ROAD JUNCTION

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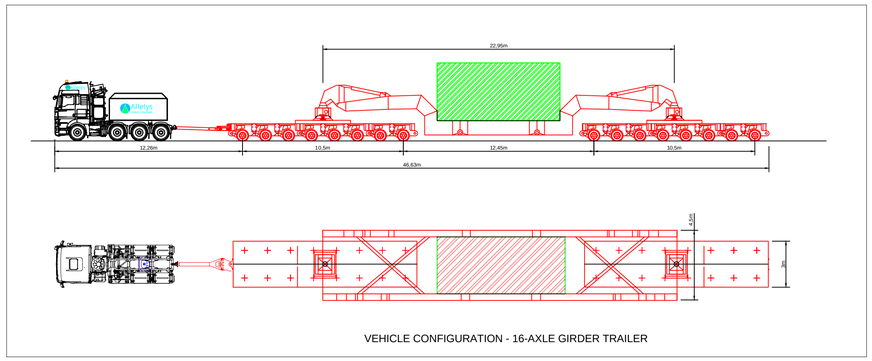
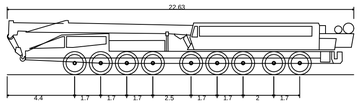


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

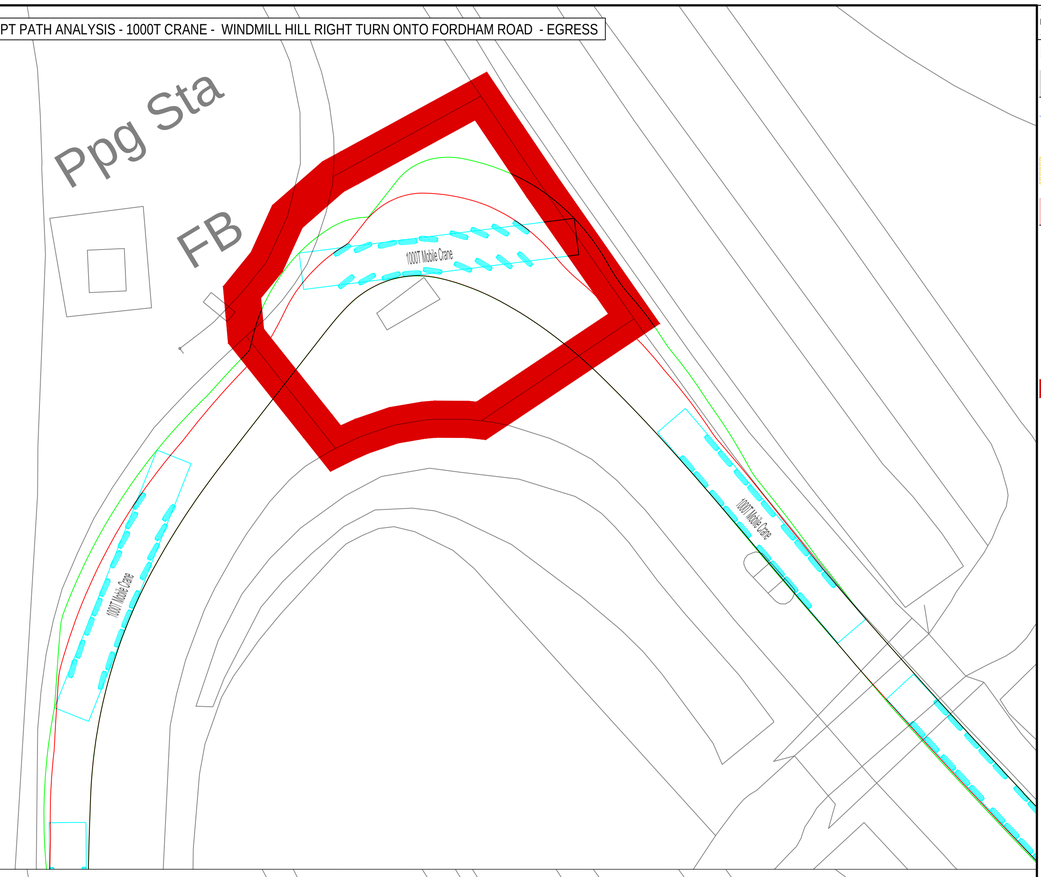


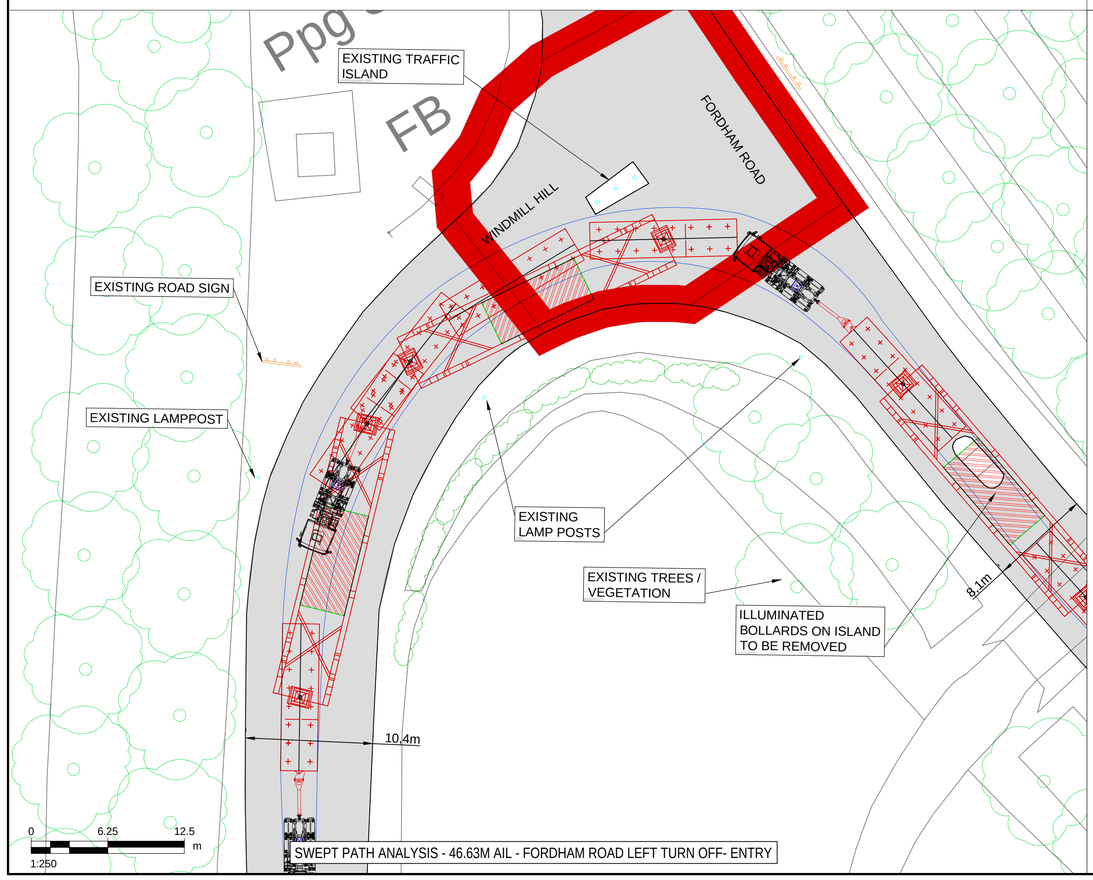
1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

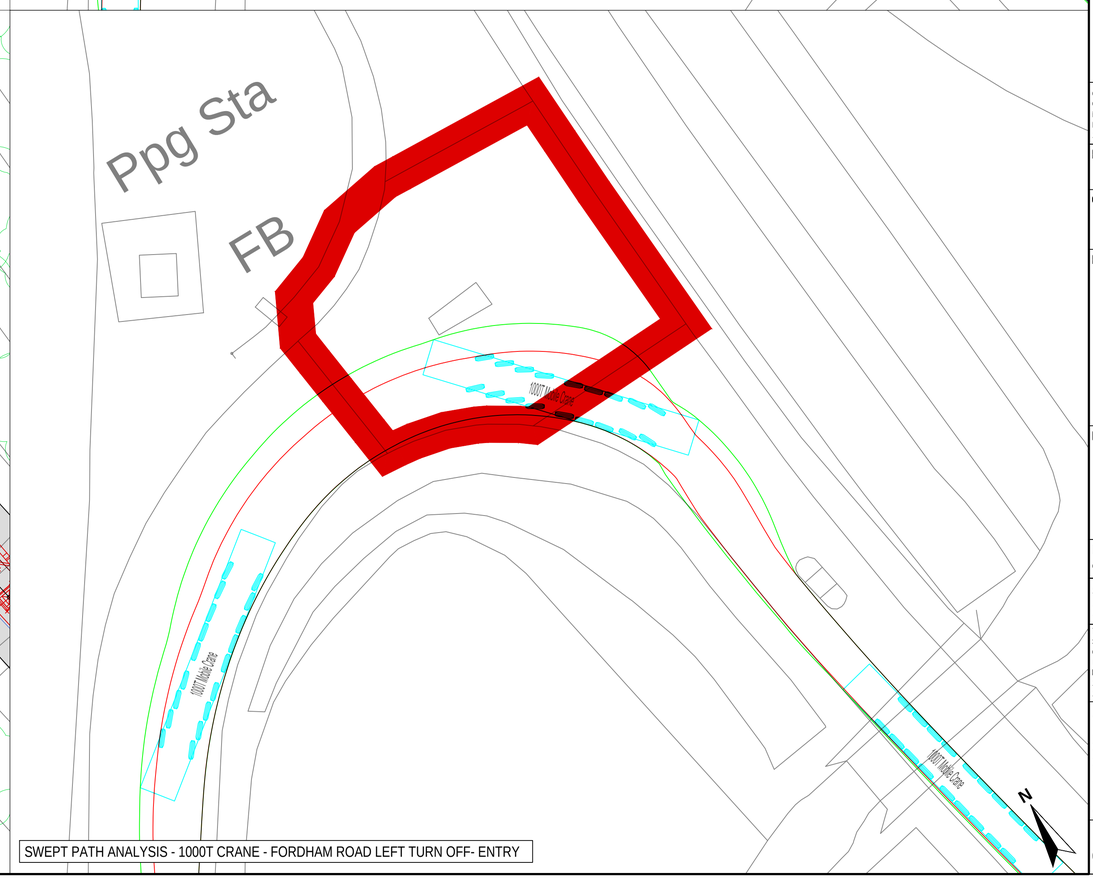
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - WINDMILL HILL RIGHT TURN ONTO FORDHAM ROAD - EGRESS





SWEPT PATH ANALYSIS - 46.63M AIL - FORDHAM ROAD LEFT TURN OFF- ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - FORDHAM ROAD LEFT TURN OFF- ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

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Client
SUNNICA ltd

Project Title

Drawing Title
FIGURE 31
BURWELL
A142 FORDHAM ROAD / WINDMILL ROAD JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

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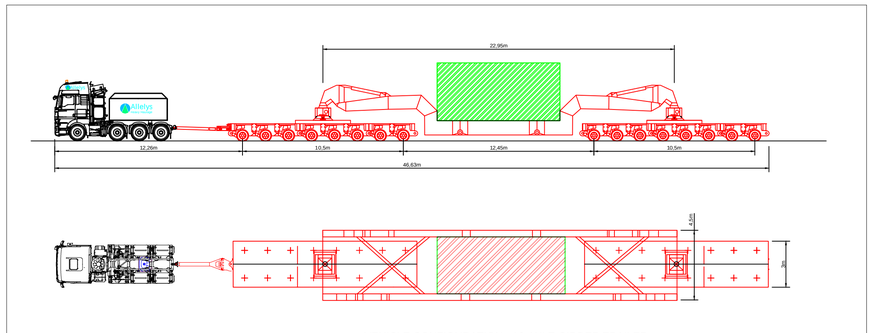
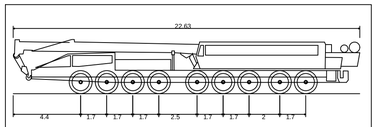
ISO A1 594mm x 841mm



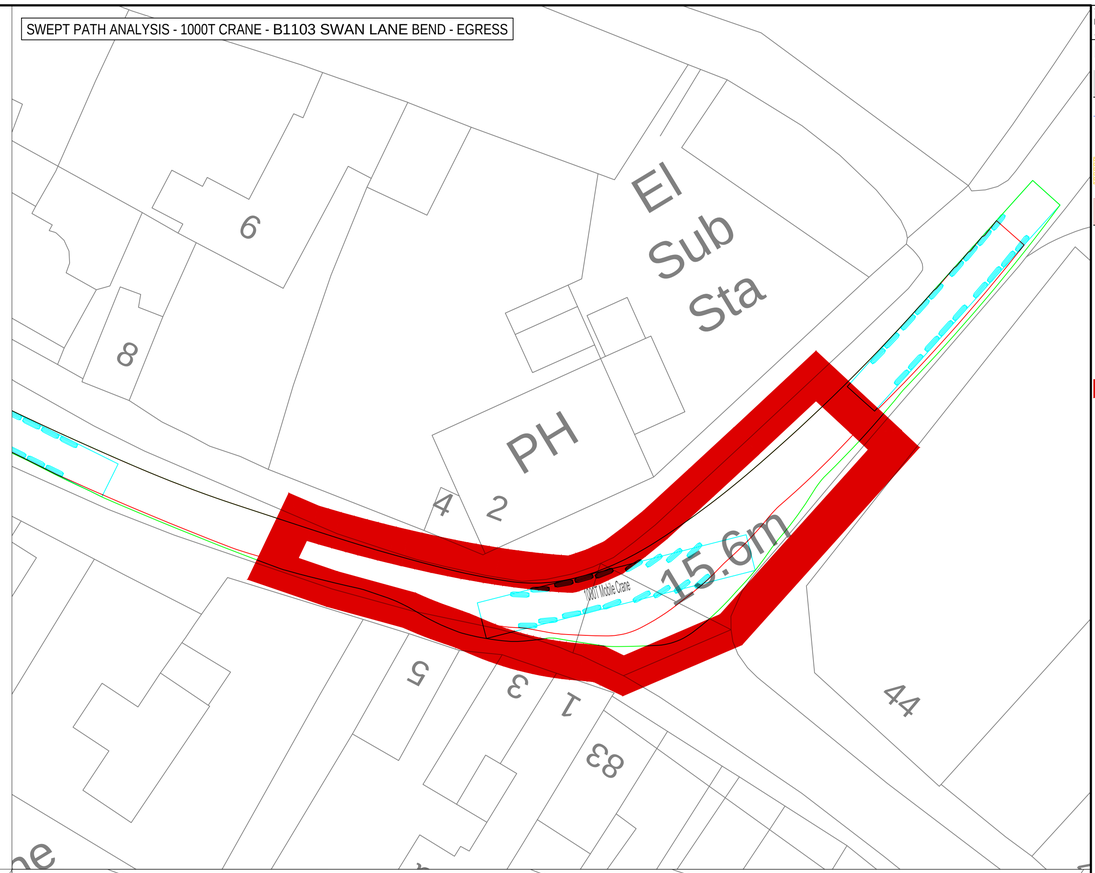
VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

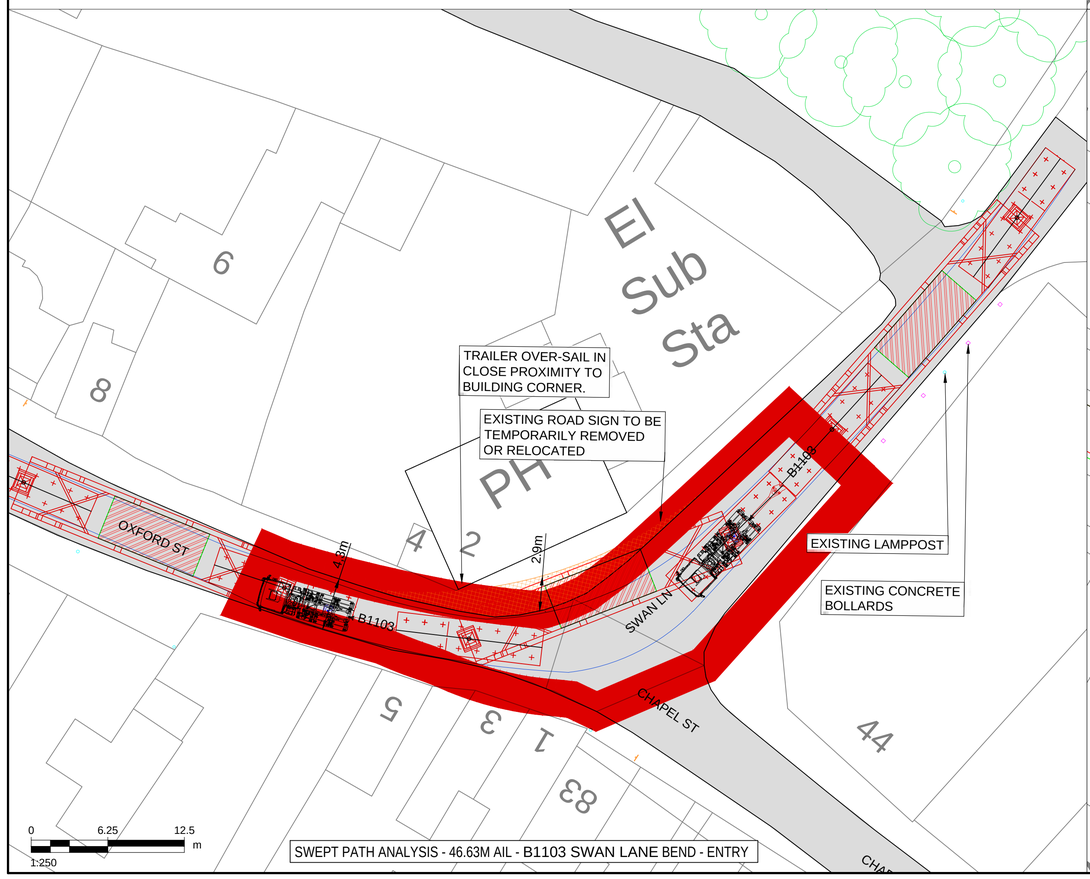


1000T MOBILE CRANE

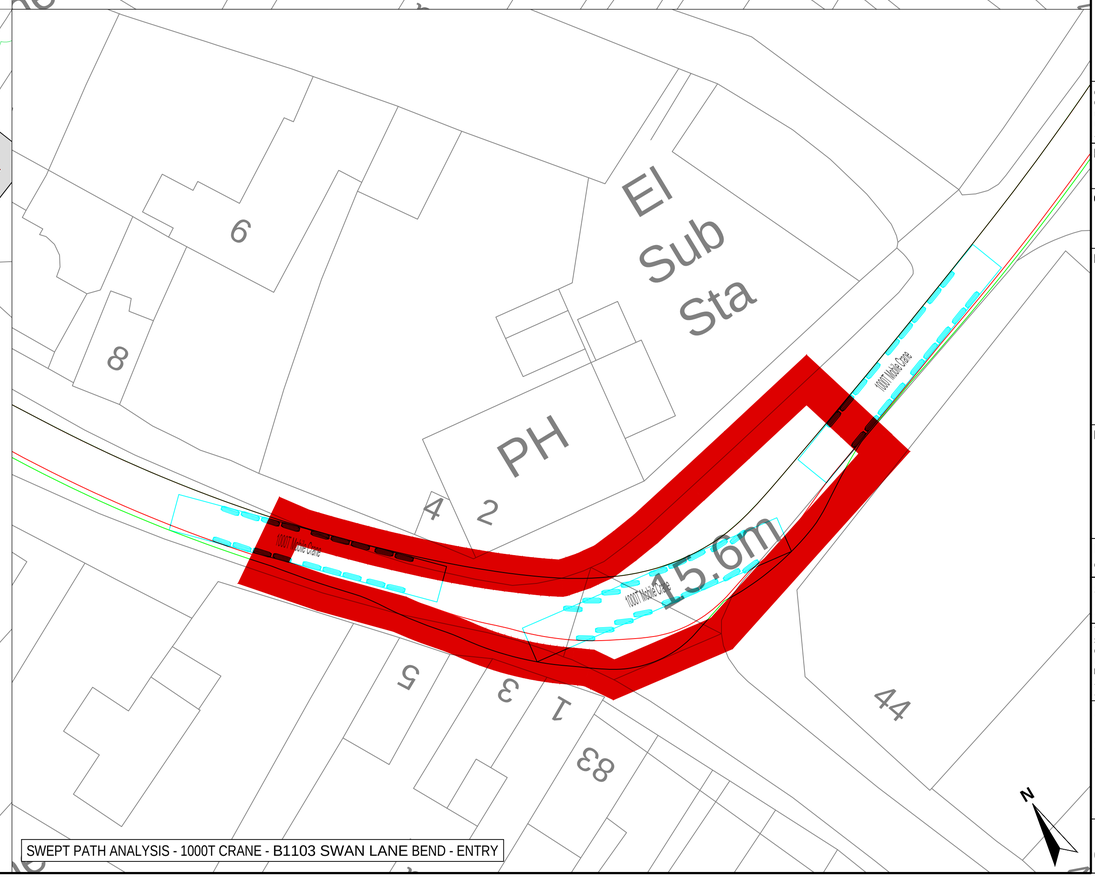
OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH





SWEPT PATH ANALYSIS - 46.63M AIL - B1103 SWAN LANE BEND - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - B1103 SWAN LANE BEND - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

NOTES:

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4. DEFINITIVE VEHICLE TRACKING OF SPECIFIC DELIVERY VEHICLE TO BE CARRIED OUT BY HAULIER, TO ENSURE DESIRED MANOEUVRES ARE ACHIEVABLE, AND TO CONFIRM ANY REQUIRED ROAD WIDENING, TEMPORARY WORKS, etc.

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APFP Regulation: 5(2)(a)

Purpose of Issue
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Client
SUNNICA ltd

Project Title

Drawing Title
FIGURE 32
BURWELL.
B1103 SWAN LANE
/ OXFORD ST JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
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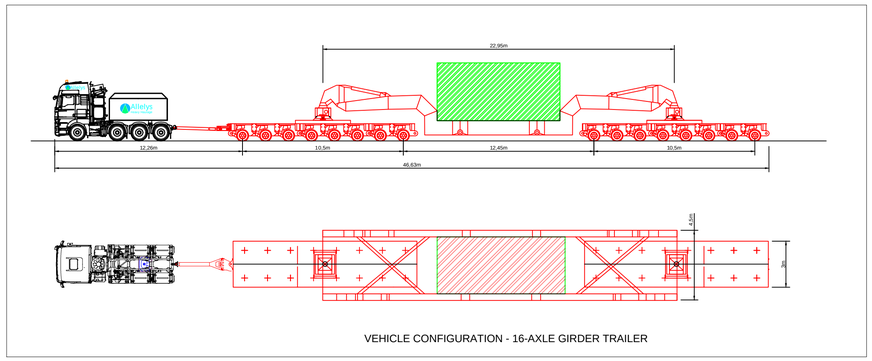
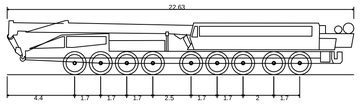


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

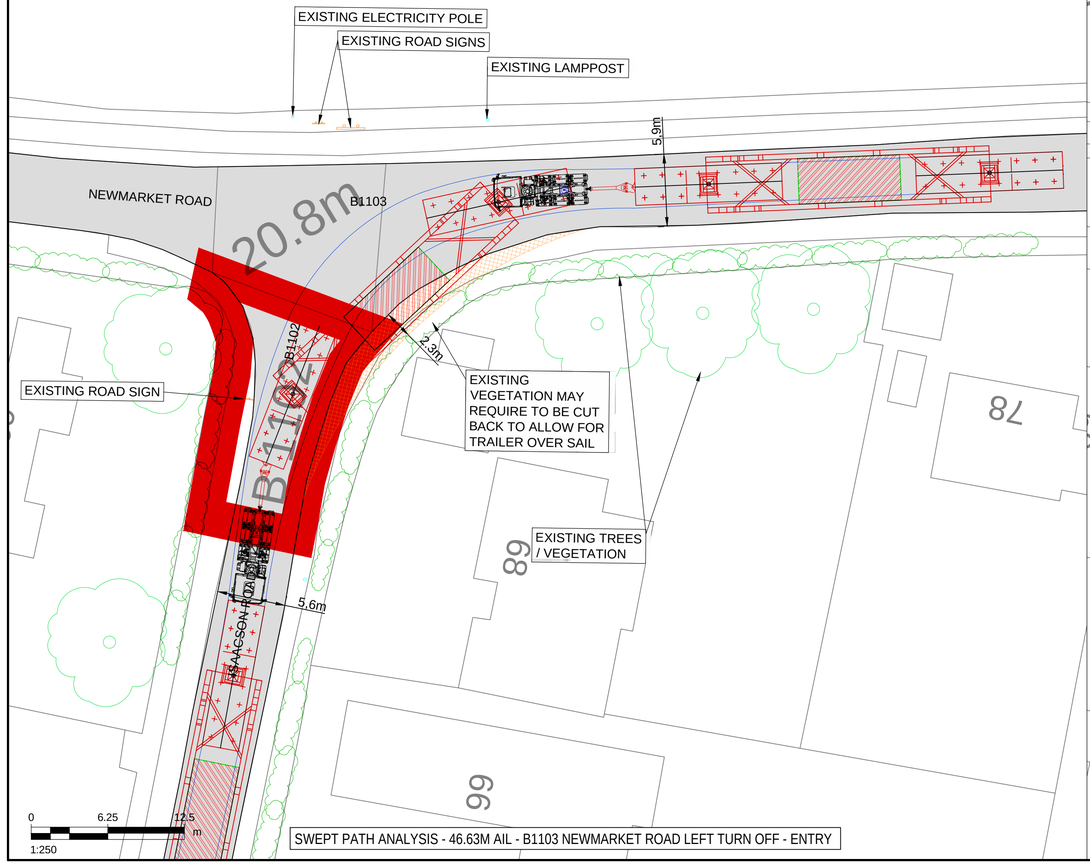


1000T MOBILE CRANE

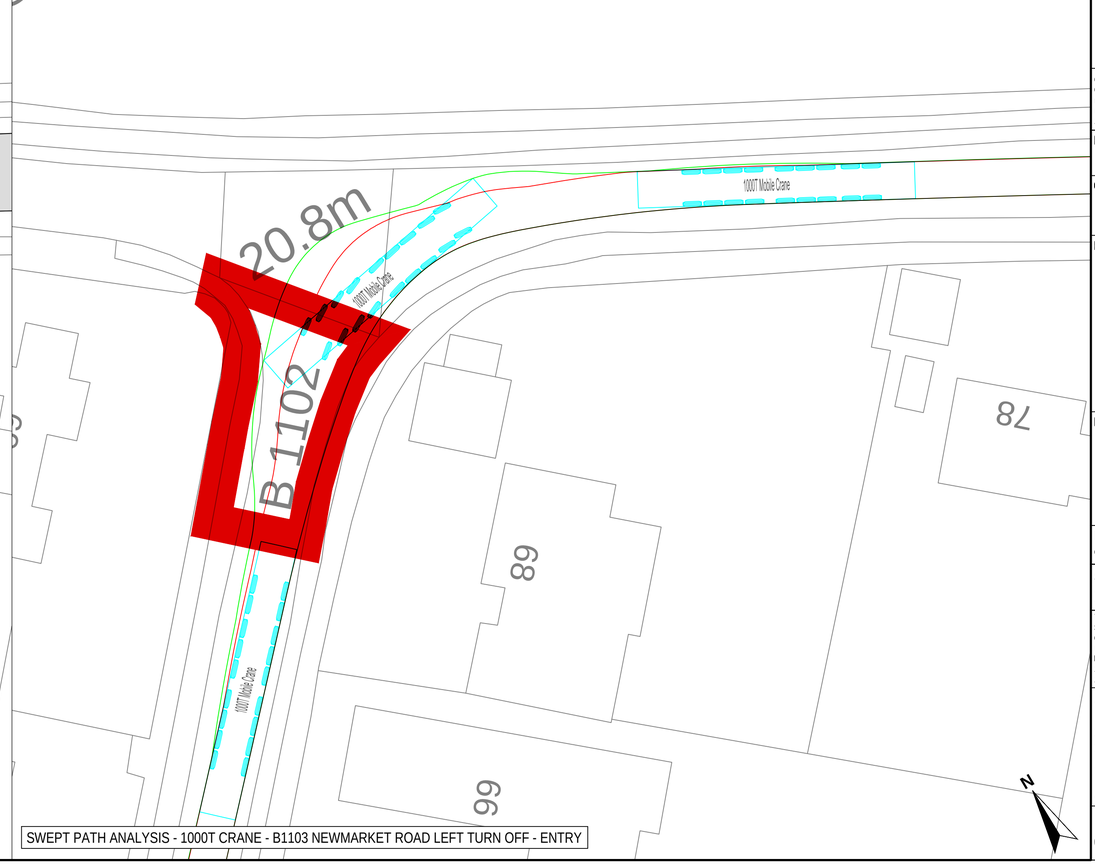
OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - B1102 RIGHT TURN ONTO B1103 NEWMARKET ROAD - EGRESS



SWEPT PATH ANALYSIS - 46.63M AIL - B1103 NEWMARKET ROAD LEFT TURN OFF - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - B1103 NEWMARKET ROAD LEFT TURN OFF - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

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Purpose of Issue
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Client
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Project Title

Drawing Title
FIGURE 33
BURWELL. B1103 NEWMARKET ROAD / B1102 ISAACSON ROAD JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
60589004	1:250

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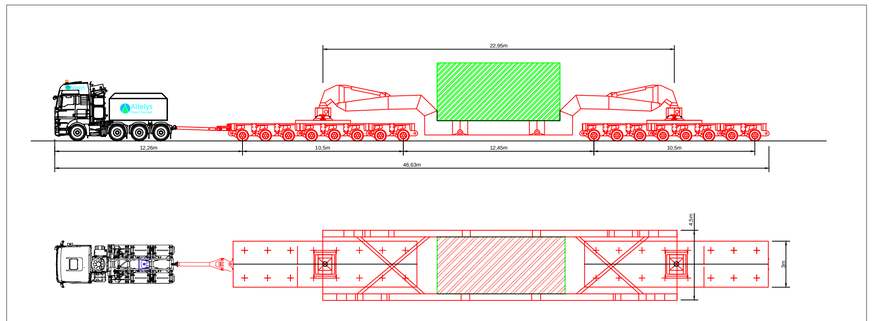
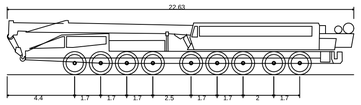
ISO A1 594mm x 841mm



VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



1000T MOBILE CRANE

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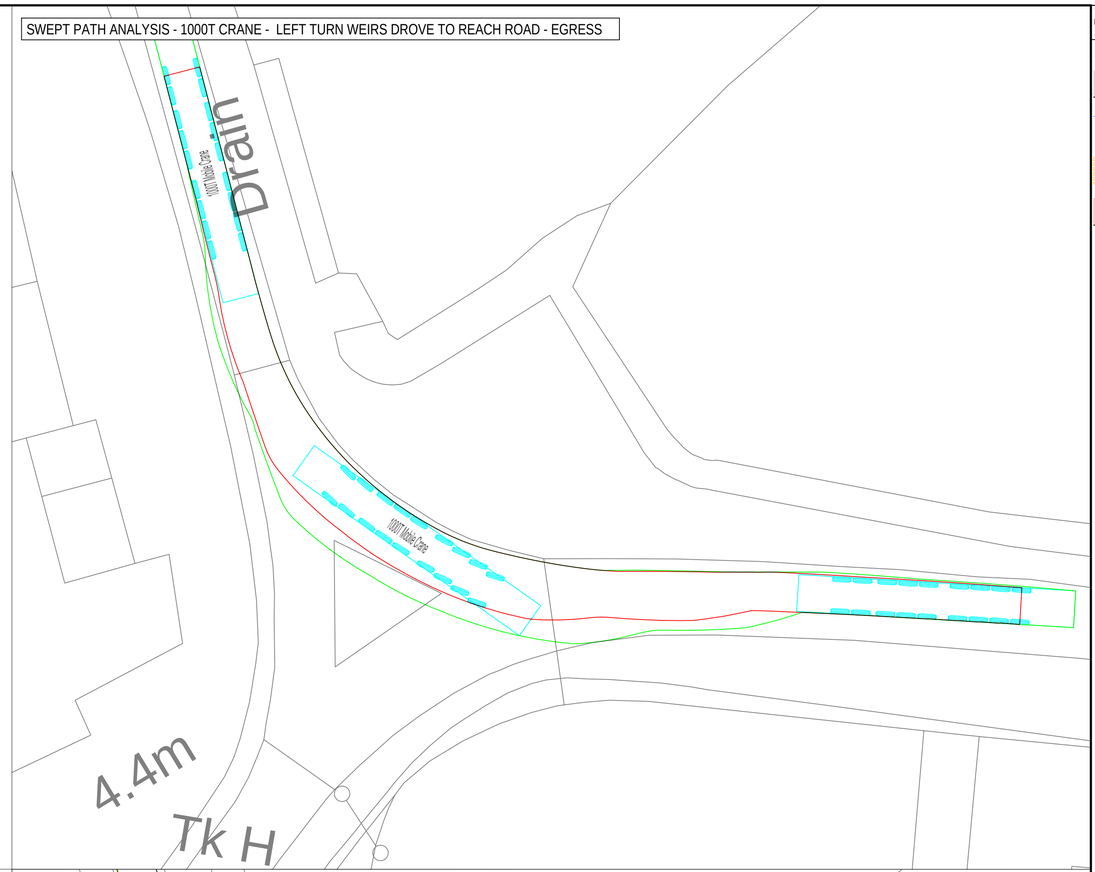
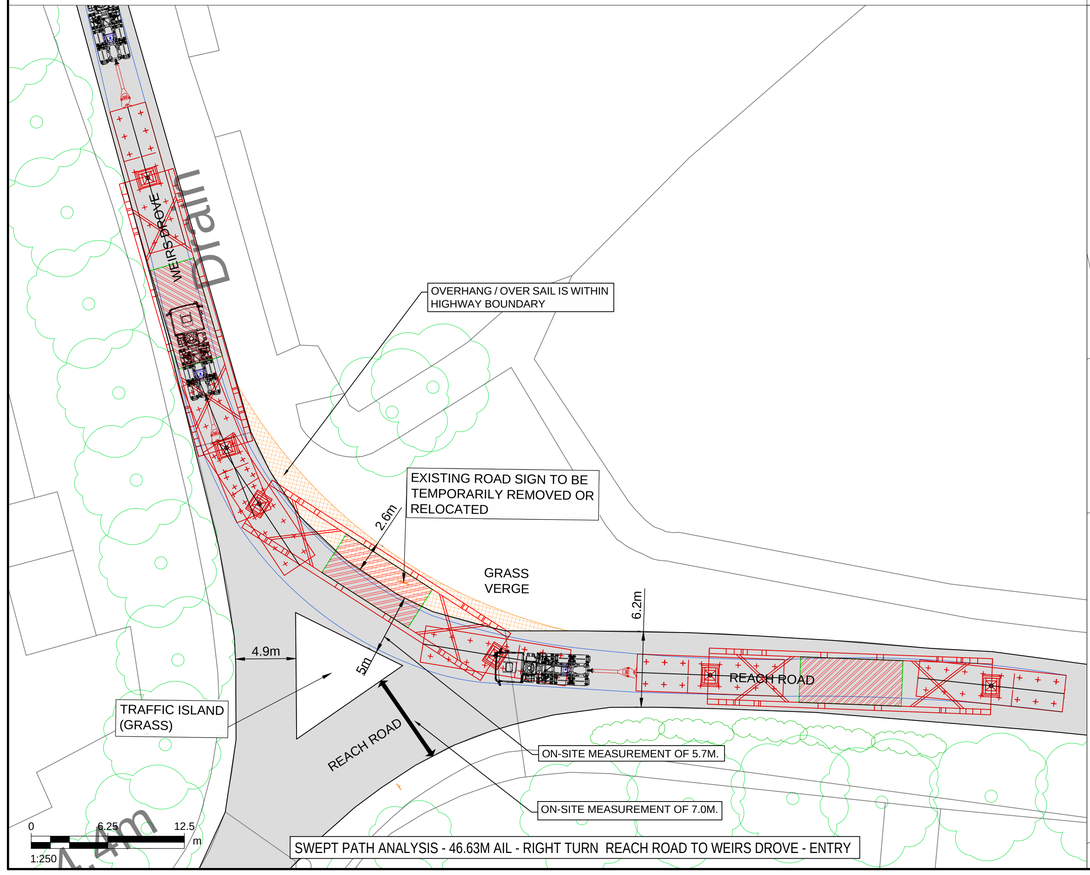
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

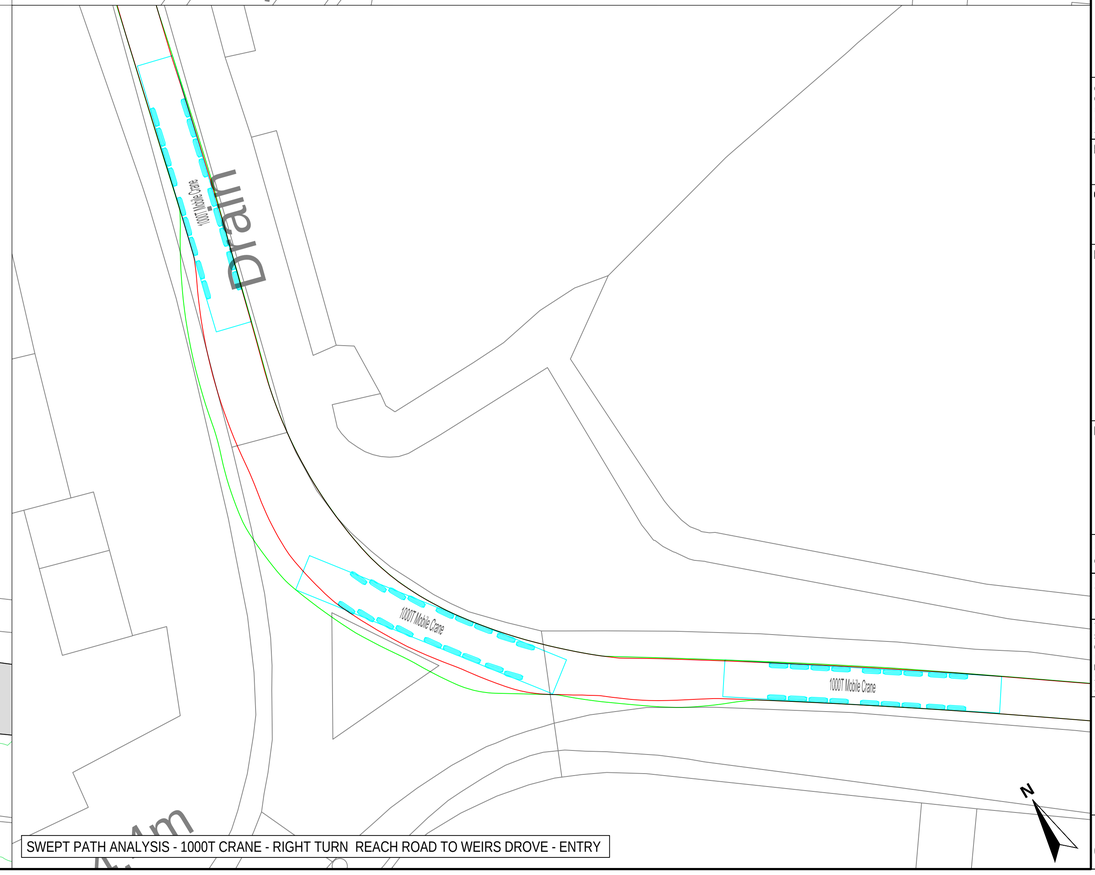
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH



SWEPT PATH ANALYSIS - 1000T CRANE - LEFT TURN WEIRS DROVE TO REACH ROAD - EGRESS



SWEPT PATH ANALYSIS - 46.63M AIL - RIGHT TURN REACH ROAD TO WEIRS DROVE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - RIGHT TURN REACH ROAD TO WEIRS DROVE - ENTRY

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5. ON-SITE MEASUREMENTS RECORDED BY AECOM ON 05/08/2022.

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Purpose of Issue
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Client
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Project Title

Drawing Title
FIGURE 34
BURWELL
REACH ROAD / WEIRS DROVE JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
60589004	1:250

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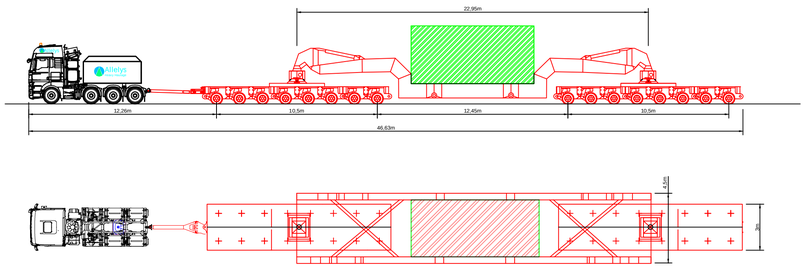
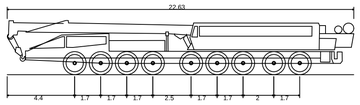


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

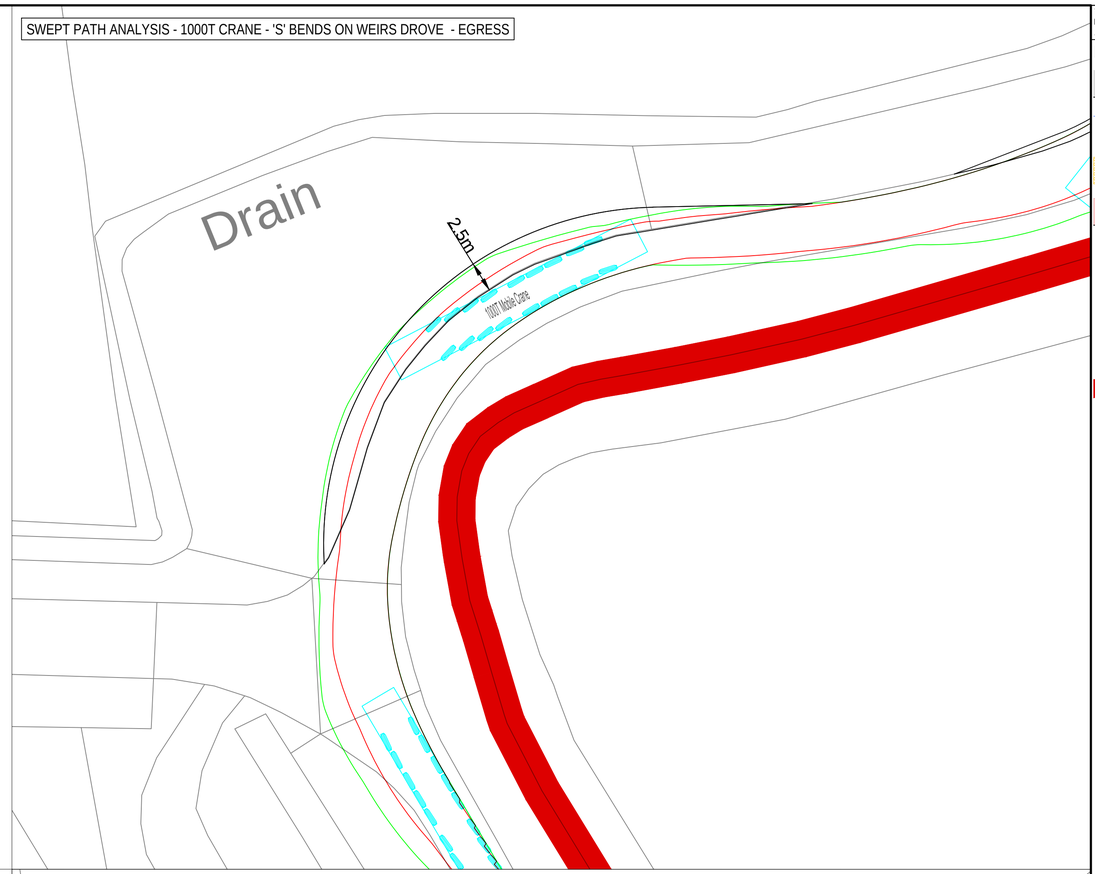


1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - 'S' BENDS ON WEIRS DROVE - EGRESS



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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
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- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
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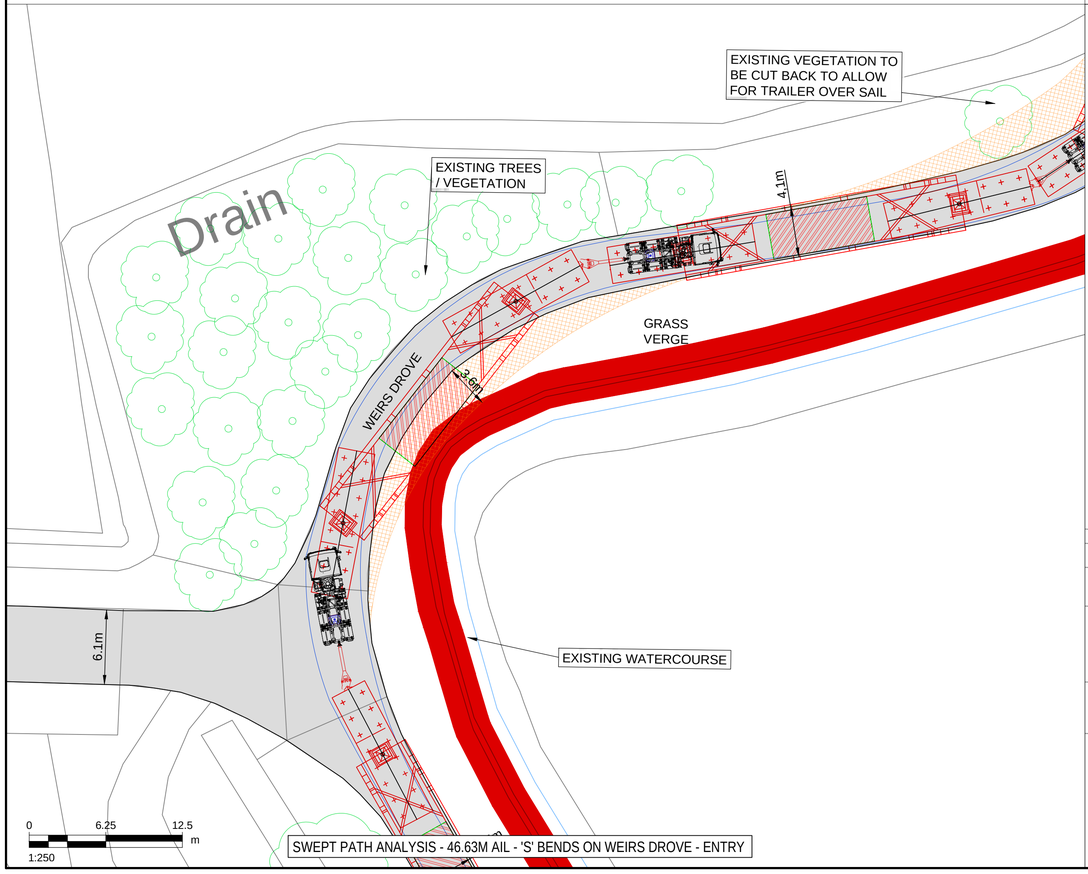
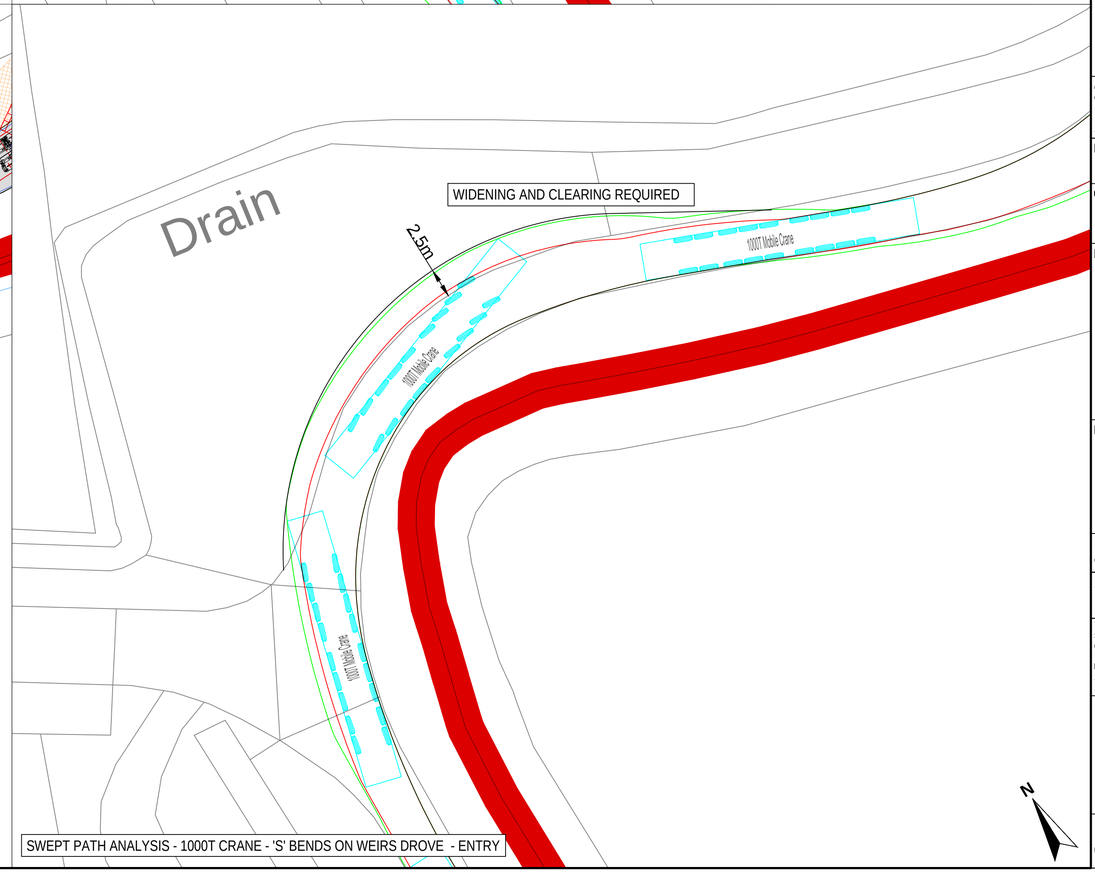


SWEPT PATH ANALYSIS - 46.63M AIL - 'S' BENDS ON WEIRS DROVE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - 'S' BENDS ON WEIRS DROVE - ENTRY

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APFP Regulation: 5(2)(a)

Purpose of Issue
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Client
SUNNICA ltd

Project Title

Drawing Title
FIGURE 35
BURWELL
'S' BENDS ON WEIRS DROVE
SHEET 1 OF 2

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
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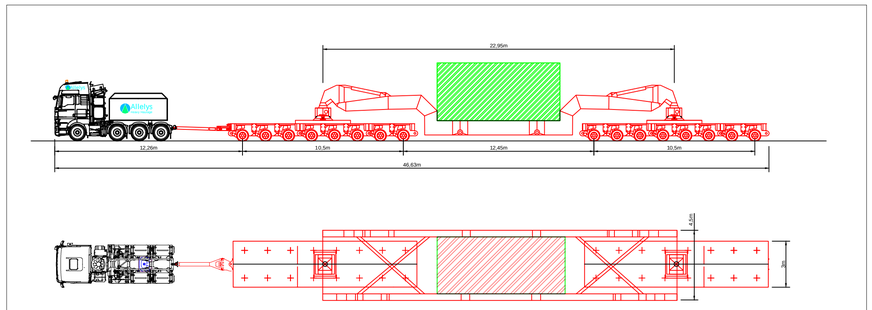
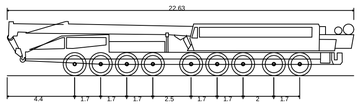


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



1000T MOBILE CRANE

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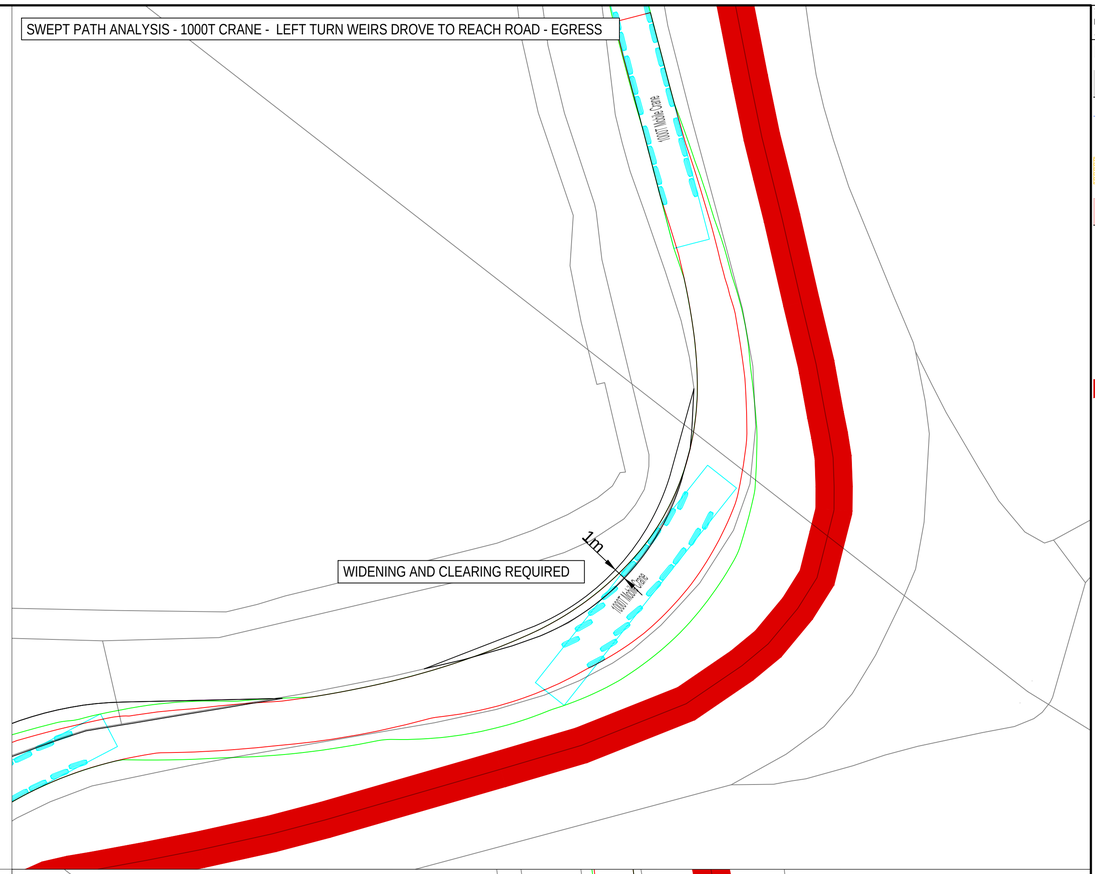
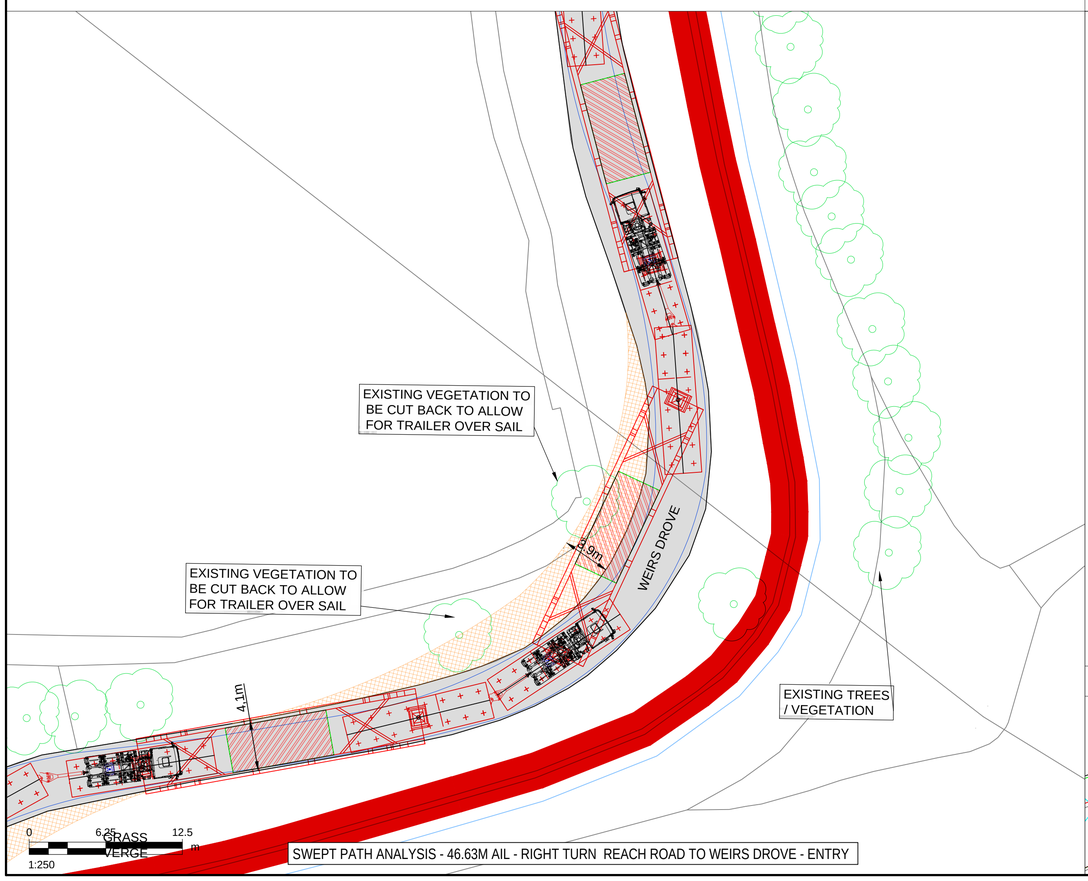
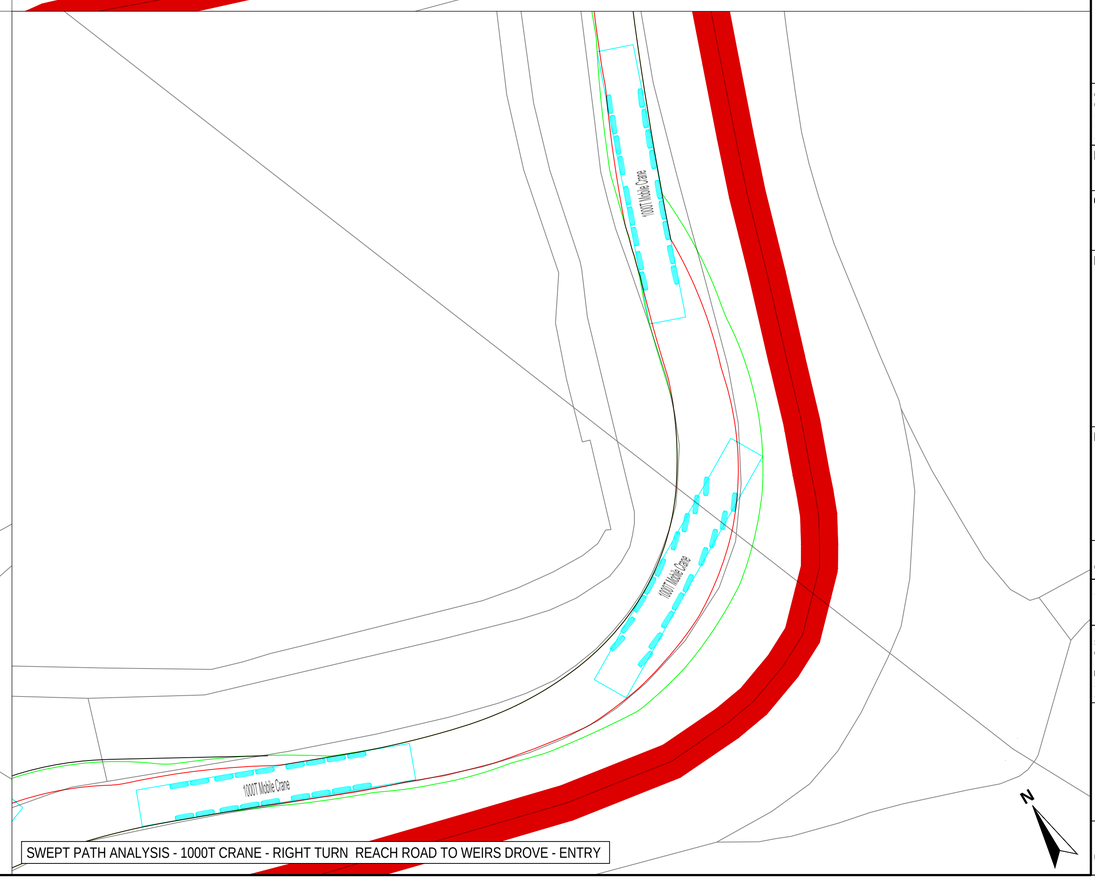




SWEPT PATH ANALYSIS - 46.63M AIL - RIGHT TURN REACH ROAD TO WEIRS DROVE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - RIGHT TURN REACH ROAD TO WEIRS DROVE - ENTRY

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4. DEFINITIVE VEHICLE TRACKING OF SPECIFIC DELIVERY VEHICLE TO BE CARRIED OUT BY HAULIER, TO ENSURE DESIRED MANOEUVRES ARE ACHIEVABLE, AND TO CONFIRM ANY REQUIRED ROAD WIDENING, TEMPORARY WORKS, etc.

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NOTE:
Document Reference: EN010106/APP/6.3
APFP Regulation: 5(2)(a)

Purpose of Issue
FOR DCO SUBMISSION

Client
SUNNICA ltd

Project Title

Drawing Title
FIGURE 36
BURWELL
'S' BENDS ON WEIRS DROVE
SHEET 1 OF 2

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No. 60589004
Scale @ A1 1:250

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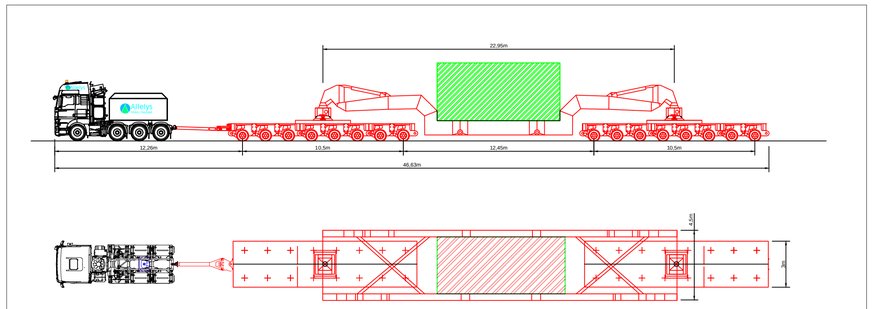
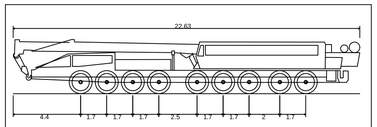


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER

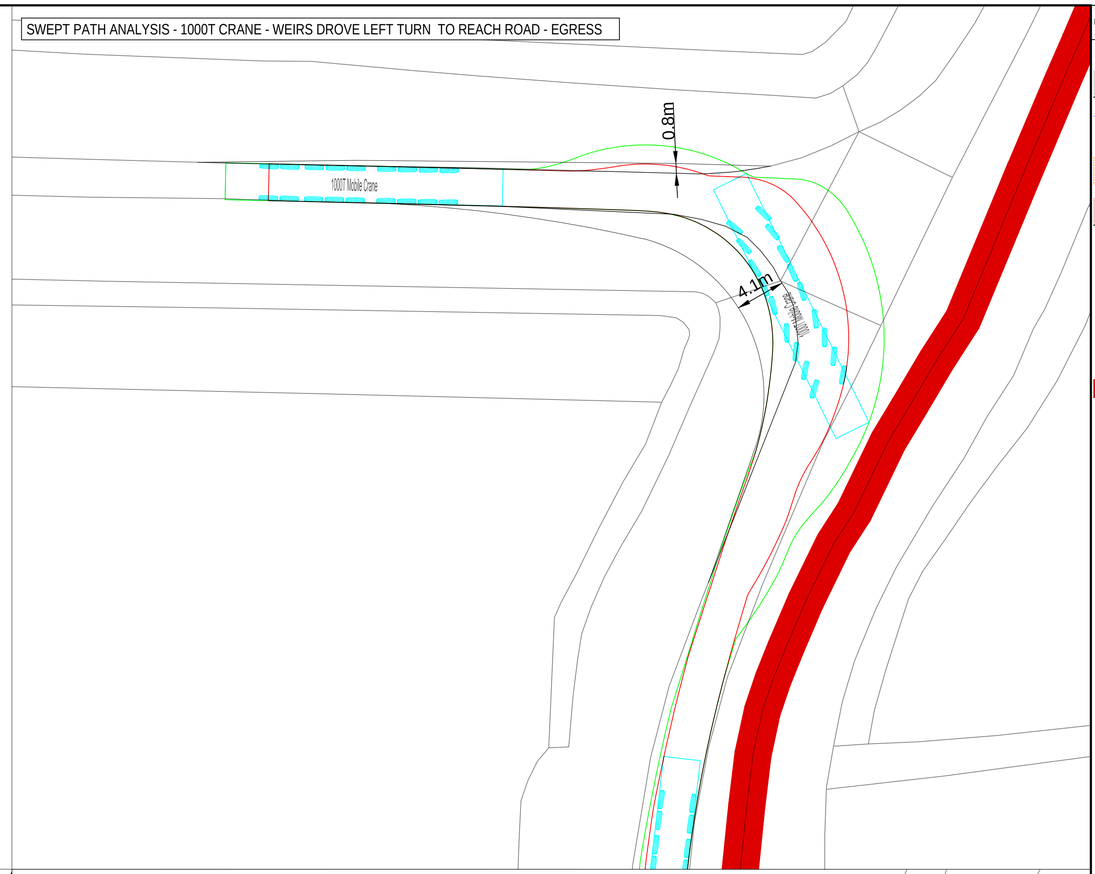


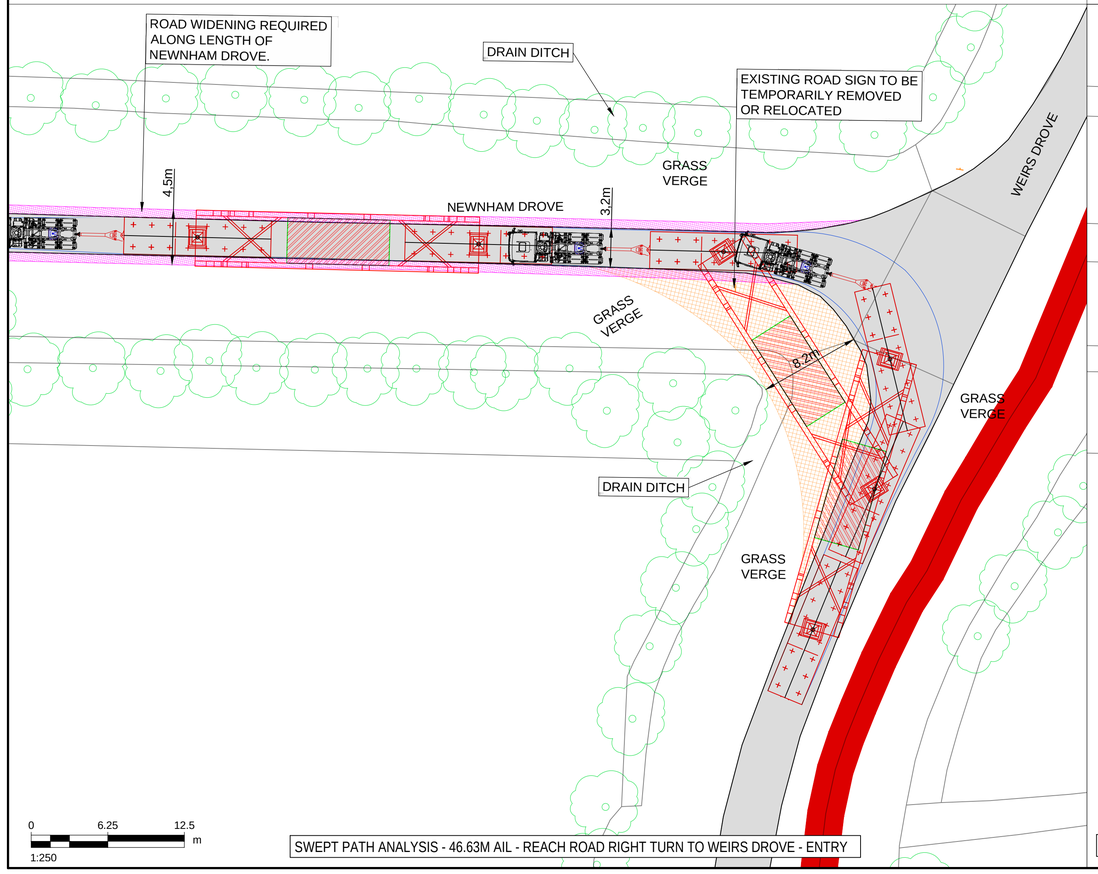
1000T MOBILE CRANE

OVERALL LENGTH	22.630m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.536m
MIN BODY GROUND CLEARANCE	0.740m
TRACK WIDTH	3.000m
LOCK TO LOCK TIME	5.00s
WALL TO WALL TURNING RADIUS	17.500m

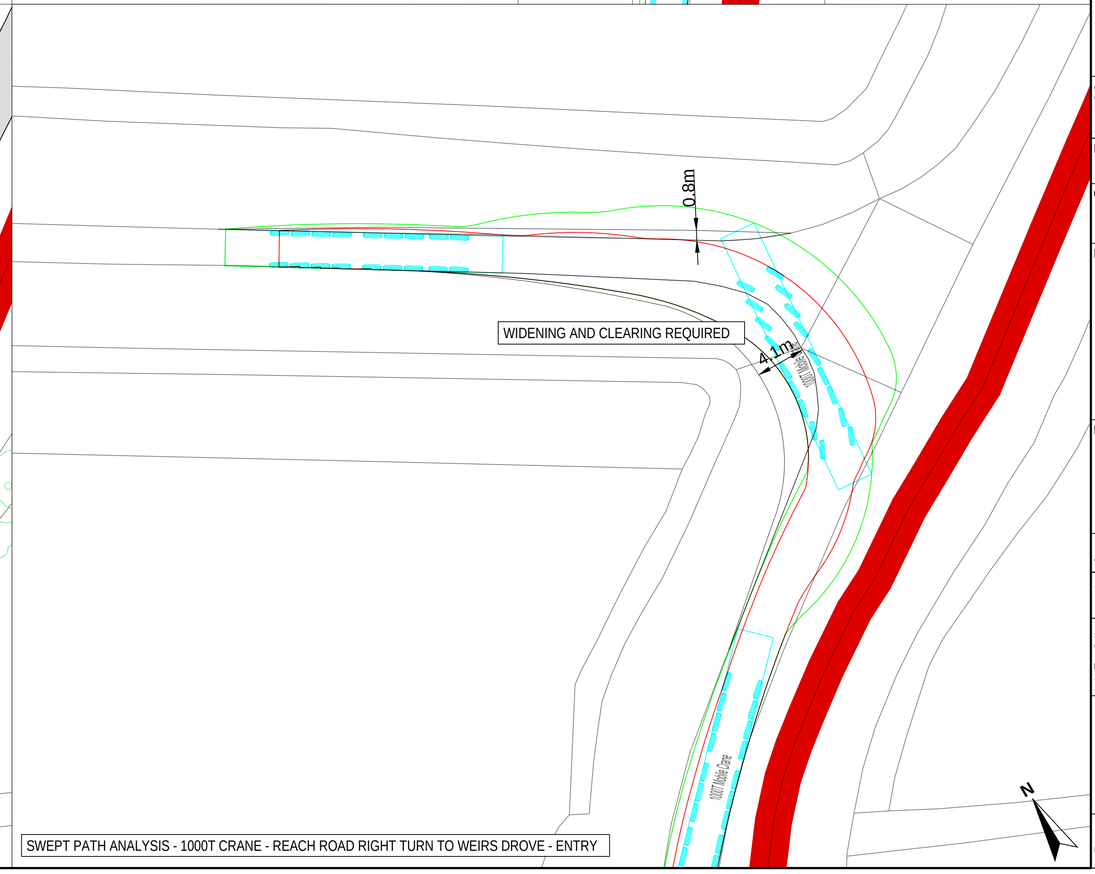
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - WEIRS DROVE LEFT TURN TO REACH ROAD - EGRESS





SWEPT PATH ANALYSIS - 46.63M AIL - REACH ROAD RIGHT TURN TO WEIRS DROVE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - REACH ROAD RIGHT TURN TO WEIRS DROVE - ENTRY

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LEGEND

- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
- EXISTING STREET FURNITURE (LAMP POST, BOLLARD, EP, TP, etc.)
- SITE BOUNDARY

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APFP Regulation: 5(2)(a)

Purpose of Issue
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Client
SUNNICA ltd

Project Title

Drawing Title
FIGURE 37
BURWELL
WEIRS DROVE / NEWNHAM DROVE JUNCTION

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	08/08/2022

AECOM Internal Project No.	Scale @ A1
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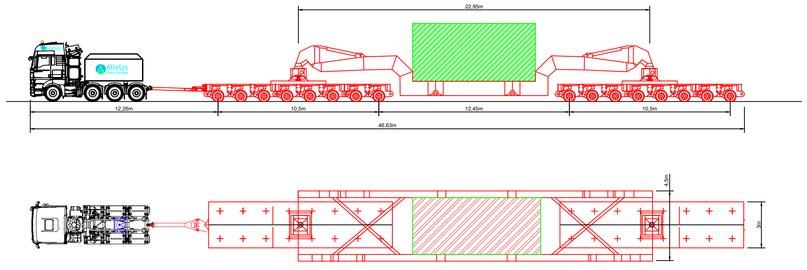
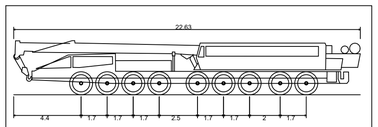


VEHICLE CONFIGURATION - 16-AXLE GIRDER TRAILER



1000T MOBILE CRANE

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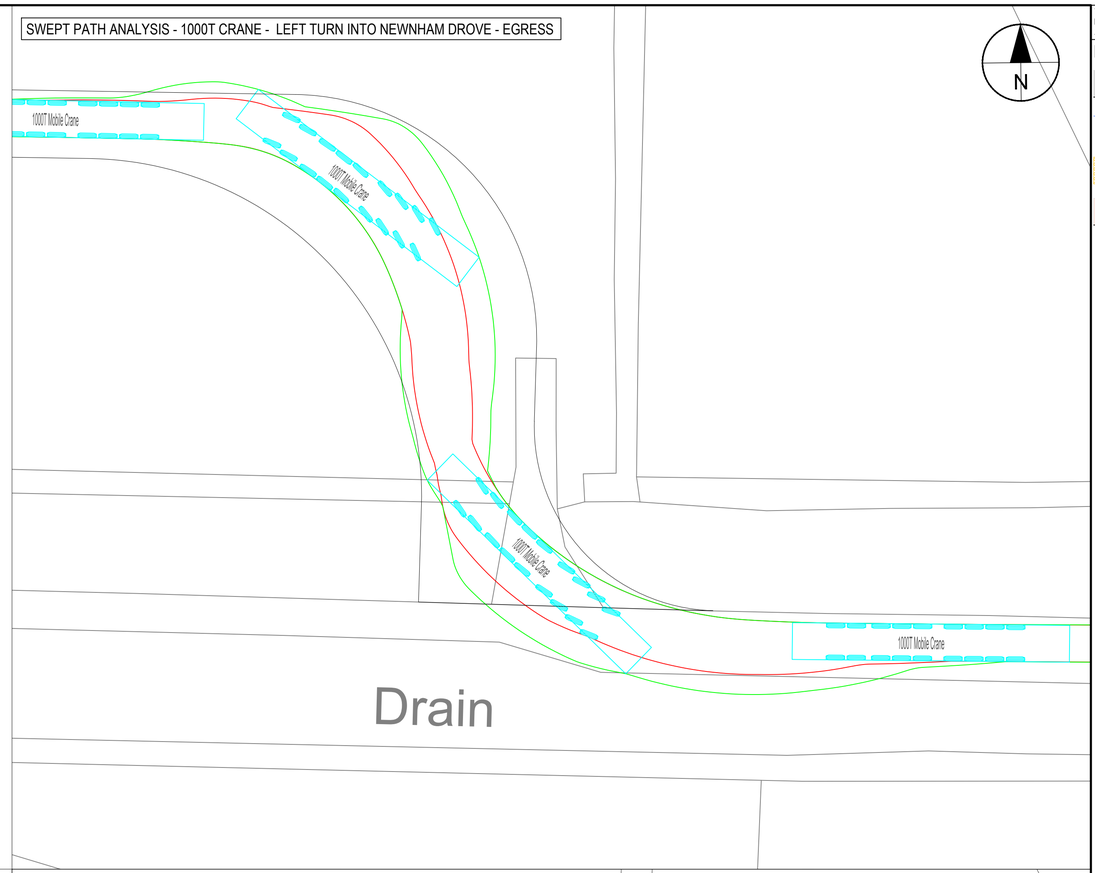
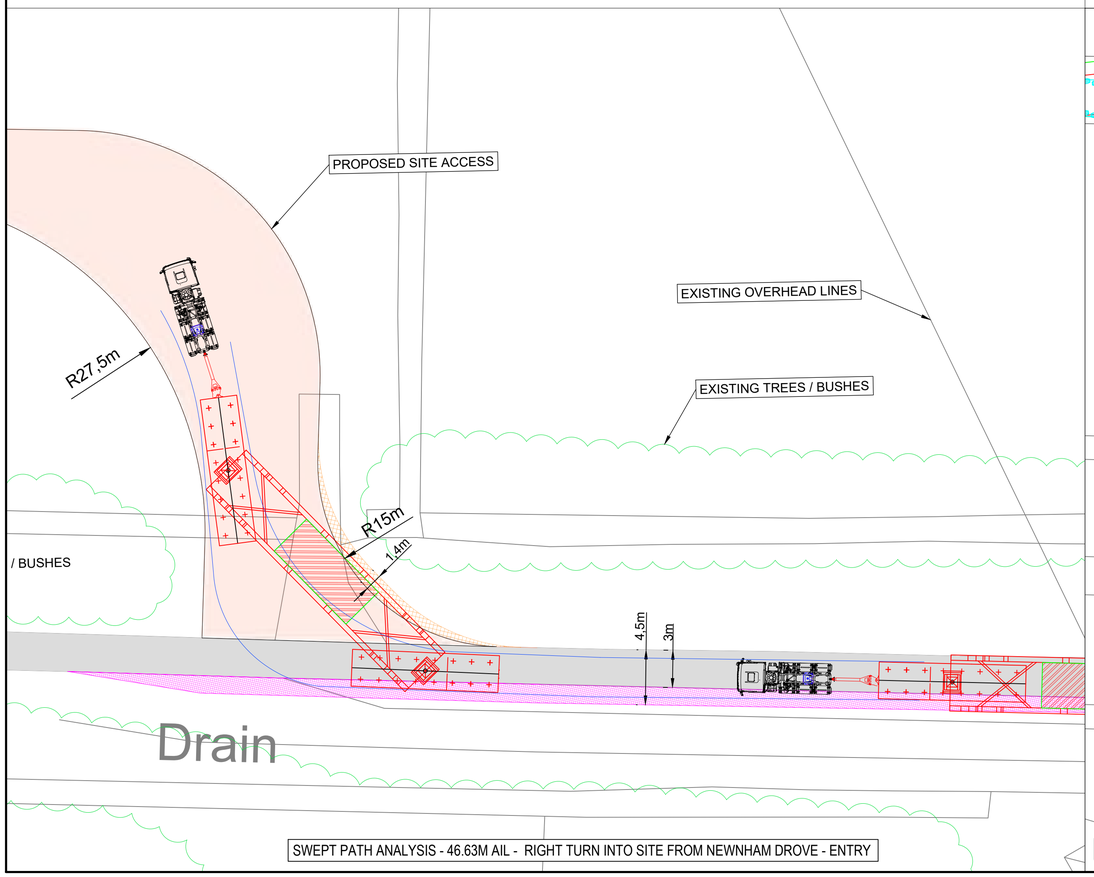
WALL TO WALL TURNING RADIUS	17.500m

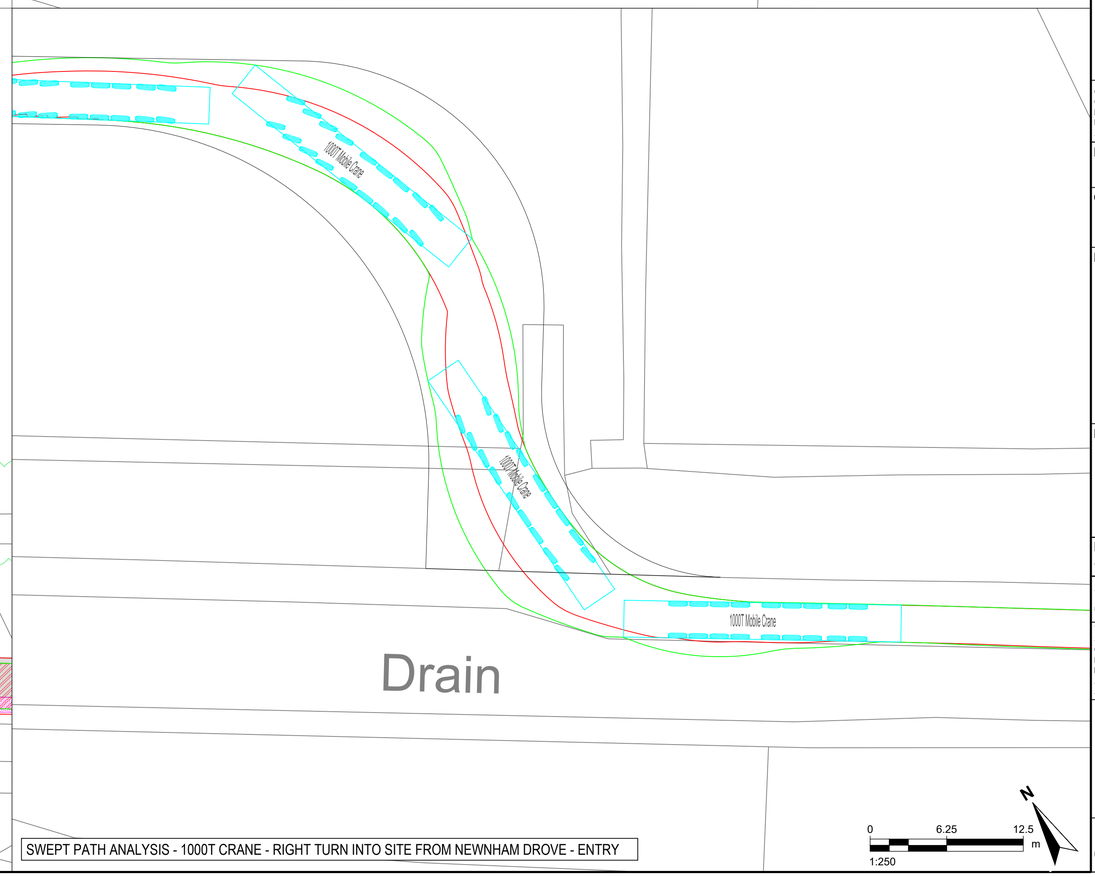
VEHICLE BODY
VEHICLE BODY PATH
VEHICLE WHEELS PATH

SWEPT PATH ANALYSIS - 1000T CRANE - LEFT TURN INTO NEWNHAM DROVE - EGRESS





SWEPT PATH ANALYSIS - 46.63M AIL - RIGHT TURN INTO SITE FROM NEWNHAM DROVE - ENTRY



SWEPT PATH ANALYSIS - 1000T CRANE - RIGHT TURN INTO SITE FROM NEWNHAM DROVE - ENTRY

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- EXISTING ROAD
- APPROXIMATE OUTER WHEEL TRACK OF TRACTOR UNIT / TRAILER BOGEYS (REFER NOTES)
- OVER SAIL OF TRAILER GIRDER SECTION
- PROPOSED SITE ENTRANCE
- EXISTING TREES / VEGETATION
- EXISTING HEDGES / VEGETATION
- EXISTING ROAD SIGN
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Client
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Project Title

Drawing Title
FIGURE 46
BURWELL
NEWNHAM DROVE

Drawn	Checked	Approved	Date
CH	CCAL	CCAR	22/08/2022

AECOM Internal Project No.
60589004

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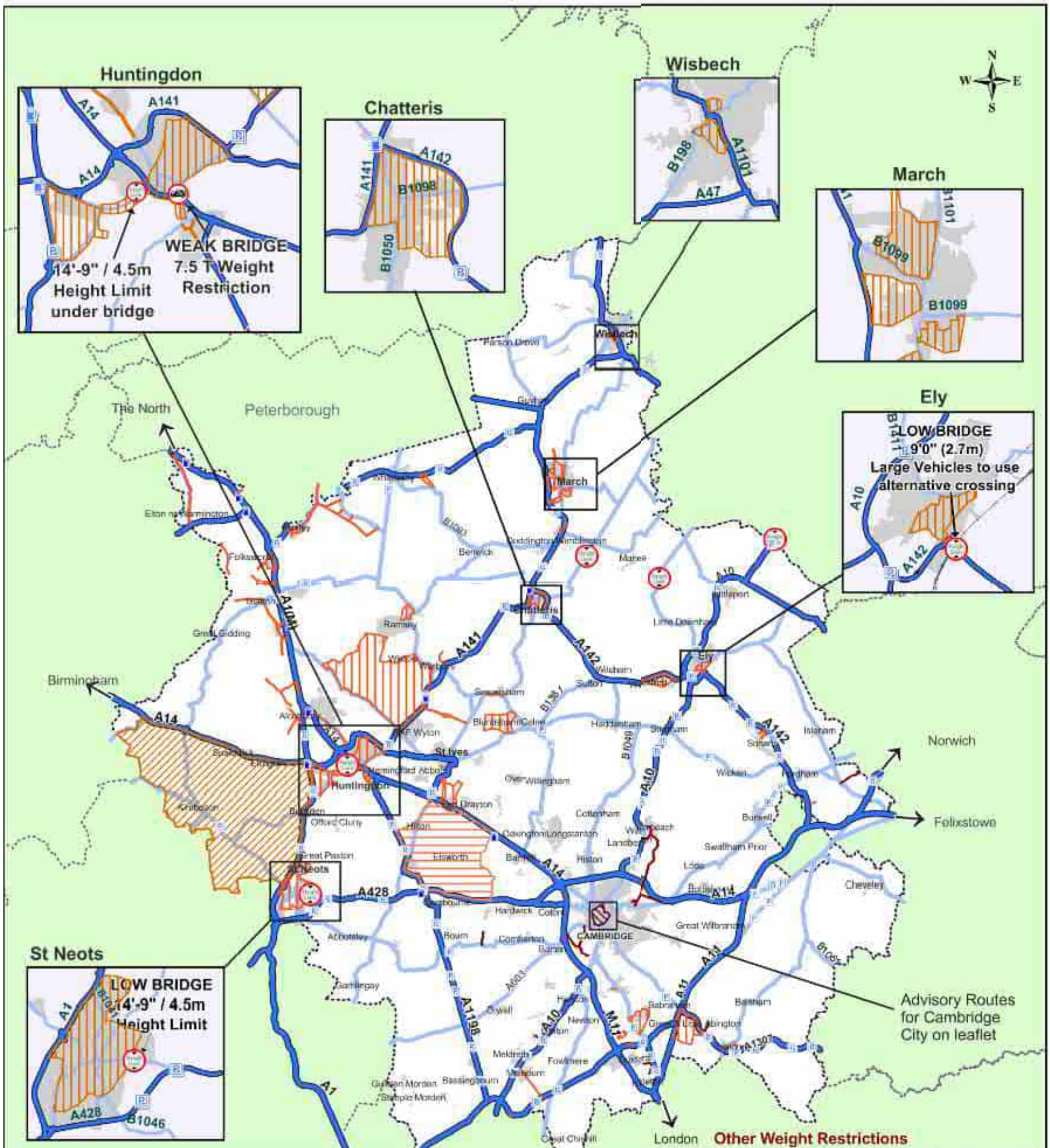
Annex B – SCC Lorry Route Map and CCC Advisory Freight Map

Cambridgeshire Advisory Freight Map



Other Weight Restrictions

WEIGHT LIMIT	LOCATION	TOWN / LOCALITY
2 T	Warsford Bridge [Bridge End]	Sibson
3 T	Cambridge City Centre area (see city map for further detail)	Cambridge
3 T	Bridge on Mill Road (C106)	Alconbury
3 T	Badingham Road Bridge [New Street & Badingham Road]	Chippenham
3 T	Horningsea Road; Clayhithe Road; Cambridge Road; Denny End Road	Waterbeach & Horningsea
3 T	Mill Way; High Street; Coton Road; Granchester Road	Grantchester
7.5 T	Gilbert Road. Overnight only (22:00-07:00)	Cambridge
7.5 T	High Street (Church Street to Green End Road), Church Street (Chapel Street to St Andrews Road), Chapel Street, Union Lane, Scotland Road	Chesterton, Cambridge
8 T	Shepreth Mill Bridge [Fowlmere Road]	Shepreth
11 T	Main Street	Caldecote/Kingston
12 T	High Street	Hildersham
18 T	Horningsea Road, Ditton Lane, High Ditch Road	Fen Ditton
20 T	Ickleton Road and Duxford Road	Hinxton

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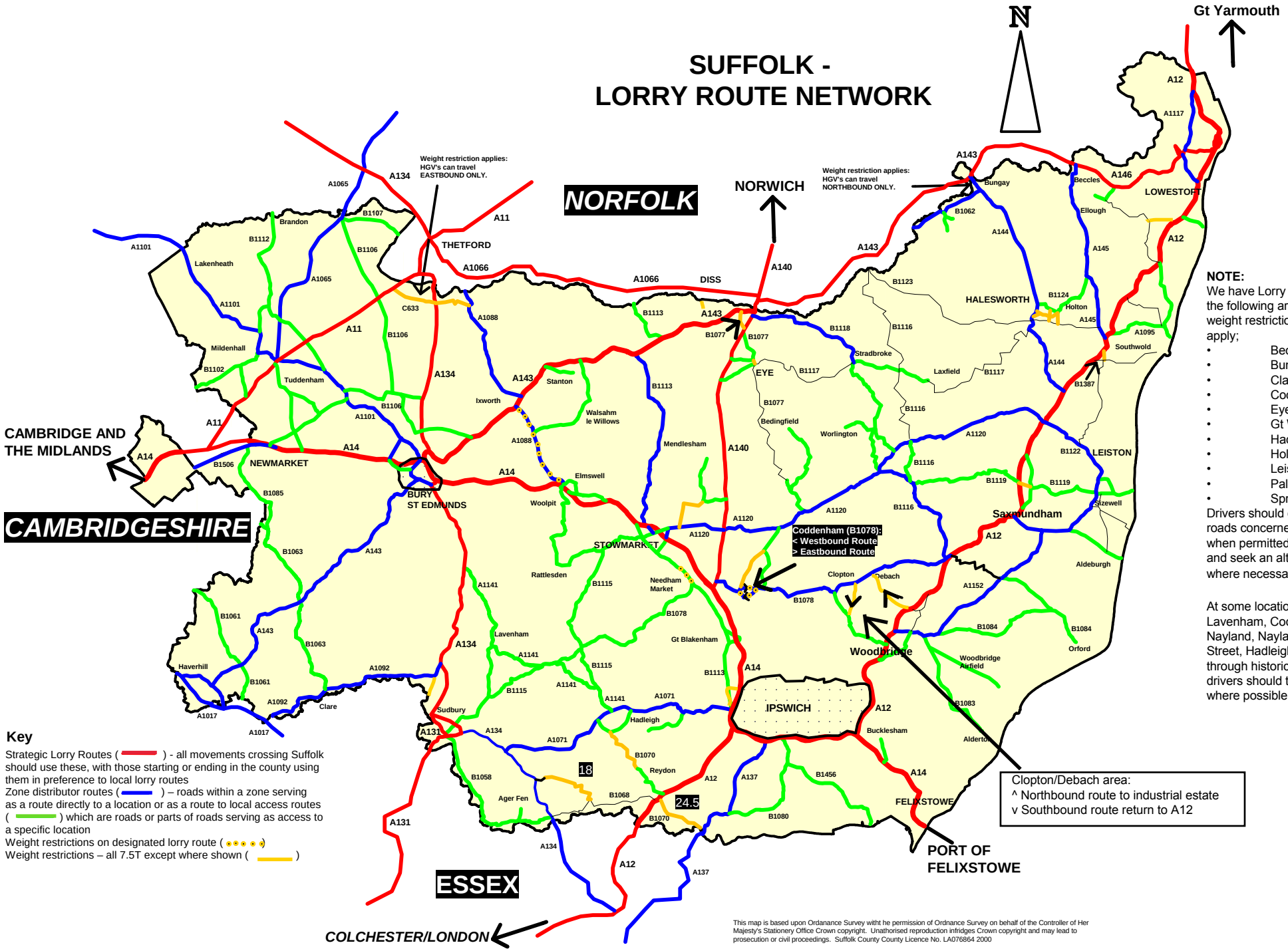
SUFFOLK - LORRY ROUTE NETWORK



NOTE:
We have Lorry Watch scheme's in the following areas where 7.5T weight restriction traffic orders apply;

- Beccles
- Bungay
- Claydon
- Coddenham
- Eye
- Gt Waldringfield
- Hadleigh
- Holton
- Leiston
- Palgrave
- Sproughton

Drivers should ensure that the roads concerned are only used when permitted under the Order and seek an alternative route where necessary.

At some locations such as Clare, Lavenham, Coddenham, Stoke by Nayland, Nayland and Benton Street, Hadleigh routes pass through historic villages where drivers should take extra care and where possible avoid

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Annex C – Sunnica East, Sunnica West and Grid Connection Route A and Grid Connection Route B Site Access Reviews

Appendix C1: Sunnica East and Sunnica West Site Accesses Review

Swept Path Analysis

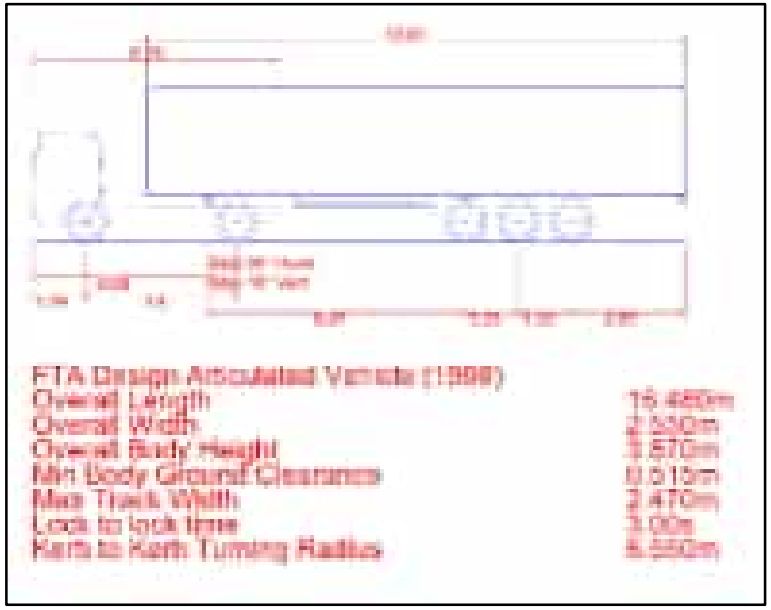


Figure 0-1: Swept Path Analysis Vehicle Profile: 16.5m Articulated Lorry

Access Review

Table 1: Sunnica East – Access A

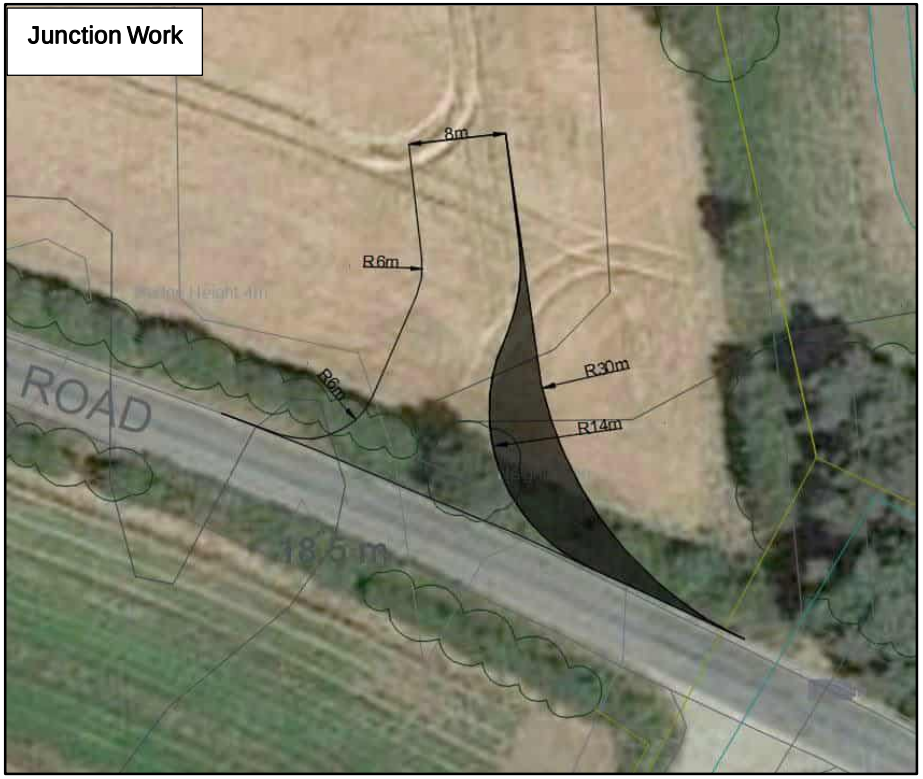
Authority	Ref.	Road	Description of Existing Access	Comments
SCC	A	Elms Road	• Single unmade field access heavily overgrown with vegetation previously utilised by agricultural vehicles. • Elms Road is narrow but is generally wide enough for two cars to pass however HGVs cannot pass apart from at limited passing paces. The road is signposted as being unsuitable for heavy goods vehicles. • This will form the main access for East Site and will provide access to the East Site parking for workers.	• Junction arrangement has been considered based on the vehicle tracking and base mapping shown in Figure 3. This illustrates the site access likely requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (right turn in) and will egress the access to the south (left turn out).

Figure 2: Sunnica East – Access A – Visibility Splay and Site Visit Photos

x

Figure 3: Sunnica East – Access A – Vehicle Tracking

Figure 4: Sunnica East – Access A – Junction Work



The hatched area in the above figure identifies the additional area required to accommodate the crane(s).

Table 2: Sunnica East – Access B

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	B	Elms Road	• Gated 5.5m wide unmade field access currently used by agricultural vehicles. • Elms Road is narrow but is generally wide enough for two cars to pass however HGVs cannot pass apart from at limited passing paces. The road is signposted as being unsuitable for heavy goods vehicles.	• The visibility can be achieved, with limited/minimal removal of vegetation required, although some cutting back and reduction in height of hedgerow to be undertaken. • The photos shown in Figure 5 illustrate the vegetation / hedgerow to be cut back in line with the visibility splay. • Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 6. This illustrates the site access requires widening to accommodate a 16.5m artic, with fencing to be removed with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (right turn in) and will the access to the south (left turn out).

Figure 5: Sunnica East – Access B – Visibility Splay and Site Visit Photos

Figure 6: Sunnica East – Access B – Vehicle Tracking

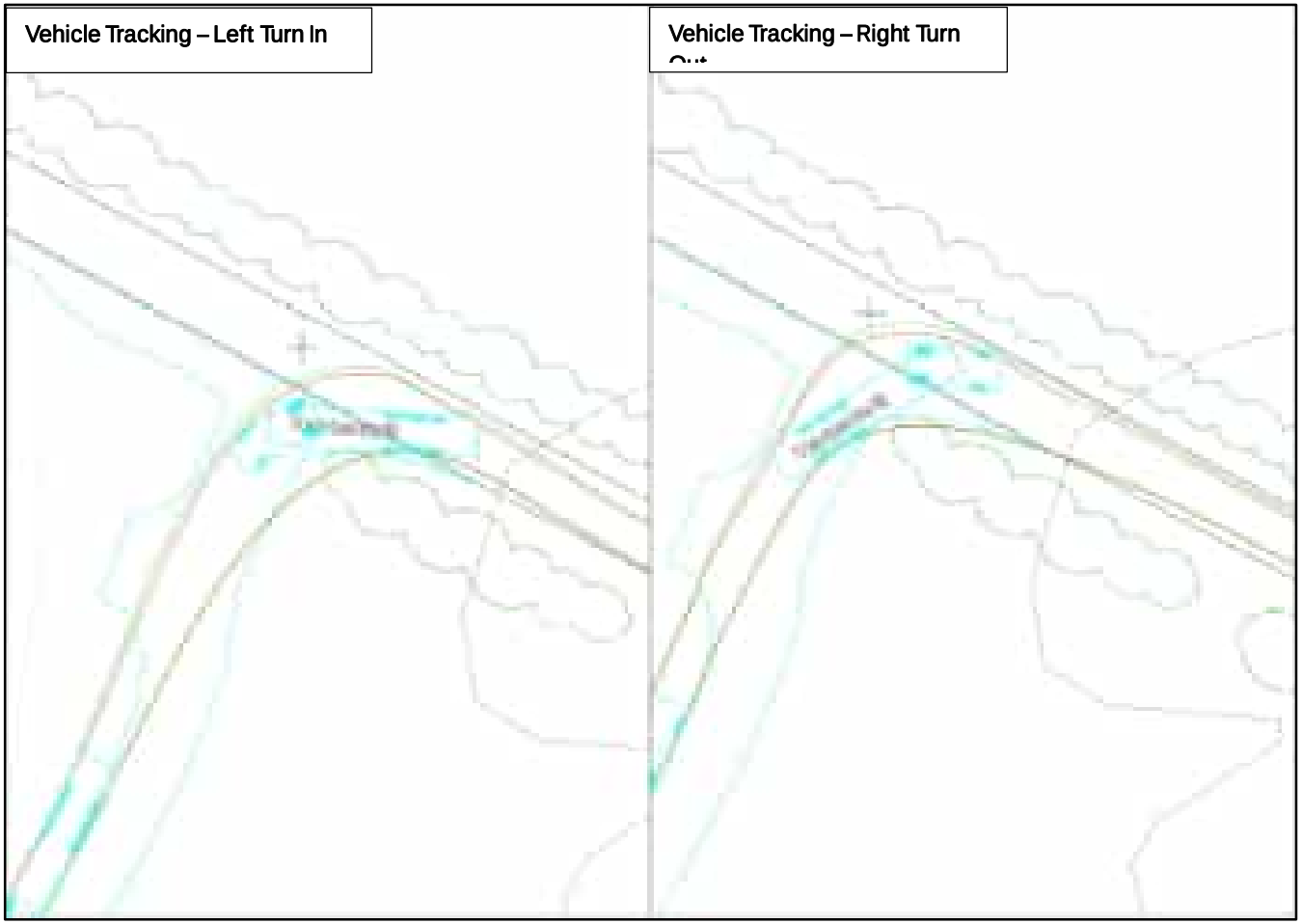


Figure 7: Sunnica East – Access B – Junction Work

Table 3: Sunnica East – Access C

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	C	Elms Road	• Gated 5.5m wide access currently used by agricultural vehicles. • Elms Road is narrow but is generally wide enough for two cars to pass however HGVs cannot pass apart from at limited passing paces. The road is signposted as being unsuitable for heavy goods vehicles.	• The visibility can be achieved, and no significant removal of vegetation required, although some cutting back and reduction in height of hedgerow to be undertaken. • The photos shown in Figure 8 illustrate the vegetation / hedgerow to be cut back in line with the visibility splay. • Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 9. This illustrates the site access requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (right turn in) and will egress the access to the south (left turn out).

Figure 8: Sunnica East – Access C – Visibility Splay and Site Visit Photos

Figure 9: Sunnica East – Access C – Vehicle Tracking

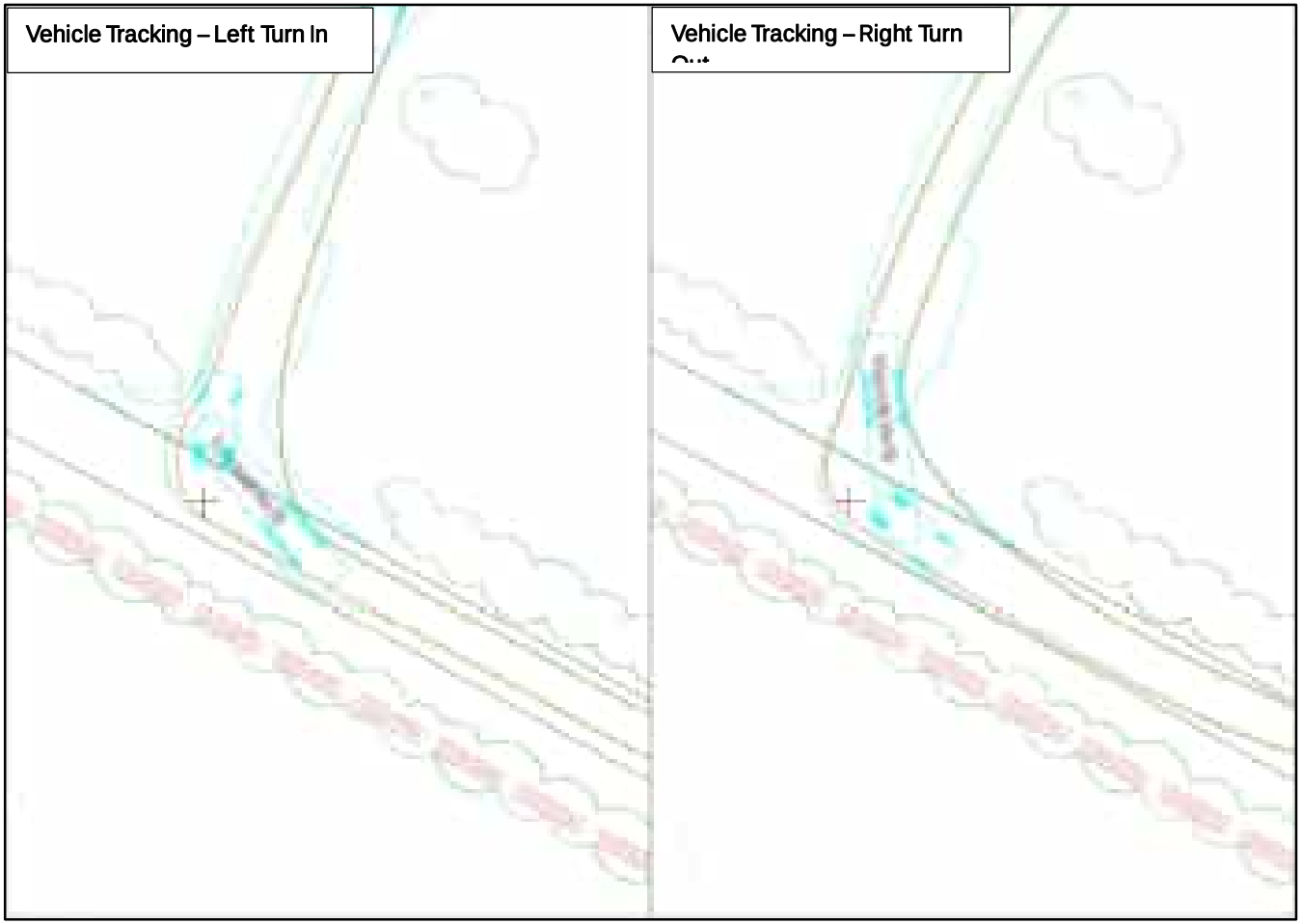


Figure 10: Sunnica East – Access C – Junction Work

Table 4: Sunnica East – Access D

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	D	Newmarket Road	• 3.5m wide gravel access used by agricultural vehicles. • Newmarket Road provides two-way vehicle movements and is generally a straight section of road providing good forward visibility between Red Lodge and Worlington with some minor bends in the road.	• Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 12. This illustrates the site access requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (left turn in) and will egress the access to the south (right turn out).

Figure 11: Sunnica East – Access D – Visibility Splay and Site Visit Photos

Figure 12: Sunnica East – Access D – Vehicle Tracking

Figure 13: Sunnica East – Access D – Junction Work

Table 5: Sunnica East – Access E

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	E	Ferry Lane	• 4.5m wide gravel farm access road, including triangular 'island'.	• The visibility can be achieved, and no significant removal of vegetation required, although some cutting back and reduction in height of hedgerow to be undertaken. This includes the tree adjacent to the access shown in Figure 14. The visibility splay has been based on the use of the southernmost of the two access points as the visibility of to the right from the other access is constrained by the bend in the road and consideration should be given to temporally closing that part of the junction. • The photos shown in Figure 14 illustrate the vegetation / hedgerow to be cut back / reduced in height in line with the visibility splay. • Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 15 which indicates no adjustments are required to the access junction to accommodate a 16.5m artic. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (left turn in) and will egress the access to the south (right turn out).

Figure 14: Sunnica East – Access E – Visibility Splay and Site Visit Photos

Figure 15: Sunnica East – Access E – Vehicle Tracking

Figure 16: Sunnica East – Access E – Junction Work

Table 6: Sunnica East – Access F

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	F	Beck Road	• 6m wide unmade access track used by agricultural vehicles, bounded by concrete slab. • The access is located on the straight section of Beck Road providing good forward visibility.	• The visibility can be achieved, and no significant removal of vegetation required, although some cutting back and reduction in height of hedgerow to be undertaken. • The photos shown in Figure 17 illustrate the vegetation / hedgerow to be cut back / reduced in height in line with the visibility splay. • Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 18 which indicates no adjustments are required to the access junction to accommodate a 16.5m artic although hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (right turn in) and will egress the access to the south (left turn out).

Figure 17: Sunnica East – Access F – Visibility Splay and Site Visit Photos

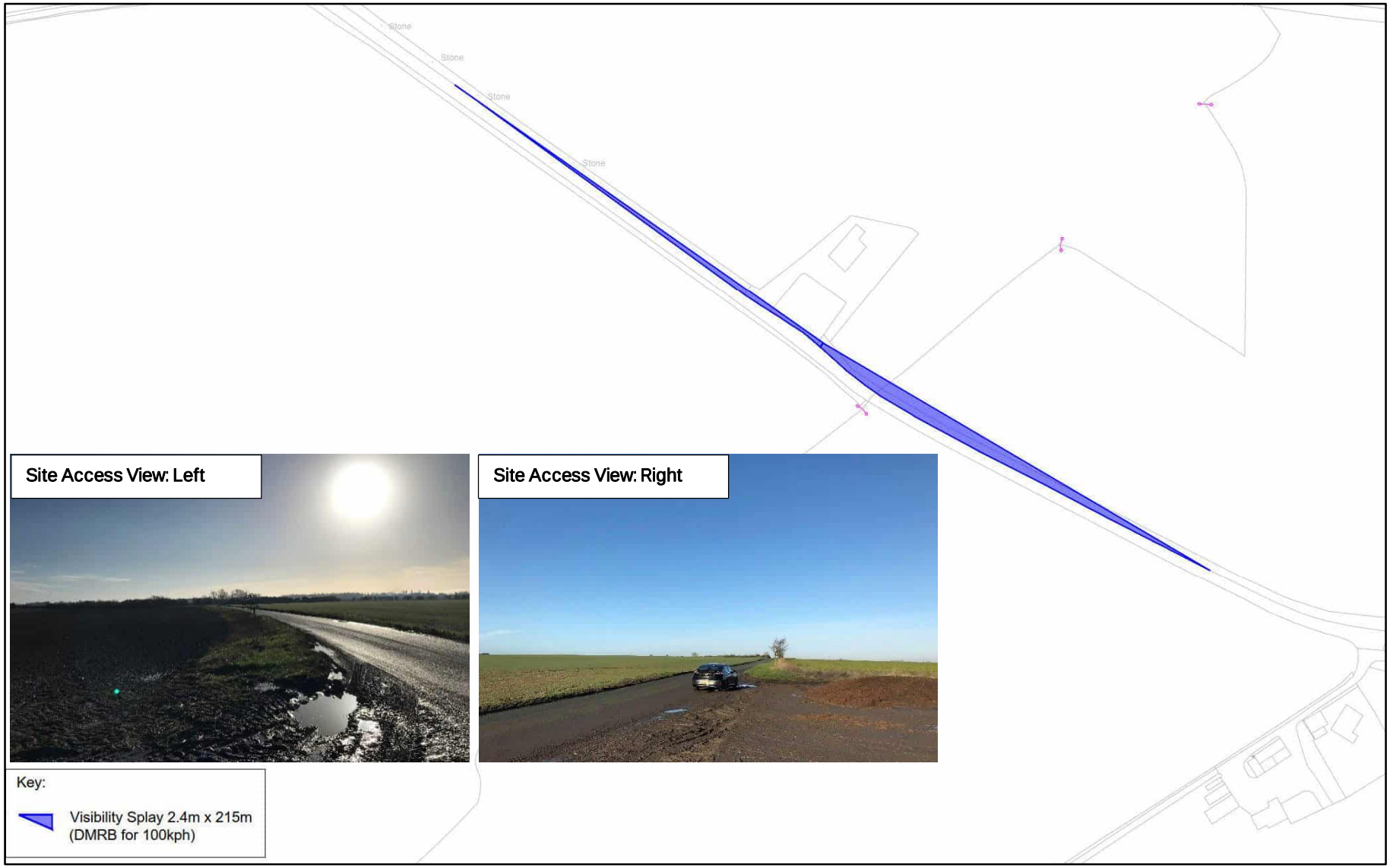


Figure 18: Sunnica East – Access F – Vehicle Tracking

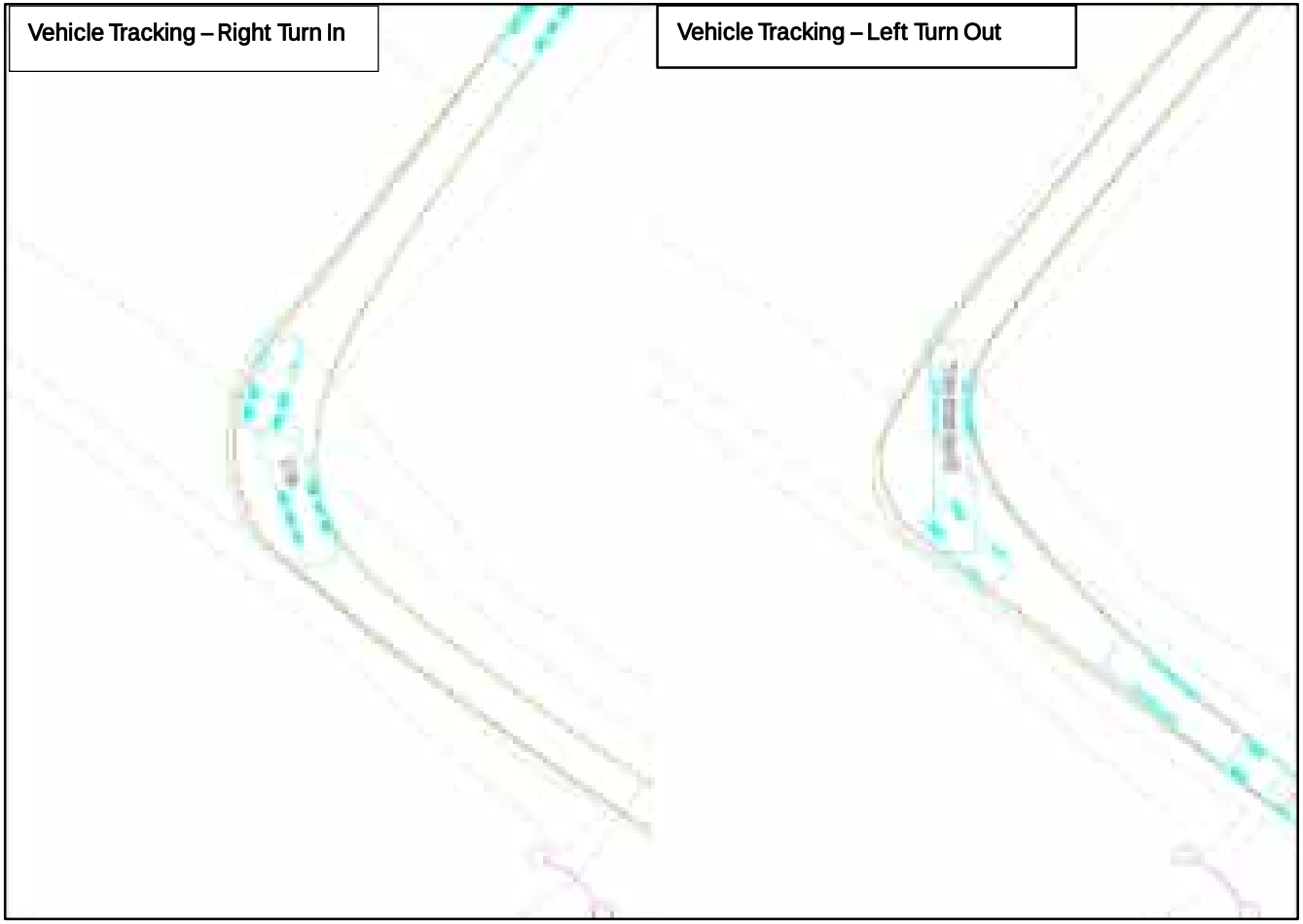


Figure 19: Sunnica East – Access F – Junction Work

Table 7: Sunnica East – Access H

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	-	Newmarket Road	• Currently no existing access shown in Google Street View. • Newmarket Road provides two-way vehicle movements and is generally a straight section of road providing good forward visibility between Red Lodge and Worlington with some minor bends in the road.	• To be located opposite Site Access D forming a crossroad junction during the construction phase. • Site visit photos of the existing access to be used during the operational phase are shown below which is accessed from Golf Links Road.

Figure 20: Sunnica East – Access H – Junction Work

Table 8: Sunnica East – Access I

Authority	Ref.	Road	Description of Existing Access	Comments
SCC	I	Golf Links Road	• 3.5m wide unmade field access used by agricultural vehicles. • Golf Links Road is narrow carriageway not suitable for two-way HGV movements. • Limited passing places along Golf Links Road.	• Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 23. This illustrates the site access should be able to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the north (right turn in) and will egress the access to the north (left turn out), as to avoid the A11/Newmarket Road junction. • Vehicle movements along Golf Links Road to be managed to facilitate safe access and egress of vehicles along this road due to its narrow nature which is not considered able to accommodate two-way HGV movements.

Figure 21: Sunnica East – Access J Operational Phase – Site Visit Photos (to be used during the operational phase)

Figure 22: Sunnica East – Access I – Visibility Splay and Site Visit Photos
Site access not to be used during the construction phase and only to be used in the operational phase

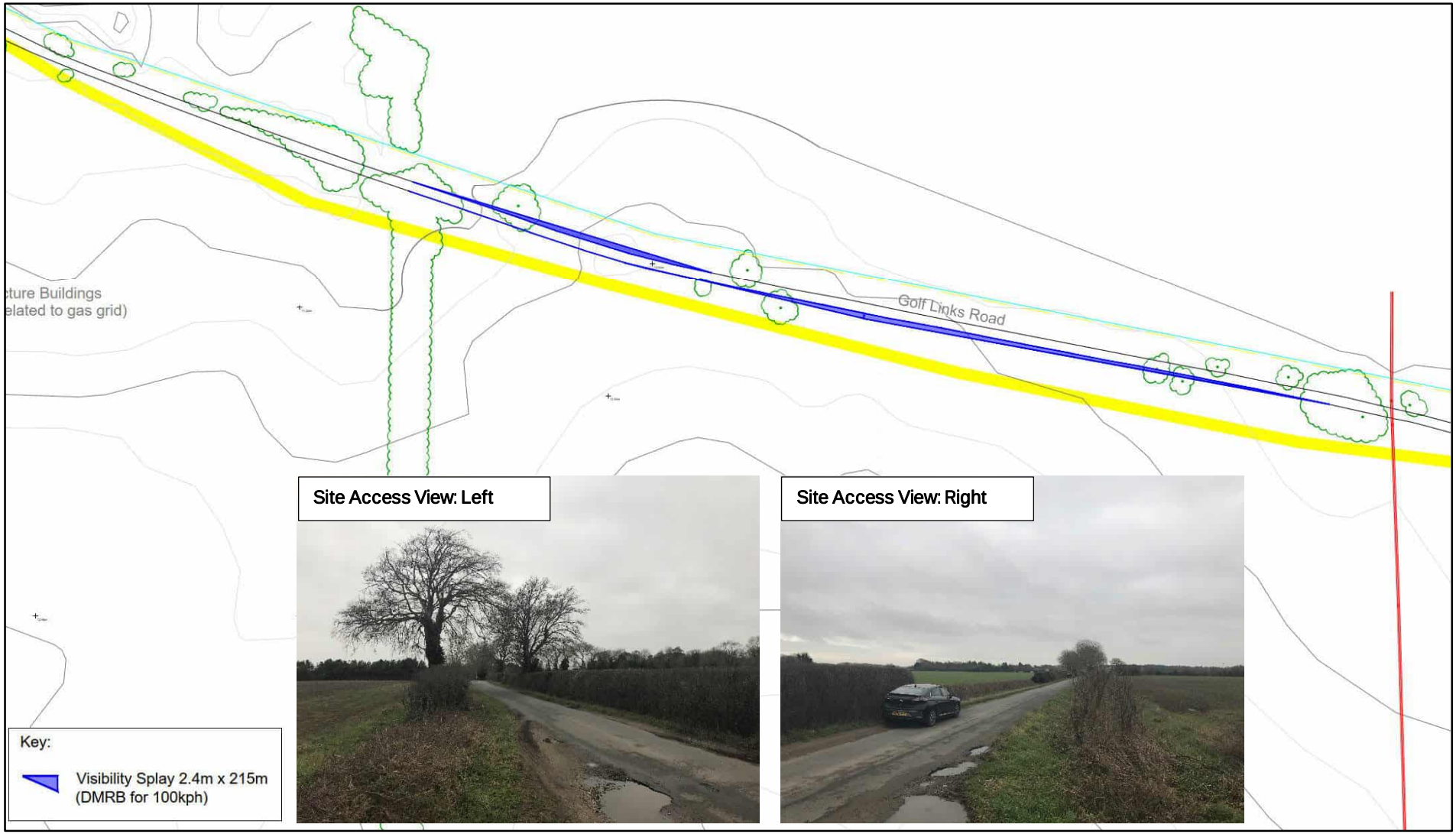


Figure 23: Sunnica East – Vehicle Tracking for Golf Links Road Site Access
Site access not to be used during the construction phase and only to be used in the operational phase. See Stage 1 Road Safety Audit for further details of the proposed site access location during the construction phase.

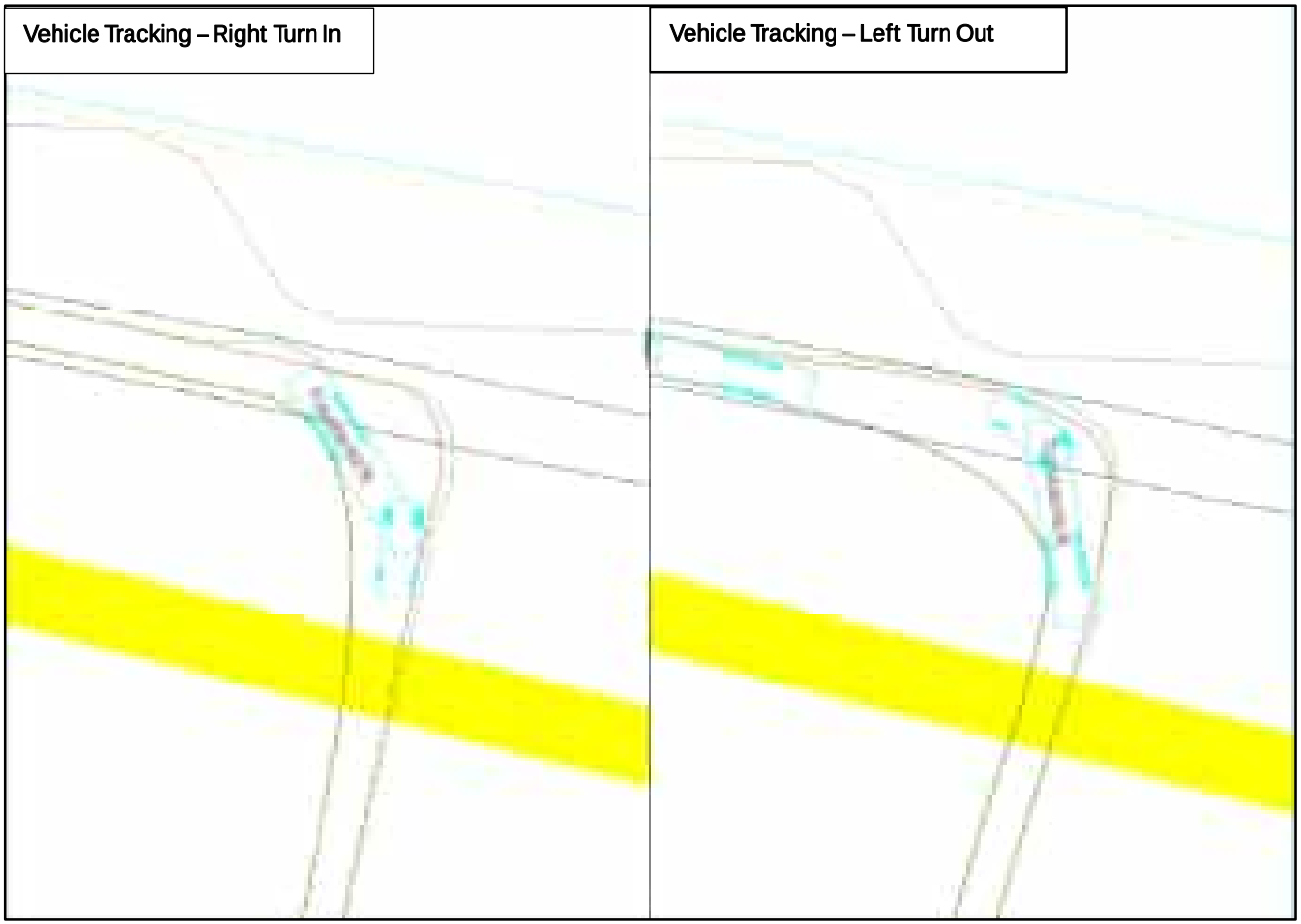


Figure 24: Sunnica East – Junction Works for Golf Links Road Site Access
Site access not to be used during the construction phase and only to be used in the operational phase. See Stage 1 Road Safety Audit for further details of the proposed site access location during the construction phase.

Table 9: Sunnica West – Access A

Authority	Ref.	Road	Description of Existing Access	Comments
CCC	A	La Hogue Road	• 3.5m wide farm access packed gravel and dirt used by agricultural vehicles. • Forms a crossroad with La Hogue farm shop access. • This will form the main access for West Site and will provide access to the West Site parking for workers.	• The photos shown in Figure 25 illustrate the vegetation / hedgerow to be removed / cut back in line with the visibility splay. • Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 26. This illustrates the site access can accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • It should be noted that this is the main site access for Sunnica West and is where the construction staff will park their vehicles. It is therefore anticipated that the access would be sufficiently sized to provide two-way movement for cars/light vehicles. • Based on the vehicle routes identified in the access strategy vehicles will enter the access from the south (left turn in) and will egress the access to the south (right turn out). • The main Sunnica West staff car park is accessed via Access A would be expected to be managed through a Travel Plan however a Travel Plan has not been commissioned at this stage.

Figure 25: Sunnica West– Access A – Visibility Splay and Site Visit Photos

Figure 26: Sunnica West– Access A – Vehicle Tracking

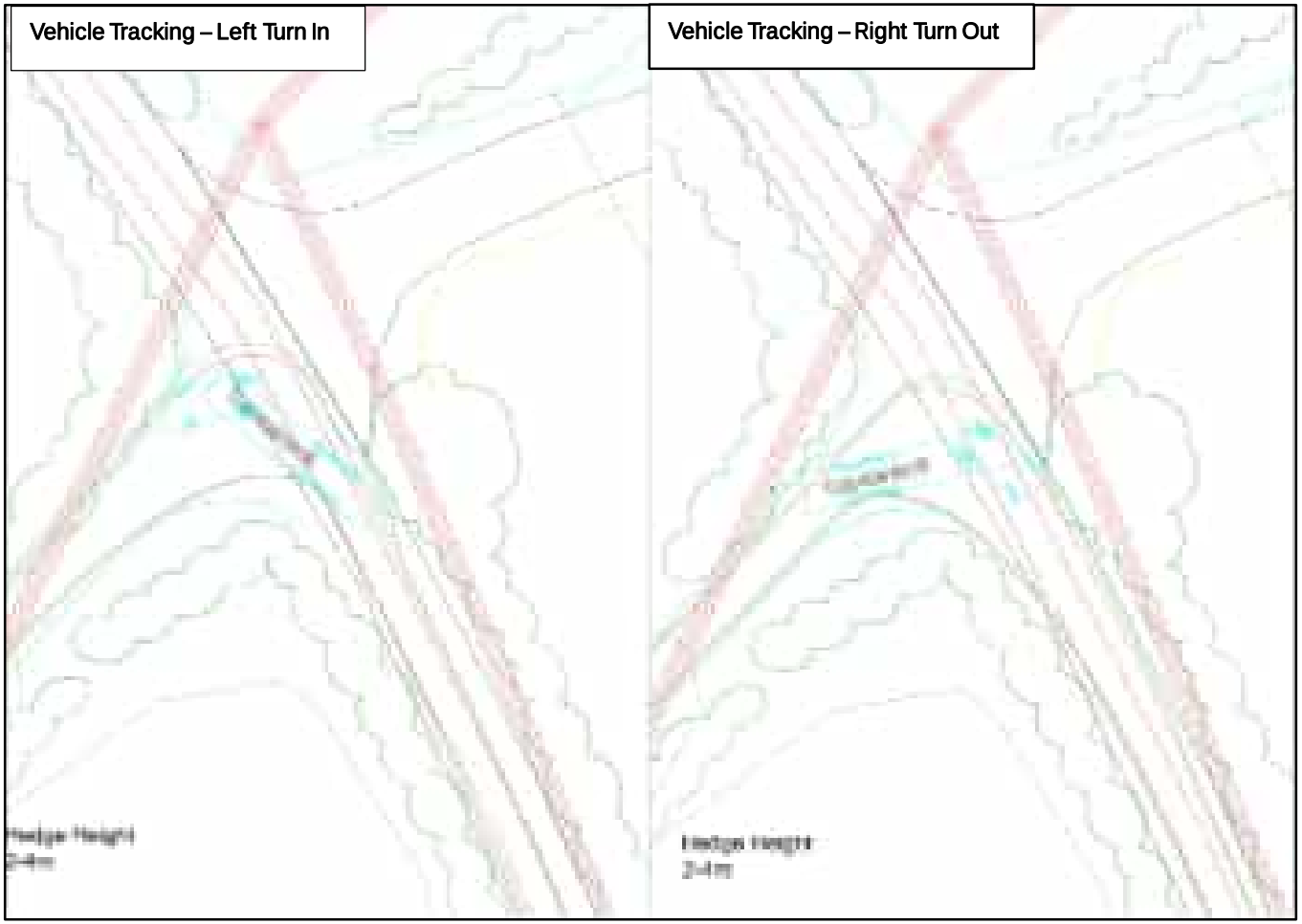


Figure 27: Sunnica West – Access A – Junction Work

Table 10: Sunnica West– Access B and Cable Route Site Access M

Authority	Ref.	Road	Description of Existing Access	Comments
CCC	B	Chippenham Road	• 2.4m wide unmade track used by agricultural vehicles. • Chippenham Road is a long straight road with very good forward visibility. • Row of trees lined on either side of the carriageway edge.	• The trees which are lined along both sides of the Chippenham Road carriageway are much more established than in the Google Map imagines. As the site visit was undertaken in February 2021 the tree canopies are without leaves whereas in spring and summer the tree canopies will be full and could obstruct visibility for HGVs egressing the site access. It is also considered the likely vehicle speeds along Chippenham Road to potentially be close to the national speed limit given the straight nature of the road with very good forward visibility. • Junction arrangement has been considered for access B based on the vehicle tracking and base mapping as shown in Figure 25. This illustrates the site access requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Junction arrangement has been considered for access G based on the vehicle tracking and base mapping as shown in Figure 27. This illustrates the site access likely requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. Particular consideration should be given to the trees directly adjacent to site access G as illustrated in Figure 32 as no topographical survey information was available to assess the impact of the size of the tree canopy has on the width of the access. • Based on the vehicle routes identified in the access strategy, for both access B and H, vehicles will enter the access from the south-west (right turn in) and will egress the access to the south-west right turn out).
CCC	Cable Route Site Access M		• 3.5m dirt tracked by agricultural vehicles. • Chippenham Road is a long straight road with very good forward visibility. • Row of trees lined on either side of the carriageway edge.	

It is noted that when the site access review was undertaken, cable route site access M was part of the Sunnica West site access strategy.

Figure 28: Sunnica West– Access B – Visibility Splay and Site Visit Photos

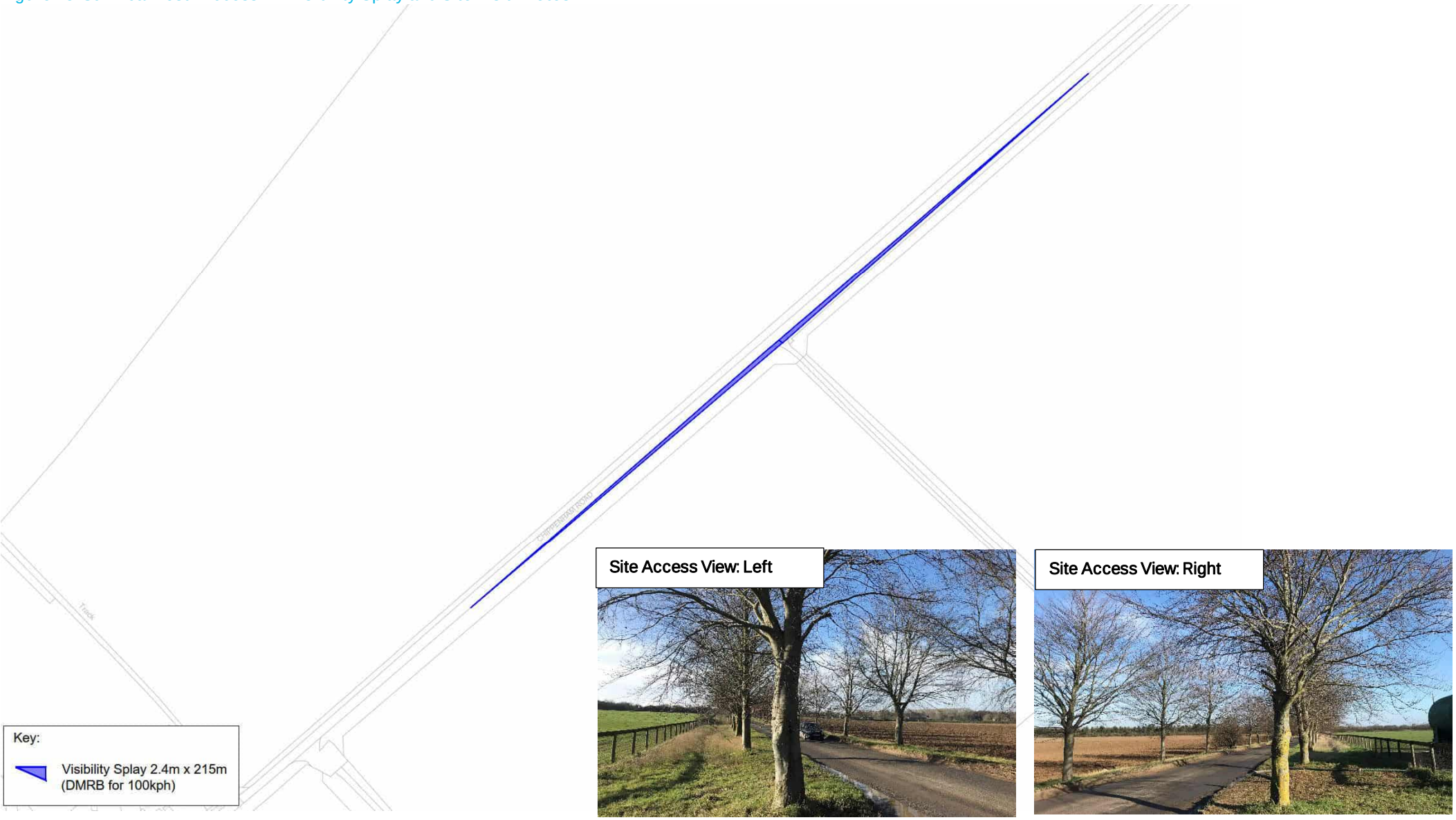


Figure 29: Sunnica West– Access B – Vehicle Tracking

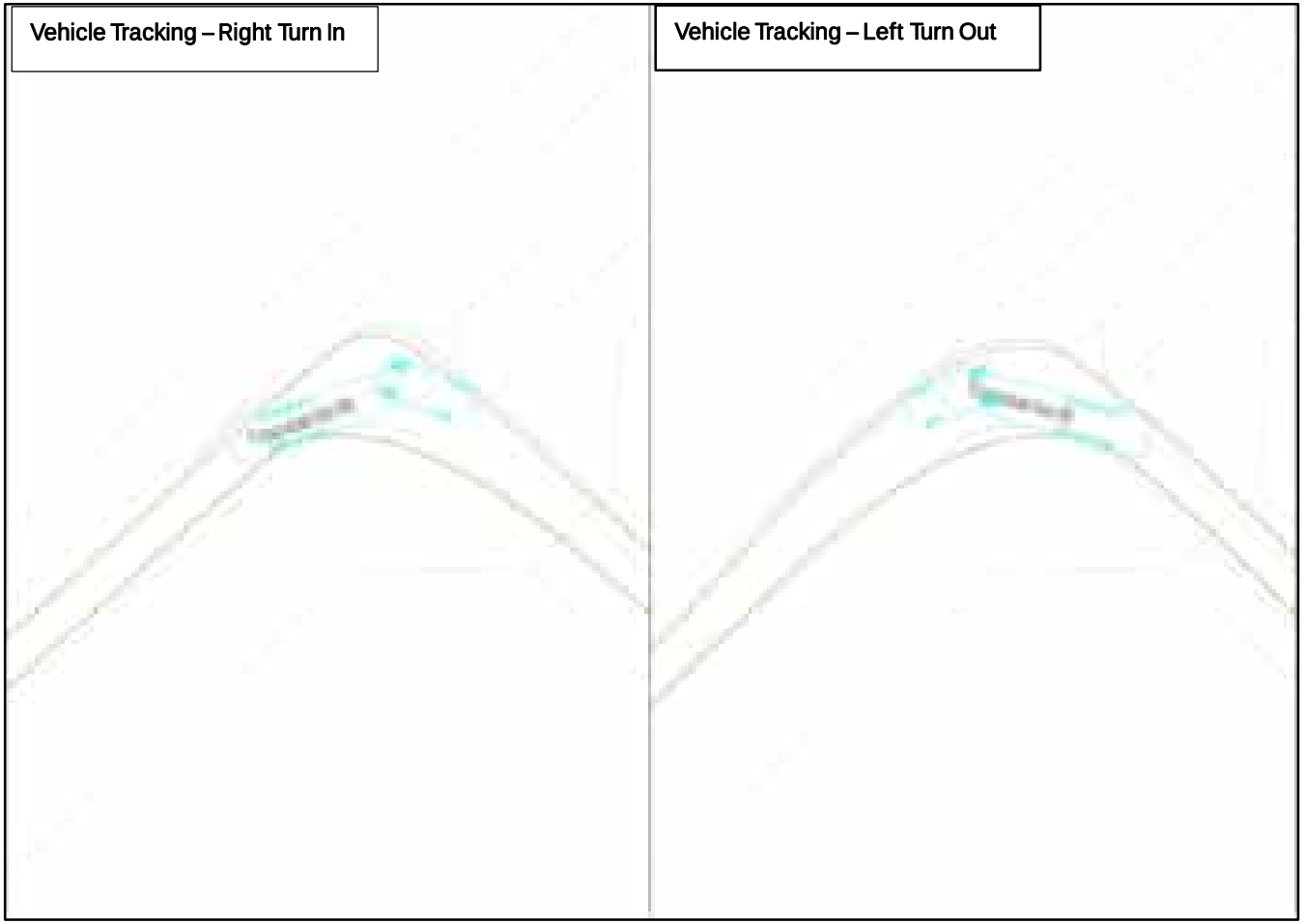


Figure 30: Sunnica West – Access B – Junction Work

Figure 31: Cable Route Site Access M – Visibility Splay and Site Visit Photos

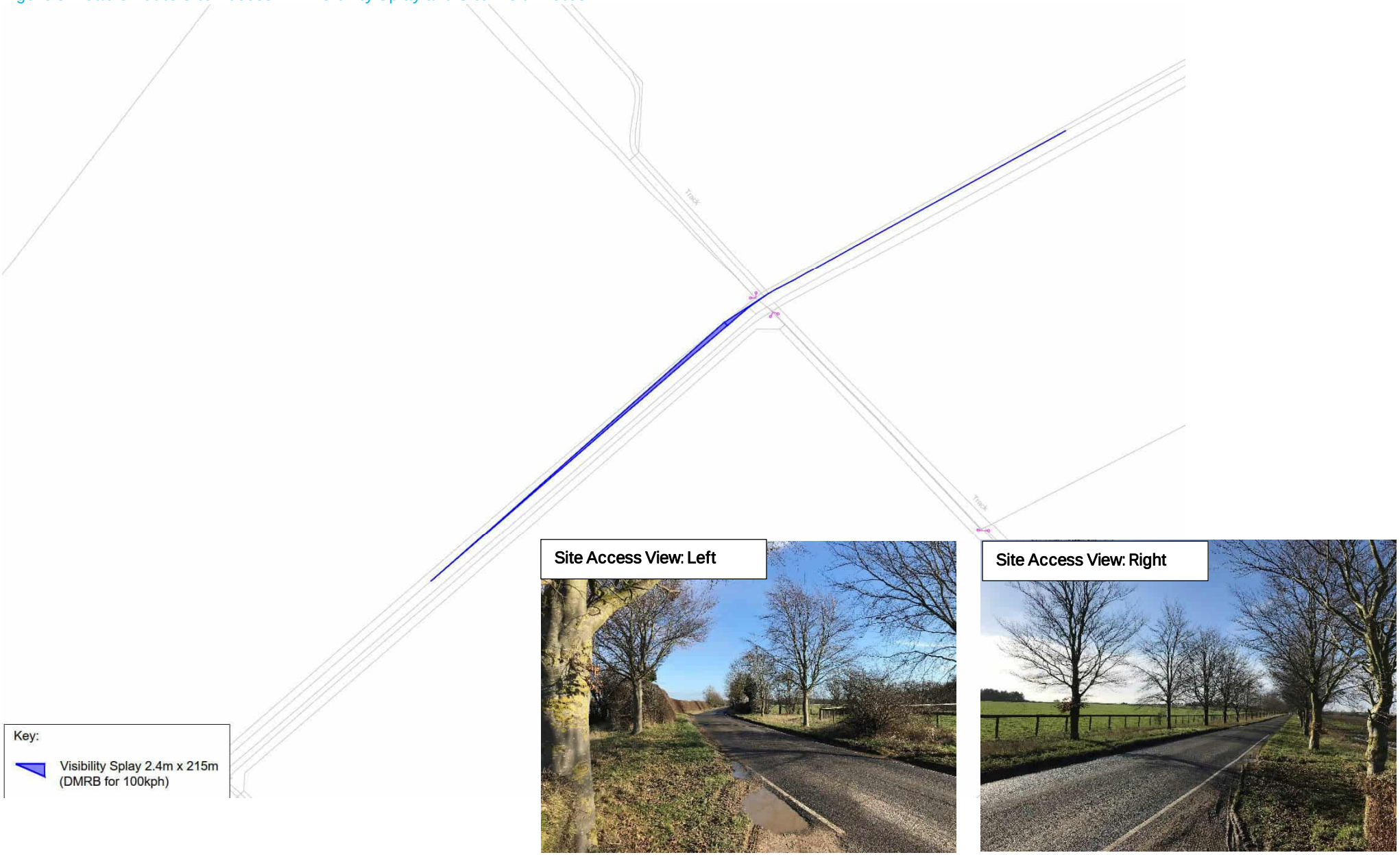


Figure 32: Cable Route Site Access M – Vehicle Tracking

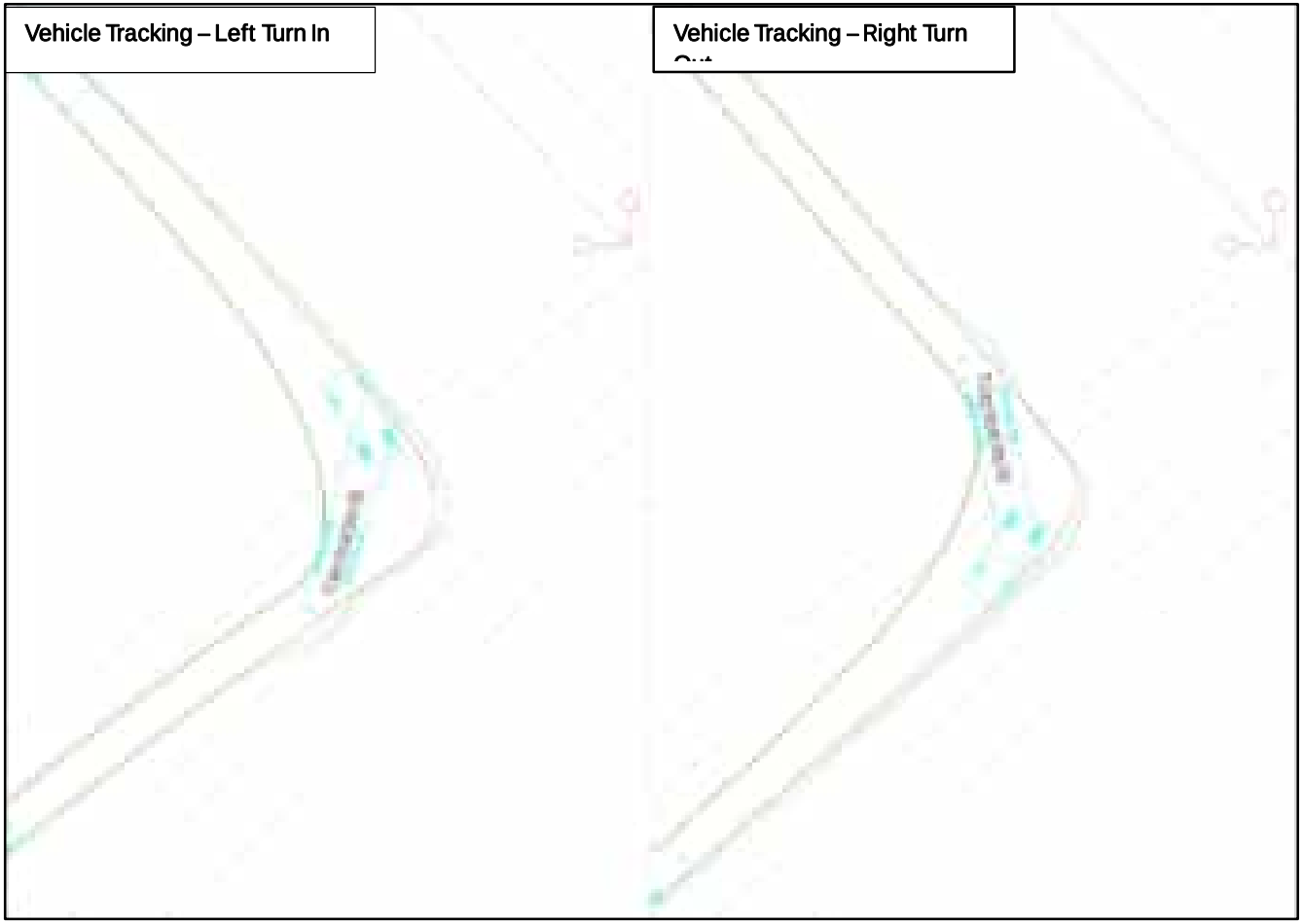


Figure 33: Cable Route Site Access M – Junction Work

Table 11: Sunnica West– Access C

Authority	Ref.	Road	Description of Existing Access	Comments
CCC	E	Dane Hill Road	• Existing 5.5m gated access to farm. • Established trees on both side of the access. • Dane Hill Road increases in elevation to the west of the site access on the approach to the roundabout. • The site access is located on the curvature of the road opposite a small number of residential properties.	• Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 35. This illustrates the access likely requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy, vehicles will enter the access from the north (right turn in) and will egress the access to the north left turn out).

Figure 34: Sunnica West– Access C – Visibility Splay and Site Visit Photos

Figure 35: Sunnica West– Access C – Vehicle Tracking (Entry and Egress)

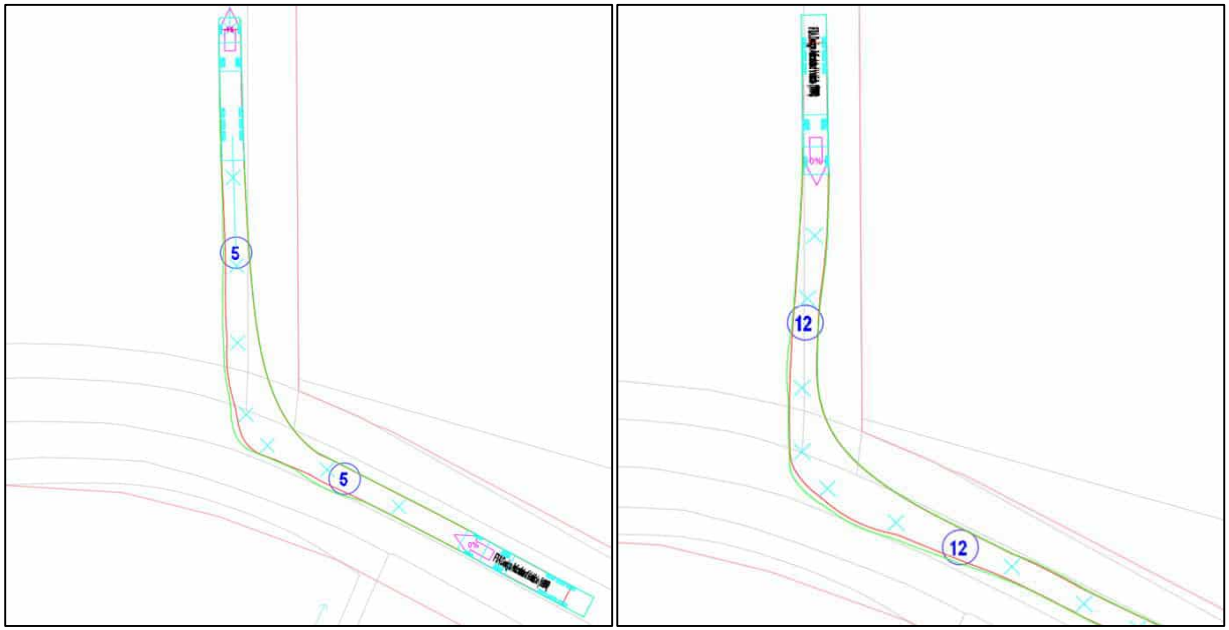
Figure 36: Sunnica West – Access C – Junction Work

Table 12: Sunnica West– Access D

Authority	Ref.	Road	Description of Existing Access	Comments
CCC	F	Fordham Road	• 5.5m unmade field access. • Fordham Road in the location characterised by successive sharp bends with mature trees and hedgerow. on both sides of the road. • Narrow bridge with weight restriction of 7.5T located on Fordham Road to the north of the site access.	• Junction arrangement has been considered based on the vehicle tracking and base mapping as shown in Figure 38. This illustrates the access likely requires widening to accommodate a 16.5m artic with hard surfacing to be provided. This is based on a single vehicle accessing/egressing at any one time. • Based on the vehicle routes identified in the access strategy and considering the nearly bridge with a weight limit, vehicles will enter the access from the south (right turn in) and will egress the access to the south left turn out).

Figure 37: Sunnica West– Access D – Visibility Splay and Site Visit Photos

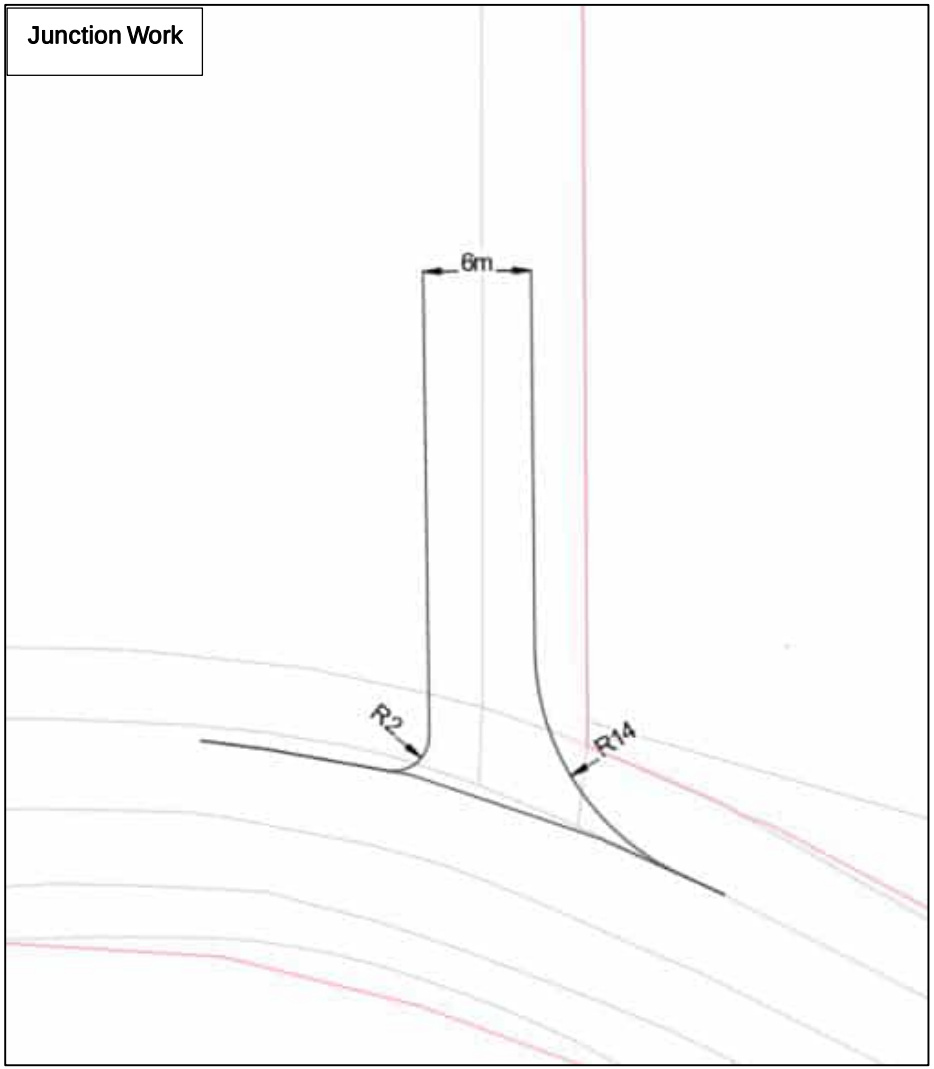
Figure 38: Sunnica West– Access D – Vehicle Tracking (Entry and Egress)



View of the access

View of the nearby narrow bridge with weight restriction

Figure 39: Sunnica West – Access D – Junction Work



Appendix C2: Grid Connection Route A and Grid Connection Route B Site Access Review

Table 1: Burwell National Grid Substation Extension Option 1

A previously site access location was originally considered as part of the Grid Connection Route A and Grid Connection Route B site access review for vehicles to enter and egress the Burwell National Grid Substation Extension Option 1 location. As information is provided within the Framework CTMP and TP document regarding the proposed site access for Burwell National Grid Substation Extension Option 1 location, the previous review of the site access has been removed for clarity.

Table 2: Burwell National Grid Substation Extension Option 2

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Newnham Drove (East)	• The site access is 5m wide into via an unmade field access (previously gated). • Established vegetation surrounding the access. • Newham Drove is approximately 3m wide. • Newham Drove is a straight no through road with hedgerows and mature trees on both sides of the road. • During the site visit the access was viewed to have a lot of mud along Newham Drove and at the access point.	• 16.5m artic • Left in, Right out	• 60mph (2.4m x 215m)

Figure 1: Option 2 – Visibility Splay and Site Visit Photos

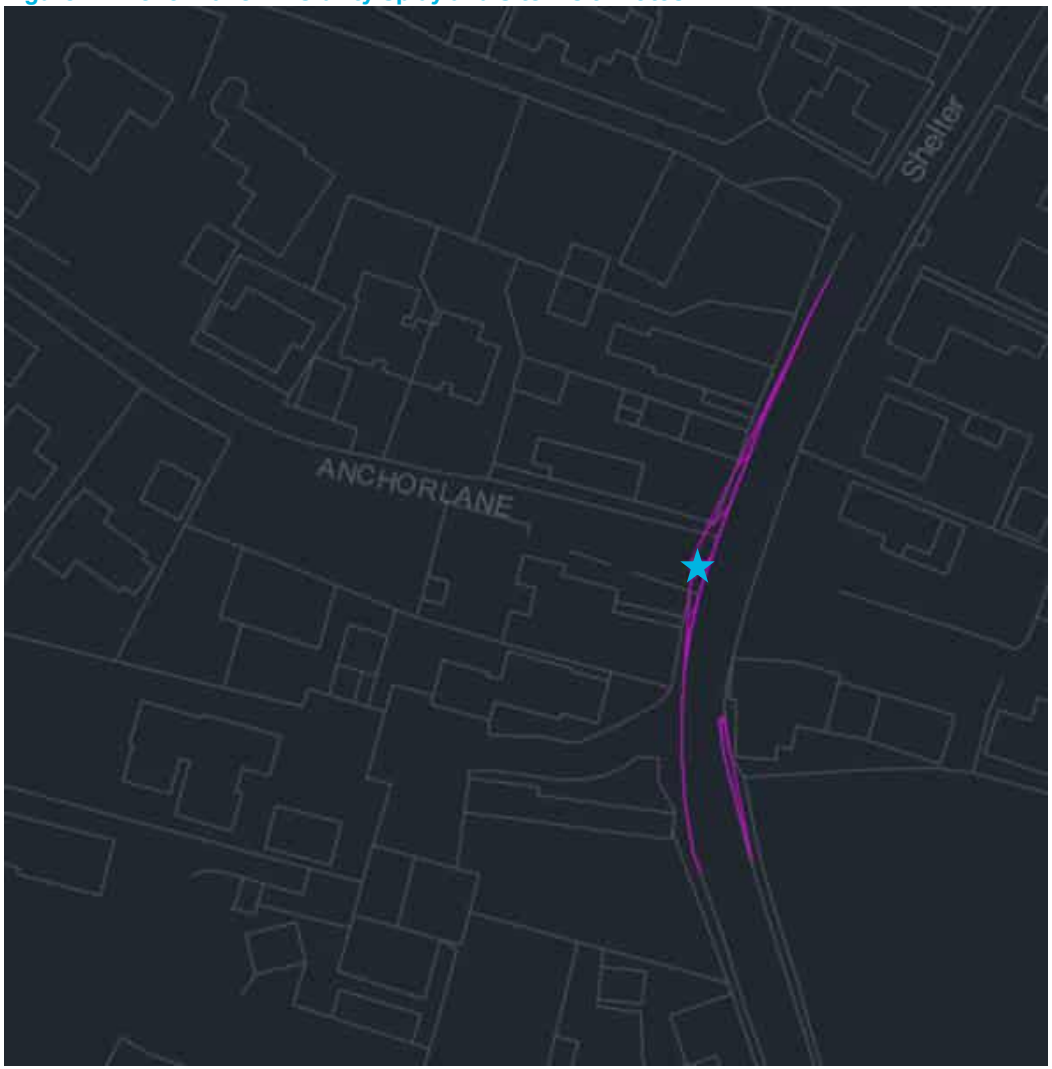
Figure 2: Option 2– Vehicle Tracking (Entry and Egress)

Figure 3: Option 2 – Indicative Junction Works Area

Table 3: Anchor Lane

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Anchor Lane	• The site access is located via a farm access from Anchor Lane behind the Anchor Pub. • Anchor Lane is a narrow road behind The Anchor pub with a building and fencing on either side of the road. • There are mature trees present along the south side of Anchor Lane. • There is a narrow bridge crossing from Anchor Lane to Weirs Drove and the farm access. • The route through Anchor Lane Farm is characterised by successive sharp turns over the bridge and through the farm.	• 16.5m artic • 10m rigid • 8m rigid • Left in, Right out	• 30mph 2.4m x 43m based on Manual for Streets guidance for 30mph within a residential area

Figure 4: Anchor Lane – Visibility Splay and Site Visit Photos



Site Access View: Left

Site Access View: Right

Figure 5: Anchor Lane – Vehicle Tracking (Entry)

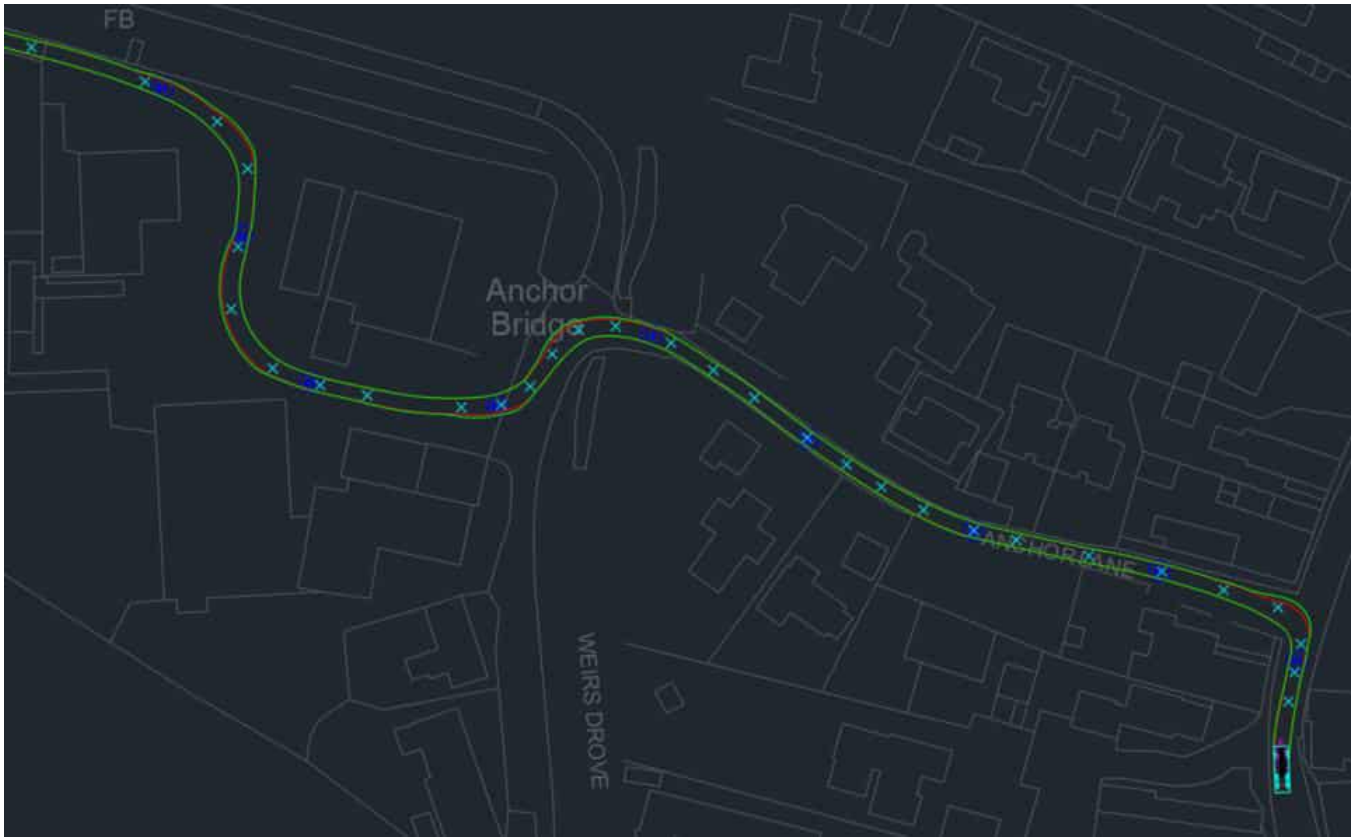


Figure 6: Vehicle Tracking Profile – 8m Rigid

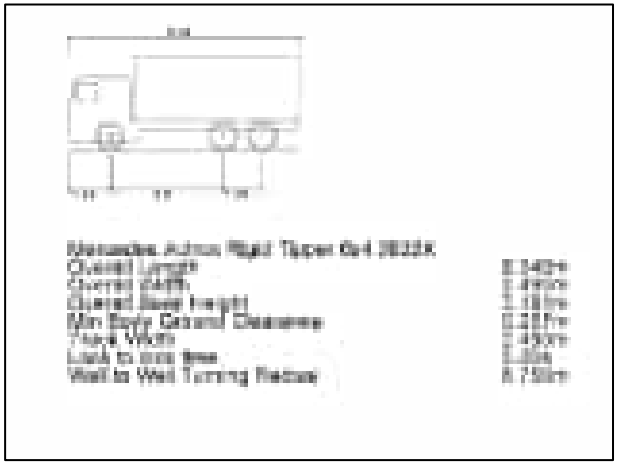


Figure 7: Photos taken on Site Visit

View of the entrance to Weirs Drove route

View of Weirs Drove route

View of the bridge to the farm from Anchor Lane

View of along Anchor Lane from the bridge

Table 4: Little Fen Drove

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Little Fen Drove (South)	• Unmade field access. • The access goes over a ditch. • An electricity pole is located adjacent to the access. • The site accesses are opposite each other. • Little Fen Drove is a relatively straight road with good visibility with no vegetation adjacent to the site access to the north.	• 16.5m artic • Left in, Right out	• 60mph (2.4m x 215m)
CCC	Little Fen Drove (North)	• Unmade field access. • Access goes over a ditch. • The site accesses are opposite each other. • Vegetation located to the north of the access point. • Little Fen Drove is a relatively straight road with good visibility with no vegetation adjacent immediately to the site access to the south.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 8: Little Fen Drove – Visibility Splay and Site Visit Photos

Site Visit Photo Access North

Site Visit Photo West/North

Site Visit Photo: Site Access South

Site Visit Photo Site East/South

Figure 9: Little Fen Drove – Vehicle Tracking (Entry and Egress)

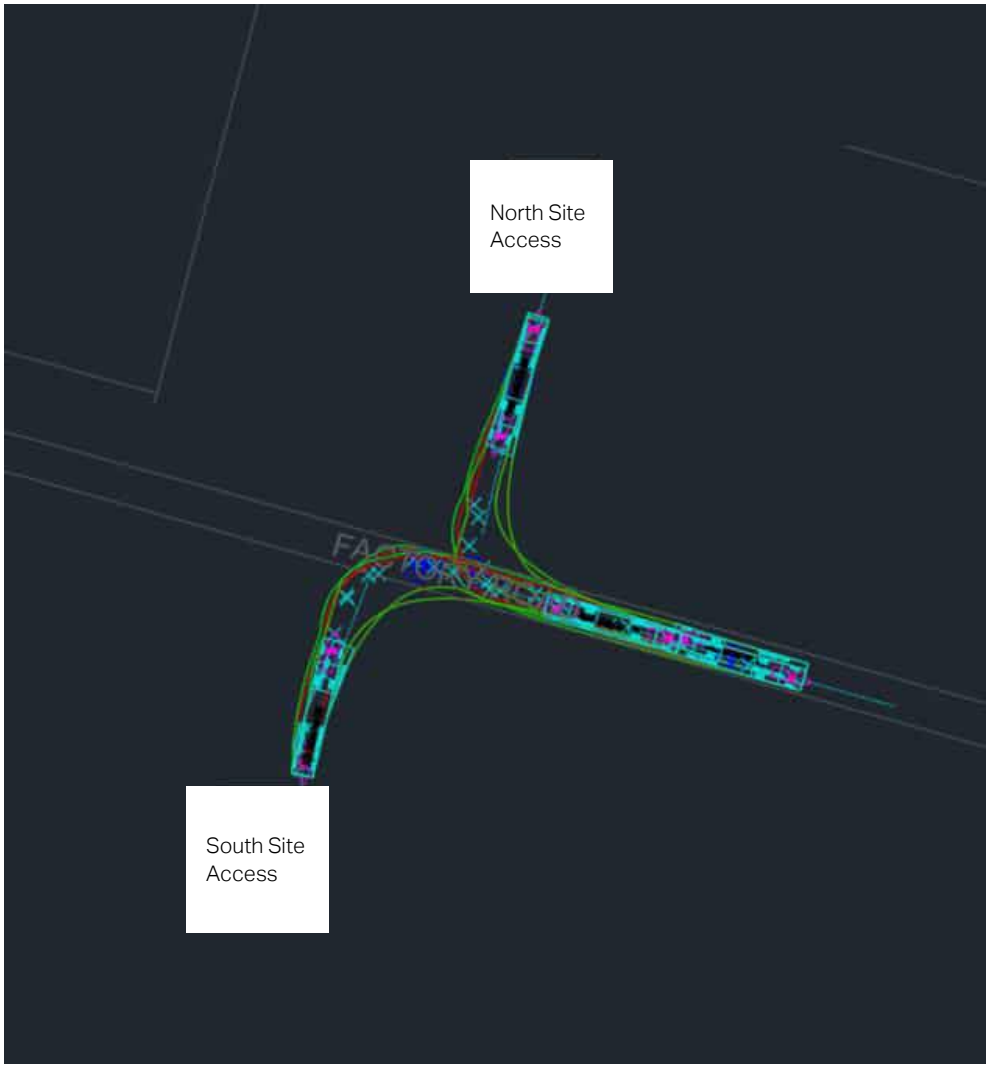


Figure 10: Little Fen Drove – Indicative Junction Works Area

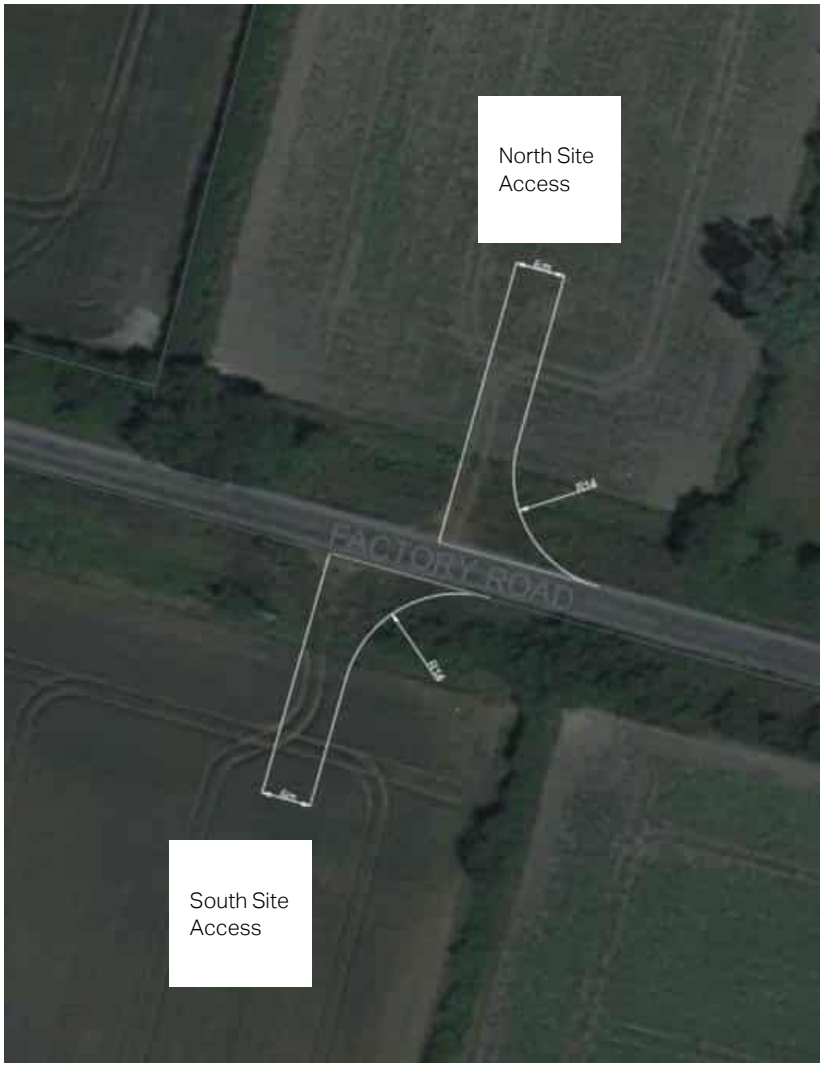


Table 5: Broads Road

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Broads Road	• Currently no existing access shown in Google Street View. • No vegetation present on the south side of the carriageway. • Broads Road is a 3m single carriageway road.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 11: Boards Road – Visibility Splay and Visit Photos

Figure 12: Boards Road – Vehicle Tracking

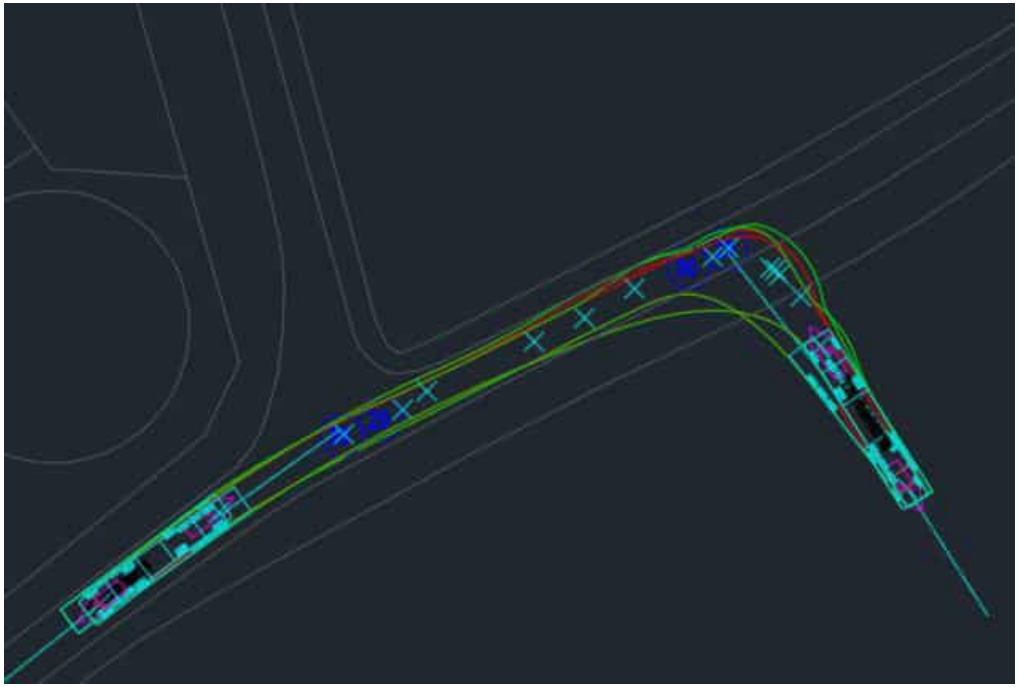


Figure 13: Broads Road – Indicative Junction Works Area

Table 6: Ness Road (South)

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	B1102 Ness Road	• Existing 5m wide gated road access, while the access road is circa 3.2m wide. • An electricity cable pole is located adjacent to the southern side of the access. • B1102 Ness Road is a relatively straight road with no tall vegetation near the access providing good visibility. • B1102 Ness Road is a single carriageway road providing two-way vehicle movements between Burwell and Fordham.	• 16.5m artic • Left in, Right out	• 60mph (2.4m x 215m)

Figure 14: Ness Road – Visibility Splay and Site Visit Photo

Site Visit Photo: View Left

Site Visit Photo: View Right

Figure 15: Ness Road – Vehicle Tracking (Entry and Egress)

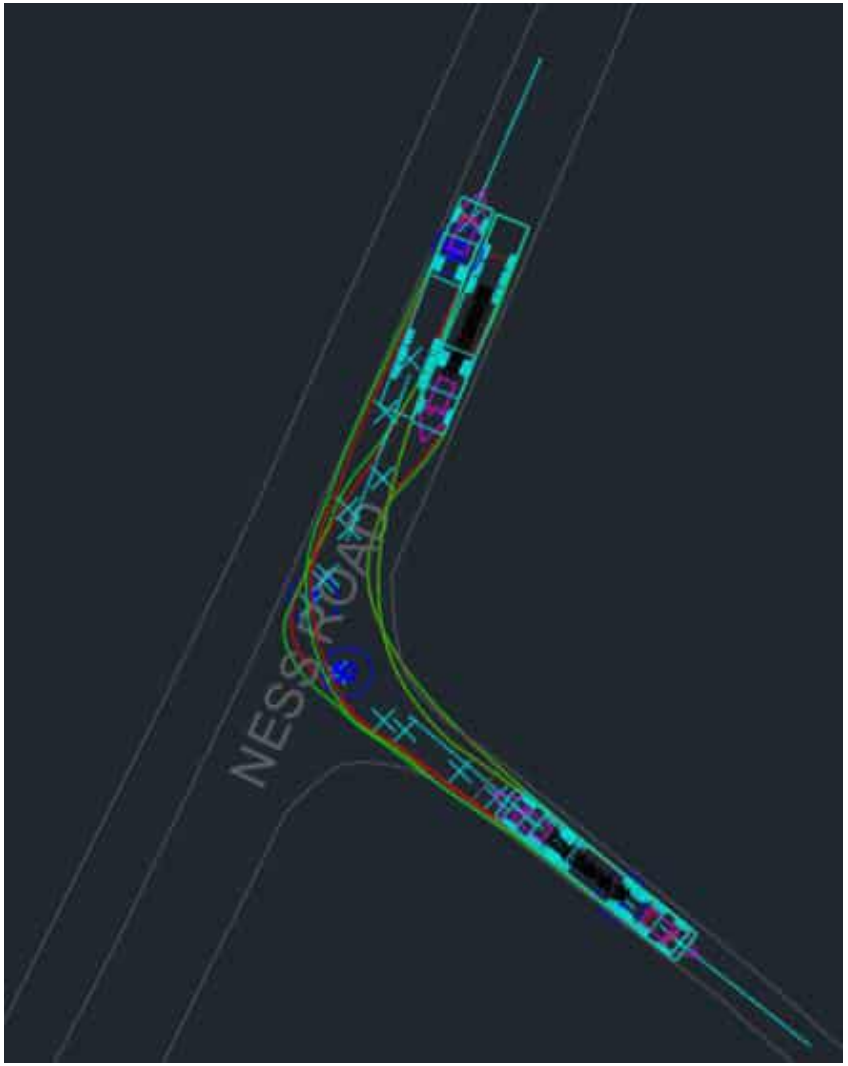


Figure 16: Ness Road – Indicative Junction Works Area

Table 7: Ness Road (North)

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	B1102 Ness Road	• Existing gap in the hedging provided via an unmade track access used by agricultural vehicles. • Established and tall vegetation to the north of the access with a short hedgerow provided to the south of the access. • B1102 Ness Road is a single carriageway road providing two-way vehicle movements between Burwell and Fordham.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 17: Ness Road – Visibility Splay and Site Visit Photos

Site Visit Photo: Existing Site Access View: Left

Site Visit Photo Existing Site Access View: Right

Site Visit Photo Existing View of Site Access

Figure 18: Ness Road – Vehicle Tracking (Entry and Egress)

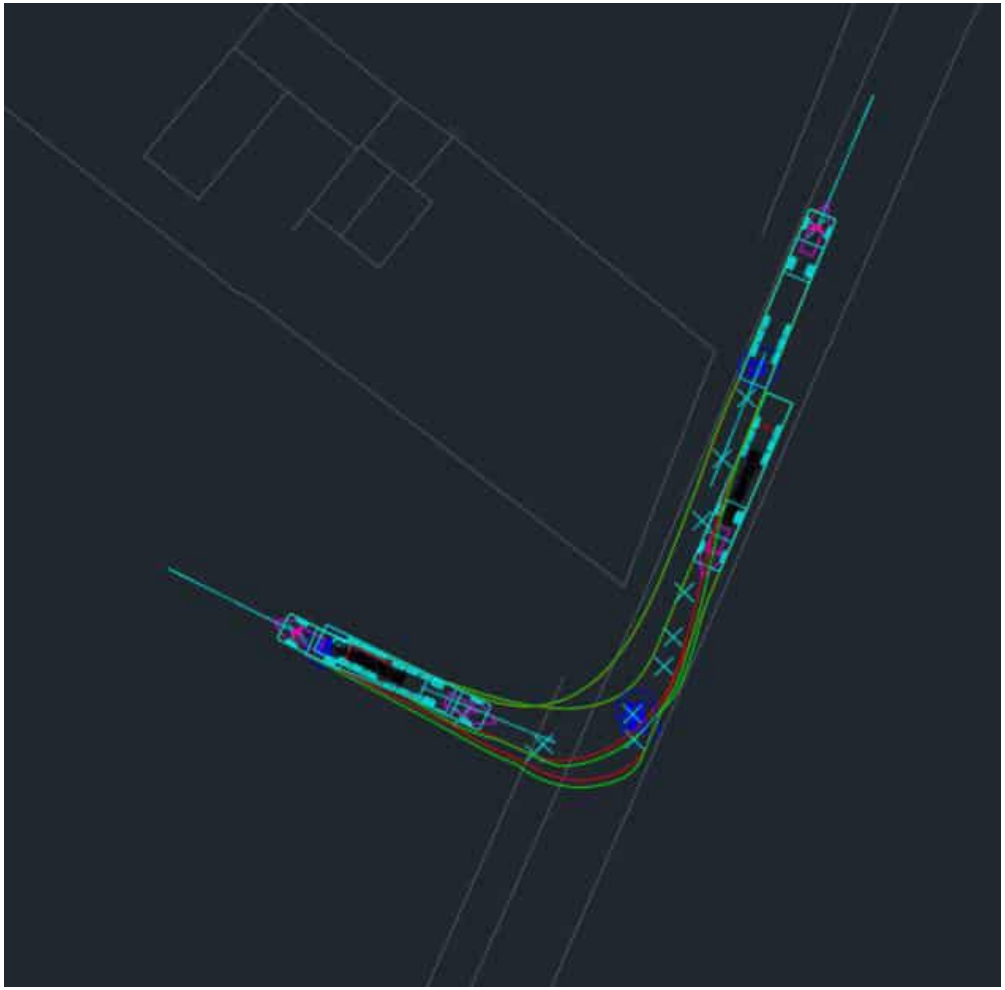
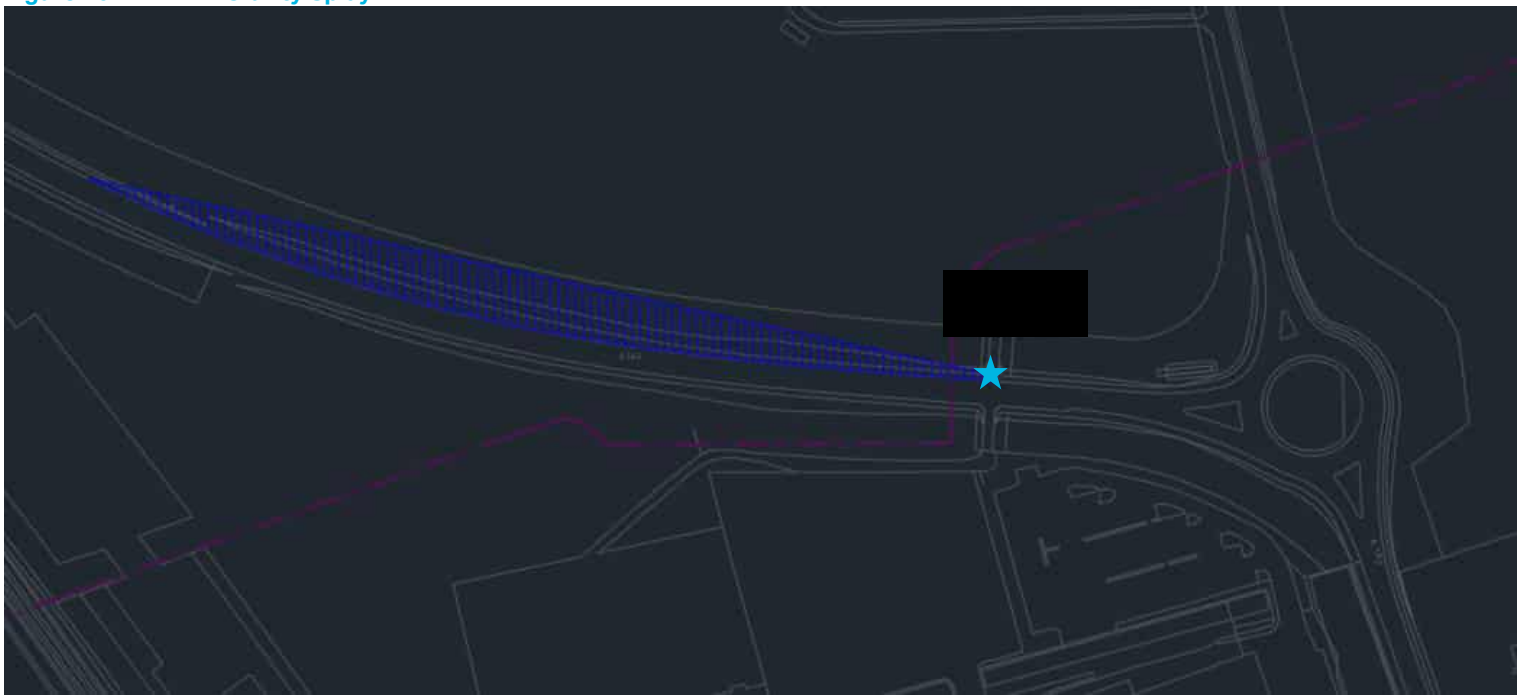


Figure 19: Ness Road – Indicative Junction Works Area

Table 8: A142

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	A142	• The access is circa 4m wide with some hard-standing surface provided. • A gate is provided circa 20m from the main carriageway into the field. • A142 provides two-way vehicle movements and is approximately 100m west of a roundabout.	• 16.5m artic • Left in, Left out	• 60mph (2.4m x 215m)

Figure 20: A142 – Visibility Splay



Vehicles require visibility to the west as vehicles will turn left out of the site access.
Sunnica vehicles will be required to turn left in and left out of this site access.

Figure 21: Access J – Vehicle Tracking (entry and Egress)

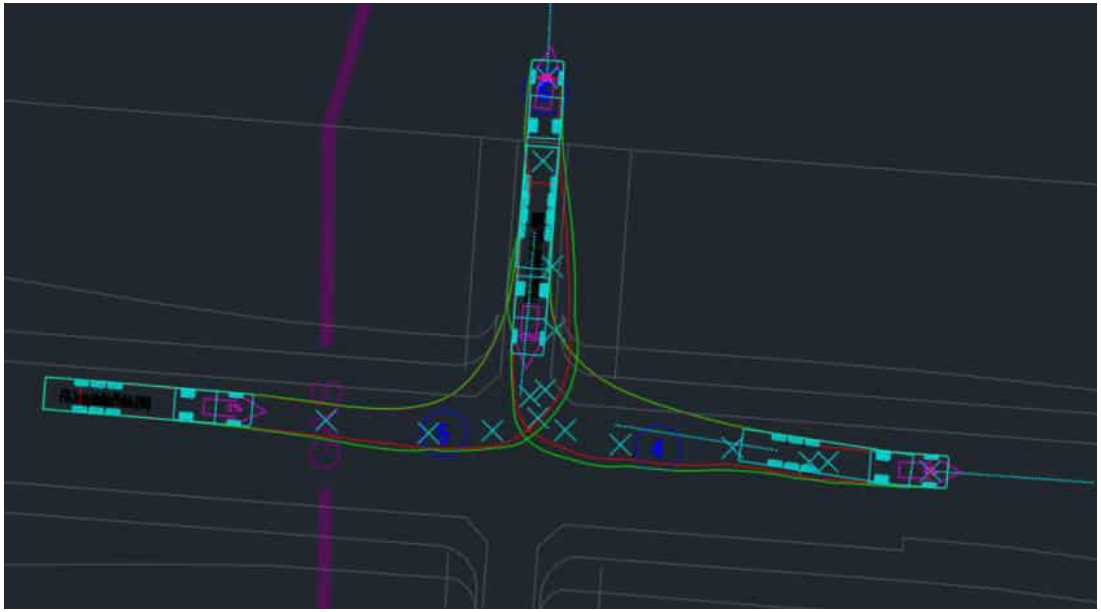


Figure 22: Access J – Indicative Junction Works Area

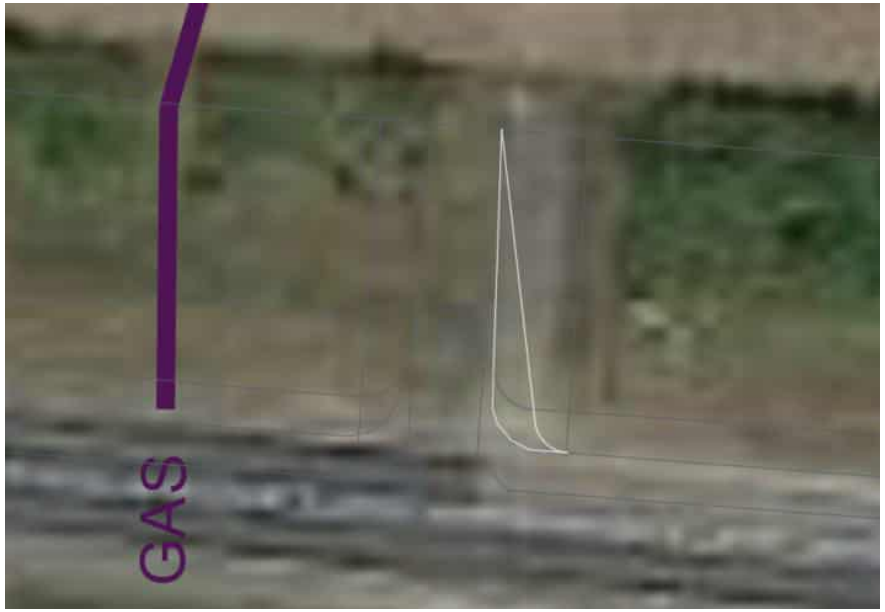
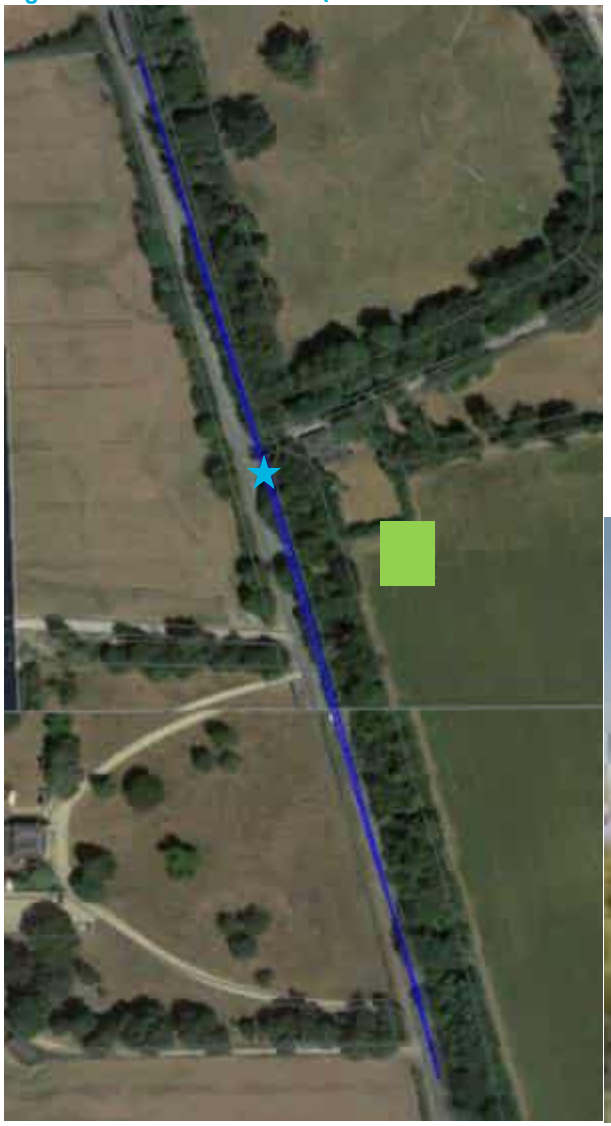


Table 9: Newmarket Road (North of A142 Roundabout)

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Newmarket Road	• Unmade field access with a small opening within the hedgerow and vegetation. • Mature trees and vegetation are located at both sides of the access. • Newmarket Road is a straight single carriageway road providing two-way vehicle movements.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 23: Newmarket Road (North of A142 Roundabout) – Visibility Splay



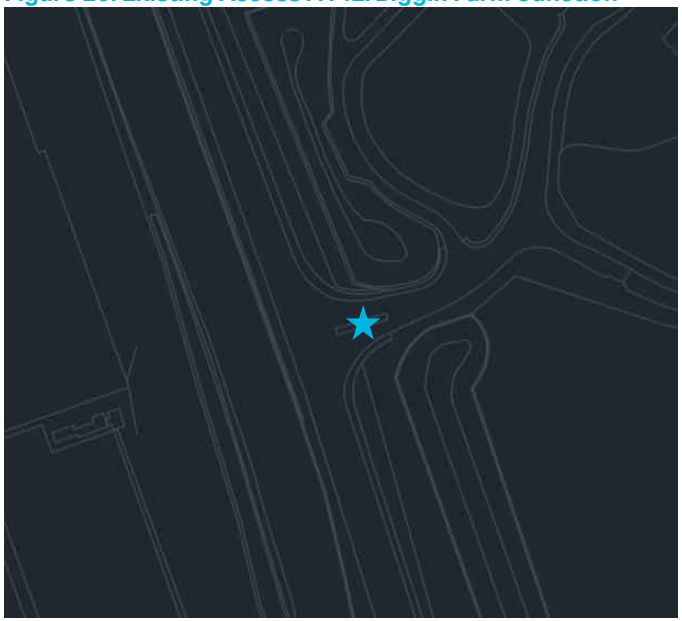
Google Street View: Proposed Site Access

Figure 24: Newmarket Road – Vehicle Tracking (Entry and Egress)

Figure 25: Newmarket Road – Indicative Junction Works Area

The site access is proposed via the existing Biggin Farm Shop/A142 T-Junction. The existing T-Junction provides a right turn ghost island into the Biggin Farm Shop with the expected vehicle routes be to/from the A14 to the south via Fordham Road, resulting in a right turn in and left turn out vehicle movements. The junction can accommodate the entry and egress movements of a 16.5m artic. Therefore, no alterations are proposed at this access and no traffic management is proposed during the construction or operational phase.

Figure 26: Existing Access A142/Biggin Farm Junction



Google Street View: Existing Site Access

Table 10: Chippenham Road (West)

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Chippenham Road	• Unmade gated track. • Access is circa 3.8m wide used by agricultural vehicles. • Mature tree located along the eastern side of the access route, which overgrow the route with a fence located along the western side of the access route. • Chippenham Road is generally a straight single carriageway road with good forward visibility where trees and hedgerows are located along both sides of the carriageway.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 27: Chippenham Road – Visibility Splay

Figure 28: Chippenham Road – Vehicle Tracking (Entry and Egress)

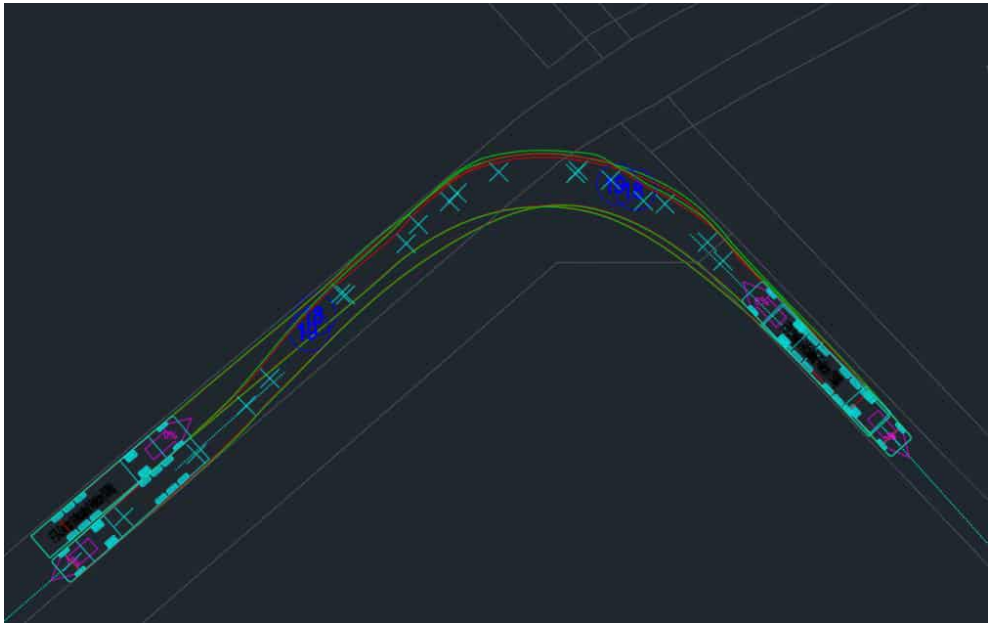


Figure 29: Chippenham Road – Indicative Junction Works Area

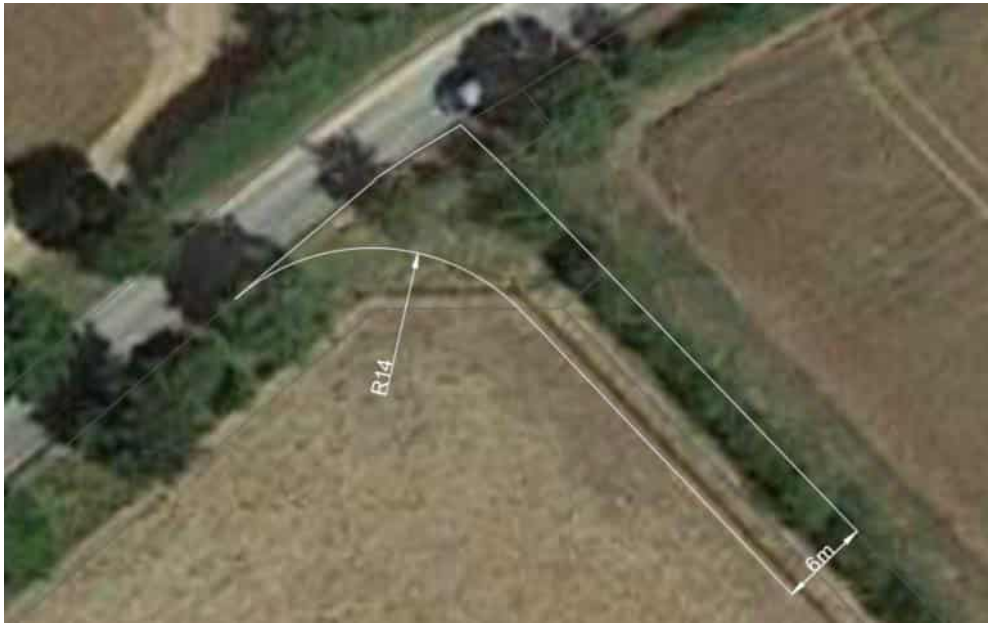


Table 11: La Hogue Road

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	La Houge Road	• Currently no existing access shown in Google Street View. • Requires the removal of vegetation to create access. • La Hogue Road is a relatively straight single carriageway road with good forward visibility. • La Hogue Road provides movement between the A11 located to the south.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)

Figure 30: La Hogue Road – Visibility Splay

Google Street View: Proposed Site Access (Right side of carriageway / view to the north)

Figure 31: La Hogue Road – Vehicle Tracking (Entry and Egress)

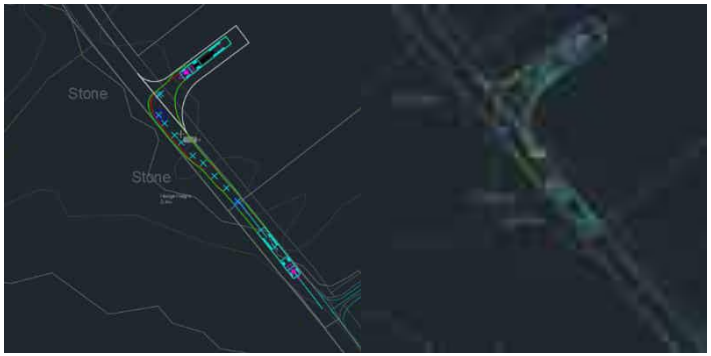


Figure 32: La Hogue Road – Indicative Junction Works Area

Topographical survey information showing the existing hedgerow not available along the eastern side of La Houge Road

Table 12: B1085

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	B1085 (North)	• The north site access is a 3.5m gated field access but does not appear to be in frequent use as the gate is blocked off. • The south site access is a 2.4m gated field access. • Established trees to east of both site accesses. B1085 is generally a straight section of road between La Hogue Road and the A11 providing good forward visibility with minor bends.	• 16.5m artic • Right in, Left out	• 60mph (2.4m x 215m)
	B1085 (South)		• 16.5m artic • Left in, Right out	• 60mph • (2.4m x 215m)

Figure 33: B1085 – Visibility Splay and Site Visit Photos

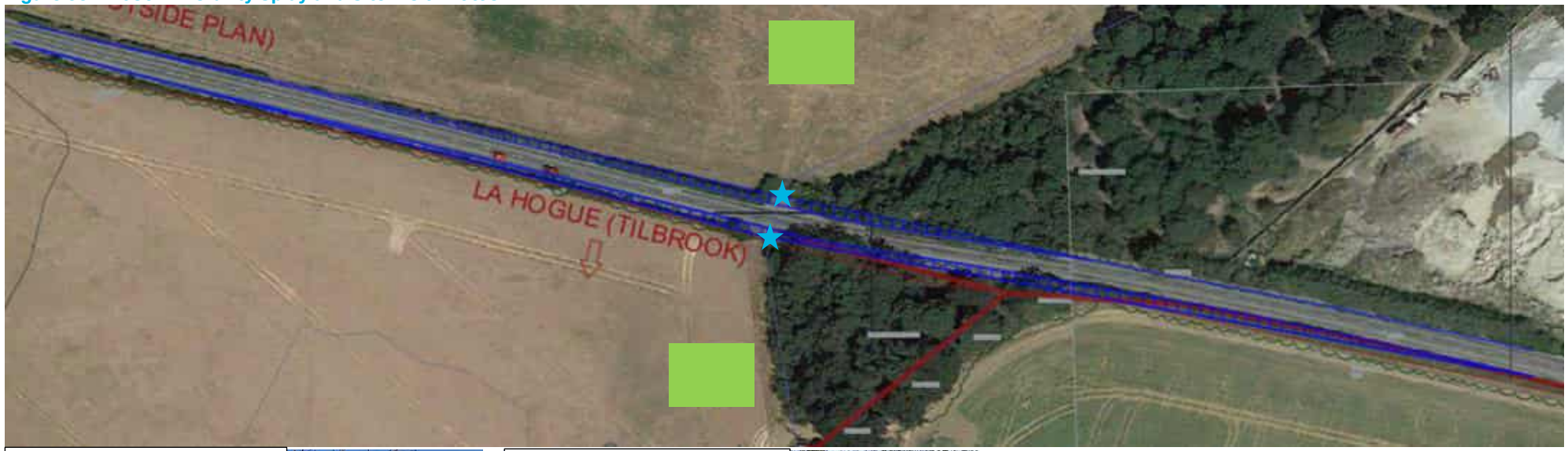


Figure 34: B1085 – Vehicle Tracking (Entry and Egress)

Figure 35: B1085 – Indicative Junction Works Area

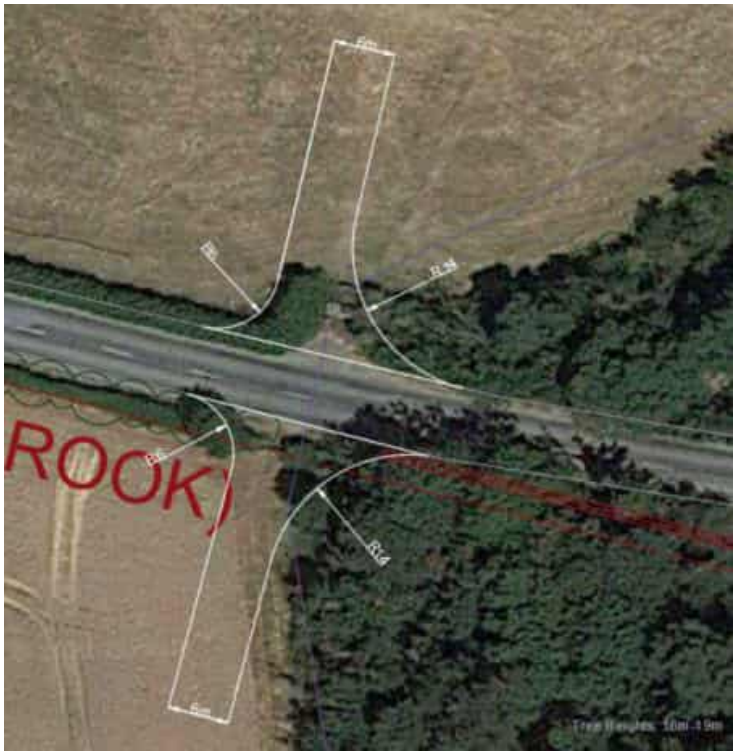


Table 13: B1002 Freckenham Road

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
SCC	B1102 Freckenham Road (South)	• Currently no existing accesses shown in Google Street View. • Both site accesses would require the removal of hedgerow. • B1102 is generally a straight single carriageway road providing two-way vehicle movements, including large vehicles between Freckenham and Worlington. • Mature trees and hedgerow are present on both sides of the road.	• 16.5m artic • Left in, Right out	• 60mph (2.4m x 215m)
	B1102 Freckenham Road (North)		• 16.5m artic • Right in, • Left out	• 60mph • (2.4m x 215m)

Figure 36: B1102 Freckenham Road – Visibility Splay

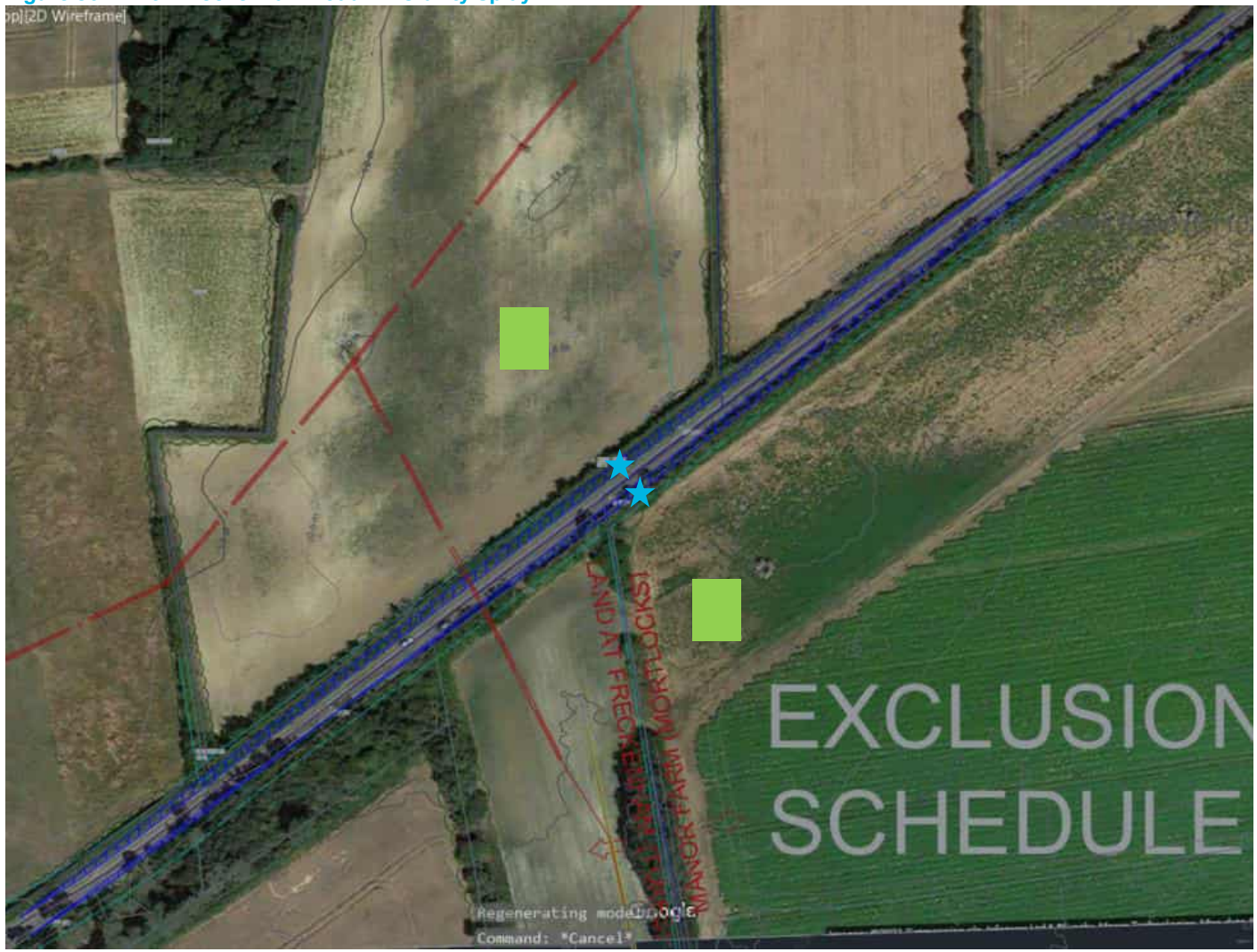


Figure 37: B1102 Freckenham Road – Vehicle Tracking (Entry and Egress)

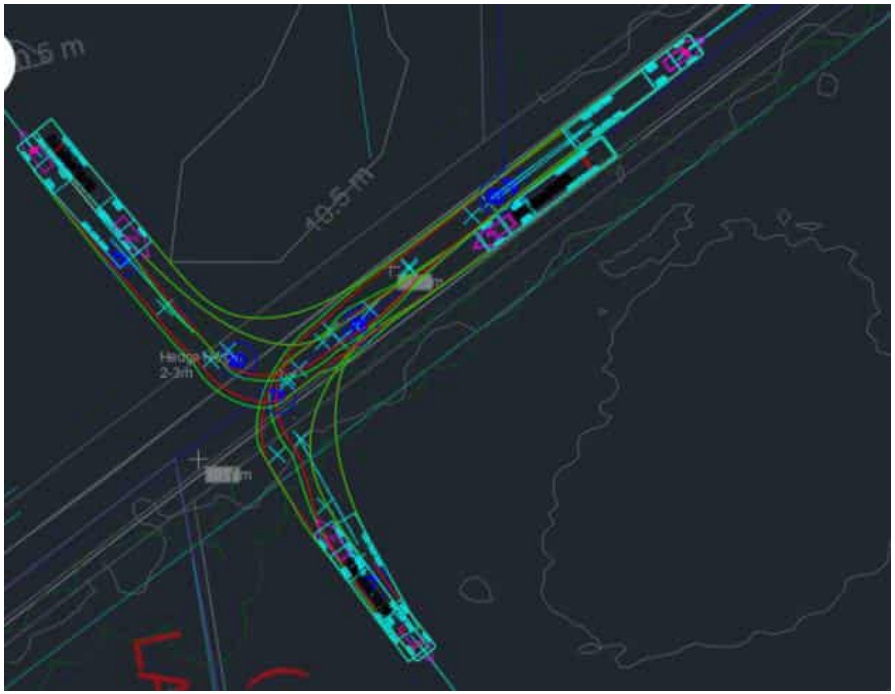


Figure 38: B1102 Freckenham Road – Indicative Junction Works Area

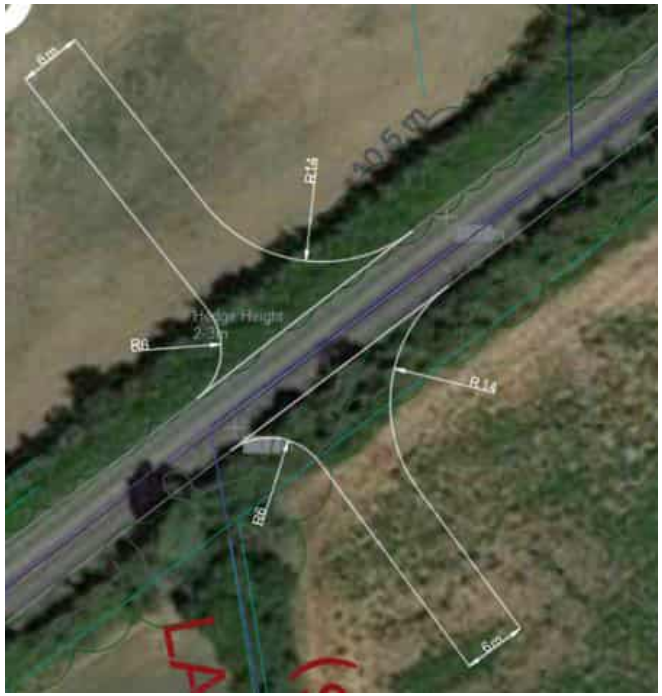


Table 14: Isleham Road

Authority	Road	Description of Existing Access	Vehicle Type and Movements	Visibility Splay
CCC	Isleham Road	• Unmade gated track used by agricultural vehicles. • The access is circa 6.7m wide at the point of the gate. • Mature trees and hedgerow are present on both sides of the road. • Isleham Road is generally a straight single carriageway road with good forward visibility.	• 16.5m artic • 10m rigid • Left in, Right out	• 60mph (2.4m x 215m)

Figure 39: Isleham Road – Visibility Splay and Google Street View

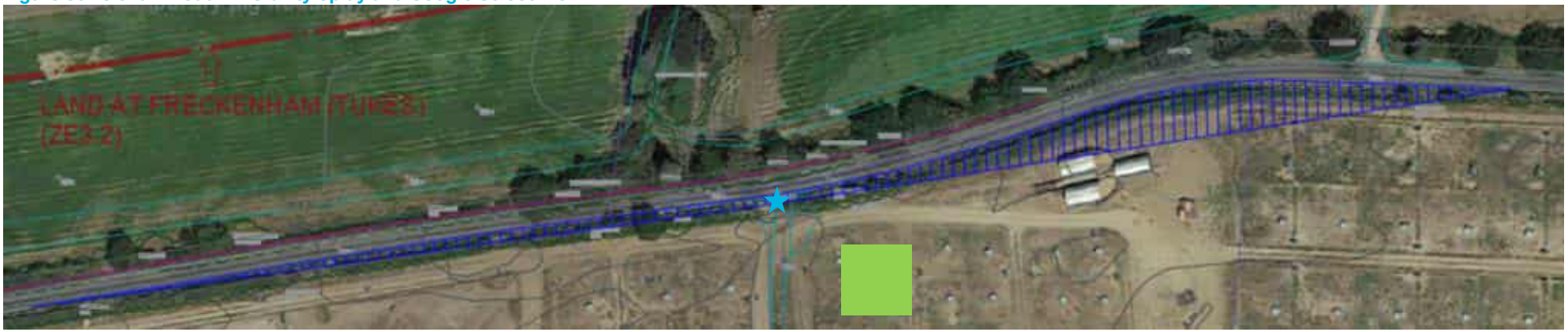


Figure 40: Isleham Road – Vehicle Tracking (Entry and Egress)

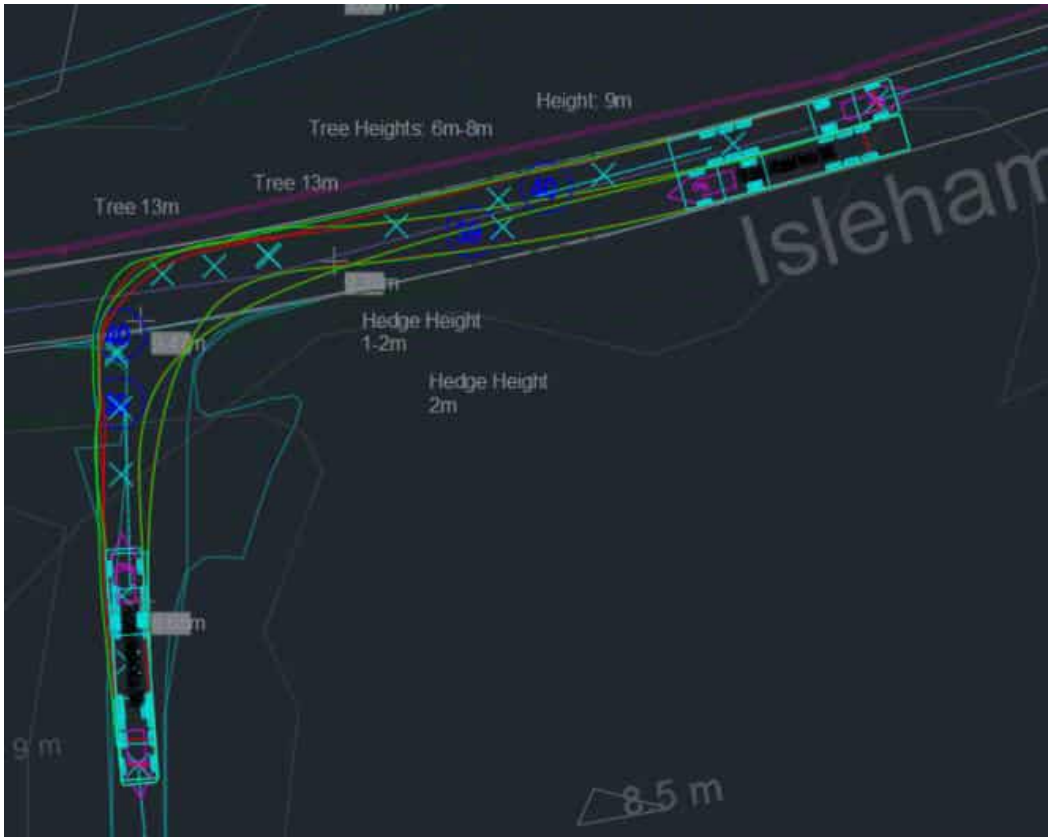
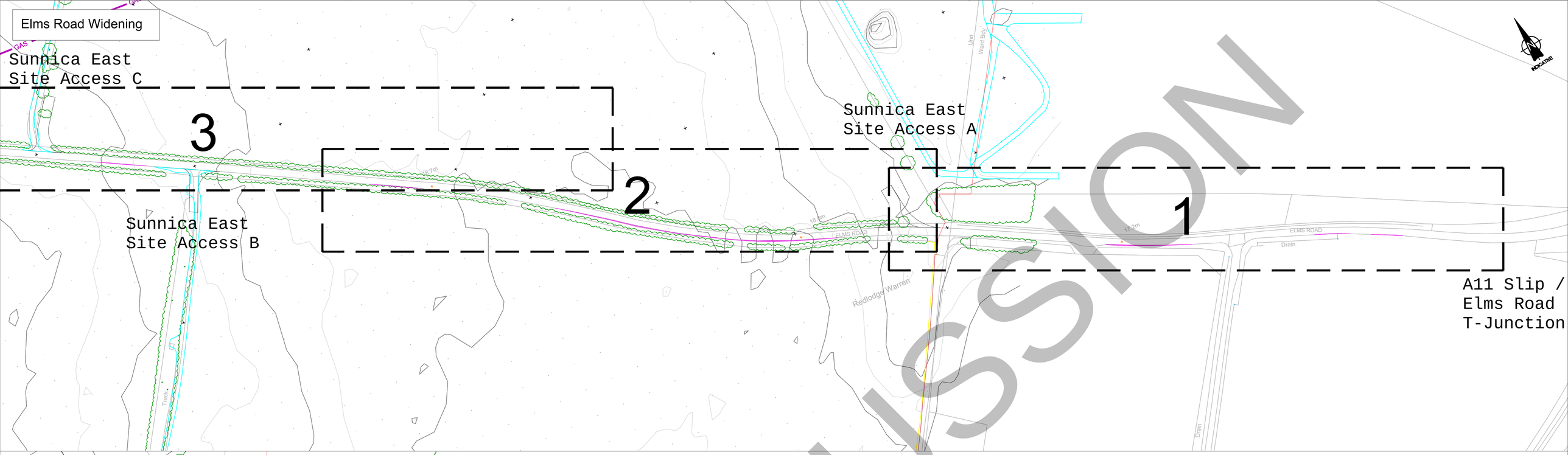
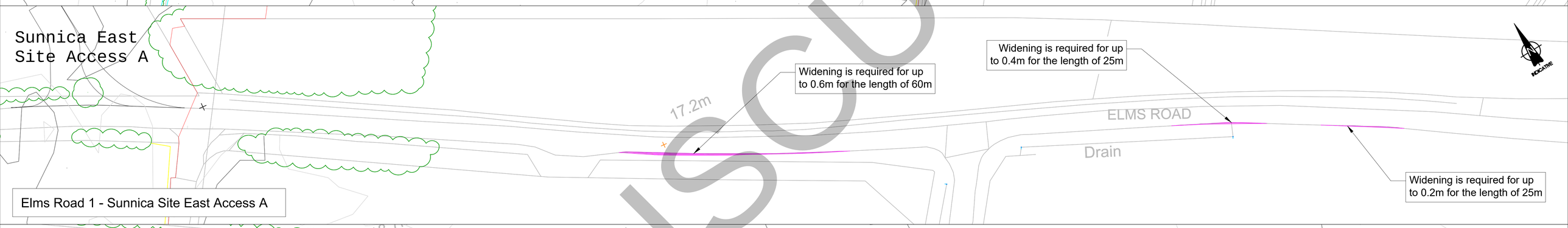


Figure 41: Isleham Road – Indicative Junction Works Area

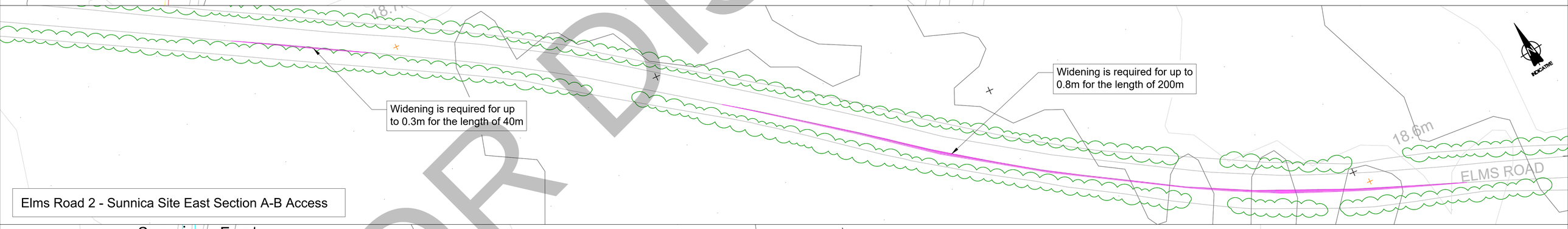
Annex C3: Sunnica East and Sunnica West Site Accesses Review

Elms Road Widening

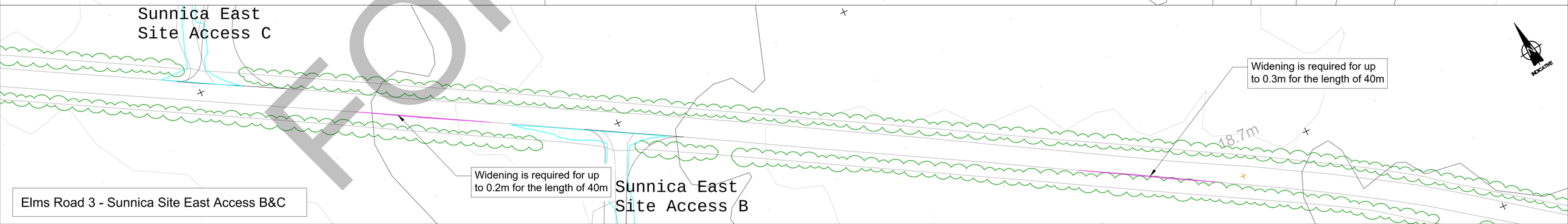




Elms Road 1 - Sunnica Site East Access A



Elms Road 2 - Sunnica Site East Section A-B Access



Elms Road 3 - Sunnica Site East Access B&C

FOR DISCUSSION

Annex D – Crane Routes Reviews

Appendix D1: Crane Routes Review 1

Cable Route – Access A – Weirs Drove

Description of Route from the SRN

1.1 The nearest part of the SRN to the Weirs Drove site access is the A14 J37. The route is from the A14 to Weirs Drove along Windmill Hill Road, Oxford Street, B1103 (Burwell Road/Newmarket Road), B1102 (Isaacson Road), High Street, and Reach Road. Below is the swept path analysis and Google Maps and Google Street View images of the constraints that have been considered along this route.

Swept path analysis has been undertaken for all other manoeuvres along this route for a 1000T crane and the key constraints identified are discussed below.

A142 Fordham Road/Windmill Hill Road Junction

1.2 **Entry Route**: Based on the swept path analysis, the 1000T crane can make the left-turn manoeuvre from Fordham Road onto Windmill Hill Road. However, this will require the temporary removal of the street furniture within the central refuge island. The 650T and 400T cranes can negotiate this turn without the removal of the street furniture. The temporary removal of the street furniture is not considered a significant constraint to the use of this route. Overall, at this stage this route is considered appropriate for all three cranes.

Figure 1: Swept Path Analysis: 1000T Crane

Figure 2: Google Maps of A142 Fordham Road/Windmill Hill Road T-Junction

Figure 3: Google Street View of A142 Fordham Road/Windmill Hill Road T-Junction

Figure 4: Swept Path Analysis: 650T Crane Entry

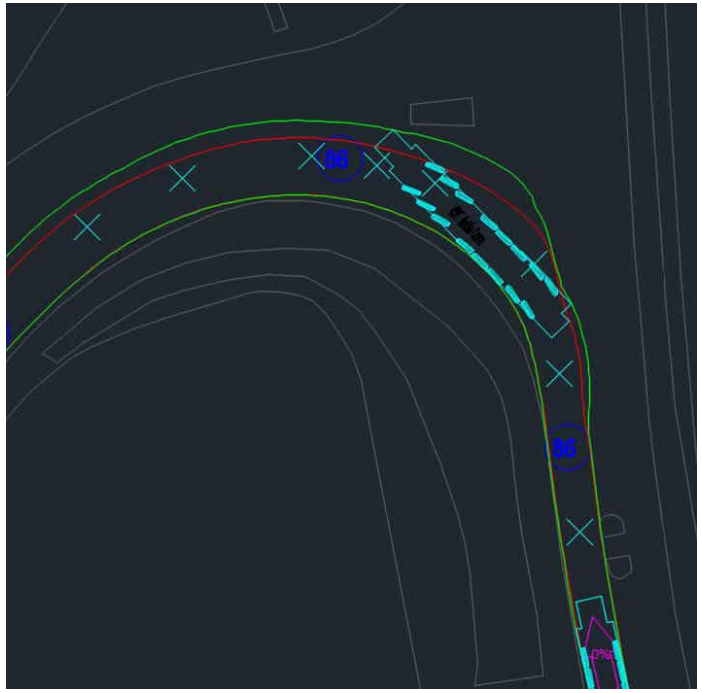
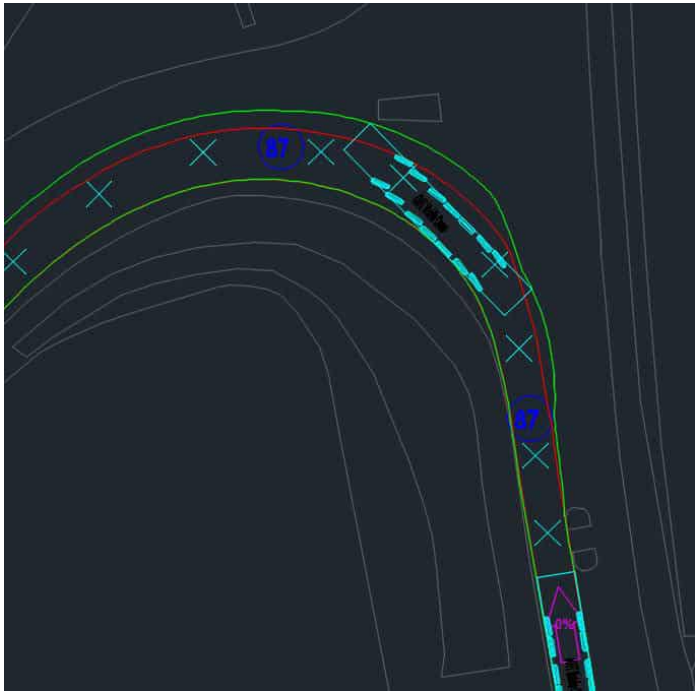


Figure 5: Swept Path Analysis: 400T Crane Entry



1.3 **Egress Route:** The 1000T crane can manoeuvre the right turn from Windmill Hill Road onto A142 Fordham Road. However, the crane overhang with the body over the eastern side of the main road, but wheels are within the carriageway, and there appears to be no street furniture/signage which requires removal. The 650T and 400T cranes can perform the manoeuvre without street furniture/signage removal. The temporary removal of the street signage is not considered a significant constraint to the use of this route. Overall, this junction is considered appropriate for all three cranes.

Figure 6: Swept Path Analysis: 1000T Crane Egress

Figure 7: Google Street View Windmill Hill Road/A142 Fordham Road T-Junction

Swan Road/Oxford Street/Chapel Street Junction

1.4 **Entry Route**: Windmill Hill becomes Swan Lane then Oxford Street. Swan Lane forms a T-Junction with Chapel Street and Oxford Street. As per the direction of travel for the entry route the Google Street View image below shows the point of view from Swan Lane looking towards Chapel Street and Oxford Street. The 1000T crane cannot negotiate the bend outside of The White Swan Pub without significant overrunning the footpath which may result in damage to the footway, utilities contained in the footway and/or the kerbs depending on the weight limit of the footpath. The 650T and 400T cranes can manoeuvre this turn without the removal of the street furniture, with body overhang but wheels are within the carriageway. As well as the road closure the footpath will also be required to be closed while the crane makes the manoeuvre. The temporary removal of the street signage is not considered a significant constraint to the use of this route. Overall, at this stage this route is considered appropriate for the 650T and 400T cranes however further clarification is required to the potential impact of the 1000T crane overrunning the footpath.

Figure 8: Swept Path Analysis: 1000T Crane Entry

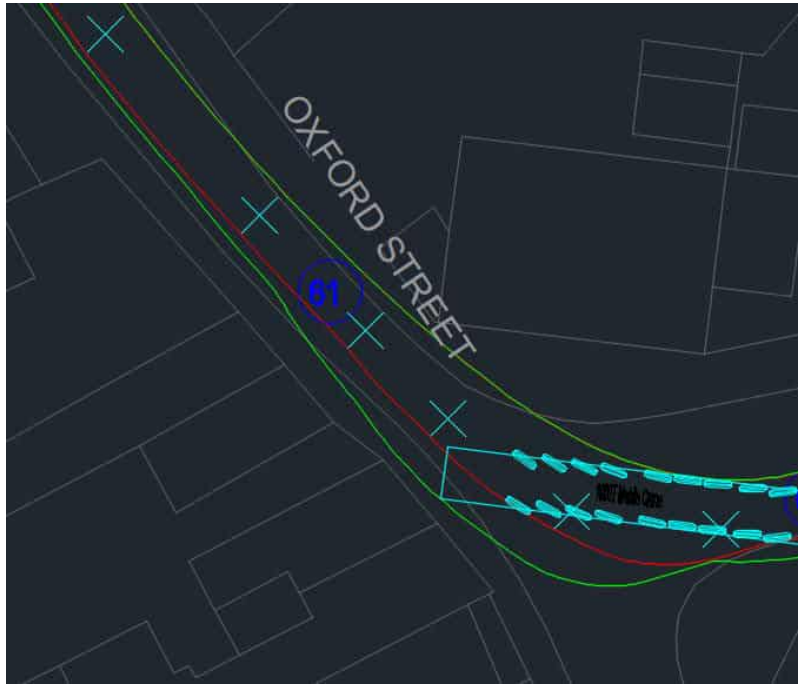


Figure 9: Swan Lane Google Street View Swan Lane

Figure 10: Swept Path Analysis: 650T Crane Entry

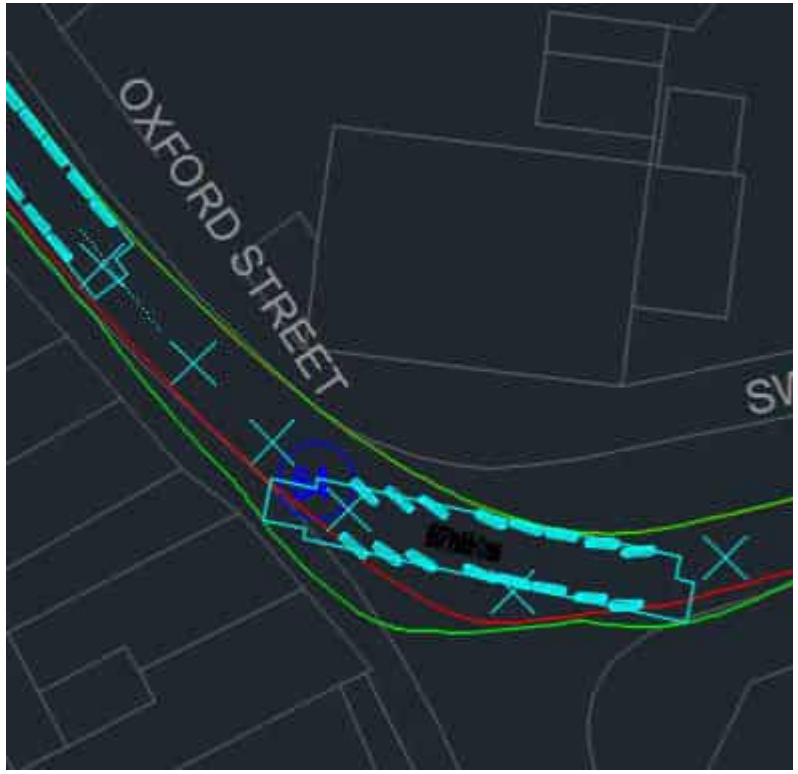


Figure 11: Swept Path Analysis: 400T Crane Entry

1.5 **Egress Route**: As per the direction of travel for the egress route the Google Street View image below shows the point of view from Oxford Street towards Chapel Street and Swan Lane. The 1000T, 650T and 400T cranes can manoeuvre this junction without the removal of street furniture however they would overhang the footpath but do not overrun the footpath. The temporary removal of the street signage is not considered a significant constraint to the use of this route. Overall, at this stage this route is considered appropriate for all three cranes for the egress route. However, further clarification is required for the potential impact of the 1000T crane overrunning the footpath on entry to the site access.

Figure 12: Swept Path Analysis: 1000T Crane Egress

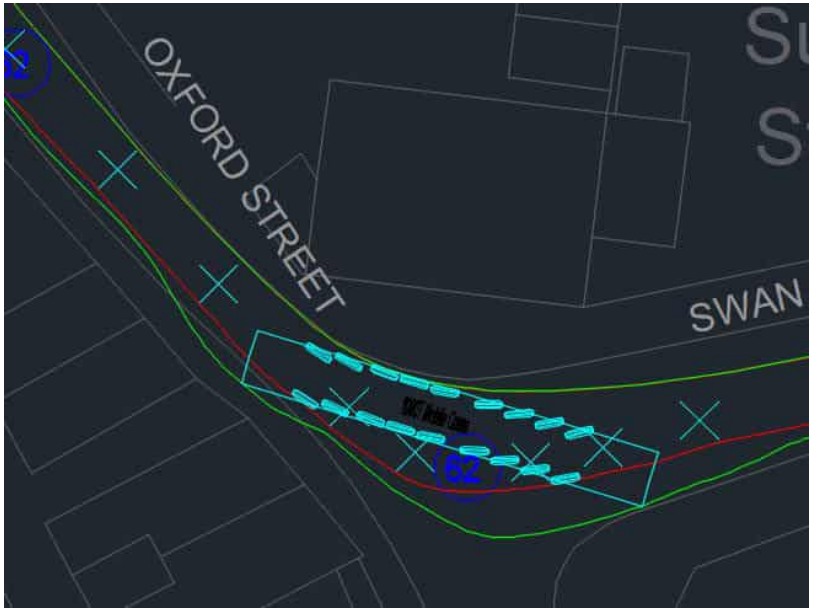


Figure 13: Oxford Street Google Street View

Figure 14: Swept Path Analysis: 650T Crane Egress

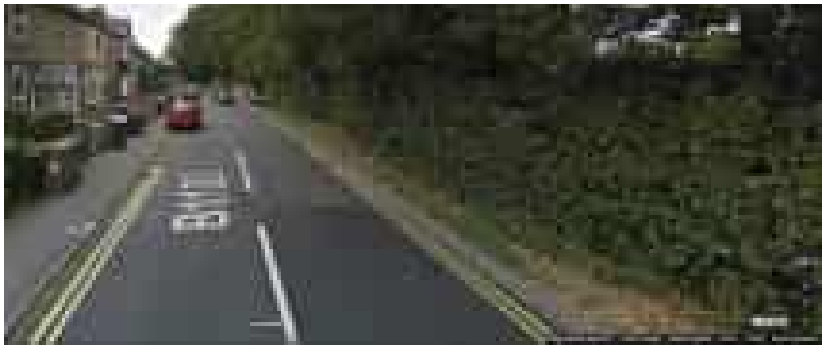
Figure 15: Swept Path Analysis: 400T Crane Egress

B1103 Oxford Street and B1103 Burwell Road

1.6 **Entry and Egress Route**: Oxford Street becomes Burwell Road B1103. Google Street View indicates there are parked vehicles along the B1103 Oxford Street and B1103 Burwell Road. The two Google Street View images illustrate the parked cars along the edges of the carriageway. To manoeuvre the crane along this link it is likely that the carriageway will need to be kept clear of parked cars potentially via temporary parking restrictions. If the carriageway is kept clear of parked cars as not to impede the crane along the highway or temporary parking restrictions are implemented, then it is not considered a significant constraint to the use of this route. The overhang of the trees are to be checked prior to the crane undertaking the route. Overall, at this stage this route is considered appropriate for all three cranes.

Figure 16: Oxford Street Google Street View

Figure 17: Burwell Road Google Street View



B1102 Isaacson Road

1.7 **Entry and Egress Route:** Newmarket Road forms a T-Junction with B1102 Isaacson Road. The three cranes have had their swept path analysis undertaken for this T-Junction for entry and egress routes and can perform the manoeuvre and as did not raised a concern are not included in this TN. Google Street View indicates there is the potential for vehicles to parked along the B1102 Isaacson Road. To manoeuvre the crane along this link it is likely that the carriageway will need to be kept clear of parked cars potentially via temporary parking restrictions. If the carriageway is kept clear of parked cars as not to impede the crane along the highway or temporary parking restrictions are implemented, then it is not considered a significant constraint to the use of this route. Overall, at this stage this route is considered appropriate for all three cranes. The Google Street View is an example of a parked car along the highway.

Figure 18: Isaacson Road Google Street View

Weirs Drove

1.8 **Entry and Egress Route:** The proposed site access is located on Weirs Drove close to the Burwell substation entrance. To negotiate the 'S' bends on Weirs Drove adjacent to the Burwell substation and the proposed site access, the 1000T crane would require the carriageway widening by circa 2.5m on the first 'S' bend, whereas the 650T and 400T cranes require the carriageway to be widened by circa 1.5mIt is noted that Weirs Drove is also close to the watercourse which is a factor in why the carriageway requires widening on the northern side. Widening of the carriageway could impact on the vegetation along the northern side of the carriageway as shown in the Google Street View images below. For the 1000T crane to egress from the site access, the second 'S' bend would require widening by circa 1m whereas the 650T and 400T cranes do not require the second 'S' bend to be widened. The weight limit of the road will also need to be confirmed to ensure it is capable of carrying the weight of the crane that is used. Further discussions required with project director and client to discuss the impact of the required highway works. The tree adjacent to the second 'S' bend could also need trimming back to allow for the crane to manoeuvre the bend without contacting the tree, however this is not considered a significant constraint to the use of this route. The Figures below show the swept path analysis of the cranes to (entry) and from (egress) the site access.

Figure 19: 1000T Crane Entry (First 'S' Bend)

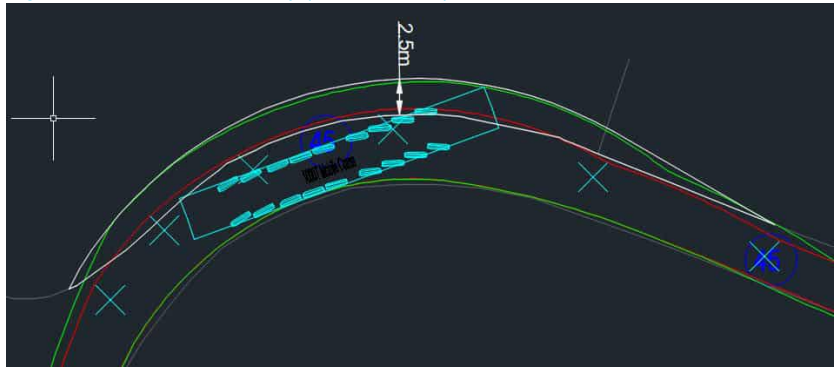


Figure 20: Weirs Drove Google Street View (First 'S' Bend)

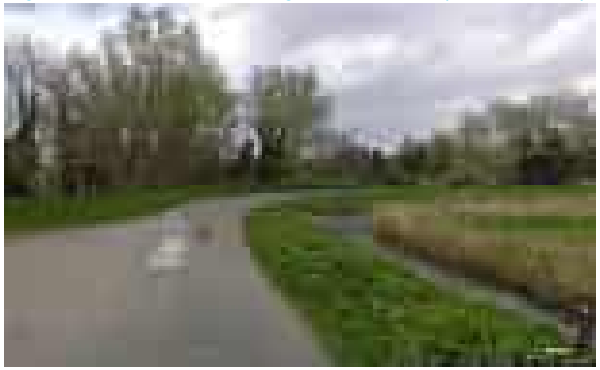


Figure 21: 1000T Crane Egress (Second 'S' Bend)

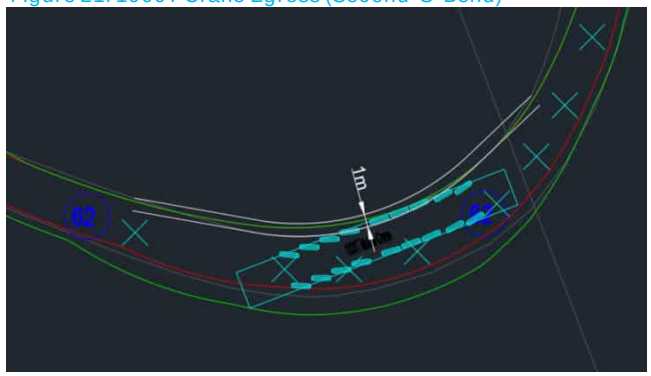


Figure 22: Weirs Drove Google Street View (Second 'S' Bend)

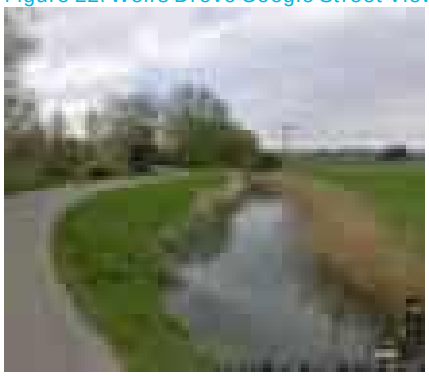


Figure 23: 650T Crane Entry (First 'S' Bend)

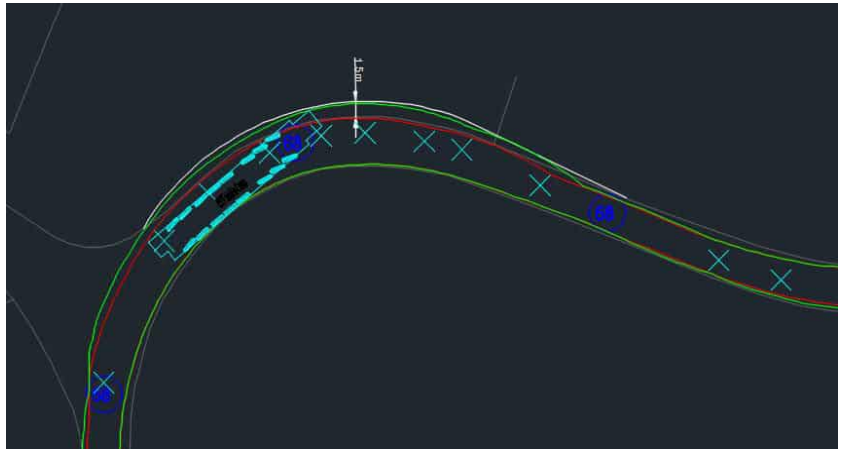


Figure 24: 650T Crane Egress (First 'S' Bend)

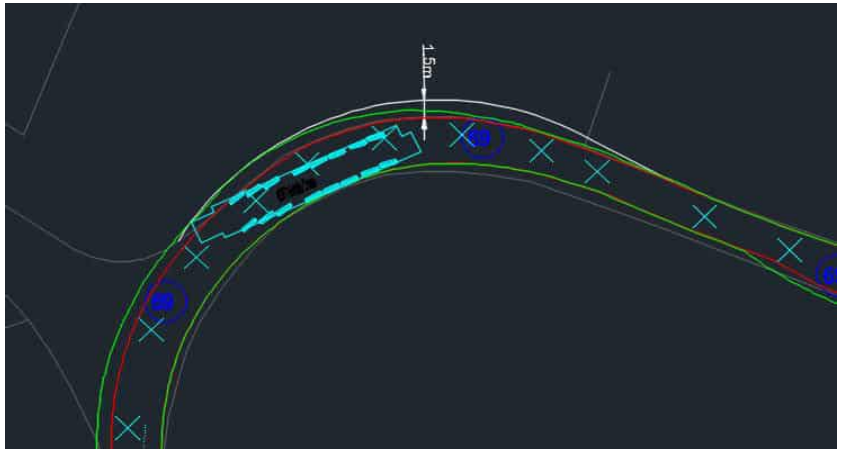


Figure 25: 400T Crane Entry (First 'S' Bend)

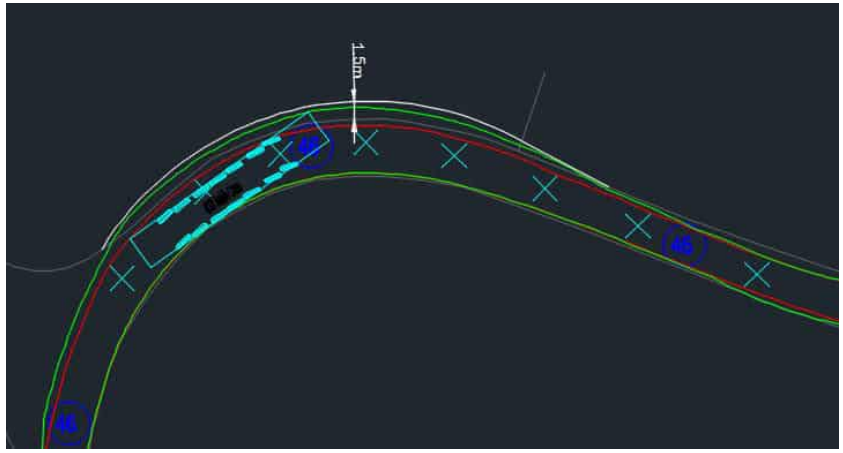
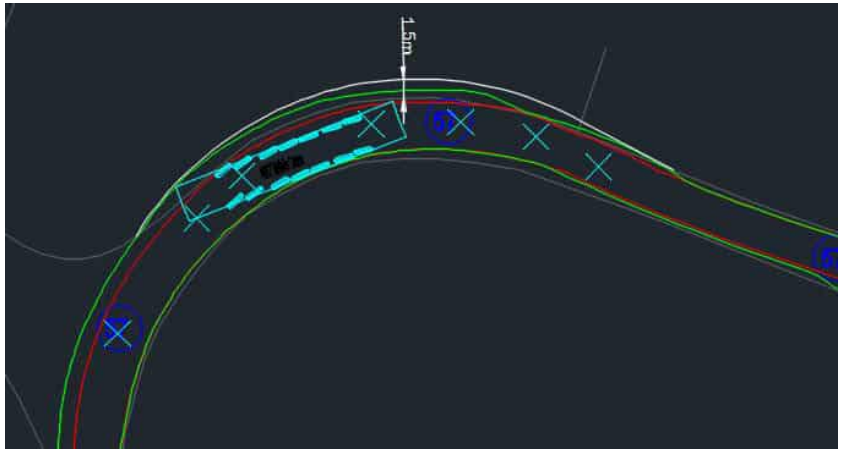


Figure 26: 400T Crane Egress (First 'S' Bend)



Hythe Bridge

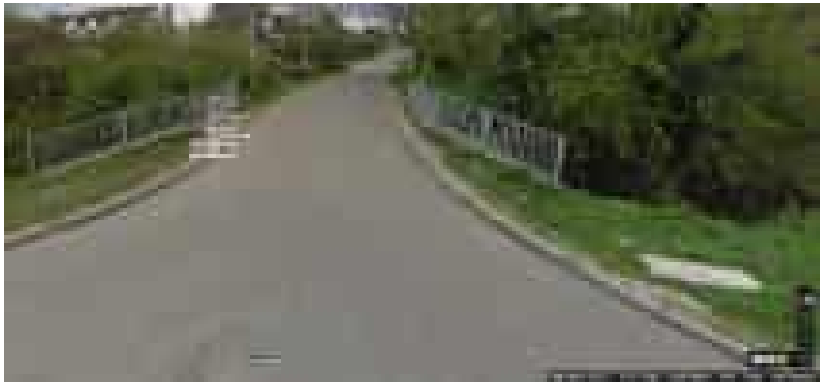
1.9 **Entry and Egress Route:** An alternative route was considered to Weirs Drove 'S' bends via The Causeway, Hythe Lane and Hythe Lane bridge. The dashed red box in the figure below indicates the approximate location of the bridge. This route would require the crane to travel through the residential area of Burwell and enter and egress the access from the north. The weight restriction of the bridge is unknown. However, given the width restrictions of the bridge, the cranes are unable to manoeuvre over the bridge as shown below. The frontend of the crane also overhangs the northern verge of the junction, with the height of the verge unknown in relation to the front end of the crane. Therefore, this is considered a significant constraint to the use of this route and is not considered appropriate for all three cranes.

Figure 27: 1000T Crane Entry Hythe Bridge

Figure 28: 400T Crane Entry Hythe Bridge

Figure 29: 1000T Crane Entry Hythe Bridge

Figure 30: Google Street View Hythe Bridge



Sunnica East Site A – Access E – Ferry Lane

Ferry Lane – Route 1 (Chippenham and Freckenham)

Description of Route from the SRN

1.10 The nearest part of the SRN to Ferry Lane site access is the A11. This route from the A11 to Ferry Lane is via the B1085 (High Street) through Chippenham, B1104 and B1102 Fordham Road through Freckenham to Ferry Lane. The red box on the Google aerial image below indicates the approximate location of the bridge on Ferry Lane/Isleham Road junction and the orange box the Ferry Lane site access.

Bridge on Ferry Lane adjacent to Isleham Road

1.11 **Entry Route**: Along Ferry Lane, is located a bridge as shown in the two figures below, which could have a weight limit restriction effecting the size crane that can use this route. The swept path analysis indicates the vehicle can manoeuvre over the bridge and as a result as not been included. Based on the information available on the Suffolk County (SCC) council website[1], that bridges within Suffolk have been assessed if they have the capacity to carry 40 tonne. If road bridges are not up to strength then SCC may have imposed a weight restriction, monitor the bridge for signs of damage, replace the bridge or strength the bridge. Further confirmation on the actual weight limit of this bridge is required before identifying the crane which is expected to be required at Sunnica East Site A Access E on Ferry Lane. Information is currently being sought regarding the weight restriction of the bridge to identify if this route is viable, otherwise additional routes would need to be investigated which is outside of this TN scope of work. The red dashed box on the following figure identifies the approximate location of the bridge discussed.

1.12 Route 1 avoids the constraints described in Route 2 (Worlington) and Route 3 (Elms Road/Church Lane and Freckenham) in the following paragraphs.

[1] https://www.suffolk.gov.uk/roads-and-transport/roads-pavements-and-verges/bridges-and-highway-structures/

Figure 31: Google Aerial of the Bridge

Figure 32: Google Street View of the Bridge

Ferry Lane – Route 2 (Worlington)

Description of Route from the SRN

1.13 The nearest part of the SRN to Sunnica East Site A Access E on Ferry Lane is the A11. This route from the A11 to Ferry Lane is via the A11 northbound off-slip junction at Red Lodge, Newmarket Road, The Street/Frechenham Road through Worlington and Isleham Road.

Newmarket Road /The Street/Mildenhall Road

1.14 **Entry Route**: All three cranes are unable to perform the left turn manoeuvre to access the Sunnica East Site A Access E on Ferry Lane via the Newmarket Road/The Street/Mildenhall Road T-junction. This is due to the building on the junction's northern side and a wall on the western side of the junction which results in the crane being unable to make this manoeuvre. Google Street View images are below showing the existing layout of the Newmarket Road/The Street/Mildenhall Road T-Junction with the swept path analysis also provided below. The use of this T-Junction It is not considered appropriate for use for the three cranes identified.

Figure 33: Google Street View along Newmarket Road

Figure 34: Google Street View along The Street

Figure 35: Google Aerial

1.15 The three figures below show the swept path analysis of the 1000T, 650T and 400T cranes. The swept path analysis shows the three cranes are unable to perform the manoeuvre and therefore this route is not considered appropriate based on the three cranes identified.

Figure 36: 1000T Crane

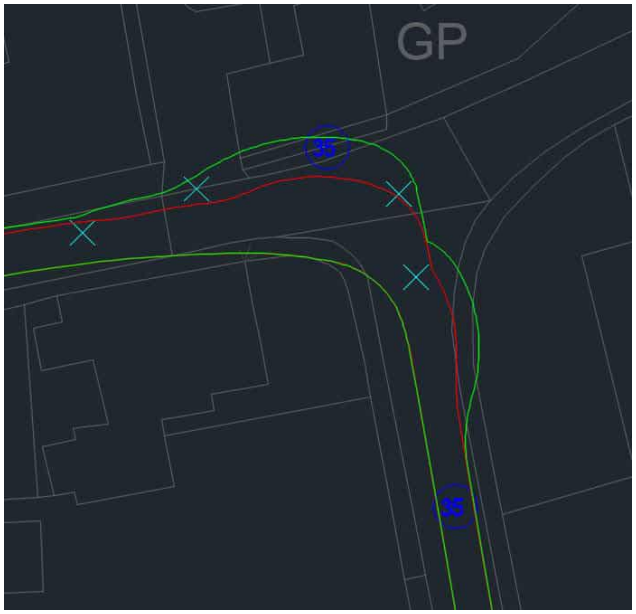
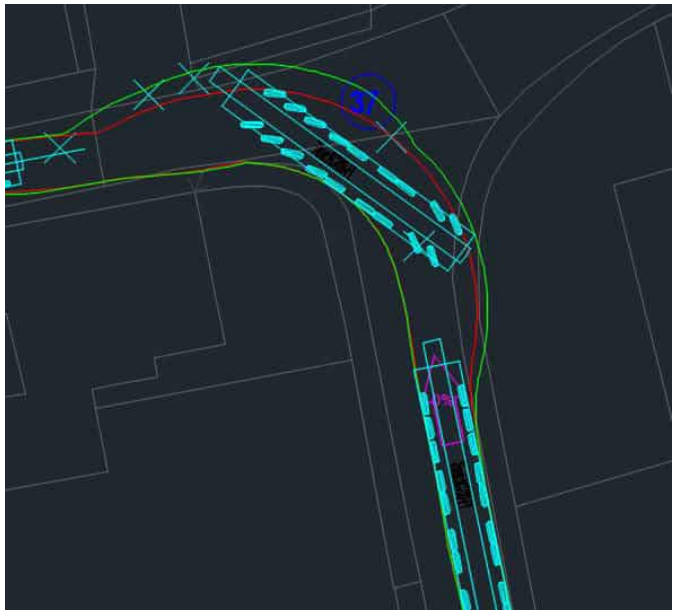


Figure 37: 650T Crane

Figure 38: 400T Crane



Ferry Lane – Route 3 (Elms Road/Church Lane and Freckenham)

Description of Route from the SRN

1.16 The nearest part of the SRN to Sunnica East Site A Access E on Ferry Lane is the A11. This route from the A11 to Ferry Lane is via Elms Road, Church Lane through Freckenham, B1102 (Mildenhall Road) and Ferry Lane.

Elms Road/Church Lane Junction

1.17 **Entry Route**: All three cranes require the street furniture to be removed at this junction. Furthermore, a verge on the junction's western side could require lowering dependant on the height of the front end of the crane with the vehicle restricted in its body overhang on the eastern side of the junction due to the wall. In addition, there is a telephone and gas infrastructure to consider if any junction works were required at this junction. Google Street View images and the swept path analysis for the 1000T, 650T and 400T cranes at the Elms Road/Church Lane T-junction. It is not considered at this stage the temporary removal of street furniture to be a major concern. However, the location of the telegraph pole will be in the path of the body overhang of the cranes. Additional checks would be required to ensure the height of the power lines and trees do not impact on the cranes at this junction.

1.18 Overall, due to the concerns regarding the verge height, location of the telegraph pole and the overall narrow size of the junction, with additional checks of the height of the trees and requiring the removal of the street furniture, manoeuvring the three cranes identified through the Elms Road/Church Street junction is not considered appropriate.

Figure 39: Elms Road Google Street View

Figure 40: Church Street Google Street View

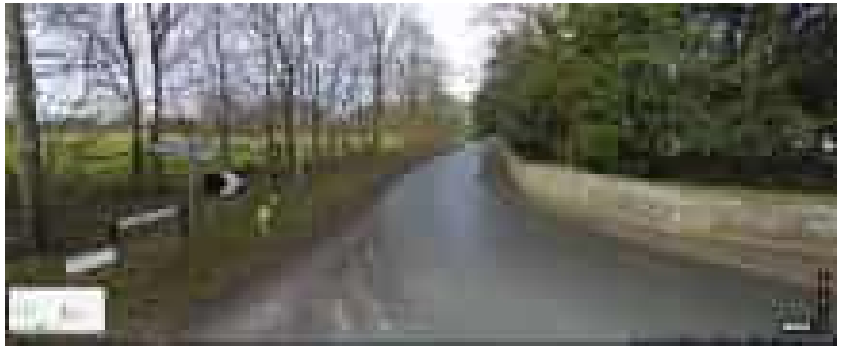


Figure 41: Elms Road/Church Street Google Aerial

1.19 The three figures below show the swept path analysis of the 1000T, 650T and 400T cranes preforming the right turn from Elms Road to Church Lane which shows the front overhang of the crane along the northern verge of the T-junction.

Figure 42: 1000T Crane

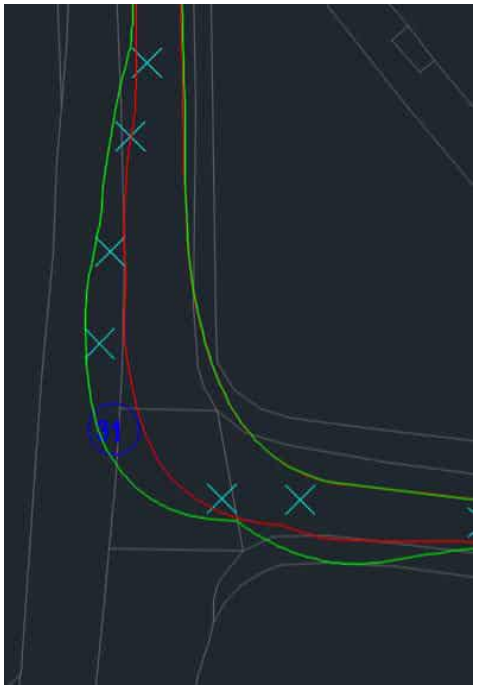


Figure 43: 650T Crane

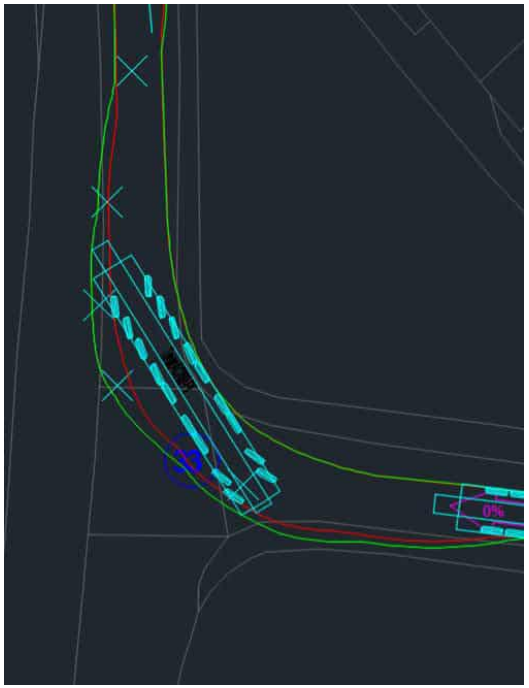
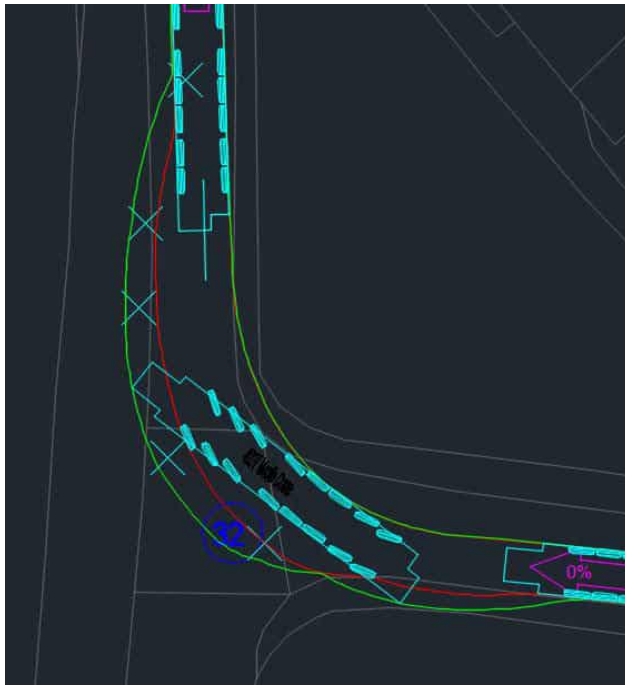


Figure 44: 400T Crane



Sunnica East Site B – Access C – Elms Road

Description of Route from the SRN

1.20 The nearest part of the SRN to Elms Road site access is the A11 via the A11 northbound off-slip/Elms Road T-Junction (entry) or the Red Lodge Dumbbell Roundabouts (egress).

Entry: A11/Elms Road Junction

1.21 The site access is accessed via Elms Road and is located a short distance from the A11/Elms Road T-Junction. The 1000T crane can manoeuvre the left turn from A11 Northbound off-slip onto Elms Road. However, the body of the crane overhangs the northern edge of the junction, while wheels are within the carriageway. From Google Street View there is a street sign located on the northern carriageway which could require temporary removal for the crane to perform the turn. Below is swept path analysis and Google Street View of the A11 Northbound Off-Slip/Elms Road T-Junction. It is not considered a major concern to temporarily remove the street signage for the crane to make this manoeuvre. The 650T and 400T cranes can manoeuvre this turn without the overhang and therefore do not need any street signage to be removed. Overall, this junction is considered appropriate for all three cranes.

Figure 45: Swept Path Analysis: 1000T Crane

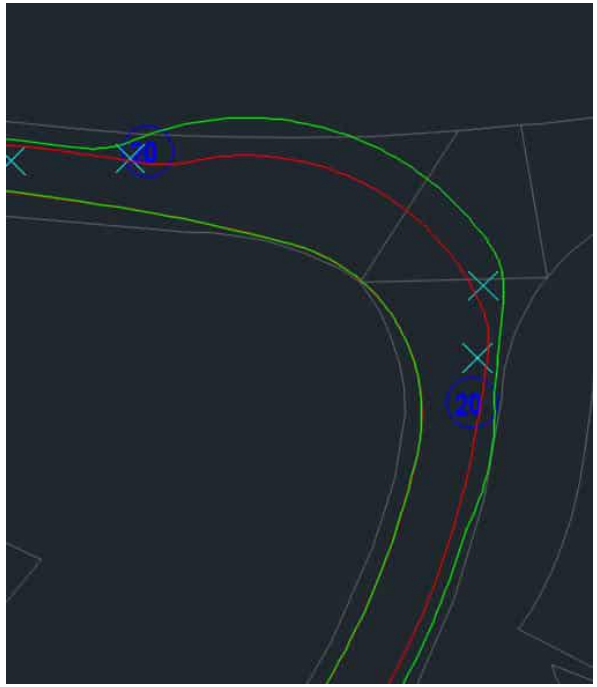
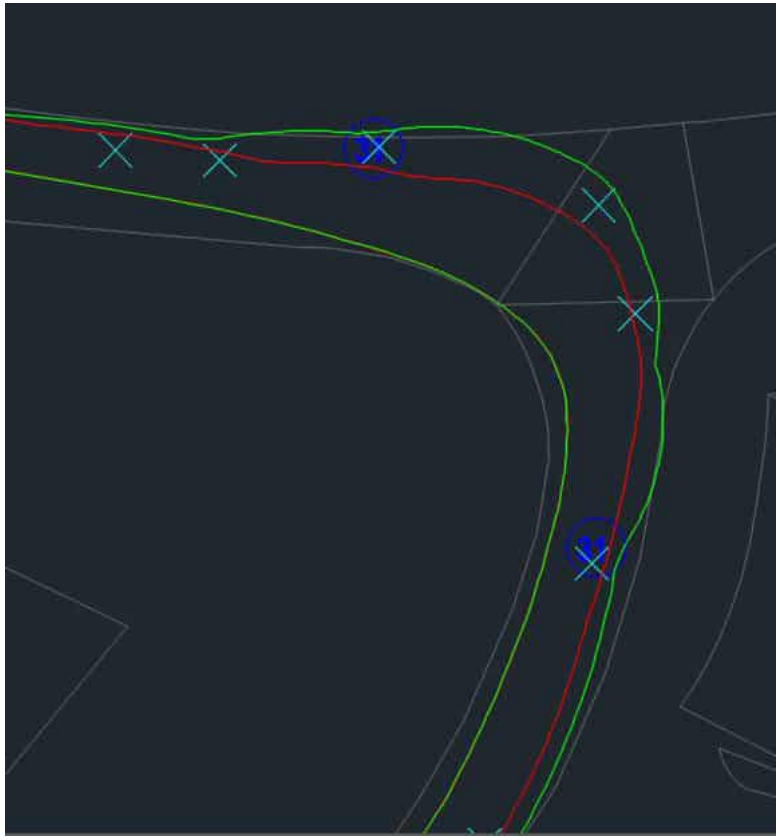


Figure 46: Google Aerial A1/Elms Road T-Junction

Figure 47: Swept Path Analysis: 650T Crane A11/Elms Road

Figure 48: Swept Path Analysis: 400T Crane A11/Elms Road



Egress: Red Lodge Dumbbell Roundabouts

1.22 For the egress route the 1000T crane is expected to use the Red Lodge Dumbbell Roundabouts. The swept path analysis shows the crane performing the manoeuvre from Elms Road to the A11 southbound while remaining within the carriageway. The swept path analysis below also helps to indicate that the 1000T should be able to manoeuvre the Red Lodge Dumbbell roundabouts for any direction of travel to/from the A11. The swept path analysis below shows the 1000T crane can manoeuvre the Red Lodge Dumbbell Roundabouts and therefore it is assumed the 650T and 400T cranes can also perform the manoeuvre. Overall, this junction is considered appropriate for all three cranes.

Figure 49: Swept Path Analysis: 1000T Crane Red Lodge Dumbbell Roundabouts

Figure 50: Google Aerial Red Lodge Dumbbell Roundabouts

Sunnica West Site A – Access A – La Hogue Road

Description of Route from the SRN

1.23 The nearest part of the SRN to La Hogue Road site access is the A11 via the A11 northbound off-slip/northbound on-slip/La Hogue Road junction. Below identifies the swept path analysis and Google Street View of the A11 northbound off-slip.

A11/ La Hogue Road Junction

1.24 **Entry Route**: The site access is accessed via La Hogue Road a short distance from the A11 slip roads. The required cranes can manoeuvre the left turn from A11 onto La Hogue Road. However, this requires the traffic signage to be temporarily removed as shown in the Google Street View image. It is not considered to be a concern to temporarily remove the street signage. Overall, at this stage this route is considered appropriate for all three cranes.

Figure 51: Swept Path Analysis: 1000T Crane

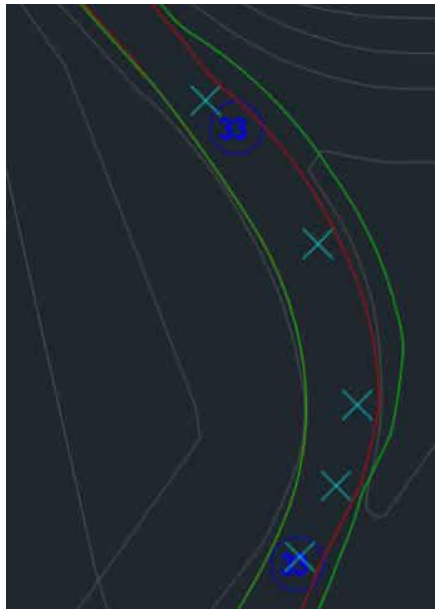


Figure 52: Google Street View A11 Northbound Off-Slip onto La Hogue Road

1.25 **Egress Route:** The three cranes tested can negotiate the left turn from La Hough Road onto the A11 while maintaining the wheels within the carriageway. However, based on the swept path analysis and Google Street View there is the potential requirement for the traffic signage to be temporarily removed for the 1000T crane. It appears from the swept path analysis and Google Street View that the 650T and 400T cranes may not need the street signage to be removed to perform the La Hogue Road to A11 manoeuvre even though there is a small body overhang. The temporary removal of the street signage is not considered a significant constraint to the use of this route. Overall, at this stage this route is considered appropriate for all three cranes.

Figure 53: Swept Path Analysis: 1000T Crane

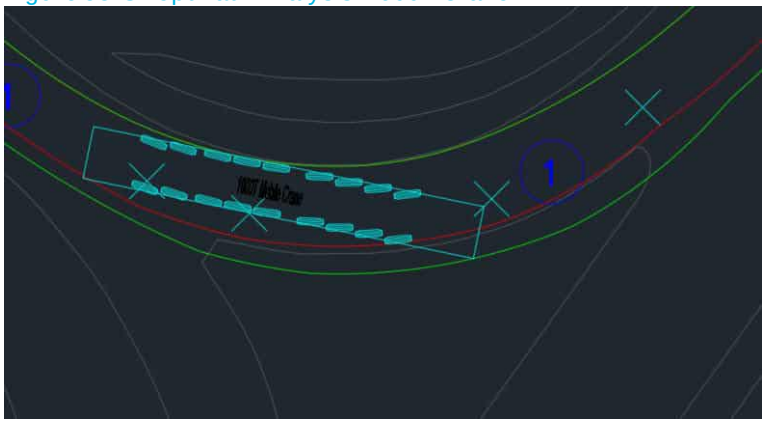


Figure 54: Google Street View A11 Northbound On-Slip from La Hogue Road

Figure 55: Swept Path Analysis: 650T Crane

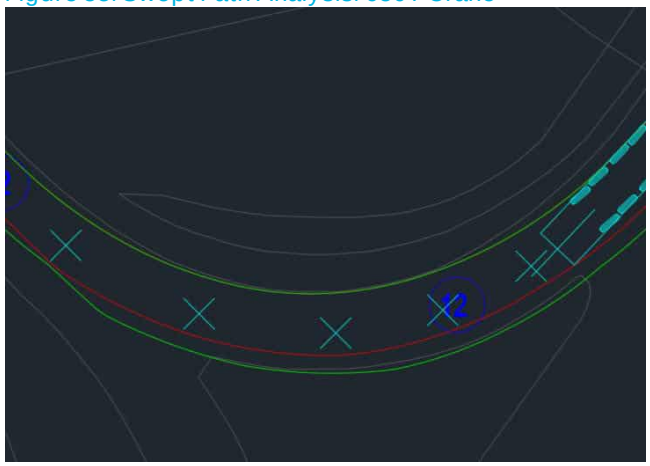
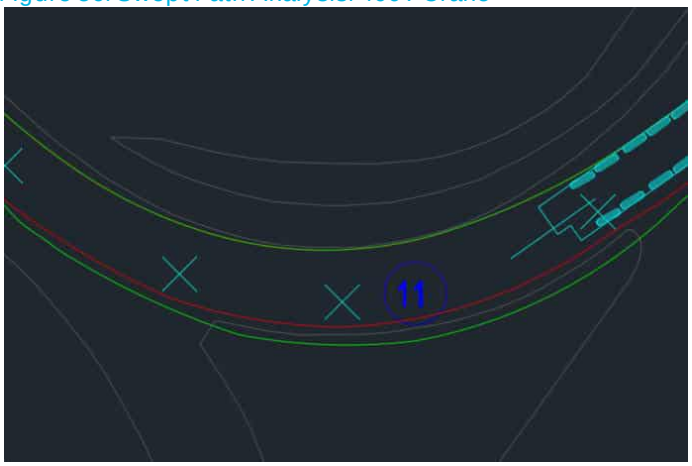


Figure 56: Swept Path Analysis: 400T Crane



Appendix D: Crane Route Review 2

Ferry Lane/Beck Road Alternative Access Options

Option 1 – Gated Access

1.1 The access is located on Beck Road which is a two-way road with a national speed limit (60mph). The existing access to the farm consists of hard surfacing (tarmac) with gates and a brick wall on both sides of the access road. The existing access to the farm is shown in Figure 1, with the cranes swept path analysis shown below.

1.2 The swept path analysis shows that to accommodate the cranes the existing site access requires widening with the removal of the gates and part of the brick wall. The existing site access will require additional hard surfacing to be provided as the existing hard surfacing cannot accommodate the cranes as the vehicle tracking overrun the grass verge.

Figure 1: Gated Site Access Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 2: 1000T Crane Entry

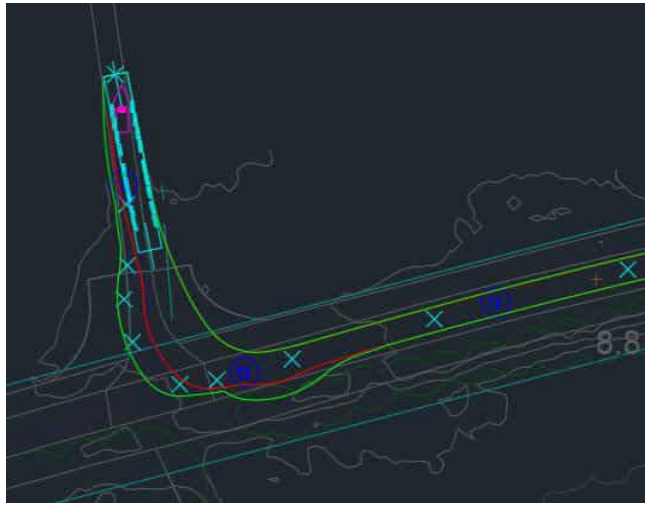


Figure 3: : 1000T Crane Egress

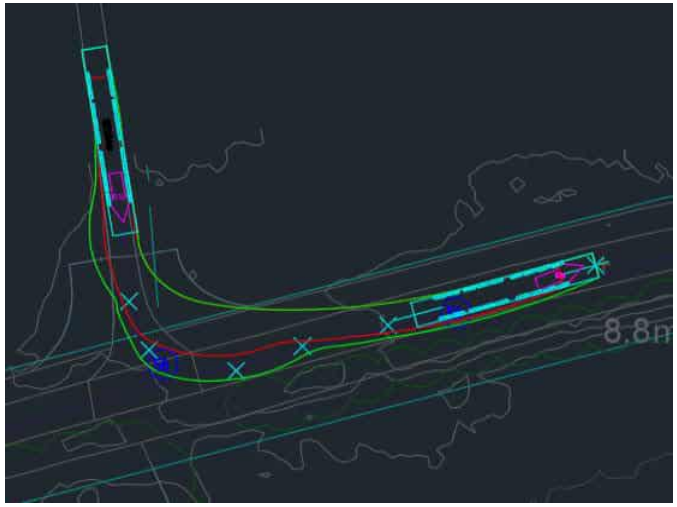


Figure 4: 650T Crane Entry

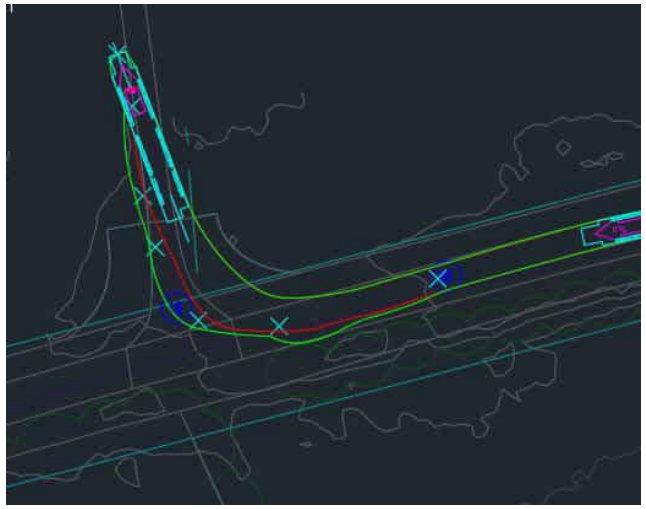


Figure 5: 650T Crane Egress

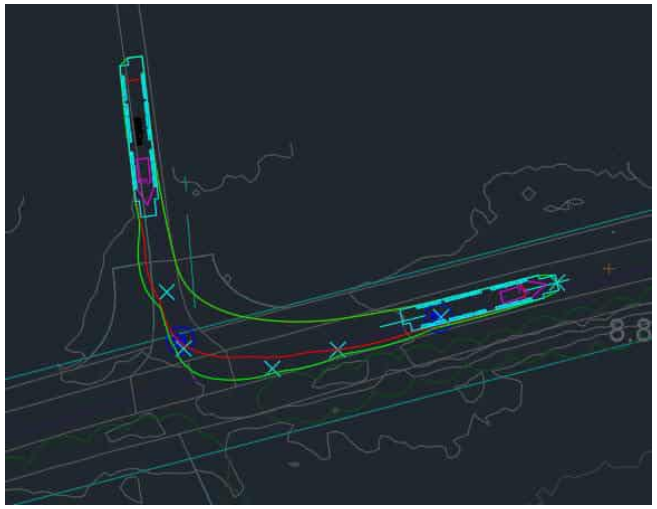


Figure 6: 400T Crane Entry

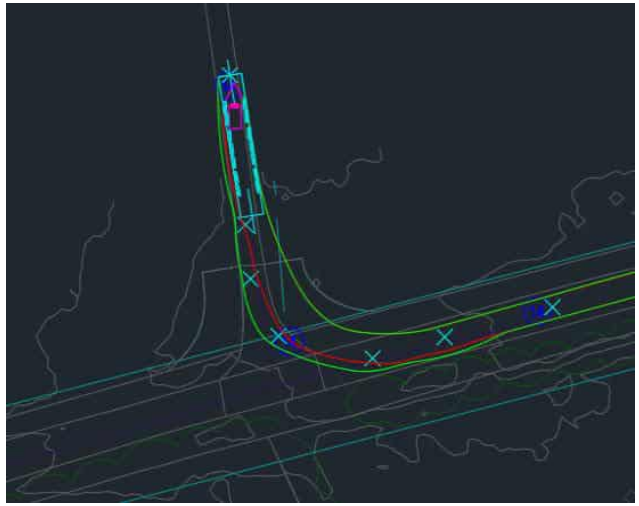
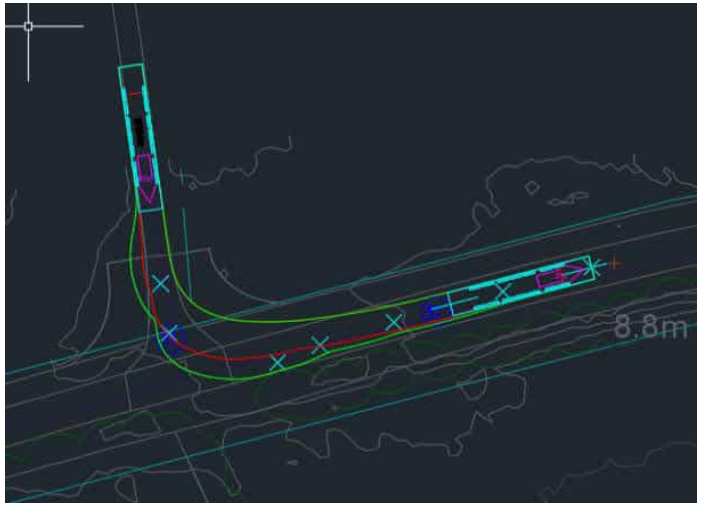


Figure 7: 400T Crane Egress



Option 2 – Farm Access

1.3 This site access is also located on Beck Road approximately 320m to the east of the gated access. There is an existing farm access with a gap in the hedgerow connected to an internal track which runs in a north-south direction. The existing site access is narrow and is an unmade access which is bounded by hedgerow on either side. This access, approximately 4.0m to 4.5m wide, is used by agricultural vehicles to access the farmland. The existing farm site access is shown below. The swept path analysis have been undertaken for 1000T, 650T and 400T cranes and shown below. The swept path analysis indicates the existing access requires widening to accommodate the cranes. This results in the removal of hedgerow for the cranes to enter and egress the site access. The junction work area to accommodate the cranes is identified below.

Figure 8: Farm Site Access (View Westbound) Google Earth Street View*

Figure 9: Farm Site Access (View Eastbound) Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 10: 1000T Crane Entry

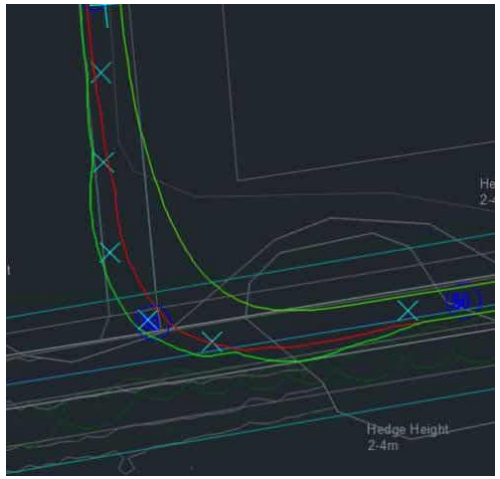


Figure 11: 1000T Crane Egress

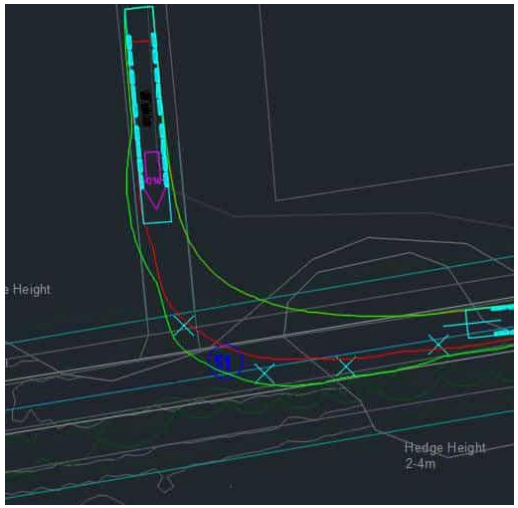


Figure 12: 650T Crane Entry

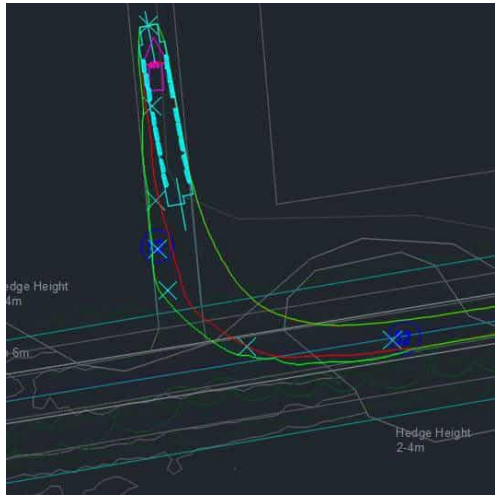


Figure 13: 650T Crane Egress

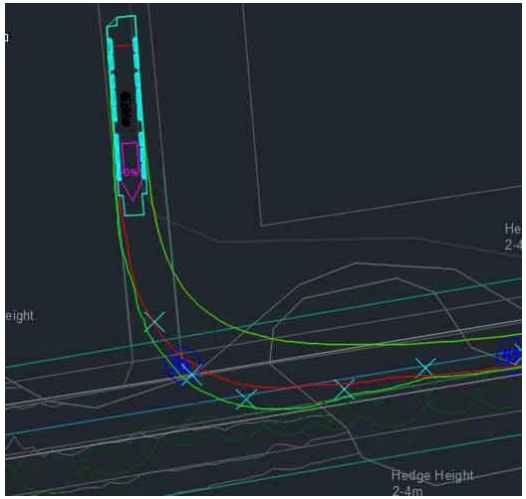


Figure 14: 400T Crane Entry

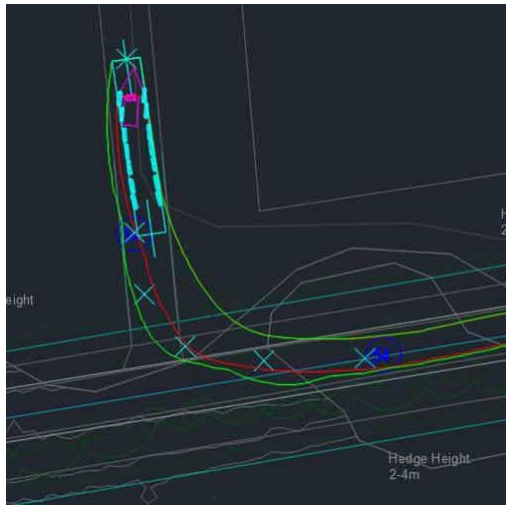


Figure 15: 400T Crane Egress

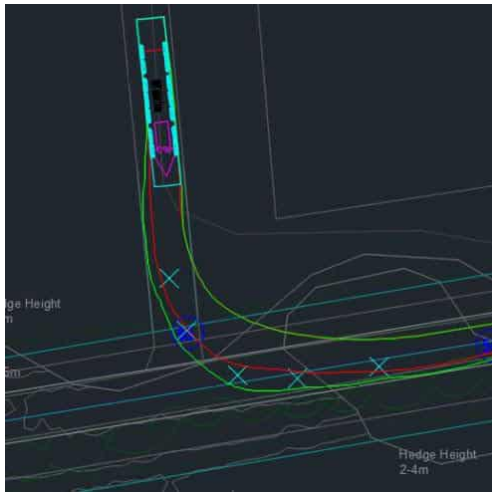


Figure 16: Crane Entry Option 2 – Junction Works Area*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

2. Route to/from the A11

Description of Route from the SRN

2.1 The A11 has been identified as the nearest access from the SRN to Beck Road. The route from the A11 to Beck Road is via the B1085 (High Street) through Chippenham, B1104 and B1102 Fordham Road through Freckenham to Beck Road. This route (blue line) is identified below, with the number 1 identifying the approximate location of site access option 1 and the number 2 the approximate location of site access option 2. Swept path analysis has been undertaken for all manoeuvres along the egress route from Beck road to the A11 for a 1000T crane, with the key constraints identified and discussed below. Where the 1000T crane can perform the manoeuvre without any street furniture / sign removal, the 650T and 400T cranes have not had their swept path analysis undertaken as it is assumed the smaller cranes have will have no additional constraints than those discussed below. In addition, the swept path analysis has been undertaken for the entry route manoeuvre from Ferry Lane left turn to Beck Road as this had not been previously undertaken as it was not part of the route, this analysis has been undertaken for all three cranes.

Figure 17: Egress Route

Beck Road to Ferry Lane

2.2 **Egress Route:** The 1000T crane can manoeuvre the right turn from Back Road to Ferry Lane. However, the cranes body overhangs the central island with the wheels within the carriageway. The figures below identify the swept path analysis undertaken for the 1000T, 650T and 400T crane undertaking the right turn from Beck Road to Ferry Lane along with the Google Earth Street View.

2.3 As a result of the swept path analysis, a road traffic sign within the central island on Beck Road would require temporary removal while the crane egresses the site back to the SRN. In addition, give the close proximity of the second road traffic sign on the opposite side of the carriageway, it is recommended that this is also temporarily removed to ensure the wingmirrors do not make contract with the road traffic sign, which is also recommended for a 650T and 400T cranes. The temporary removal of the road traffic signage is not considered a significant constraint to use this route. Overall, at this stage, this egress route is considered appropriate for all three cranes.

Figure 18: 1000T Crane Egress

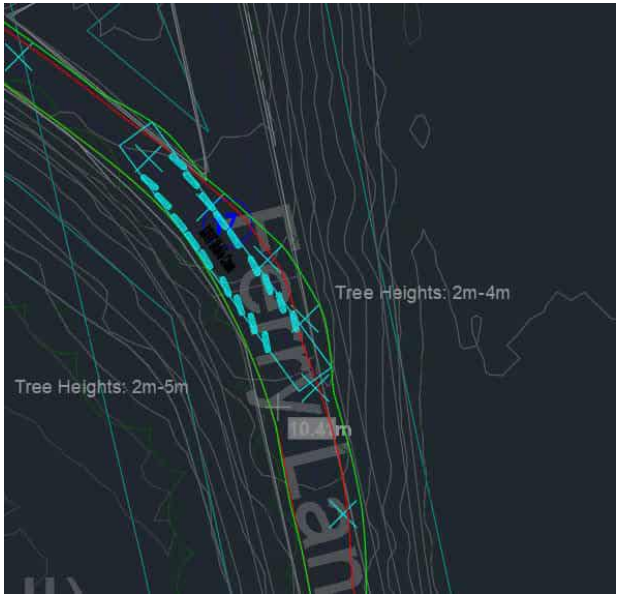


Figure 19: Beck Road Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 20: 650T Crane Egress

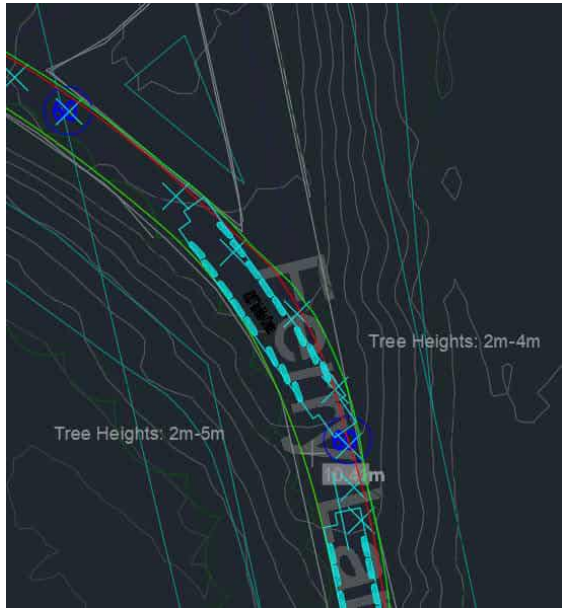


Figure 21: 400T Crane Egress

2.4 **Entry Route**: The 1000T crane can make the left-turn manoeuvre from Ferry Lane onto Beck Road based on the swept path analysis undertaken for a 1000T, 650T and 400T cranes. However, this will require the temporary removal of the road traffic sign within the central island. Given the close proximity of the two road traffic signs to the edge of the carriageway, the temporary removal of the road traffic signs is recommended for the 1000T, 650T and 400T cranes. The temporary removal of the road traffic sign is not considered a significant constraint to the use of this route. Overall, at this stage, this entry route is considered appropriate for all three cranes.

Figure 22: 1000T Crane Entry

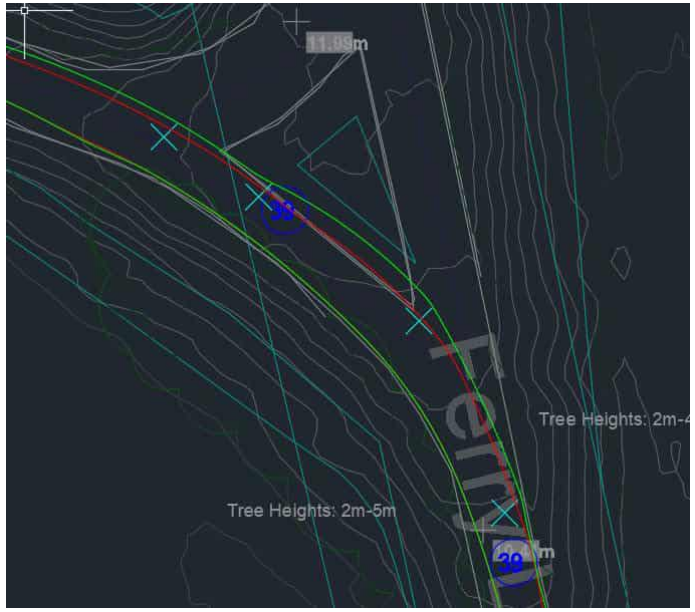


Figure 23: Beck Road Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 24: 650T Crane Entry

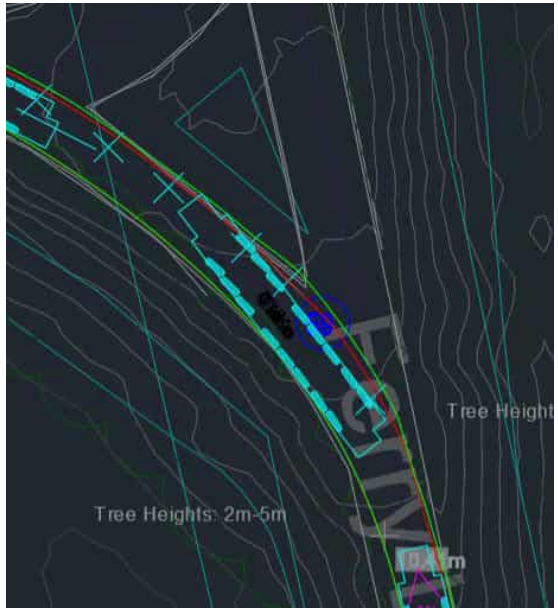


Figure 25: 400T Crane Entry

Ferry Lane to B1102 Mildenhall Road

2.5 The 1000T crane can manoeuvre the right turn from Ferry Lane to B1102 Mildenhall Road. However, the crane overhangs the verge with the rear part of the body overhanging the eastern side of the verge on Ferry Lane, however the wheels remain within the carriageway. Road traffic signs on Ferry Road are required to be temporarily removed. The 650T and 400T cranes do not require the removal of the road traffic sign. Overall, this junction is considered appropriate for all three cranes.

Figure 26: 1000T Crane Egress

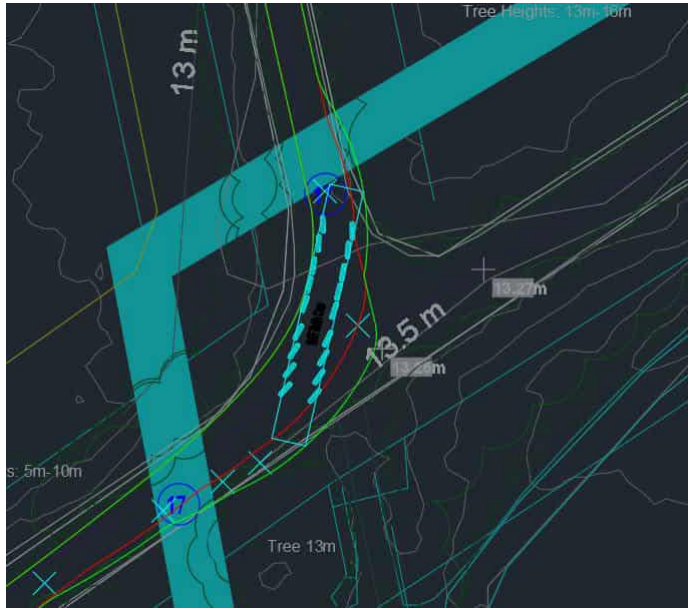
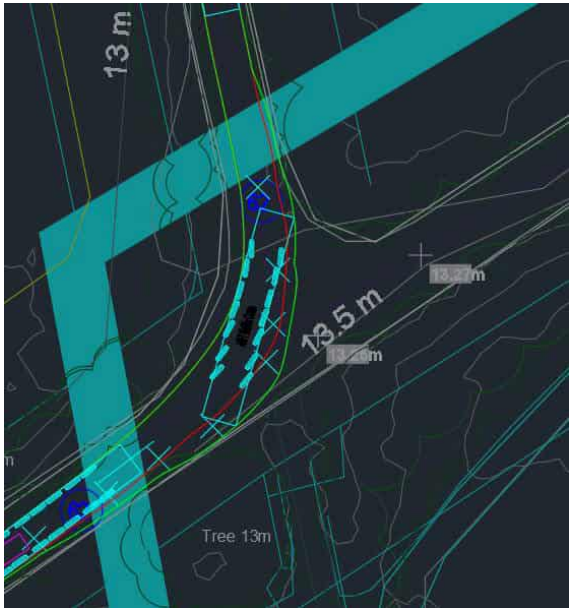


Figure 27: Ferry Lane to B1102 Mildenhall Road Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 28: 650T Crane Egress

Figure 29: 400T Crane Egress



B1102 Mildenhall Road to The Street

2.6 The Mildenhall Road/The Street/Church Lane is a T-Junction with a central traffic island as shown in the Google Earth Street View image below. The 1000T crane can manoeuvre the right turn from Mildenhall Road onto The Street. This manoeuvre could require the tree in the central island to be trimmed back in order not to make contact with the crane, but this would need to be confirmed prior to construction. Overall, this junction is considered appropriate for all three cranes.

Figure 30: 1000T Crane Egress

Figure 31: B1102 Mildenhall Road Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

B1102 Fordham Road to B1104

2.7 Based on the swept path analysis, the 1000T crane can make the manoeuvre from B1102 Fordham Road onto B1104. In both directions the crane would require the full width of the road.

Figure 32: 1000T Crane Egress

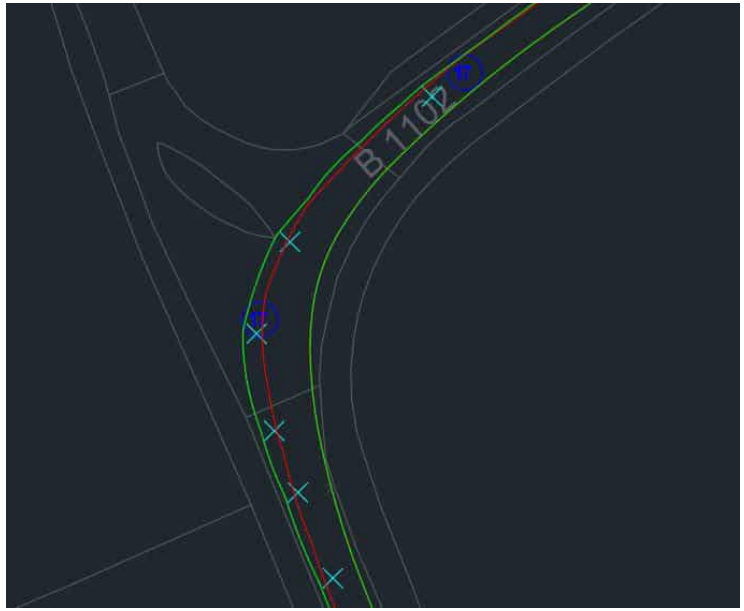


Figure 33: B1102 Fordham Road to B1104 Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

B1104 to B1085 High Street

2.8 The 1000T crane can manoeuvre the right turn from B1104 onto B1085 High Street. However, the crane will overhang with the rear part of the body over the eastern side of B1085 High Street, but the wheels remain within the carriageway. There are road traffic signs on B1085 High Street that would require temporary removal. The 650T and 400T cranes do not require traffic sign removal. Overall, this junction is considered appropriate for all three cranes.

Figure 34: 1000T Crane Entry

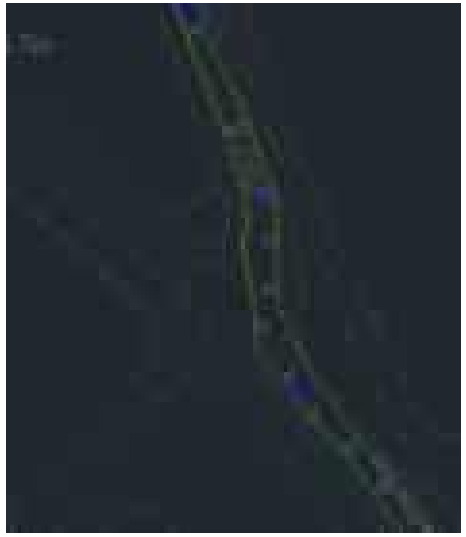


Figure 35: 1000T Crane Egress

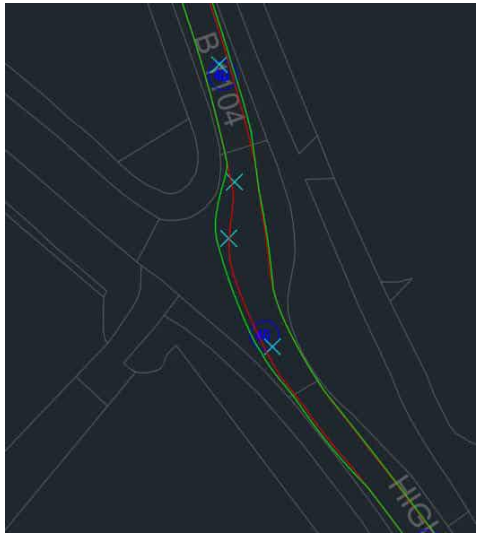


Figure 36: B1104/B1085 Google Earth Aerial Photo*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Chippenham

2.9 The figures below identify the three cranes swept path analysis and the Google Earth Street View of the 'S' bends in Chippenham. Based on the swept path analysis no street furniture or road traffic signs are required to be temporarily removed. Overall, this route is considered appropriate for all three cranes.

Figure 37: 1000T Crane West 'S' Bend Egress

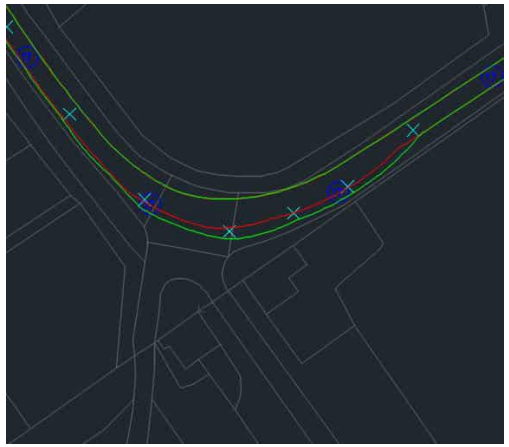


Figure 38: Chippenham West 'S' Bend High Street Google Earth Street View

Figure 39: 1000T Crane West 'S' Bend Egress

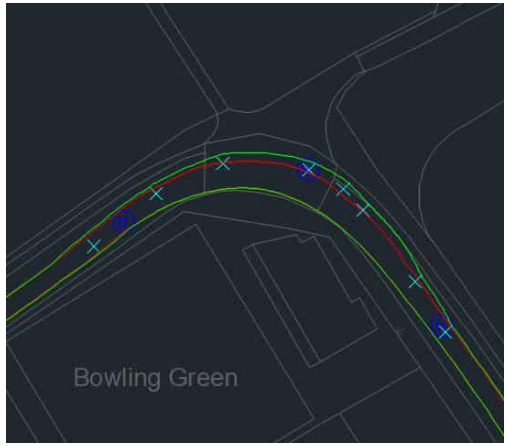


Figure 40: Chippenham West 'S' Bend High Street Google Earth Street View*

* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Figure 41: 650T Crane East ‘S’ Bend Egress

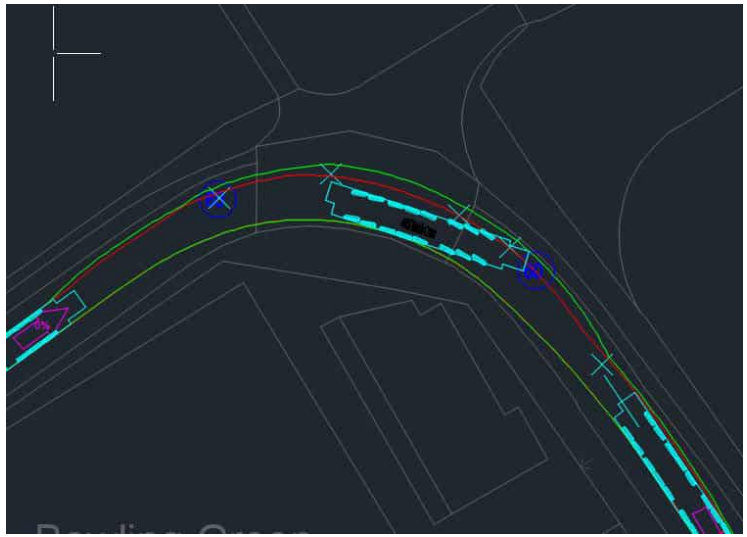
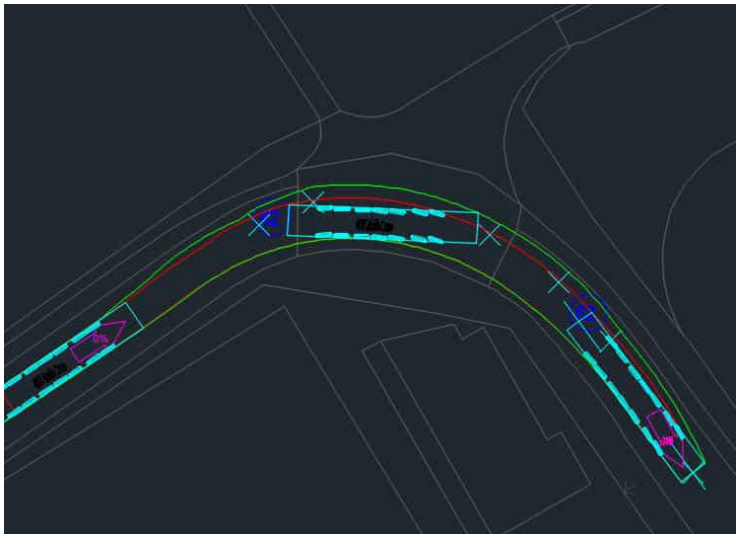


Figure 42: 400T Crane East ‘S’ Bend



Dane Hill Roundabout

2.10 The swept path analysis below identifies the 1000T crane undertaking the manoeuvre at the Dane Hill Roundabout from the B1085 to onto the A11 southbound on-slip. The swept path analysis shows the 1000T crane can manoeuvre the Dane Hill Roundabout, and therefore it is assumed the smaller 650T and 400T cranes can also undertake the manoeuvre. Overall, this junction is considered appropriate for all three cranes.

Figure 43: 1000T Crane Dane Hill Roundabout

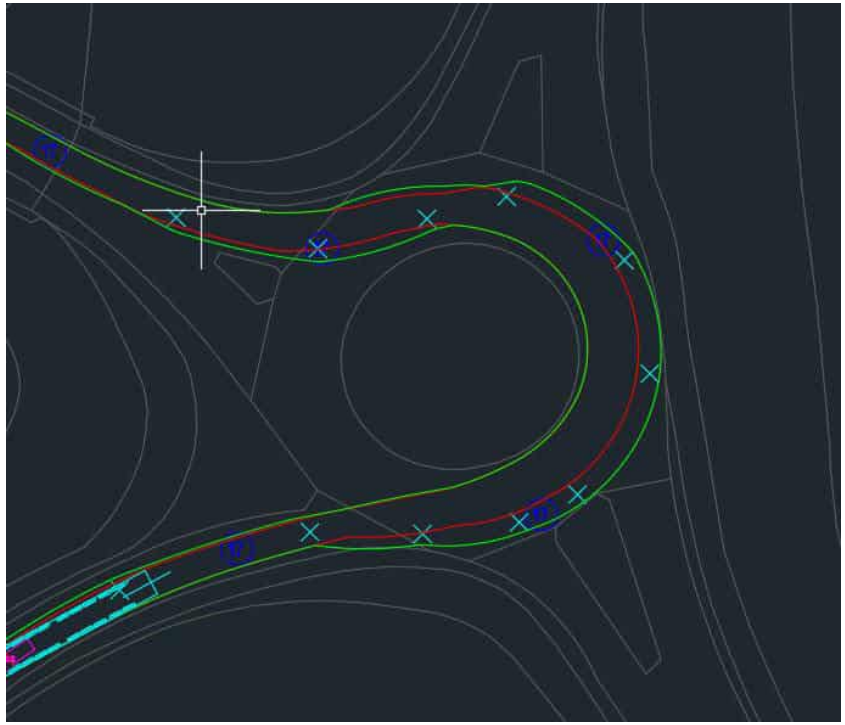
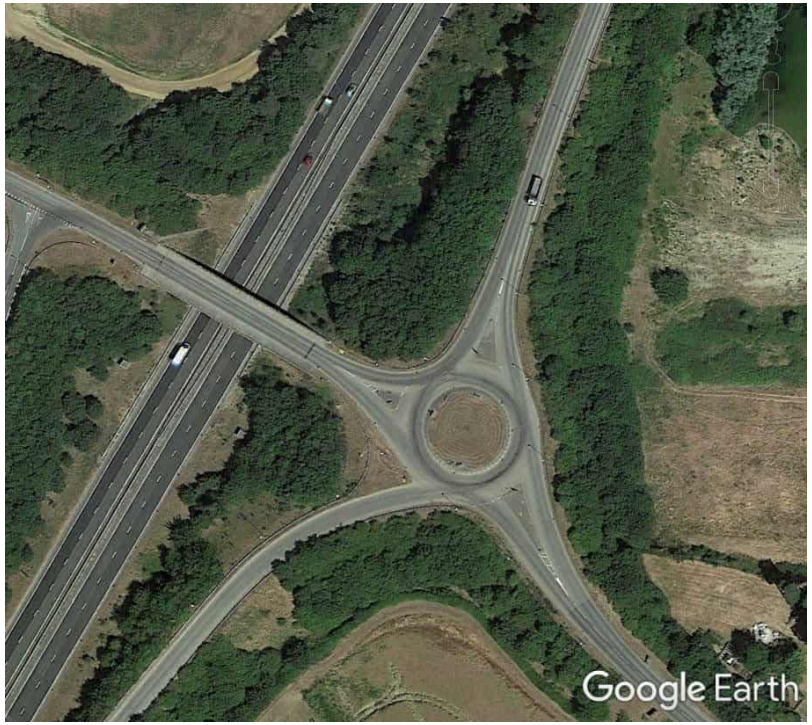


Figure 44: Dane Hill Roundabout Google Earth Aerial Photo*



* *"Google Earth Pro™ imagery in the form of Google Map™ and Google Streetview™ have been used, unmodified, within this document. This imagery has been used within the extents of the AECOM license agreement with Google Inc."*

Annex E – Stage 1 Road Safety Audit

Sunnica Solar Farm: Newmarket Road/ Site Access Junction

Stage 1 Road Safety Audit

Sunnica Energy

Project number: 60589004

October 2021

FINAL

Quality information

Prepared by	Checked by	Approved by
MW Associate Director, AECOM	KP Principal Transport Planner, AECOM	MW Associate Director, AECOM

Revision History

Revision	Revision date	Details	Authorised	Name	Position
-	30/09/21	DRAFT	MRW	MW	Associate Director
	05/10/21	FINAL	MRW	MW	Associate Director

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

Sunnica Energy

Prepared by:

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1. Introduction

This report results from a Stage 1 Road Safety Audit carried out for the proposed solar farm site access on Newmarket Road, near Mildenhall, Suffolk. The Audit has been carried out at the request of the AECOM St Albans Development Planning team on behalf of the client: Sunnica Energy.

The Road Safety Team consisted of the following members:

MW

BA (Hons) MCIHT MSoRSA CoC

Audit Team Leader AECOM Limited

KP

BSc (Hons) CMILT MSoRSA CoC

Audit Team Member AECOM Limited

The Road Safety Audit was undertaken in accordance with the instruction to proceed and the RSA brief. The RSA brief was prepared by AECOM's St Albans Development Planning team and issued to the Audit Team on 15th September 2021. The Audit Team confirm that they are happy with the brief provided.

The Road Safety Audit comprised of an examination of the documents provided by the design team, which are listed in **Appendix A**, and an examination of the site during daylight hours.

The Road Safety Audit took place during September and October 2021 and the site was examined during the hours of daylight on the 20th September 2021. The weather during the site visit was overcast and the road surface was wet. The Audit was undertaken between the off-peak hours of 09:30 and 10:45 when traffic on the network in the vicinity of the works was flowing freely.

The locations of problems are shown in conjunction with the scheme proposals in **Appendix B** where the reference numbers relate to the problems identified in this report.

The Terms of Reference of the Audit are as described in GG 119 'Road Safety Audit' of Highways England's Design Manual for Roads and Bridges (DMRB). The advice issued in the GG 119 applies to trunk road and motorway highway improvement schemes, as well as highway schemes on the Trans-European Road Network (TERN) but has been used in this report to define the scope of this Audit.

The scheme has been examined, and this report compiled, only with regards to the safety implications to road users of the scheme as presented. It has not been examined or verified for compliance with any other standards, best practice guidance or criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Road Safety Audit Team may, on occasion, have referred to a design standard without touching on technical audit.

The RSA does not consider structural safety or cover health and safety issues concerning road users during the construction, maintenance and operation of the road.

An absence of comment relating to specific road users/ modes in **Section 4** of this report does not imply that they have not been considered; instead the Audit Team feels they are not adversely affected by the proposed changes.

This Road Safety Audit is not intended to identify pre-existing hazards which remain unchanged due to the proposals; hence they are not raised in **Section 4** of this report as they fall outside the remit of Road Safety Audit in general.

Nothing in this Audit should be regarded as a direct instruction to include or remove a measure from within the scheme. Responsibility for designing the scheme lies with the designer and as such the Audit Team accepts no design responsibility for any changes made to the scheme as a result of this Audit.

All traffic sign and road marking diagram number references are made to the Traffic Signs Regulations and General Directions, 2016 (TSRGD).

2. Scheme Description

The proposed priority T-junction that forms the scope of this audit is to be located on Newmarket Road approximately 2km south of Mildenhall town centre and 2.5km north east of Red Lodge village. The A11(T) runs in a northeast to southwest direction in the vicinity of the junction; Newmarket Road forms the minor arm of an all-movements priority junction with the dual carriageway A11(T) approximately 70-80m south of the proposed new junction location. At a similar distance north of the proposed junction Newmarket Road forms the two major arms of a 'crossroads' junction, with the minor arms consisting of Golf Links Road to the west and a private access to the east.

Newmarket Road, at the location of the proposed junction, is a single carriageway road with a single running lane in each direction. Newmarket Road has no street lighting and is derestricted in terms of speed limit at this location. There are no footways, pedestrian crossings or marked cycle routes in the immediate vicinity.

The location of the proposed T-junction that forms the scope of this audit is at that of a prior (now blocked up) bell-mouth junction. The purpose of the proposed junction is to provide HGV access to/ from a proposed solar farm site during its construction phase, over a period of 13 months. Following the construction of the solar farm the site access is to be removed with vegetation replanted, as it is not to be used during the operational phase.

In terms of junction usage an average of between 9-12 HGVs (18-24 movements) daily are expected within the first five months of the 13-month construction programme; this figure will be reduced to between 2-3 HGVs (4-6 movements) daily for months six to thirteen.

Vehicles will only be permitted to turn left into and right out of the site access, ultimately taking access and egress routes via the A11(T) junction to the south. Although outside of the scope of this audit it is understood that development related vehicles will be restricted to left in/ left out turns only at the A11(T)/Newmarket Road Junction.

Visibility splays of 215m to the north and 100m to the south (extending to the A11(T) junction) have been shown on the plans provided (drawing reference: TRA_005).

The scope of this RSA covers the site access junction only, as shown on drawing reference TRA_003.

3. Matters Outstanding from Previous Road Safety Audits

The audit team are not aware of any other Road Safety Audits having been undertaken on the proposed scheme.

4. Matters Arising from the Stage 1 Road Safety Audit

The following problems have been identified from the documents submitted:

A GENERAL

No comments.

B LOCAL ALIGNMENT

No comments.

C NON-MOTORISED USER PROVISION

No comments.

D JUNCTIONS

D1 PROBLEM

Location: Proposed construction access junction.

Drawing: TRA_003_Golf_Links_Road_Option_2

Summary: Slow moving HGVs turning right from access may be at risk of being struck by northbound vehicles on Newmarket Road.

The proposed construction access is located close to the A11(T) junction. Construction vehicles turning right out of the site will do so relatively slowly and vehicles heading north on Newmarket Road, having turned from the A11 may collide with the slow turning construction vehicles.

RECOMMENDATION

Although it is acknowledged that the RSA brief states that warning signs are proposed along Newmarket Road warning motorists of the site access and HGVs turning, it is recommended that, at detailed design stage, a suitable clear warning signage strategy is designed (and reviewed as part of the Stage 2 Road Safety Audit) to ensure that drivers joining Newmarket Road from the A11 are aware of the construction access and potential for slow turning vehicles ahead. It is advised that the signage is provided as a ‘gateway’ on entry to Newmarket Road so that it is clearly seen by both right turning and left turning traffic from the A11.

E ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

No comments.

5. Audit Team Statement

We certify that this Audit has been carried out in accordance with Road Safety Audit Standard (GG119).

AUDIT TEAM LEADER:

MW

BA (Hons) MCIHT MSoRSA CoC

AECOM
Saxon House
27 Duke Street
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CM1 1HT
UK

Signed:

Date: 05/10/2021

AUDIT TEAM MEMBER:

KP

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Saxon House
27 Duke Street
Chelmsford, Essex
CM1 1HT
UK

Signed:

Date: 05/10/2021

Appendix A Document copies

The following documents were submitted as part of the Road Safety Audit:

Drawings

Drawing Title	Drawing Number
Swept path analysis for 16.5m articulated vehicle	TRA_003_Golf_Links_Road_Option_2.pdf (brief states dated 03.08.21)
Swept path analysis for 16.5m articulated vehicle - with topographical information	TRA_004_Golf_Links_Road_Option_2.pdf (brief states dated 03.08.21)
Visibility Splays	TRA_005_Golf_Links_Road_Option_2_Visibility_Splay_v2.pdf (brief states dated 03.08.21)
Swept path analysis for 16.5m articulated vehicle (A11 junction)	TRA_006_A11_Swept_Path_16.5m_Artic.pdf (brief states dated 03.08.21)*
Proposed site access layout, swept path analysis and visibility splays	210803_Golf_Links_Road_Site_Access_Option_2.dwg (brief states dated 03.08.21)

*out of RSA scope

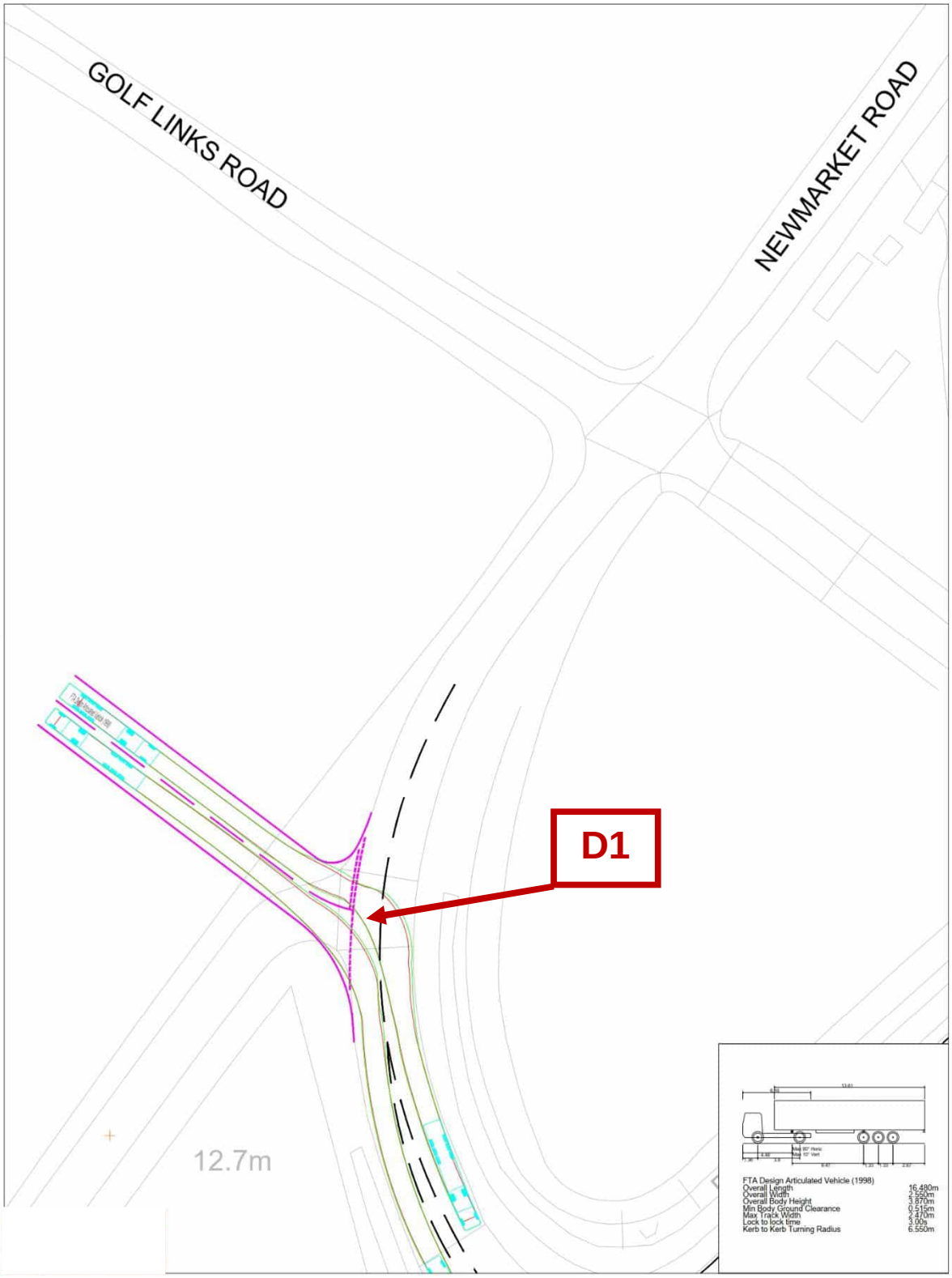
Documents

RSA Brief – dated 15.09.21

Departures from Standards

The RSA brief states that the fully 215m visibility to the north can be achieved along Newmarket Road however based on the existing visibility an approximate 100m visibility splay is achievable towards the A11. It is proposed to undertake a speed survey on Newmarket Road between its junctions with Golf Links Road and the A11.

Appendix B Locations of Problems


GOLF LINKS ROAD
NEWMARKET ROAD
D1
12.7m
FTA Design Articulated Vehicle (1998)
Overall Length 16.480m
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 6.550m

aecom.com

Annex F – Speed Surveys

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-001 - Newmarket Road
LOC. DESC.	Newmarket Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Newmarket Road, commencing Fri 15 Oct 2021, recorded a total of 29,854 vehicles. The posted speed limit of 60mph was exceeded by 4.3% of vehicles, and the seasonally adjusted, combined AADT value is 4,476 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**29,854**
Avg daily volume (based on 7 days)	4,264.9
Average daily speed (7 days)	46.3mph
Average daily 85%ile (7 days)	53.8mph
AADT (annual average daily traffic)	4,476
Avg weekday volume (Mon-Fri, 24hrs)	4,603.8
Avg weekday speed (Mon-Fri, 24hrs)	45.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,942.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.5mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

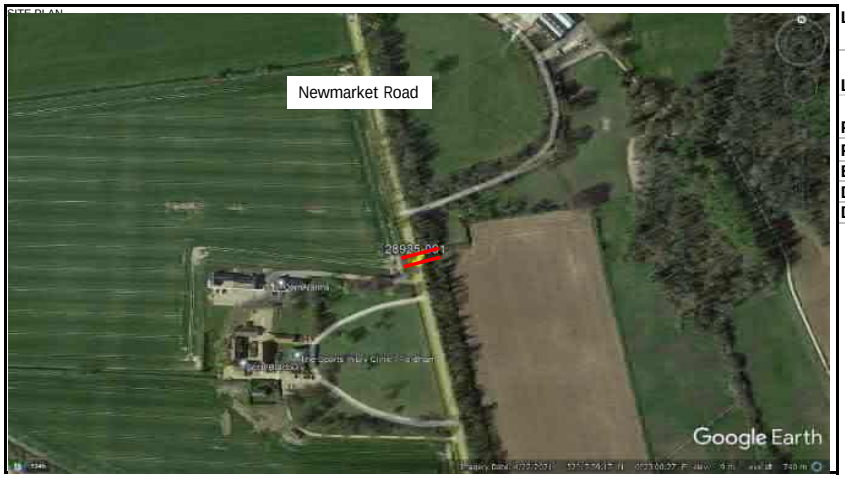
NORTHBOUND ↑

Total recorded volume	**14,952**
Avg daily volume (based on 7 days)	2,136.0
Average daily speed (7 days)	47.0mph
Average daily 85%ile (7 days)	54.3mph
% of vehicles exceeding 60mph	4.8%
Avg weekday volume (Mon-Fri, 24hrs)	2,294.0
Avg weekday speed (Mon-Fri, 24hrs)	46.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,975.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	46.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	53.3mph

SOUTHBOUND ↓

Total recorded volume	**14,902**
Avg daily volume (based on 7 days)	2,128.9
Average daily speed (7 days)	45.7mph
Average daily 85%ile (7 days)	53.2mph
% of vehicles exceeding 60mph	3.8%
Avg weekday volume (Mon-Fri, 24hrs)	2,309.8
Avg weekday speed (Mon-Fri, 24hrs)	45.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,966.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	52.1mph

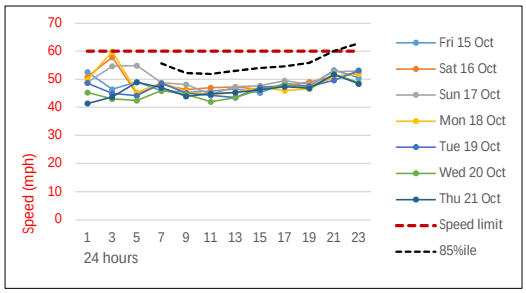
SITE LOCATION



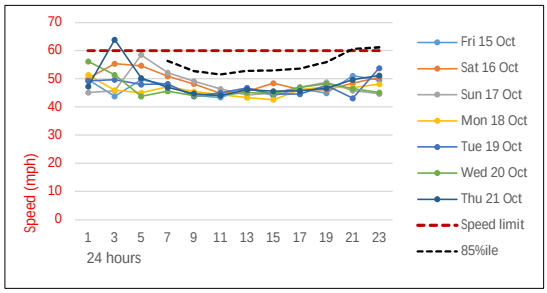
Location	Newmarket Road
Lat, lng.	52°17'52.24"N,0°23'17.30"E
Project & site	28925-001
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

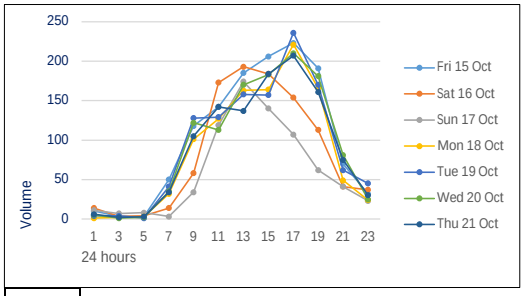


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 56.1mph at 18:15 on Sun 17 Oct, whilst the peak average southbound speed was 57.5mph at 07:00 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

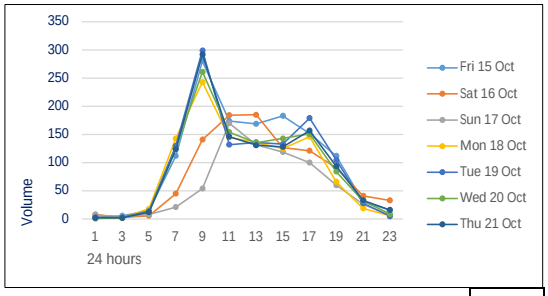
HOURLY VOLUMES

NORTHBOUND ↑



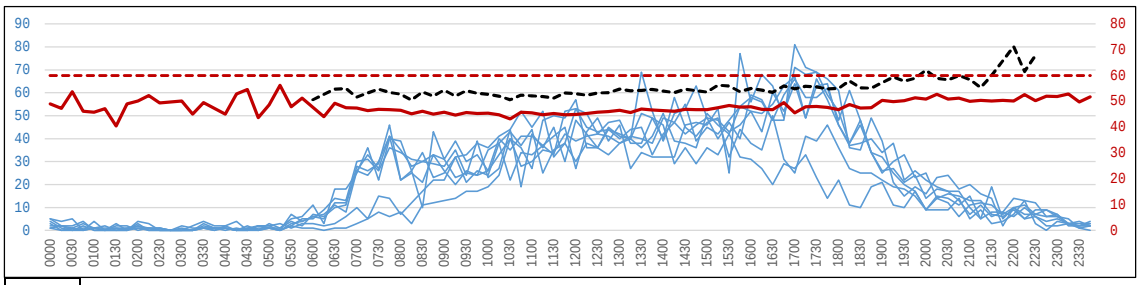
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

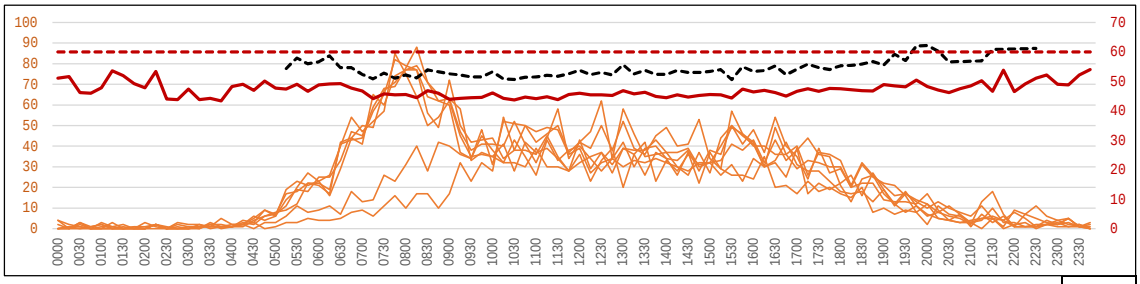


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



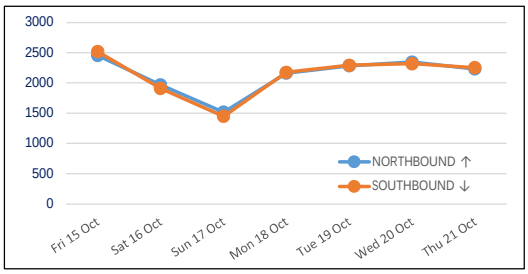
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

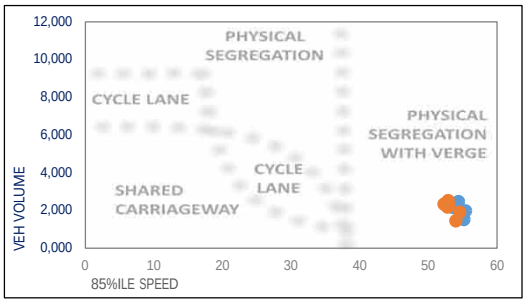
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	7.1	0.0	0.0	0.0	**7.3**
0100	0.1	3.0	0.0	0.0	0.0	**3.1**
0200	0.0	3.1	0.0	0.0	0.0	**3.1**
0300	0.0	3.1	0.4	0.0	0.0	**3.6**
0400	0.0	2.6	0.6	0.3	0.0	**3.4**
0500	0.7	8.4	0.0	0.1	0.0	**9.3**
0600	0.3	26.4	1.3	1.4	0.4	**29.9**
0700	0.1	90.7	5.1	1.9	0.6	**98.4**
0800	0.1	85.1	5.1	2.7	2.0	**95.1**
0900	0.9	96.4	5.4	3.6	0.6	**106.9**
1000	1.7	123.6	5.7	2.9	1.1	**135.0**
1100	0.7	145.7	6.9	3.0	0.3	**156.6**
1200	1.4	156.4	5.4	4.6	0.7	**168.6**
1300	1.3	158.3	4.1	2.7	0.7	**167.1**
1400	1.4	164.4	5.0	2.7	0.4	**174.0**
1500	0.7	168.1	5.0	5.0	1.1	**180.0**
1600	1.6	183.3	3.0	4.4	1.7	**194.0**
1700	3.0	209.0	2.4	2.7	0.7	**217.9**
1800	1.0	142.7	2.0	3.1	0.3	**149.1**
1900	0.6	89.3	1.0	2.0	0.0	**92.9**
2000	0.1	58.1	1.0	0.1	0.4	**59.9**
2100	0.3	35.9	0.4	0.3	0.3	**37.1**
2200	0.6	29.7	0.6	0.0	0.0	**30.9**
2300	0.3	12.4	0.1	0.0	0.0	**12.9**
12hr TTL	**14.0**	**1723.9**	**55.3**	**39.3**	**10.3**	**1842.7**
24hr TTL	**17.1**	**2003.1**	**60.7**	**43.6**	**11.4**	**2136.0**
	1%	94%	3%	2%	1%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	3.6	0.1	0.0	0.0	**3.7**
0100	0.0	2.1	0.3	0.1	0.0	**2.6**
0200	0.0	3.0	0.0	0.1	0.0	**3.1**
0300	0.0	3.4	0.4	0.7	0.0	**4.6**
0400	0.0	8.7	0.6	2.9	0.0	**12.1**
0500	0.9	40.4	1.7	6.4	0.0	**49.4**
0600	1.4	89.9	1.7	6.0	1.0	**100.0**
0700	0.9	178.4	4.7	3.9	1.4	**189.3**
0800	1.3	214.0	5.0	3.6	0.4	**224.3**
0900	1.1	161.1	4.7	3.9	1.0	**171.9**
1000	0.6	147.1	5.7	2.9	1.6	**157.9**
1100	0.9	141.6	7.0	3.3	0.4	**153.1**
1200	1.0	136.4	5.7	2.6	0.6	**146.3**
1300	1.3	141.3	4.0	2.1	0.4	**149.1**
1400	1.0	127.7	5.0	2.0	1.1	**136.9**
1500	0.7	139.7	4.6	2.6	0.7	**148.3**
1600	0.6	138.3	3.3	1.4	0.1	**143.7**
1700	0.6	114.6	2.0	0.6	0.3	**118.0**
1800	0.7	84.6	1.3	0.7	0.1	**87.4**
1900	0.0	54.7	0.4	0.4	0.0	**55.6**
2000	0.0	29.6	0.3	0.1	0.0	**30.0**
2100	0.4	19.6	0.3	0.0	0.3	**20.6**
2200	0.0	13.0	0.1	0.0	0.0	**13.1**
2300	0.1	7.1	0.3	0.3	0.0	**7.9**
12hr TTL	**10.6**	**1724.9**	**53.0**	**29.4**	**8.3**	**1826.1**
24hr TTL	**13.4**	**2000.0**	**59.3**	**46.6**	**9.6**	**2128.9**
	1%	94%	3%	2%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, A-T-R may not be held liable for errors of fact or interpretation.

Generated	05 Nov 2021	v6.0
28925-001 Cambridge. Newmarket Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-002 - Fordham Road
LOC. DESC.	Fordham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Fordham Road, commencing Fri 15 Oct 2021, recorded a total of 5,568 vehicles. The posted speed limit of 60mph was exceeded by 0.2% of vehicles, and the seasonally adjusted, combined AADT value is 848 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**5,568**
Avg daily volume (based on 7 days)	795.4
Average daily speed (7 days)	29.6mph
Average daily 85%ile (7 days)	33.6mph
AADT (annual average daily traffic)	848
Avg weekday volume (Mon-Fri, 24hrs)	930.2
Avg weekday speed (Mon-Fri, 24hrs)	29.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	845.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	29.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**2,791**
Avg daily volume (based on 7 days)	398.7
Average daily speed (7 days)	28.8mph
Average daily 85%ile (7 days)	32.9mph
% of vehicles exceeding 60mph	0.1%
Avg weekday volume (Mon-Fri, 24hrs)	470.8
Avg weekday speed (Mon-Fri, 24hrs)	29.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	426.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	28.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	32.6mph

SOUTHBOUND ↓

Total recorded volume	**2,777**
Avg daily volume (based on 7 days)	396.7
Average daily speed (7 days)	30.4mph
Average daily 85%ile (7 days)	34.3mph
% of vehicles exceeding 60mph	0.2%
Avg weekday volume (Mon-Fri, 24hrs)	459.4
Avg weekday speed (Mon-Fri, 24hrs)	30.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	418.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	34.1mph

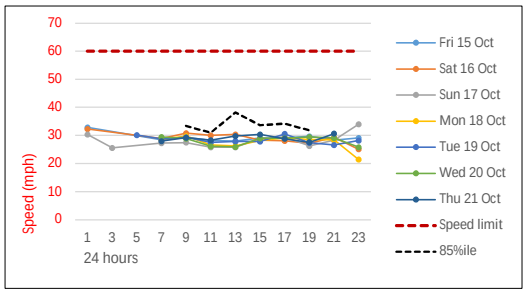
SITE LOCATION

SITE PLAN

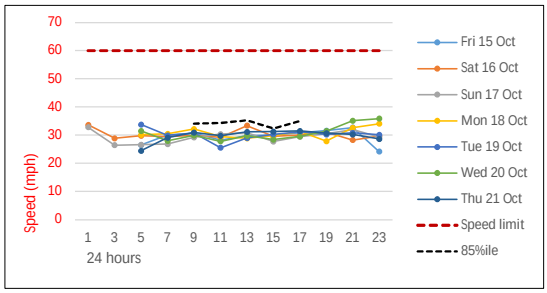
Location	Fordham Road
Lat, lng.	52°17'11.31"N,0°24'21.68"E
Project & site	28925-002
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

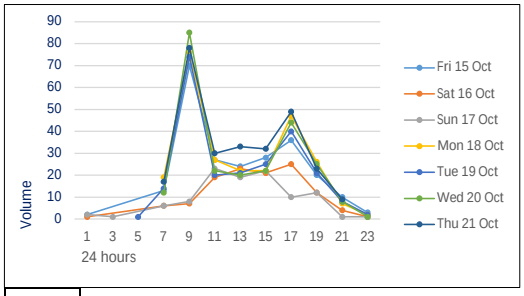


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 36.8mph at 09:15 on Sat 16 Oct, whilst the peak average southbound speed was 39.5mph at 15:00 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

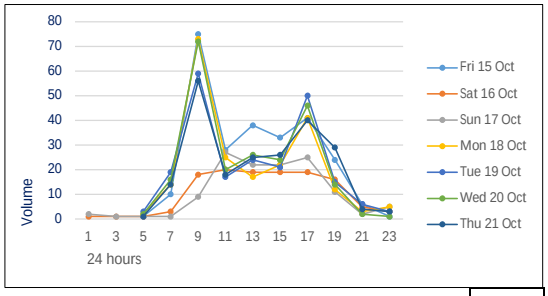
HOURLY VOLUMES

NORTHBOUND ↑



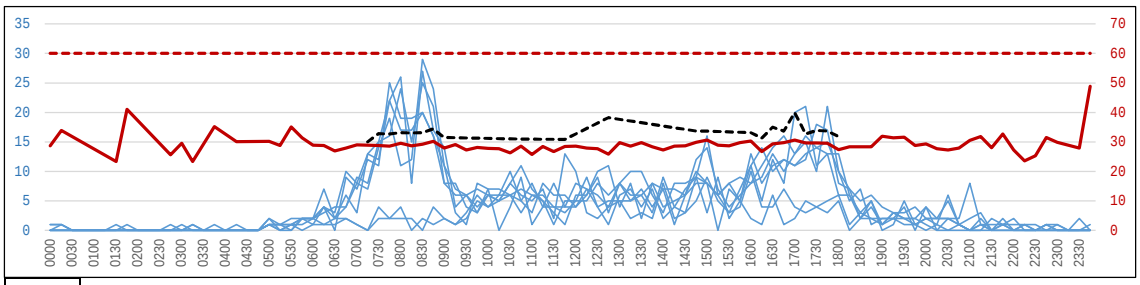
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

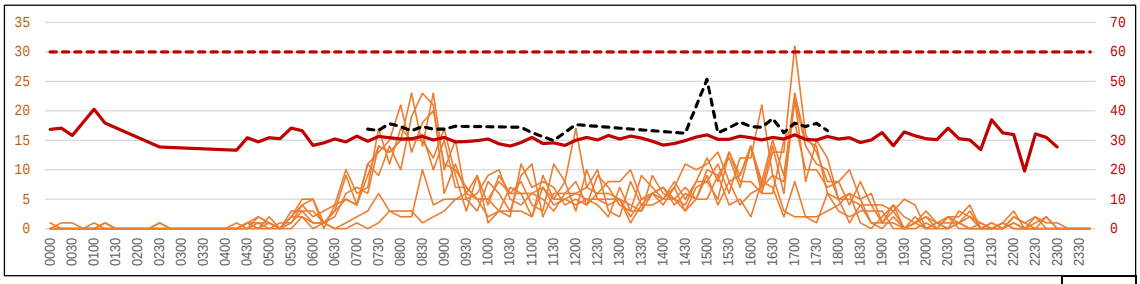


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



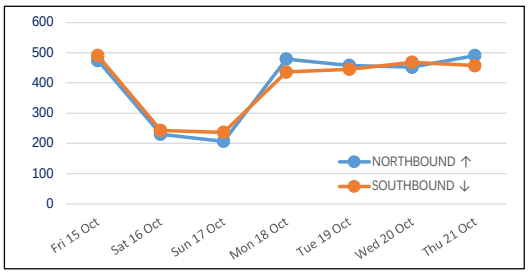
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

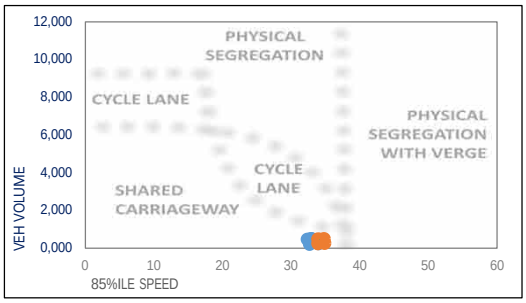
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	**0.7**
0100	0.0	0.3	0.0	0.0	0.0	**0.3**
0200	0.0	0.1	0.0	0.0	0.0	**0.1**
0300	0.0	0.6	0.0	0.0	0.0	**0.6**
0400	0.0	0.1	0.0	0.0	0.0	**0.1**
0500	0.3	4.0	0.0	0.0	0.0	**4.3**
0600	0.4	12.0	0.0	0.0	0.0	**12.4**
0700	1.1	37.3	0.3	0.0	0.0	**38.7**
0800	0.9	55.0	0.9	0.1	0.0	**56.9**
0900	0.3	20.4	0.7	0.0	0.0	**21.4**
1000	1.4	20.7	1.4	0.4	0.0	**24.0**
1100	1.3	18.0	0.4	0.1	0.0	**19.9**
1200	1.0	21.6	0.4	0.1	0.0	**23.1**
1300	1.0	21.0	1.1	0.1	0.0	**23.3**
1400	0.9	22.7	0.7	0.3	0.0	**24.6**
1500	0.0	25.1	0.6	0.0	0.1	**25.9**
1600	0.9	34.6	0.4	0.0	0.0	**35.9**
1700	0.4	45.1	0.3	0.0	0.0	**45.9**
1800	0.1	19.4	0.1	0.1	0.0	**19.9**
1900	0.0	7.9	0.1	0.1	0.0	**8.1**
2000	0.0	6.6	0.1	0.0	0.0	**6.7**
2100	0.0	3.9	0.0	0.0	0.0	**3.9**
2200	0.1	1.3	0.0	0.0	0.0	**1.4**
2300	0.0	0.7	0.0	0.0	0.0	**0.7**
12hr TTL	**9.3**	**341.0**	**7.4**	**1.4**	**0.1**	**359.3**
24hr TTL	**10.1**	**379.1**	**7.7**	**1.6**	**0.1**	**398.7**
	3%	95%	2%	0%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.4	0.0	0.0	0.0	**0.4**
0100	0.0	0.4	0.0	0.0	0.0	**0.4**
0200	0.0	0.3	0.0	0.0	0.0	**0.3**
0300	0.0	0.0	0.0	0.0	0.0	**0.0**
0400	0.0	1.6	0.0	0.0	0.0	**1.6**
0500	0.1	5.7	0.0	0.0	0.0	**5.9**
0600	0.0	11.0	0.0	0.0	0.0	**11.0**
0700	0.0	30.7	0.1	0.0	0.7	**31.6**
0800	1.1	50.1	0.3	0.1	0.0	**51.7**
0900	0.7	28.1	1.0	0.1	0.0	**30.0**
1000	1.0	19.9	0.9	0.4	0.0	**22.1**
1100	0.9	21.7	0.4	0.0	0.1	**23.1**
1200	1.0	22.9	0.4	0.1	0.0	**24.4**
1300	0.6	19.3	0.7	0.0	0.0	**20.6**
1400	0.6	22.9	0.4	0.0	0.0	**23.9**
1500	0.4	32.9	0.7	0.3	0.0	**34.3**
1600	0.3	36.3	0.7	0.1	0.0	**37.4**
1700	1.4	42.7	0.1	0.1	0.0	**44.4**
1800	0.0	17.1	0.1	0.0	0.0	**17.3**
1900	0.0	6.6	0.0	0.0	0.0	**6.6**
2000	0.1	3.9	0.0	0.0	0.0	**4.0**
2100	0.0	2.6	0.0	0.0	0.0	**2.6**
2200	0.1	2.9	0.0	0.0	0.0	**3.0**
2300	0.0	0.1	0.0	0.0	0.0	**0.1**
12hr TTL	**8.0**	**344.6**	**6.0**	**1.4**	**0.9**	**360.9**
24hr TTL	**8.4**	**380.0**	**6.0**	**1.4**	**0.9**	**396.7**
	2%	96%	2%	0%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

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Generated	05 Nov 2021	v6.0
28925-002 Cambridge. Fordham Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-002 - Elms Road (East)
LOC. DESC.	Elms Road (East)
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Elms Road (East), commencing Tue 28 Sep 2021, recorded a total of 9,366 vehicles. The posted speed limit of 60mph was exceeded by 0.5% of vehicles, and the seasonally adjusted, combined AADT value is 1,317 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**9,366**
Avg daily volume (based on 7 days)	1,338.0
Average daily speed (7 days)	39.7mph
Average daily 85%ile (7 days)	46.8mph
AADT (annual average daily traffic)	1,317
Avg weekday volume (Mon-Fri, 24hrs)	1,461.6
Avg weekday speed (Mon-Fri, 24hrs)	39.8mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,187.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	39.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**4,978**
Avg daily volume (based on 7 days)	711.1
Average daily speed (7 days)	40.9mph
Average daily 85%ile (7 days)	48.0mph
% of vehicles exceeding 60mph	0.6%
Avg weekday volume (Mon-Fri, 24hrs)	778.4
Avg weekday speed (Mon-Fri, 24hrs)	41.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	642.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	40.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	47.7mph

SOUTHBOUND ↓

Total recorded volume	**4,388**
Avg daily volume (based on 7 days)	626.9
Average daily speed (7 days)	38.5mph
Average daily 85%ile (7 days)	45.6mph
% of vehicles exceeding 60mph	0.3%
Avg weekday volume (Mon-Fri, 24hrs)	683.2
Avg weekday speed (Mon-Fri, 24hrs)	38.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	545.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	38.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	45.7mph

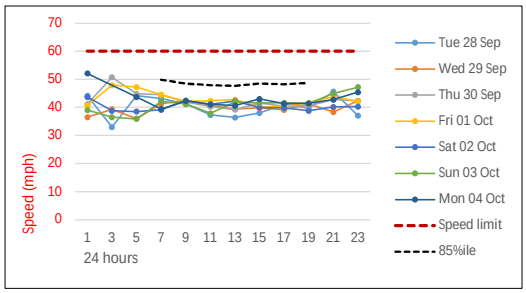
SITE LOCATION

SITE PLAN

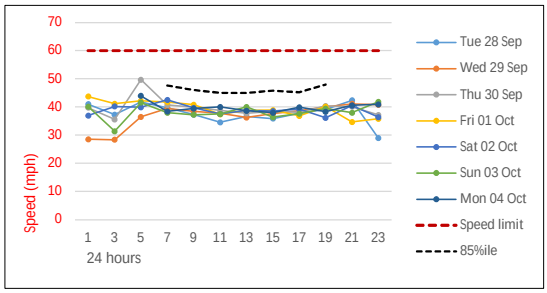
Location	Elms Road (East)
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-002
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

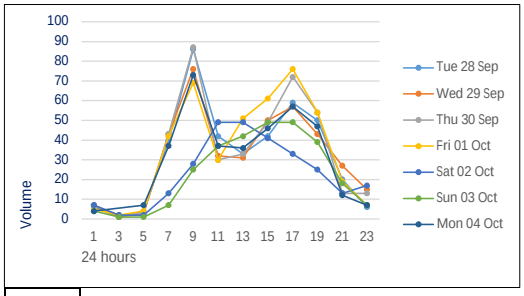


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 47.7mph at 15:00 on Sun 03 Oct, whilst the peak average southbound speed was 50.7mph at 07:30 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

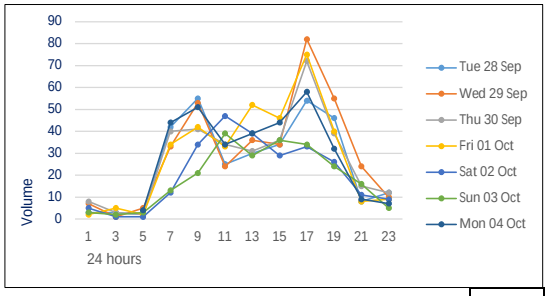
HOURLY VOLUMES

NORTHBOUND ↑



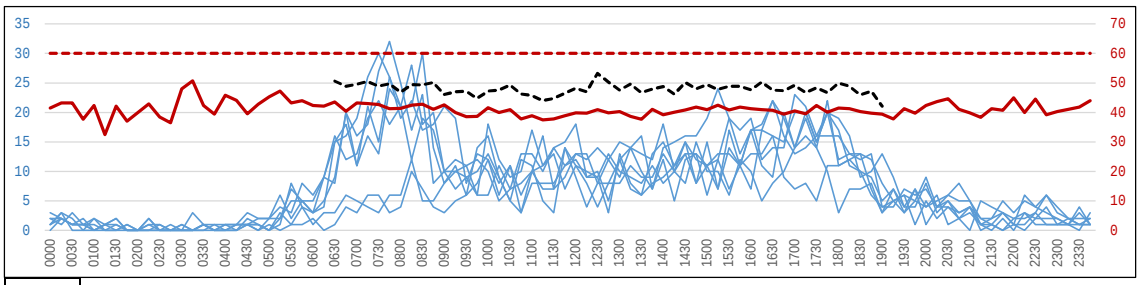
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

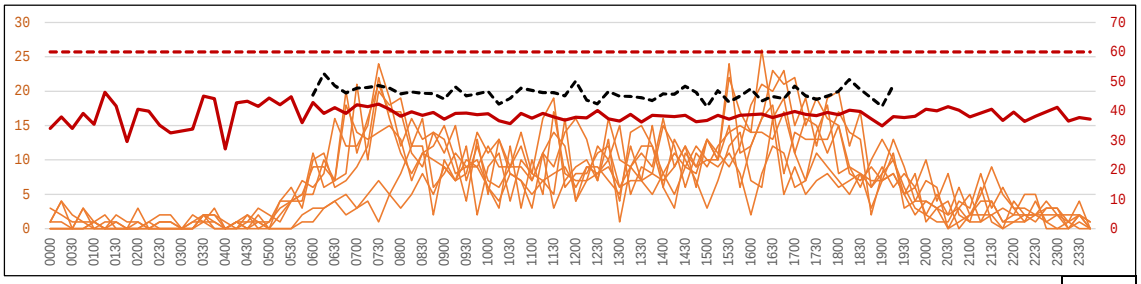


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



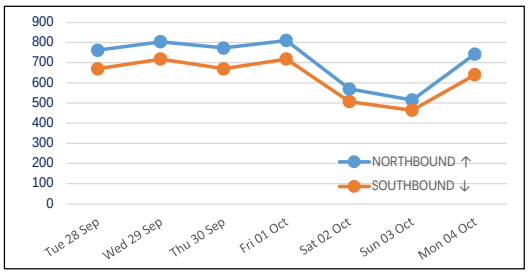
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

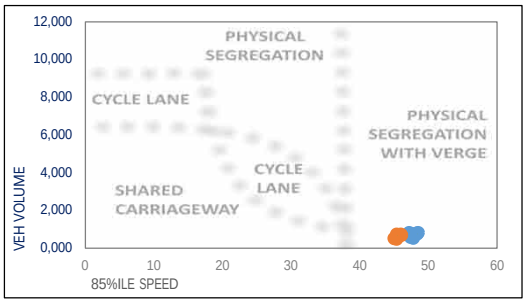
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.7	0.0	0.0	0.0	**5.7**
0100	0.0	2.4	0.0	0.0	0.0	**2.4**
0200	0.0	1.0	0.1	0.0	0.1	**1.3**
0300	0.0	1.6	0.0	0.1	0.0	**1.7**
0400	0.0	3.1	0.0	0.3	0.0	**3.4**
0500	0.0	11.3	0.6	0.1	0.0	**12.0**
0600	0.3	30.1	1.1	0.4	0.1	**32.1**
0700	0.3	59.0	3.0	0.4	0.0	**62.7**
0800	0.3	60.9	1.6	0.7	0.0	**63.4**
0900	0.4	37.1	1.1	0.3	0.0	**39.0**
1000	0.6	34.3	1.1	0.6	0.1	**36.7**
1100	1.1	39.0	1.4	0.4	0.0	**42.0**
1200	0.1	37.9	1.0	0.3	0.0	**39.3**
1300	0.7	39.3	1.3	0.3	0.0	**41.6**
1400	0.1	46.1	1.9	0.1	0.0	**48.3**
1500	0.6	48.1	1.0	0.1	0.0	**49.9**
1600	0.1	56.0	0.6	0.4	0.4	**57.6**
1700	1.6	60.3	0.3	0.3	0.0	**62.4**
1800	0.4	43.9	0.3	0.0	0.0	**44.6**
1900	0.1	21.3	0.0	0.0	0.0	**21.4**
2000	0.0	17.3	0.1	0.0	0.0	**17.4**
2100	0.0	9.1	0.0	0.0	0.0	**9.1**
2200	0.0	10.1	0.0	0.1	0.0	**10.3**
2300	0.0	6.6	0.1	0.0	0.0	**6.7**
12hr TTL	**6.4**	**561.9**	**14.6**	**4.0**	**0.6**	**587.4**
24hr TTL	**6.9**	**681.6**	**16.7**	**5.1**	**0.9**	**711.1**
	1%	96%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	2.9	0.6	0.4	0.0	**4.0**
0100	0.0	1.6	0.1	0.0	0.0	**1.7**
0200	0.0	2.0	0.1	0.0	0.0	**2.1**
0300	0.0	3.4	0.0	0.0	0.0	**3.4**
0400	0.0	2.7	0.0	0.0	0.0	**2.7**
0500	0.1	9.0	0.4	0.0	0.0	**9.6**
0600	0.0	31.0	0.0	0.1	0.0	**31.1**
0700	1.1	47.0	1.3	0.1	0.7	**50.3**
0800	0.4	40.6	0.9	0.6	0.0	**42.4**
0900	0.4	35.9	1.4	0.6	0.0	**38.3**
1000	0.1	32.1	1.3	0.1	0.0	**33.7**
1100	1.3	34.1	1.3	0.9	0.0	**37.6**
1200	0.3	34.7	1.3	0.3	0.0	**36.6**
1300	0.1	34.3	0.6	0.6	0.0	**35.6**
1400	0.6	35.1	0.6	0.7	0.0	**37.0**
1500	0.1	46.0	0.6	0.4	0.0	**47.1**
1600	0.6	56.7	0.7	0.3	0.0	**58.3**
1700	0.6	50.0	0.1	0.0	0.0	**50.7**
1800	0.1	37.3	0.0	0.0	0.0	**37.4**
1900	0.0	28.3	0.1	0.0	0.0	**28.4**
2000	0.0	12.9	0.0	0.1	0.0	**13.0**
2100	0.0	12.0	0.0	0.0	0.0	**12.0**
2200	0.1	9.0	0.0	0.0	0.0	**9.1**
2300	0.0	4.4	0.1	0.0	0.0	**4.6**
12hr TTL	**5.9**	**483.9**	**10.0**	**4.6**	**0.7**	**505.0**
24hr TTL	**6.3**	**603.0**	**11.6**	**5.3**	**0.7**	**626.9**
	1%	96%	2%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

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Generated	19 Oct 2021	v6.0
28925-002 Norfolk. Elms Road (East). Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-003 - Elms Road (West)
LOC. DESC.	Elms Road (West)
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Elms Road (West), commencing Tue 28 Sep 2021, recorded a total of 9,203 vehicles. The posted speed limit of 60mph was exceeded by 7.5% of vehicles, and the seasonally adjusted, combined AADT value is 1,294 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**9,203**
Avg daily volume (based on 7 days)	1,314.7
Average daily speed (7 days)	47.6mph
Average daily 85%ile (7 days)	56.3mph
AADT (annual average daily traffic)	1,294
Avg weekday volume (Mon-Fri, 24hrs)	1,436.2
Avg weekday speed (Mon-Fri, 24hrs)	47.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,167.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**4,892**
Avg daily volume (based on 7 days)	698.9
Average daily speed (7 days)	48.9mph
Average daily 85%ile (7 days)	57.7mph
% of vehicles exceeding 60mph	9.5%
Avg weekday volume (Mon-Fri, 24hrs)	764.4
Avg weekday speed (Mon-Fri, 24hrs)	49.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	632.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.6mph

SOUTHBOUND ↓

Total recorded volume	**4,311**
Avg daily volume (based on 7 days)	615.9
Average daily speed (7 days)	46.2mph
Average daily 85%ile (7 days)	55.0mph
% of vehicles exceeding 60mph	5.5%
Avg weekday volume (Mon-Fri, 24hrs)	671.8
Avg weekday speed (Mon-Fri, 24hrs)	46.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	535.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	46.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.3mph

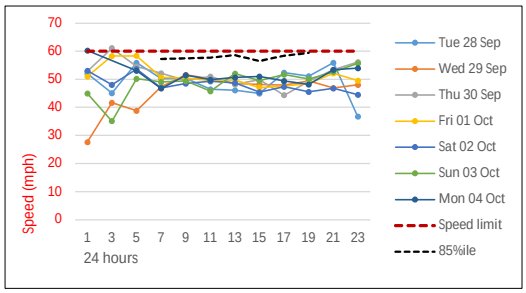
SITE LOCATION

SITE PLAN

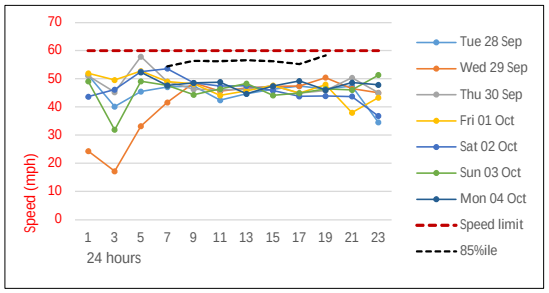
Location	Elms Road (West)
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-003
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

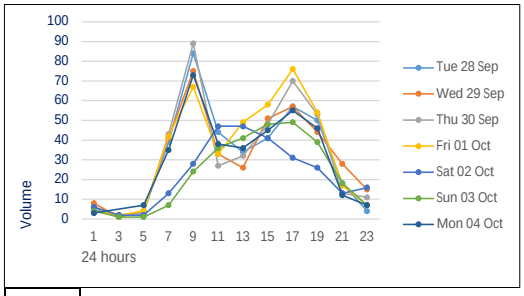


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 60.3mph at 07:15 on Sat 02 Oct, whilst the peak average southbound speed was 56.6mph at 18:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

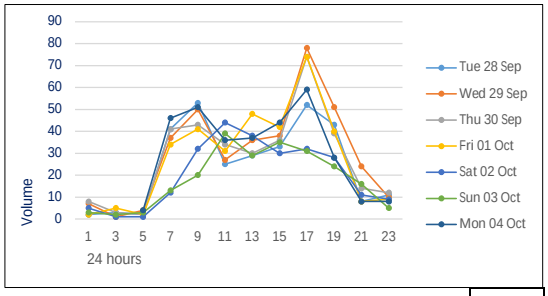
HOURLY VOLUMES

NORTHBOUND ↑



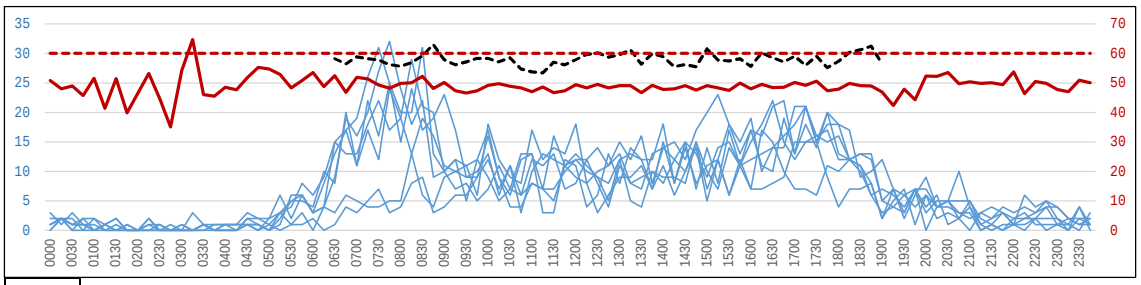
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

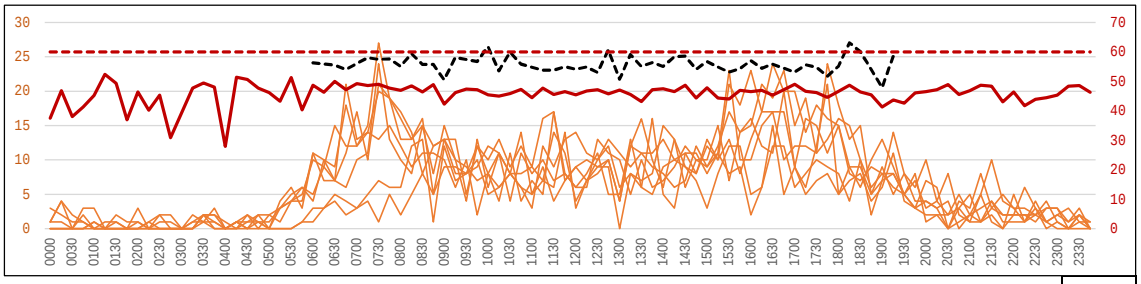


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



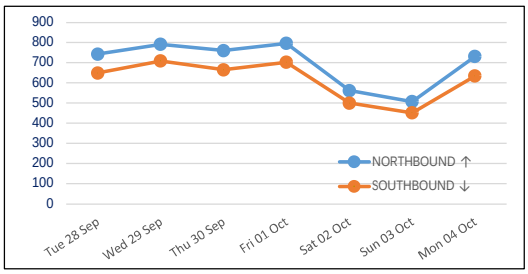
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Wednesday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

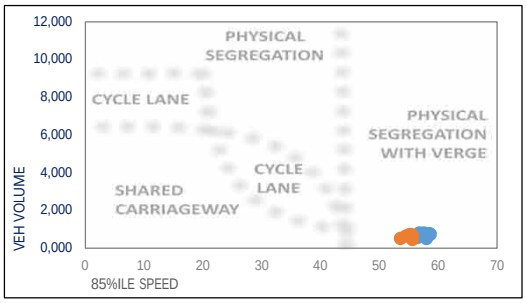
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.1	0.0	0.0	0.0	**5.1**
0100	0.0	2.3	0.0	0.0	0.0	**2.3**
0200	0.0	1.0	0.1	0.0	0.1	**1.3**
0300	0.0	1.6	0.0	0.1	0.0	**1.7**
0400	0.0	2.7	0.6	0.3	0.0	**3.6**
0500	0.0	11.3	0.6	0.0	0.0	**11.9**
0600	0.3	29.7	1.4	0.0	0.0	**31.4**
0700	0.3	56.6	4.7	1.1	0.1	**62.9**
0800	0.3	58.1	3.3	1.1	0.0	**62.9**
0900	0.4	35.6	2.4	0.6	0.0	**39.0**
1000	0.7	32.7	2.3	1.0	0.1	**36.9**
1100	0.9	36.1	1.7	1.3	0.9	**40.9**
1200	0.1	34.4	2.7	0.6	0.0	**37.9**
1300	0.6	37.9	2.0	0.4	0.1	**41.0**
1400	0.0	43.9	2.6	0.1	0.9	**47.4**
1500	0.3	46.6	1.9	0.1	0.0	**48.9**
1600	0.1	54.4	0.9	0.3	0.7	**56.4**
1700	1.6	57.4	1.0	0.4	0.1	**60.6**
1800	0.4	43.6	0.6	0.0	0.0	**44.6**
1900	0.1	20.3	0.3	0.1	0.0	**20.9**
2000	0.0	16.7	0.3	0.0	0.0	**17.0**
2100	0.0	8.3	0.0	0.0	0.0	**8.3**
2200	0.0	9.4	0.0	0.1	0.0	**9.6**
2300	0.0	6.6	0.1	0.0	0.0	**6.7**
12hr TTL	**5.7**	**537.3**	**26.0**	**7.1**	**3.0**	**579.1**
24hr TTL	**6.1**	**652.3**	**29.4**	**7.9**	**3.1**	**698.9**
	1%	93%	4%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.9	0.6	0.4	0.0	**3.9**
0100	0.0	1.1	0.4	0.0	0.0	**1.6**
0200	0.0	1.9	0.3	0.0	0.0	**2.1**
0300	0.0	3.1	0.3	0.0	0.0	**3.4**
0400	0.0	2.6	0.0	0.0	0.0	**2.6**
0500	0.1	9.1	0.4	0.0	0.0	**9.7**
0600	0.0	31.3	0.4	0.3	0.0	**32.0**
0700	0.6	47.0	1.6	0.4	0.7	**50.3**
0800	0.3	39.1	1.4	0.6	0.0	**41.4**
0900	0.6	35.0	1.4	0.6	0.3	**37.9**
1000	0.3	30.7	2.4	0.1	0.1	**33.7**
1100	0.7	32.7	2.3	0.6	0.0	**36.3**
1200	0.0	33.1	0.9	0.4	0.9	**35.3**
1300	0.4	32.0	1.0	0.7	0.0	**34.1**
1400	0.4	33.9	1.9	0.7	0.0	**36.9**
1500	0.1	44.9	1.3	0.4	0.0	**46.7**
1600	0.3	56.0	0.7	0.1	0.0	**57.1**
1700	0.3	47.9	1.0	0.3	0.0	**49.4**
1800	0.1	36.0	0.0	0.0	0.0	**36.1**
1900	0.0	27.3	0.3	0.0	0.0	**27.6**
2000	0.0	12.6	0.0	0.1	0.0	**12.7**
2100	0.0	11.4	0.1	0.0	0.0	**11.6**
2200	0.1	9.0	0.0	0.0	0.0	**9.1**
2300	0.0	4.0	0.3	0.0	0.0	**4.3**
12hr TTL	**4.1**	**468.3**	**15.9**	**5.0**	**2.0**	**495.3**
24hr TTL	**4.4**	**584.6**	**19.0**	**5.9**	**2.0**	**615.9**
	1%	95%	3%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



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2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

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Generated	19 Oct 2021	v6.0
28925-003 Norfolk. Elms Road (West). Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-003 - Chippenham Road
LOC. DESC.	Chippenham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Chippenham Road, commencing Fri 15 Oct 2021, recorded a total of 12,163 vehicles. The posted speed limit of 60mph was exceeded by 2.0% of vehicles, and the seasonally adjusted, combined AADT value is 1,848 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**12,163**
Avg daily volume (based on 7 days)	1,737.6
Average daily speed (7 days)	43.4mph
Average daily 85%ile (7 days)	50.5mph
AADT (annual average daily traffic)	1,848
Avg weekday volume (Mon-Fri, 24hrs)	1,938.8
Avg weekday speed (Mon-Fri, 24hrs)	43.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,755.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.5mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**6,322**
Avg daily volume (based on 7 days)	903.1
Average daily speed (7 days)	44.1mph
Average daily 85%ile (7 days)	51.0mph
% of vehicles exceeding 60mph	2.0%
Avg weekday volume (Mon-Fri, 24hrs)	989.4
Avg weekday speed (Mon-Fri, 24hrs)	44.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	879.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.2mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	50.8mph

WESTBOUND ←

Total recorded volume	**5,841**
Avg daily volume (based on 7 days)	834.4
Average daily speed (7 days)	42.7mph
Average daily 85%ile (7 days)	49.9mph
% of vehicles exceeding 60mph	2.1%
Avg weekday volume (Mon-Fri, 24hrs)	949.4
Avg weekday speed (Mon-Fri, 24hrs)	42.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	876.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	49.6mph

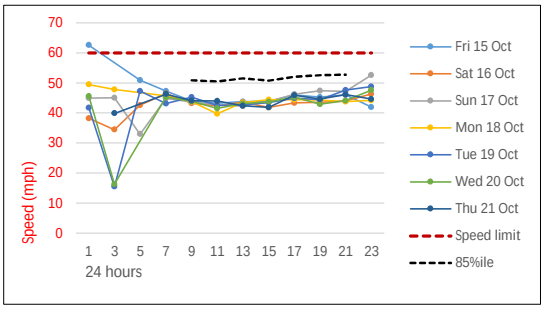
SITE LOCATION

SITE PLAN

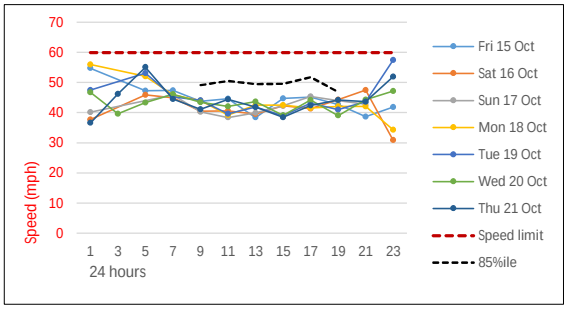
Location	Chippenham Road
Lat, lng.	52°16'56.03"N,0°24'50.85"E
Project & site	28925-003
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

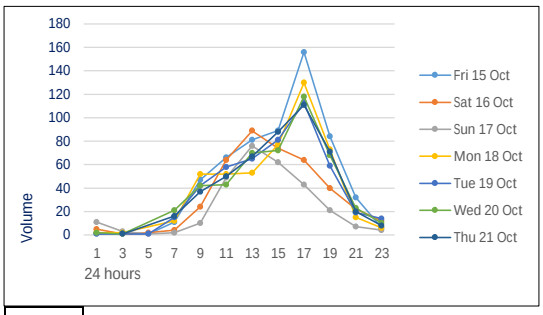


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average eastbound daytime speed was 52.6mph at 07:00 on Fri 15 Oct, whilst the peak average westbound speed was 56.5mph at 17:15 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

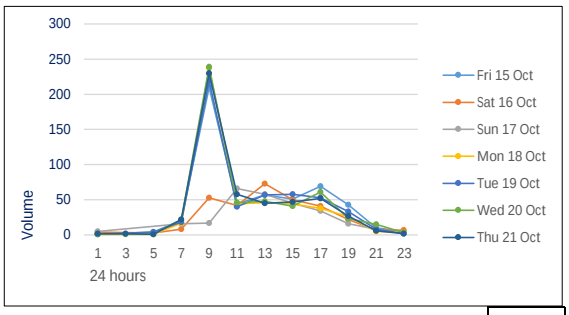
HOURLY VOLUMES

EASTBOUND →



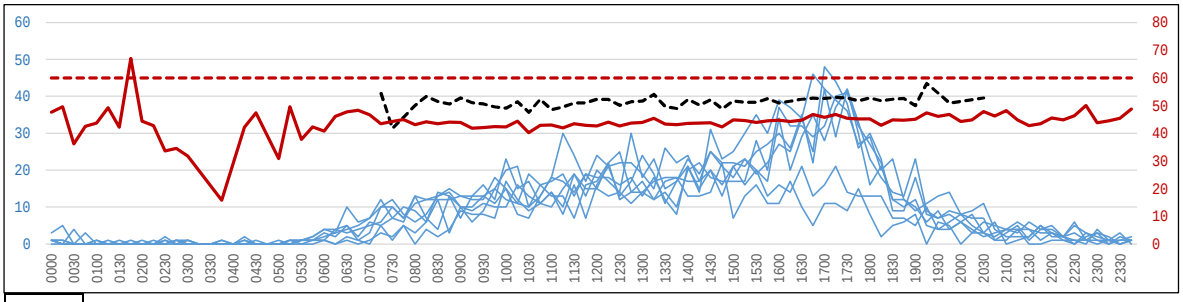
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

WESTBOUND ←

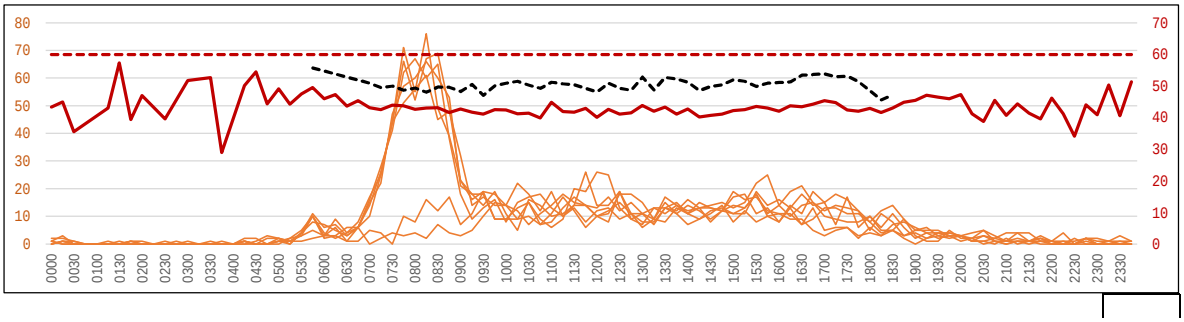


Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

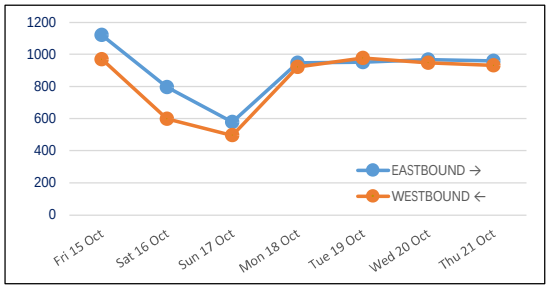


15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

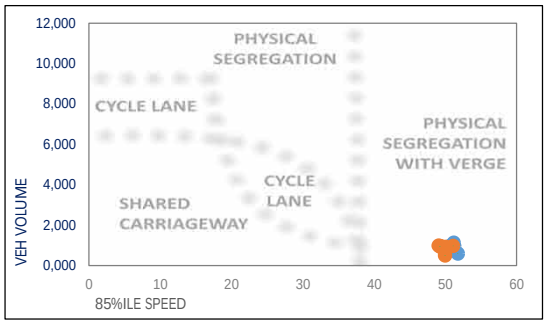
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.0	0.0	0.0	0.0	**3.1**
0100	0.0	0.7	0.0	0.0	0.0	**0.7**
0200	0.3	0.9	0.1	0.0	0.0	**1.3**
0300	0.4	0.3	0.0	0.0	0.0	**0.7**
0400	0.0	0.4	0.3	0.0	0.0	**0.7**
0500	0.0	2.4	0.0	0.0	0.0	**2.4**
0600	0.0	11.1	0.4	0.0	0.0	**11.6**
0700	0.0	24.6	0.7	0.0	0.0	**25.3**
0800	0.1	34.4	1.7	0.0	0.0	**36.3**
0900	0.7	41.7	2.0	0.3	0.0	**44.7**
1000	1.9	51.0	1.4	0.3	0.0	**54.6**
1100	0.6	61.0	0.3	0.1	0.0	**62.0**
1200	1.6	69.3	0.6	0.1	0.0	**71.6**
1300	0.6	63.6	0.9	0.3	0.1	**65.4**
1400	0.9	75.3	1.3	0.1	0.0	**77.6**
1500	1.3	79.7	1.1	0.1	0.1	**82.4**
1600	0.9	103.0	1.1	0.0	0.0	**105.0**
1700	0.7	118.7	0.3	0.0	0.0	**119.7**
1800	0.9	58.0	0.6	0.0	0.0	**59.4**
1900	0.1	33.1	0.1	0.0	0.0	**33.4**
2000	0.6	19.0	0.1	0.0	0.0	**19.7**
2100	0.0	12.0	0.0	0.0	0.0	**12.0**
2200	0.0	8.6	0.0	0.0	0.0	**8.6**
2300	0.0	4.9	0.0	0.0	0.0	**4.9**
12hr TTL	**10.0**	**780.3**	**12.0**	**1.4**	**0.3**	**804.0**
24hr TTL	**11.6**	**876.7**	**13.1**	**1.4**	**0.3**	**903.1**
	1%	97%	1%	0%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.1	0.0	0.0	0.0	**2.1**
0100	0.0	0.7	0.0	0.0	0.0	**0.7**
0200	0.0	0.4	0.0	0.0	0.0	**0.4**
0300	0.0	0.3	0.1	0.0	0.0	**0.4**
0400	0.0	1.4	0.6	0.0	0.0	**2.0**
0500	0.4	13.3	0.0	0.0	0.0	**13.7**
0600	0.0	17.1	0.4	0.1	0.0	**17.7**
0700	0.6	105.4	1.4	0.1	0.0	**107.6**
0800	0.7	168.1	2.1	1.1	0.0	**172.1**
0900	0.0	59.3	1.4	0.4	0.0	**61.1**
1000	1.4	45.6	1.1	0.1	0.3	**48.6**
1100	1.4	50.4	1.3	0.3	0.1	**53.6**
1200	1.4	52.1	1.0	0.3	0.0	**54.9**
1300	1.1	43.6	0.6	0.0	0.0	**45.3**
1400	1.1	46.3	0.3	0.3	0.0	**48.0**
1500	1.0	54.3	1.0	0.6	0.1	**57.0**
1600	0.7	48.3	0.6	0.1	0.0	**49.7**
1700	1.1	37.6	0.4	0.3	0.0	**39.4**
1800	0.3	26.9	0.0	0.0	0.0	**27.1**
1900	0.0	13.1	0.3	0.1	0.0	**13.6**
2000	0.0	8.3	0.1	0.0	0.0	**8.4**
2100	0.0	5.6	0.3	0.0	0.0	**5.9**
2200	0.0	3.1	0.0	0.0	0.0	**3.1**
2300	0.0	1.9	0.0	0.0	0.0	**1.9**
12hr TTL	**11.0**	**737.9**	**11.3**	**3.7**	**0.6**	**764.4**
24hr TTL	**11.4**	**805.3**	**13.1**	**4.0**	**0.6**	**834.4**
	1%	97%	2%	0%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, A-T-R may not be held liable for errors of fact or interpretation.

Generated	05 Nov 2021	v6.0
28925-003 Cambridge. Chippenham Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-004 - Chippenham Road
LOC. DESC.	Chippenham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Chippenham Road, commencing Fri 15 Oct 2021, recorded a total of 12,147 vehicles. The posted speed limit of 60mph was exceeded by 5.3% of vehicles, and the seasonally adjusted, combined AADT value is 1,844 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**12,147**
Avg daily volume (based on 7 days)	1,735.3
Average daily speed (7 days)	47.9mph
Average daily 85%ile (7 days)	55.2mph
AADT (annual average daily traffic)	1,844
Avg weekday volume (Mon-Fri, 24hrs)	1,939.0
Avg weekday speed (Mon-Fri, 24hrs)	48.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,756.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.9mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**6,316**
Avg daily volume (based on 7 days)	902.3
Average daily speed (7 days)	48.4mph
Average daily 85%ile (7 days)	55.7mph
% of vehicles exceeding 60mph	5.7%
Avg weekday volume (Mon-Fri, 24hrs)	989.6
Avg weekday speed (Mon-Fri, 24hrs)	48.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	879.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.7mph

WESTBOUND ←

Total recorded volume	**5,831**
Avg daily volume (based on 7 days)	833.0
Average daily speed (7 days)	47.3mph
Average daily 85%ile (7 days)	54.7mph
% of vehicles exceeding 60mph	5.0%
Avg weekday volume (Mon-Fri, 24hrs)	949.4
Avg weekday speed (Mon-Fri, 24hrs)	47.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	876.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	54.4mph

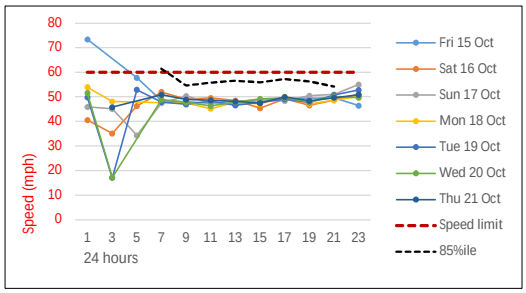
SITE LOCATION

SITE PLAN

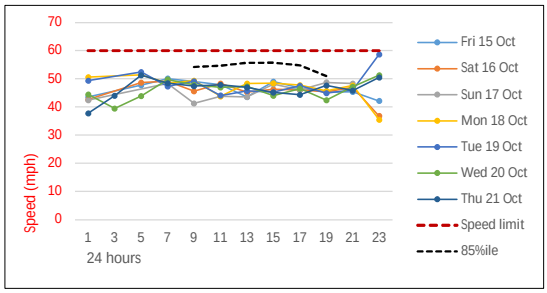
Location	Chippenham Road
Lat, lng.	52°17'9.14"N,0°25'18.85"E
Project & site	28925-004
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

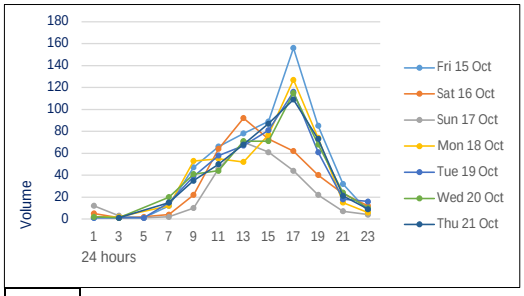


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average eastbound daytime speed was 56.2mph at 07:45 on Mon 18 Oct, whilst the peak average westbound speed was 56.6mph at 18:45 on Thu 21 Oct (based on 15min averages between 0700 & 1900).

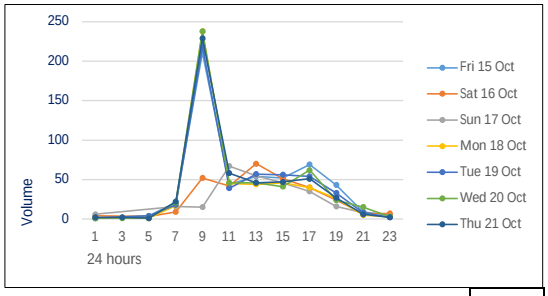
HOURLY VOLUMES

EASTBOUND →



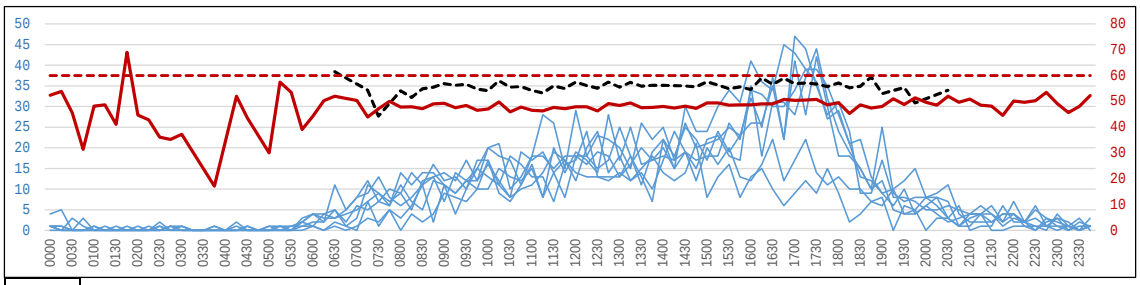
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

WESTBOUND ←

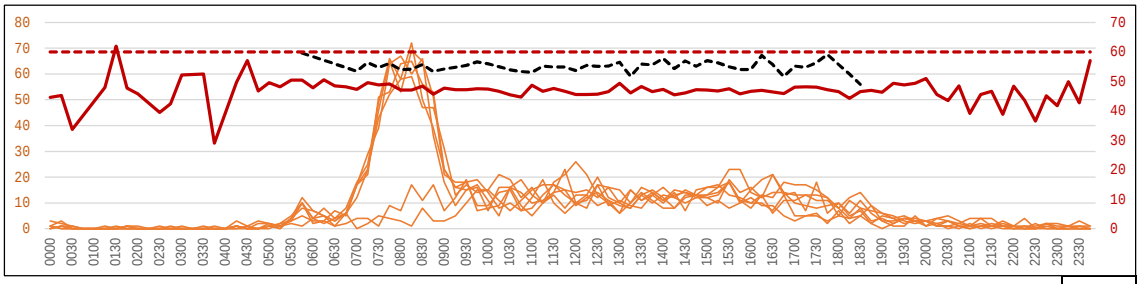


Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



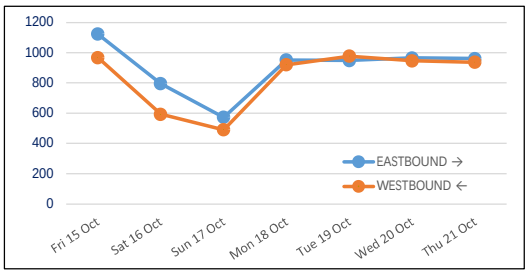
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

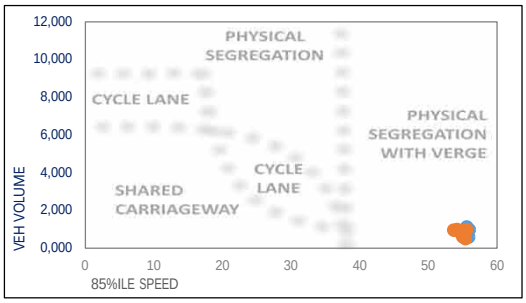
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.1	0.0	0.0	0.0	**3.3**
0100	0.0	0.7	0.0	0.0	0.0	**0.7**
0200	0.3	0.9	0.1	0.0	0.0	**1.3**
0300	0.4	0.3	0.0	0.0	0.0	**0.7**
0400	0.0	0.4	0.3	0.0	0.0	**0.7**
0500	0.1	2.4	0.0	0.0	0.0	**2.6**
0600	0.0	11.0	0.4	0.0	0.0	**11.4**
0700	0.3	24.6	0.9	0.0	0.0	**25.7**
0800	0.3	33.1	1.7	0.1	0.0	**35.3**
0900	0.9	41.4	2.1	0.6	0.0	**45.0**
1000	2.3	50.7	1.4	0.3	0.0	**54.7**
1100	1.1	60.6	0.3	0.3	0.0	**62.3**
1200	1.9	68.7	0.4	0.1	0.0	**71.1**
1300	0.7	63.6	1.1	0.3	0.1	**65.9**
1400	1.0	74.7	1.1	0.1	0.0	**77.0**
1500	1.1	78.6	1.3	0.4	0.1	**81.6**
1600	1.1	101.6	1.3	0.1	0.0	**104.1**
1700	0.7	118.6	0.3	0.0	0.0	**119.6**
1800	0.9	59.0	0.6	0.0	0.0	**60.4**
1900	0.1	32.9	0.3	0.0	0.0	**33.3**
2000	0.6	19.3	0.1	0.0	0.0	**20.0**
2100	0.0	11.6	0.0	0.0	0.0	**11.6**
2200	0.0	9.1	0.0	0.0	0.0	**9.1**
2300	0.0	4.9	0.0	0.0	0.0	**4.9**
12hr TTL	**12.3**	**775.1**	**12.6**	**2.4**	**0.3**	**802.7**
24hr TTL	**14.0**	**871.7**	**13.9**	**2.4**	**0.3**	**902.3**
	2%	97%	2%	0%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.3	0.0	0.0	0.0	**2.3**
0100	0.0	0.7	0.0	0.0	0.0	**0.7**
0200	0.0	0.4	0.0	0.0	0.0	**0.4**
0300	0.0	0.3	0.1	0.0	0.0	**0.4**
0400	0.0	1.4	0.6	0.0	0.0	**2.0**
0500	0.4	13.4	0.0	0.0	0.0	**13.9**
0600	0.0	17.1	0.4	0.1	0.0	**17.7**
0700	0.7	105.1	2.4	0.1	0.0	**108.4**
0800	0.7	168.0	2.0	1.0	0.0	**171.7**
0900	0.0	59.0	1.4	0.1	0.0	**60.6**
1000	1.6	45.6	1.1	0.1	0.3	**48.7**
1100	0.7	50.7	1.3	0.4	0.1	**53.3**
1200	0.6	51.0	1.0	0.6	0.0	**53.1**
1300	1.3	43.4	0.6	0.1	0.0	**45.4**
1400	1.1	46.7	0.4	0.1	0.0	**48.4**
1500	1.1	54.0	1.1	0.3	0.0	**56.6**
1600	0.7	48.7	0.6	0.1	0.0	**50.1**
1700	1.1	37.4	0.4	0.0	0.0	**39.0**
1800	0.4	27.0	0.1	0.0	0.0	**27.6**
1900	0.0	13.0	0.3	0.1	0.0	**13.4**
2000	0.0	8.1	0.1	0.0	0.0	**8.3**
2100	0.0	5.6	0.3	0.0	0.0	**5.9**
2200	0.0	3.1	0.0	0.0	0.0	**3.1**
2300	0.0	1.9	0.0	0.0	0.0	**1.9**
12hr TTL	**10.1**	**736.7**	**12.6**	**3.1**	**0.4**	**763.0**
24hr TTL	**10.6**	**804.1**	**14.4**	**3.4**	**0.4**	**833.0**
	1%	97%	2%	0%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
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These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

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Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

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Generated	05 Nov 2021	v6.0
28925-004 Cambridge. Chippenham Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-004 - Newmarket Road
LOC. DESC.	Newmarket Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Newmarket Road, commencing Tue 28 Sep 2021, recorded a total of 34,325 vehicles. The posted speed limit of 60mph was exceeded by 1.7% of vehicles, and the seasonally adjusted, combined AADT value is 4,944 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**34,325**
Avg daily volume (based on 7 days)	4,903.6
Average daily speed (7 days)	45.9mph
Average daily 85%ile (7 days)	51.9mph
AADT (annual average daily traffic)	4,944
Avg weekday volume (Mon-Fri, 24hrs)	5,462.2
Avg weekday speed (Mon-Fri, 24hrs)	45.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,639.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.5mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**15,256**
Avg daily volume (based on 7 days)	2,179.4
Average daily speed (7 days)	45.5mph
Average daily 85%ile (7 days)	51.4mph
% of vehicles exceeding 60mph	1.0%
Avg weekday volume (Mon-Fri, 24hrs)	2,416.2
Avg weekday speed (Mon-Fri, 24hrs)	45.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,044.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.2mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	50.9mph

SOUTHBOUND ↓

Total recorded volume	**19,069**
Avg daily volume (based on 7 days)	2,724.1
Average daily speed (7 days)	46.2mph
Average daily 85%ile (7 days)	52.4mph
% of vehicles exceeding 60mph	2.4%
Avg weekday volume (Mon-Fri, 24hrs)	3,046.0
Avg weekday speed (Mon-Fri, 24hrs)	46.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,594.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.7mph

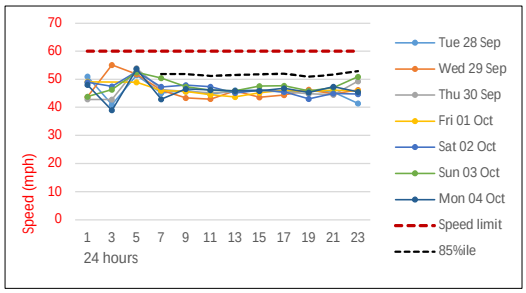
SITE LOCATION

SITE PLAN

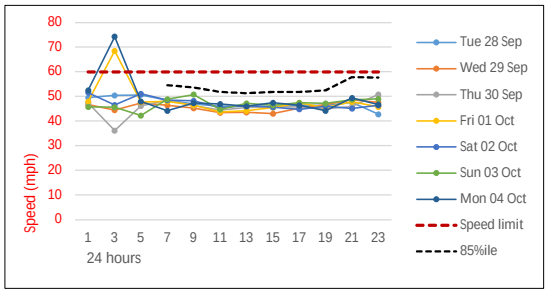
Location	Newmarket Road
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-004
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

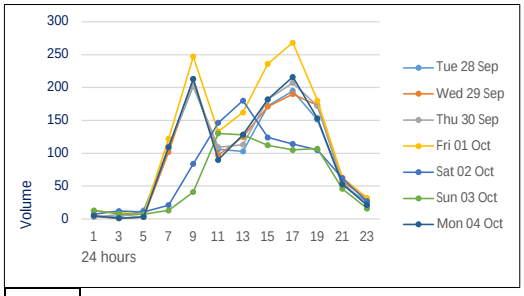


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 51.7mph at 08:15 on Sun 03 Oct, whilst the peak average southbound speed was 53.9mph at 08:45 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

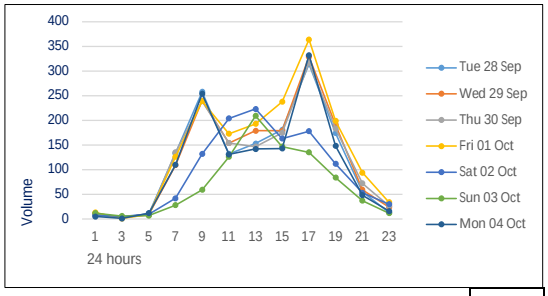
HOURLY VOLUMES

NORTHBOUND ↑



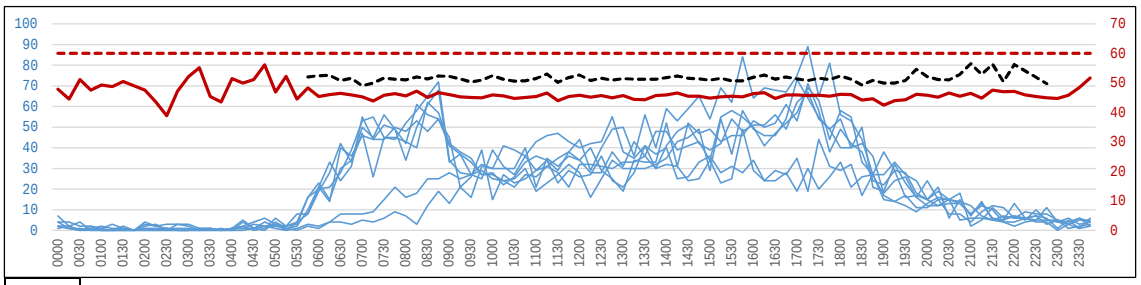
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

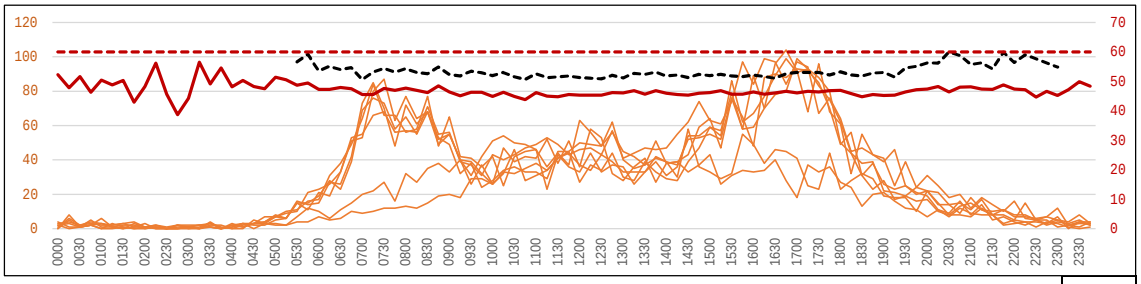


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



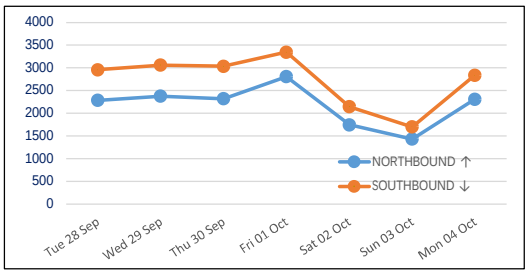
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

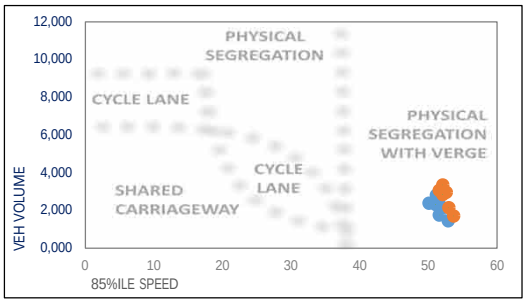
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.9	0.0	0.0	0.0	**6.9**
0100	0.0	1.9	0.0	0.0	0.0	**1.9**
0200	0.0	4.6	0.0	0.0	0.0	**4.6**
0300	0.0	1.9	0.0	0.1	0.0	**2.0**
0400	0.0	6.6	0.0	0.1	0.0	**6.7**
0500	0.0	16.0	0.0	0.1	0.1	**16.3**
0600	1.3	82.1	0.3	0.0	0.0	**83.7**
0700	0.4	142.4	2.0	0.7	0.1	**145.7**
0800	0.4	167.9	2.7	0.9	0.0	**171.9**
0900	1.0	116.1	3.3	0.1	0.0	**120.6**
1000	0.9	112.1	2.1	0.7	0.0	**115.9**
1100	1.1	123.0	2.7	0.9	0.0	**127.7**
1200	1.0	130.3	2.3	0.6	0.0	**134.1**
1300	2.0	134.9	2.6	1.0	0.1	**140.6**
1400	0.7	164.6	2.1	1.0	0.0	**168.4**
1500	1.9	176.9	1.1	1.3	0.3	**181.4**
1600	1.6	181.3	1.3	0.9	0.0	**185.0**
1700	1.1	204.9	1.7	0.9	0.0	**208.6**
1800	1.1	146.0	0.7	0.6	0.3	**148.7**
1900	0.4	83.3	0.3	0.4	0.0	**84.4**
2000	0.1	55.0	0.3	0.0	0.0	**55.4**
2100	0.1	29.7	0.0	0.0	0.0	**29.9**
2200	0.0	25.0	0.0	0.0	0.0	**25.0**
2300	0.0	14.1	0.0	0.0	0.0	**14.1**
12hr TTL	**13.3**	**1800.3**	**24.7**	**9.4**	**0.9**	**1848.6**
24hr TTL	**15.3**	**2127.3**	**25.6**	**10.3**	**1.0**	**2179.4**
	1%	98%	1%	0%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	9.7	0.0	0.0	0.0	**9.7**
0100	0.1	6.4	0.0	0.0	0.0	**6.6**
0200	0.0	3.1	0.0	0.0	0.0	**3.1**
0300	0.0	4.3	0.1	0.0	0.0	**4.4**
0400	0.0	8.9	0.3	0.4	0.0	**9.6**
0500	0.7	33.7	0.4	1.0	0.0	**35.9**
0600	1.4	93.7	1.4	1.0	0.0	**97.6**
0700	1.7	204.7	3.6	2.3	0.3	**212.6**
0800	0.4	198.6	2.1	1.7	0.1	**203.0**
0900	1.4	143.4	4.9	1.1	0.0	**150.9**
1000	1.3	146.1	4.6	1.3	0.1	**153.4**
1100	0.9	155.6	6.3	0.9	0.3	**163.9**
1200	1.6	170.3	5.3	0.9	0.0	**178.0**
1300	1.3	144.0	2.7	0.7	0.3	**149.0**
1400	1.6	168.1	4.6	0.9	0.0	**175.1**
1500	1.0	218.4	4.4	2.3	0.3	**226.4**
1600	0.7	275.1	4.4	0.6	0.4	**281.3**
1700	1.6	273.6	4.1	0.3	0.0	**279.6**
1800	0.6	153.6	1.6	0.1	0.0	**155.9**
1900	0.3	91.1	0.6	0.1	0.0	**92.1**
2000	0.6	58.4	0.7	0.0	0.0	**59.7**
2100	0.6	39.6	0.4	0.0	0.0	**40.6**
2200	0.4	21.3	0.6	0.0	0.0	**22.3**
2300	0.1	13.4	0.0	0.0	0.0	**13.6**
12hr TTL	**14.0**	**2251.6**	**48.6**	**13.0**	**1.9**	**2329.0**
24hr TTL	**18.3**	**2635.3**	**53.1**	**15.6**	**1.9**	**2724.1**
	1%	97%	2%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



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4	TB2	2 axle truck / bus		OGV1 & PSV
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6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
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Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

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Generated	19 Oct 2021	v6.0
28925-004 Norfolk. Newmarket Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-005 - La Hogue Road
LOC. DESC.	La Hogue Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on La Hogue Road, commencing Fri 15 Oct 2021, recorded a total of 4,584 vehicles. The posted speed limit of 60mph was exceeded by 1.6% of vehicles, and the seasonally adjusted, combined AADT value is 705 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**4,584**
Avg daily volume (based on 7 days)	654.9
Average daily speed (7 days)	43.0mph
Average daily 85%ile (7 days)	50.6mph
AADT (annual average daily traffic)	705
Avg weekday volume (Mon-Fri, 24hrs)	613.0
Avg weekday speed (Mon-Fri, 24hrs)	43.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	573.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.6mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**2,994**
Avg daily volume (based on 7 days)	427.7
Average daily speed (7 days)	42.4mph
Average daily 85%ile (7 days)	50.5mph
% of vehicles exceeding 60mph	1.7%
Avg weekday volume (Mon-Fri, 24hrs)	410.4
Avg weekday speed (Mon-Fri, 24hrs)	43.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	379.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.1mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.3mph

SOUTHBOUND ↓

Total recorded volume	**1,590**
Avg daily volume (based on 7 days)	227.1
Average daily speed (7 days)	43.7mph
Average daily 85%ile (7 days)	50.6mph
% of vehicles exceeding 60mph	1.4%
Avg weekday volume (Mon-Fri, 24hrs)	202.6
Avg weekday speed (Mon-Fri, 24hrs)	44.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	193.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.2mph

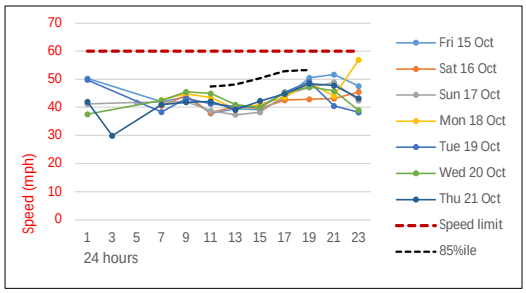
SITE LOCATION

SITE PLAN

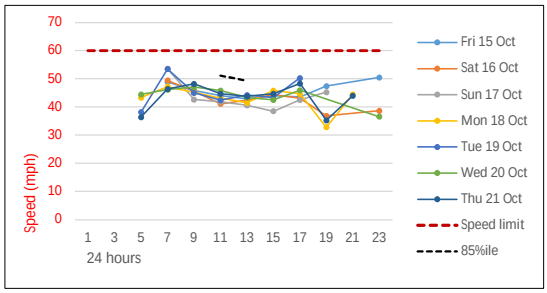
Location	La Hogue Road
Lat, lng.	52°17'7.30"N,0°27'15.49"E
Project & site	28925-005
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

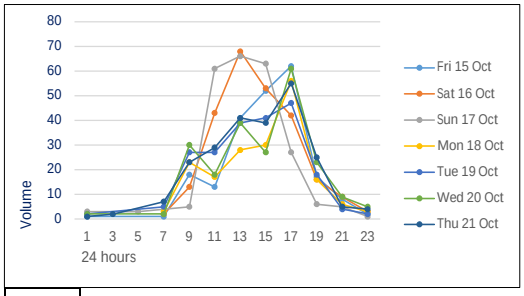


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 61.3mph at 18:45 on Fri 15 Oct, whilst the peak average southbound speed was 61.5mph at 07:45 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

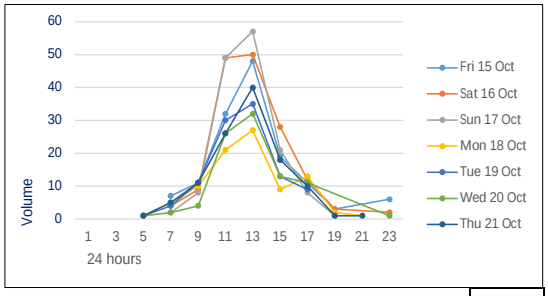
HOURLY VOLUMES

NORTHBOUND ↑



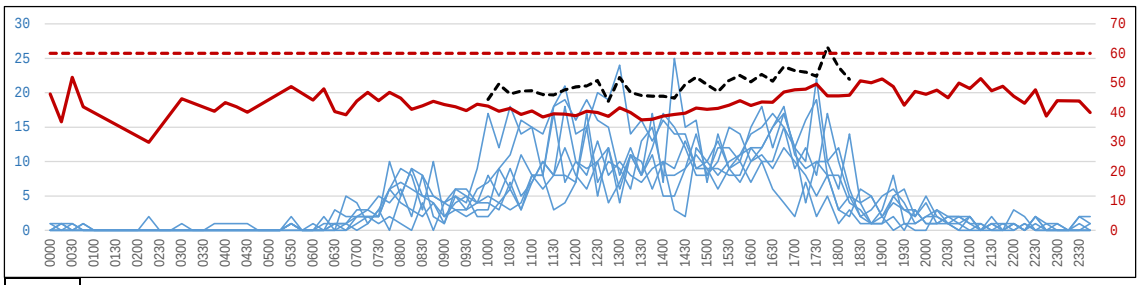
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

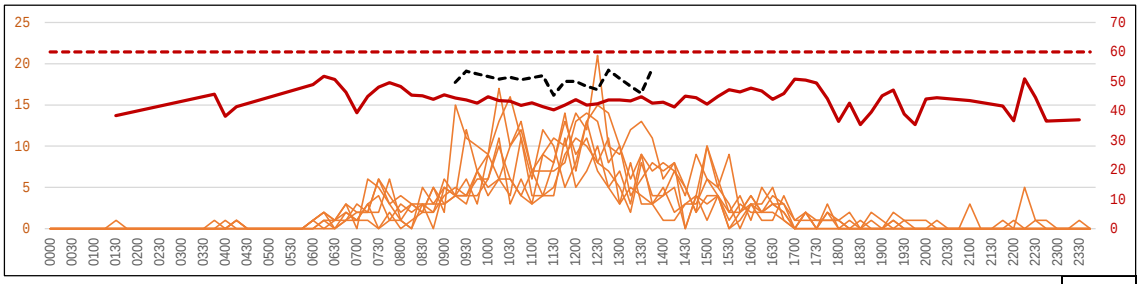


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



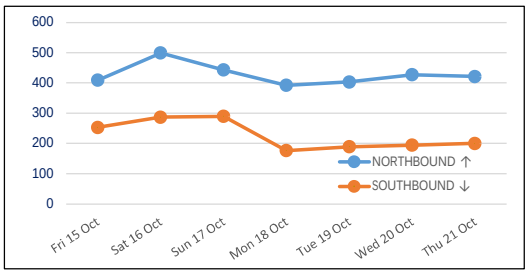
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

Unusually, the lowest volumes were NOT recorded on a Sunday but on the Monday, whilst the highest was on the Saturday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

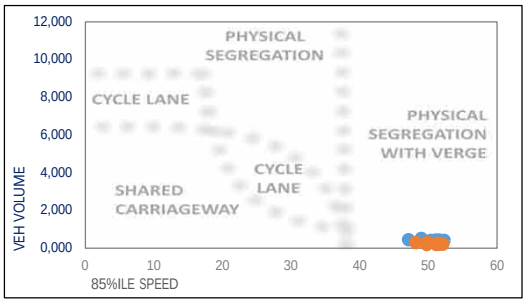
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	**1.3**
0100	0.0	0.0	0.0	0.0	0.0	**0.0**
0200	0.0	0.3	0.0	0.0	0.0	**0.3**
0300	0.0	0.3	0.0	0.0	0.0	**0.3**
0400	0.0	0.4	0.0	0.0	0.0	**0.4**
0500	0.0	0.9	0.0	0.0	0.0	**0.9**
0600	0.0	2.6	0.3	0.0	0.0	**2.9**
0700	0.0	10.0	1.3	0.1	0.0	**11.4**
0800	0.0	18.3	1.0	0.6	0.0	**19.9**
0900	0.1	14.0	1.3	0.3	0.0	**15.7**
1000	0.6	27.6	1.3	0.3	0.0	**29.7**
1100	0.4	41.3	0.6	0.7	0.0	**43.0**
1200	1.0	43.7	0.4	0.9	0.0	**46.0**
1300	0.1	41.1	0.3	0.4	0.0	**42.0**
1400	0.1	42.0	0.9	0.6	0.0	**43.6**
1500	0.1	37.1	1.0	0.9	0.3	**39.4**
1600	0.3	47.4	0.3	0.7	1.3	**50.0**
1700	0.0	38.9	0.1	0.3	0.1	**39.4**
1800	0.0	17.0	0.3	0.0	0.0	**17.3**
1900	0.0	10.9	0.0	0.0	0.0	**10.9**
2000	0.0	6.6	0.0	0.0	0.0	**6.6**
2100	0.0	2.4	0.0	0.0	0.0	**2.4**
2200	0.0	2.9	0.0	0.0	0.0	**2.9**
2300	0.0	1.6	0.0	0.0	0.0	**1.6**
12hr TTL	**2.9**	**378.4**	**8.7**	**5.7**	**1.7**	**397.4**
24hr TTL	**2.9**	**408.4**	**9.0**	**5.7**	**1.7**	**427.7**
	1%	95%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.0	0.0	0.0	0.0	**0.0**
0100	0.0	0.1	0.0	0.0	0.0	**0.1**
0200	0.0	0.0	0.0	0.0	0.0	**0.0**
0300	0.0	0.0	0.1	0.0	0.0	**0.1**
0400	0.0	0.0	0.0	0.6	0.0	**0.6**
0500	0.0	0.0	0.0	0.0	0.0	**0.0**
0600	0.0	3.4	0.4	0.3	0.0	**4.1**
0700	0.4	9.0	0.6	0.3	0.0	**10.3**
0800	0.0	8.9	0.3	0.0	0.0	**9.1**
0900	0.0	21.7	0.3	0.3	0.0	**22.3**
1000	0.9	31.4	0.4	0.6	0.0	**33.3**
1100	0.3	28.7	0.7	0.0	0.1	**29.9**
1200	0.1	41.0	0.1	0.0	0.0	**41.3**
1300	0.0	24.6	0.6	0.3	0.0	**25.4**
1400	0.1	17.0	0.1	0.0	0.0	**17.3**
1500	0.1	14.4	0.1	0.0	0.0	**14.7**
1600	0.0	10.1	0.3	0.1	0.0	**10.6**
1700	0.0	3.1	0.0	0.0	0.0	**3.1**
1800	0.0	1.4	0.0	0.0	0.0	**1.4**
1900	0.0	1.1	0.0	0.0	0.0	**1.1**
2000	0.0	0.3	0.0	0.0	0.0	**0.3**
2100	0.0	0.6	0.0	0.0	0.0	**0.6**
2200	0.0	1.3	0.0	0.0	0.0	**1.3**
2300	0.0	0.1	0.0	0.0	0.0	**0.1**
12hr TTL	**2.0**	**211.4**	**3.6**	**1.6**	**0.1**	**218.7**
24hr TTL	**2.0**	**218.4**	**4.1**	**2.4**	**0.1**	**227.1**
	1%	96%	2%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

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Generated	05 Nov 2021	v6.0
28925-005 Cambridge. La Hogue Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-005 - Freckenham Road
LOC. DESC.	Freckenham Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Freckenham Road, commencing Tue 28 Sep 2021, recorded a total of 17,588 vehicles. The posted speed limit of 60mph was exceeded by 11.5% of vehicles, and the seasonally adjusted, combined AADT value is 2,503 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**17,588**
Avg daily volume (based on 7 days)	2,512.6
Average daily speed (7 days)	49.6mph
Average daily 85%ile (7 days)	58.0mph
AADT (annual average daily traffic)	2,503
Avg weekday volume (Mon-Fri, 24hrs)	2,713.6
Avg weekday speed (Mon-Fri, 24hrs)	49.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,289.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**9,113**
Avg daily volume (based on 7 days)	1,301.9
Average daily speed (7 days)	48.9mph
Average daily 85%ile (7 days)	56.9mph
% of vehicles exceeding 60mph	9.6%
Avg weekday volume (Mon-Fri, 24hrs)	1,409.4
Avg weekday speed (Mon-Fri, 24hrs)	49.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,180.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.2mph

SOUTHBOUND ↓

Total recorded volume	**8,475**
Avg daily volume (based on 7 days)	1,210.7
Average daily speed (7 days)	50.2mph
Average daily 85%ile (7 days)	59.1mph
% of vehicles exceeding 60mph	13.5%
Avg weekday volume (Mon-Fri, 24hrs)	1,304.2
Avg weekday speed (Mon-Fri, 24hrs)	49.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,108.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.6mph

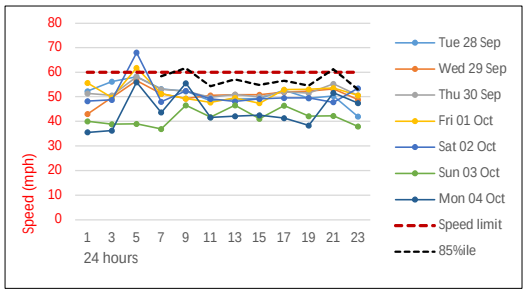
SITE LOCATION

SITE PLAN

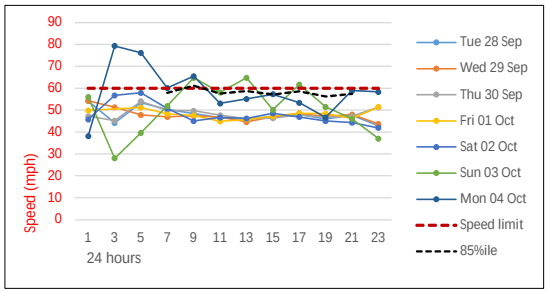
Location	Freckenham Road
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-005
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

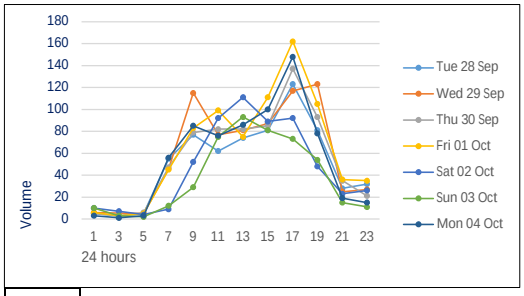


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 64.2mph at 08:00 on Mon 04 Oct, whilst the peak average southbound speed was 84.9mph at 12:00 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

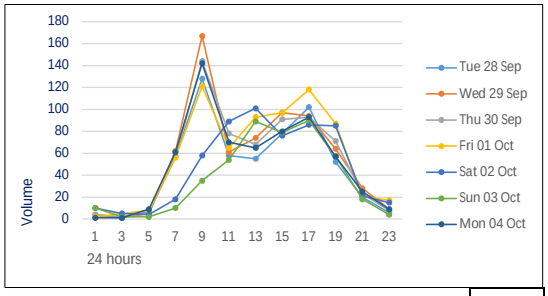
HOURLY VOLUMES

NORTHBOUND ↑



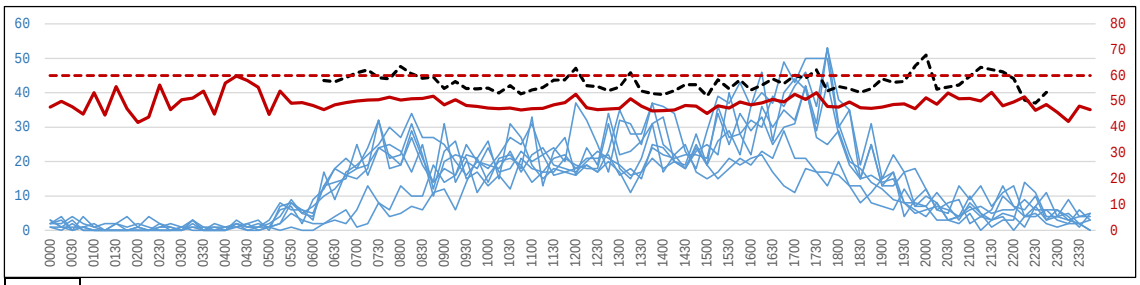
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

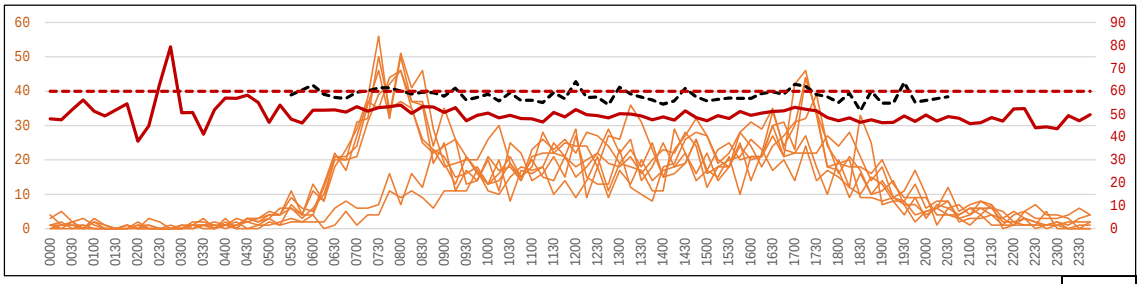


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



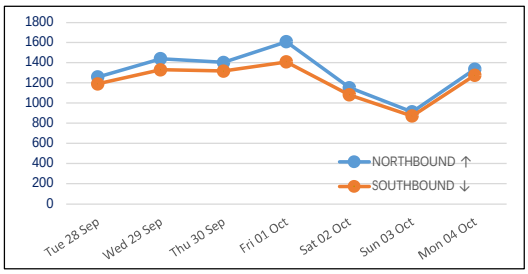
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

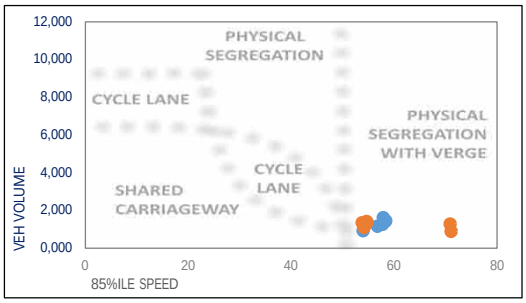
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.3	0.0	0.1	0.0	**6.4**
0100	0.0	2.3	0.1	0.0	0.0	**2.4**
0200	0.0	1.9	1.0	0.0	0.0	**2.9**
0300	0.0	2.0	0.7	0.4	0.0	**3.1**
0400	0.0	3.9	0.4	0.0	0.0	**4.3**
0500	0.1	15.3	0.0	0.1	0.0	**15.6**
0600	0.3	36.9	1.0	0.4	0.0	**38.6**
0700	0.1	67.6	2.6	0.4	0.0	**70.7**
0800	1.1	69.6	3.1	0.3	0.1	**74.3**
0900	0.9	69.4	3.6	1.0	0.0	**74.9**
1000	0.7	77.0	2.7	0.0	0.0	**80.4**
1100	2.0	73.7	3.0	1.1	1.1	**81.0**
1200	1.7	81.6	2.0	0.6	0.1	**86.0**
1300	2.3	88.3	2.6	0.3	0.3	**93.7**
1400	1.0	85.6	1.9	1.6	0.6	**90.6**
1500	2.9	96.0	2.3	2.0	0.9	**104.0**
1600	2.1	117.3	1.3	0.4	0.6	**121.7**
1700	2.0	131.6	1.4	0.0	0.0	**135.0**
1800	1.7	80.9	0.6	0.0	0.0	**83.1**
1900	0.3	45.4	0.1	0.1	0.0	**46.0**
2000	0.1	25.3	0.4	0.0	0.0	**25.9**
2100	0.0	23.1	0.1	0.3	0.0	**23.6**
2200	0.4	23.3	0.1	0.0	0.0	**23.9**
2300	0.4	13.0	0.1	0.3	0.0	**13.9**
12hr TTL	**18.6**	**1038.4**	**27.0**	**7.7**	**3.7**	**1095.4**
24hr TTL	**20.3**	**1237.0**	**31.3**	**9.6**	**3.7**	**1301.9**
	2%	95%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	4.7	0.0	0.0	0.0	**4.7**
0100	0.1	1.7	0.0	0.0	0.0	**1.9**
0200	0.0	1.6	0.1	0.0	0.0	**1.7**
0300	0.0	2.7	0.1	0.1	0.0	**3.0**
0400	0.1	5.6	0.1	0.0	0.0	**5.9**
0500	0.3	15.3	0.4	0.1	0.0	**16.1**
0600	0.1	45.0	0.7	0.0	0.0	**45.9**
0700	1.4	105.6	2.3	0.4	0.7	**110.4**
0800	1.0	107.1	4.6	0.9	0.0	**113.6**
0900	0.9	68.9	2.1	0.9	0.0	**72.7**
1000	0.9	65.1	1.4	0.4	0.0	**67.9**
1100	1.0	75.6	1.4	0.7	0.1	**78.9**
1200	1.3	73.4	2.4	0.7	0.0	**77.9**
1300	0.4	73.7	1.7	1.0	0.0	**76.9**
1400	1.4	81.6	1.3	1.0	0.1	**85.4**
1500	0.7	77.6	1.1	0.7	0.3	**80.4**
1600	0.1	94.7	1.0	0.7	0.0	**96.6**
1700	0.7	105.6	1.3	0.3	0.1	**108.0**
1800	1.1	66.3	0.0	0.1	0.0	**67.6**
1900	0.1	39.0	0.3	0.0	0.0	**39.4**
2000	0.0	21.9	0.0	0.3	0.1	**22.3**
2100	0.1	16.9	0.1	0.0	0.0	**17.1**
2200	0.4	9.3	0.0	0.0	0.0	**9.7**
2300	0.0	6.4	0.4	0.0	0.0	**6.9**
12hr TTL	**11.0**	**995.1**	**20.7**	**7.9**	**1.4**	**1036.1**
24hr TTL	**12.4**	**1165.1**	**23.1**	**8.4**	**1.6**	**1210.7**
	1%	96%	2%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

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Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

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CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

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Generated	19 Oct 2021	v6.0
28925-005 Norfolk. Freckenham Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-006 - B1085 Dane Hill Road
LOC. DESC.	B1085 Dane Hill Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085 Dane Hill Road, commencing Fri 15 Oct 2021, recorded a total of 30,241 vehicles. The posted speed limit of 60mph was exceeded by 1.8% of vehicles, and the seasonally adjusted, combined AADT value is 4,539 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**30,241**
Avg daily volume (based on 7 days)	4,320.1
Average daily speed (7 days)	44.3mph
Average daily 85%ile (7 days)	50.7mph
AADT (annual average daily traffic)	4,539
Avg weekday volume (Mon-Fri, 24hrs)	4,717.8
Avg weekday speed (Mon-Fri, 24hrs)	44.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,087.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**14,470**
Avg daily volume (based on 7 days)	2,067.1
Average daily speed (7 days)	42.8mph
Average daily 85%ile (7 days)	49.0mph
% of vehicles exceeding 60mph	1.2%
Avg weekday volume (Mon-Fri, 24hrs)	2,235.2
Avg weekday speed (Mon-Fri, 24hrs)	42.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,931.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	48.5mph

WESTBOUND ←

Total recorded volume	**15,771**
Avg daily volume (based on 7 days)	2,253.0
Average daily speed (7 days)	45.8mph
Average daily 85%ile (7 days)	52.4mph
% of vehicles exceeding 60mph	2.5%
Avg weekday volume (Mon-Fri, 24hrs)	2,482.6
Avg weekday speed (Mon-Fri, 24hrs)	45.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,155.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.5mph

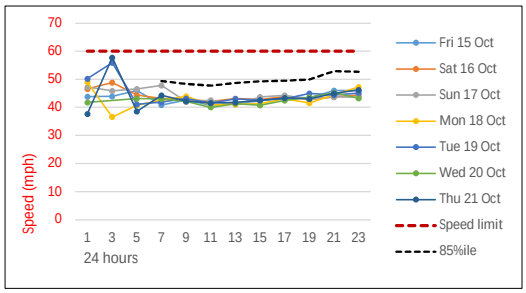
SITE LOCATION

SITE PLAN

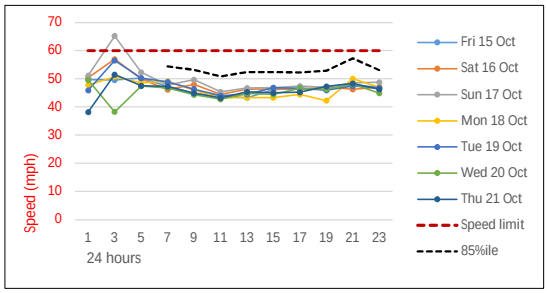
Location	B1085 Dane Hill Road
Lat, lng.	52°17'13.14"N/0°28'28.89"E
Project & site	28925-006
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

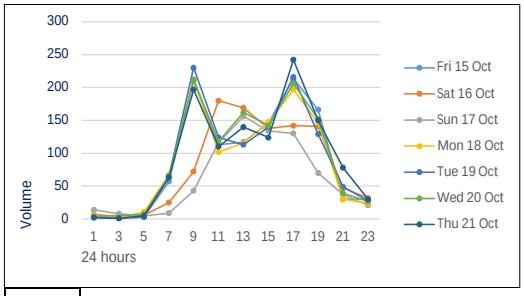


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

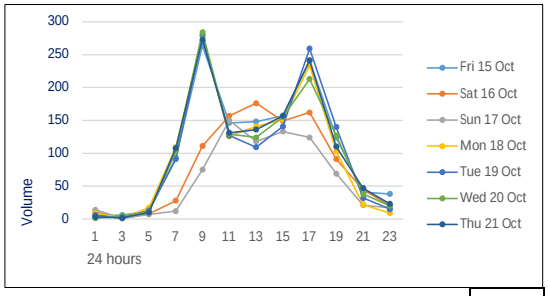
The peak average eastbound daytime speed was 48.5mph at 18:45 on Tue 19 Oct, whilst the peak average westbound speed was 52.7mph at 07:15 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

EASTBOUND →



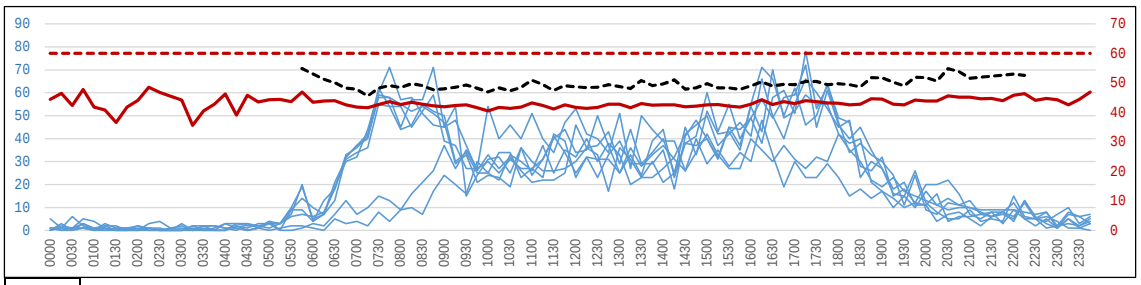
WESTBOUND ←



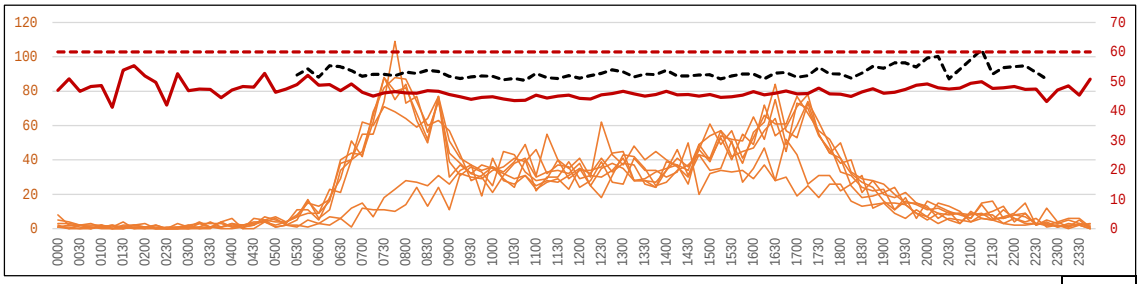
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



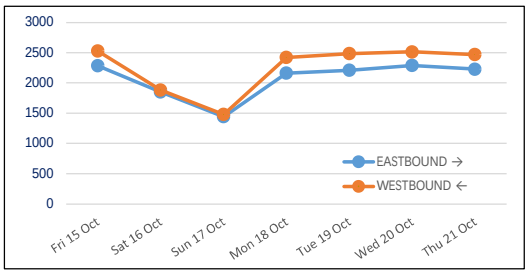
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

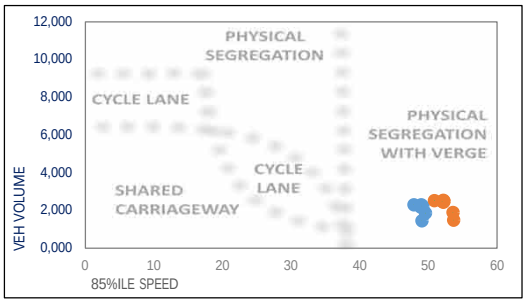
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	**6.0**
0100	0.0	2.7	0.3	0.1	0.0	**3.1**
0200	0.0	2.6	0.0	0.1	0.0	**2.7**
0300	0.3	2.9	0.1	0.0	0.0	**3.3**
0400	0.1	5.0	0.3	0.3	0.0	**5.7**
0500	0.0	19.4	0.4	1.0	0.0	**20.9**
0600	0.0	48.1	1.4	0.7	0.0	**50.3**
0700	0.1	140.3	3.6	2.4	0.9	**147.3**
0800	0.4	160.9	4.0	2.6	0.1	**168.0**
0900	0.9	121.6	4.9	2.1	0.4	**129.9**
1000	1.1	114.1	6.0	1.4	0.6	**123.3**
1100	1.7	119.1	4.9	2.0	0.4	**128.1**
1200	1.3	127.9	6.9	2.4	0.6	**139.0**
1300	0.9	117.3	6.6	3.0	0.3	**128.0**
1400	0.9	126.3	6.3	5.0	0.3	**138.7**
1500	1.3	151.6	4.0	1.7	0.7	**159.3**
1600	3.0	179.4	6.4	2.9	0.6	**192.3**
1700	0.7	191.7	4.0	1.1	0.1	**197.7**
1800	1.0	131.9	2.4	1.0	0.0	**136.3**
1900	0.6	70.3	0.7	0.6	0.1	**72.3**
2000	0.0	43.0	1.0	0.3	0.0	**44.3**
2100	0.0	27.7	0.1	0.3	0.0	**28.1**
2200	0.0	27.1	0.3	0.0	0.0	**27.4**
2300	0.0	14.3	0.9	0.0	0.0	**15.1**
12hr TTL	**13.3**	**1682.0**	**59.9**	**27.7**	**5.0**	**1787.9**
24hr TTL	**14.3**	**1951.0**	**65.4**	**31.3**	**5.1**	**2067.1**
	1%	94%	3%	2%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.6	0.1	0.3	0.0	**7.0**
0100	0.0	4.0	0.0	0.3	0.0	**4.3**
0200	0.0	2.0	0.4	0.1	0.0	**2.6**
0300	0.0	3.0	2.3	0.7	0.1	**6.1**
0400	0.0	8.6	1.6	1.0	0.0	**11.1**
0500	0.0	20.9	0.9	1.4	0.0	**23.1**
0600	0.9	72.9	2.4	1.4	0.1	**77.7**
0700	1.7	201.7	5.6	2.4	1.1	**212.6**
0800	0.3	214.4	6.3	2.4	0.1	**223.6**
0900	0.3	128.4	6.0	2.1	0.1	**137.0**
1000	1.3	127.9	6.0	2.1	0.7	**138.0**
1100	0.7	122.7	3.6	1.0	0.7	**128.7**
1200	0.6	127.0	6.1	2.0	0.3	**136.0**
1300	1.9	125.4	6.6	1.4	0.3	**135.6**
1400	0.4	140.9	5.7	2.0	0.0	**149.0**
1500	1.1	168.1	6.0	3.3	0.9	**179.4**
1600	1.6	201.6	4.9	2.3	0.3	**210.6**
1700	0.6	199.0	3.9	1.1	0.1	**204.7**
1800	0.1	105.6	1.9	1.4	0.1	**109.1**
1900	0.1	59.4	0.7	0.7	0.0	**61.0**
2000	0.0	34.6	0.3	0.3	0.0	**35.1**
2100	0.1	30.3	0.4	0.1	0.0	**31.0**
2200	0.0	19.3	0.3	0.7	0.0	**20.3**
2300	0.0	9.1	0.1	0.0	0.0	**9.3**
12hr TTL	**10.6**	**1862.7**	**62.4**	**23.7**	**4.9**	**1964.3**
24hr TTL	**11.7**	**2133.3**	**72.0**	**30.9**	**5.1**	**2253.0**
	1%	95%	3%	1%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, A-T-R may not be held liable for errors of fact or interpretation.

Generated	05 Nov 2021	v6.0
28925-006 Cambridge. B1085 Dane Hill Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-007 - B1085 Dane Hill Road
LOC. DESC.	B1085 Dane Hill Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085 Dane Hill Road, commencing Fri 15 Oct 2021, recorded a total of 30,349 vehicles. The posted speed limit of 60mph was exceeded by 0.5% of vehicles, and the seasonally adjusted, combined AADT value is 4,555 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**30,349**
Avg daily volume (based on 7 days)	4,335.6
Average daily speed (7 days)	42.1mph
Average daily 85%ile (7 days)	47.7mph
AADT (annual average daily traffic)	4,555
Avg weekday volume (Mon-Fri, 24hrs)	4,723.2
Avg weekday speed (Mon-Fri, 24hrs)	41.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,087.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	41.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**14,559**
Avg daily volume (based on 7 days)	2,079.9
Average daily speed (7 days)	40.7mph
Average daily 85%ile (7 days)	46.0mph
% of vehicles exceeding 60mph	0.4%
Avg weekday volume (Mon-Fri, 24hrs)	2,244.4
Avg weekday speed (Mon-Fri, 24hrs)	40.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,937.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	40.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	45.6mph

WESTBOUND ←

Total recorded volume	**15,790**
Avg daily volume (based on 7 days)	2,255.7
Average daily speed (7 days)	43.5mph
Average daily 85%ile (7 days)	49.5mph
% of vehicles exceeding 60mph	0.7%
Avg weekday volume (Mon-Fri, 24hrs)	2,478.8
Avg weekday speed (Mon-Fri, 24hrs)	43.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,150.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	48.9mph

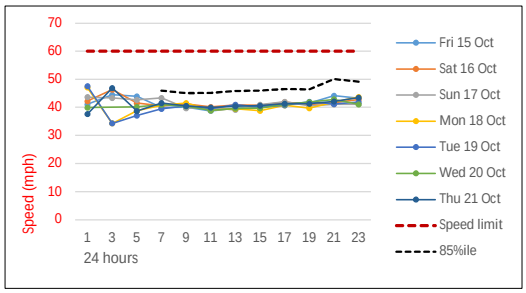
SITE LOCATION

SITE PLAN

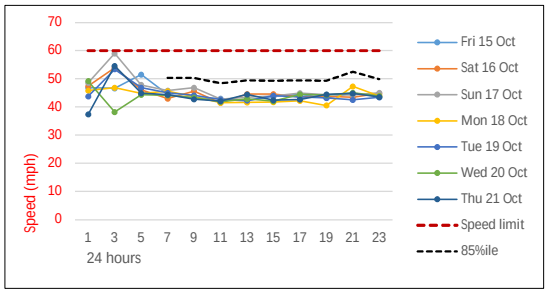
Location	B1085 Dane Hill Road
Lat, lng.	52°17'15.15"N/,0°28'21.81"E
Project & site	28925-007
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

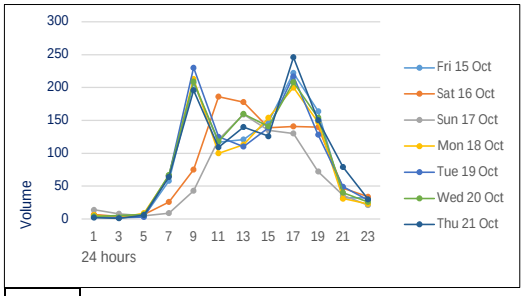


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

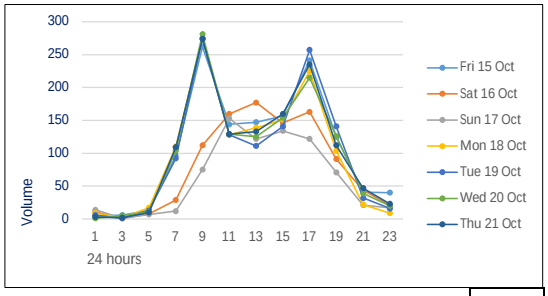
The peak average eastbound daytime speed was 45.8mph at 07:00 on Sun 17 Oct, whilst the peak average westbound speed was 48.5mph at 18:30 on Wed 20 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

EASTBOUND →



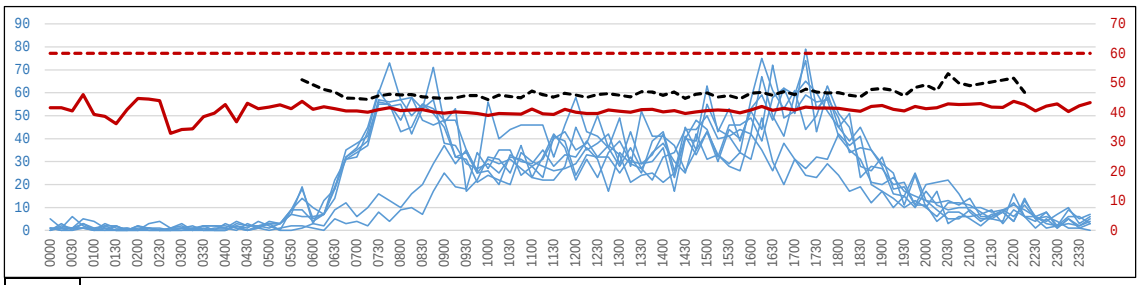
WESTBOUND ←



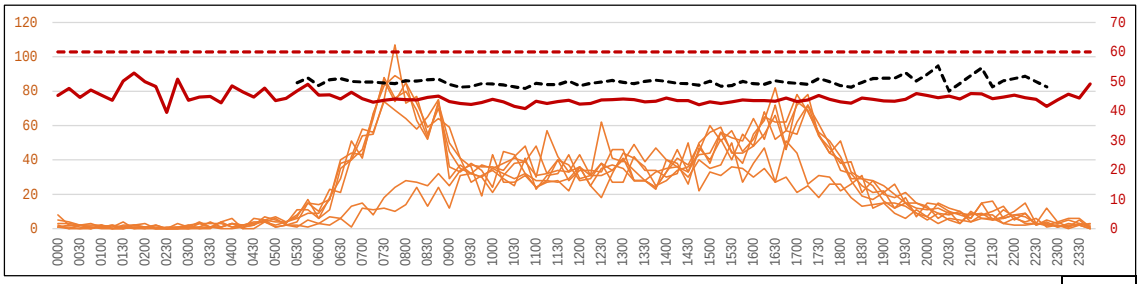
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



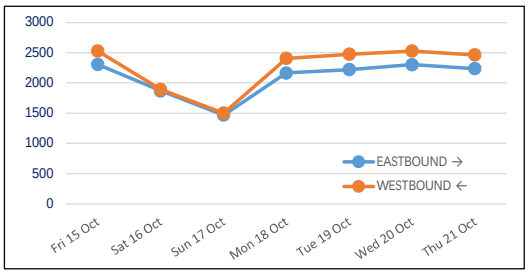
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

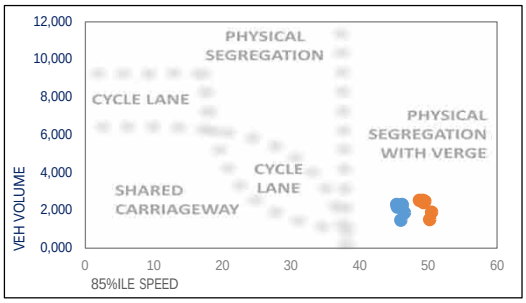
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	**6.0**
0100	0.0	2.7	0.3	0.1	0.0	**3.1**
0200	0.1	2.6	0.0	0.1	0.0	**2.9**
0300	0.4	2.9	0.0	0.0	0.1	**3.4**
0400	0.3	5.0	0.3	0.3	0.0	**5.9**
0500	0.0	18.4	0.6	1.1	0.0	**20.1**
0600	0.4	48.6	1.1	0.7	0.0	**50.9**
0700	0.4	138.4	4.0	2.9	0.7	**146.4**
0800	0.9	159.6	4.4	2.6	0.1	**167.6**
0900	1.1	121.6	5.3	2.6	0.4	**131.0**
1000	1.6	114.4	6.3	2.1	0.7	**125.1**
1100	2.6	119.7	5.0	1.9	0.4	**129.6**
1200	2.0	127.1	7.0	3.1	0.9	**140.1**
1300	1.6	115.3	7.3	3.1	0.3	**127.6**
1400	1.4	126.7	6.9	4.7	0.6	**140.3**
1500	1.4	153.0	4.6	1.4	0.9	**161.3**
1600	3.4	180.7	6.7	3.6	0.4	**194.9**
1700	0.9	191.0	3.7	1.9	0.1	**197.6**
1800	1.0	131.7	2.6	1.1	0.0	**136.4**
1900	0.6	71.4	0.7	0.4	0.1	**73.3**
2000	0.0	43.6	1.0	0.3	0.0	**44.9**
2100	0.0	28.4	0.0	0.1	0.0	**28.6**
2200	0.0	27.7	0.1	0.0	0.0	**27.9**
2300	0.0	14.3	0.9	0.0	0.0	**15.1**
12hr TTL	**18.3**	**1679.3**	**63.7**	**31.0**	**5.6**	**1797.9**
24hr TTL	**20.1**	**1950.7**	**68.7**	**34.4**	**5.9**	**2079.9**
	1%	94%	3%	2%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.7	0.1	0.1	0.0	**7.0**
0100	0.0	4.0	0.0	0.3	0.0	**4.3**
0200	0.0	2.0	0.4	0.1	0.0	**2.6**
0300	0.0	2.9	3.0	0.3	0.0	**6.1**
0400	0.0	8.4	2.4	0.4	0.0	**11.3**
0500	0.0	20.4	0.9	1.4	0.0	**22.7**
0600	0.9	74.0	2.4	1.4	0.1	**78.9**
0700	2.0	201.0	5.4	2.4	0.7	**211.6**
0800	0.3	212.7	6.0	2.7	0.3	**222.0**
0900	1.0	128.0	5.6	2.3	0.1	**137.0**
1000	2.0	127.0	6.0	3.0	0.7	**138.7**
1100	1.0	124.0	3.7	0.7	0.7	**130.1**
1200	1.3	126.7	5.9	2.1	0.3	**136.3**
1300	3.1	123.7	6.7	2.0	0.6	**136.1**
1400	0.7	140.0	5.9	2.1	0.3	**149.0**
1500	2.1	168.7	6.0	3.3	1.0	**181.1**
1600	1.9	199.1	4.4	2.4	0.4	**208.3**
1700	0.6	199.1	3.9	1.4	0.1	**205.1**
1800	0.4	105.7	2.1	1.6	0.1	**110.0**
1900	0.3	59.1	0.7	0.9	0.0	**61.0**
2000	0.0	34.9	0.1	0.1	0.0	**35.1**
2100	0.1	30.6	0.3	0.1	0.0	**31.1**
2200	0.0	20.3	0.1	0.4	0.0	**20.9**
2300	0.0	9.1	0.1	0.0	0.0	**9.3**
12hr TTL	**16.4**	**1855.9**	**61.6**	**26.1**	**5.4**	**1965.4**
24hr TTL	**17.7**	**2128.3**	**72.3**	**31.9**	**5.6**	**2255.7**
	1%	94%	3%	1%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

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Generated	05 Nov 2021	v6.0
28925-007 Cambridge. B1085 Dane Hill Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-006 - Isleham Road
LOC. DESC.	Isleham Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Isleham Road, commencing Tue 28 Sep 2021, recorded a total of 8,009 vehicles. The posted speed limit of 60mph was exceeded by 3.4% of vehicles, and the seasonally adjusted, combined AADT value is 1,139 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**8,009**
Avg daily volume (based on 7 days)	1,144.1
Average daily speed (7 days)	45.1mph
Average daily 85%ile (7 days)	52.6mph
AADT (annual average daily traffic)	1,139
Avg weekday volume (Mon-Fri, 24hrs)	1,229.4
Avg weekday speed (Mon-Fri, 24hrs)	45.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,000.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.0mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**4,006**
Avg daily volume (based on 7 days)	572.3
Average daily speed (7 days)	42.6mph
Average daily 85%ile (7 days)	49.6mph
% of vehicles exceeding 60mph	1.0%
Avg weekday volume (Mon-Fri, 24hrs)	616.4
Avg weekday speed (Mon-Fri, 24hrs)	42.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	495.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	49.2mph

WESTBOUND ←

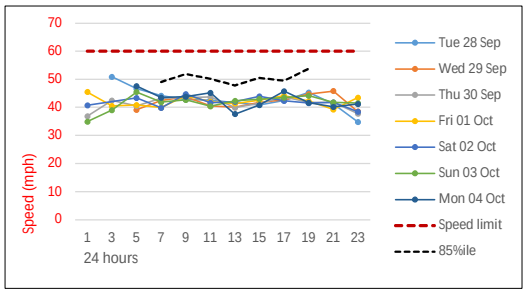
Total recorded volume	**4,003**
Avg daily volume (based on 7 days)	571.9
Average daily speed (7 days)	47.6mph
Average daily 85%ile (7 days)	55.6mph
% of vehicles exceeding 60mph	5.9%
Avg weekday volume (Mon-Fri, 24hrs)	613.0
Avg weekday speed (Mon-Fri, 24hrs)	47.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	505.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.5mph

SITE LOCATION

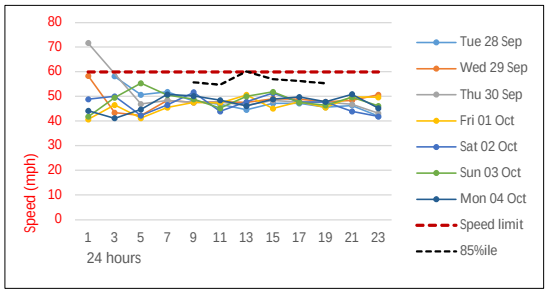
Location	Isleham Road
Lat, lng.	52°19'33.68"N/52°19'33.68"N
Project & site	28925-006
PSL	60mph
Bus route	No
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

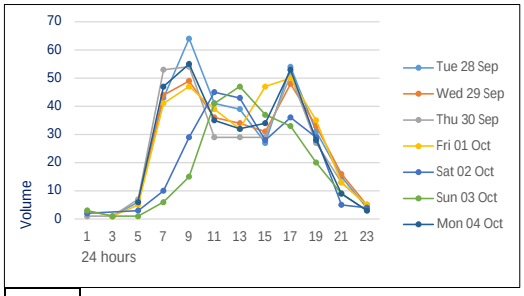


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average eastbound daytime speed was 51.1mph at 07:00 on Sun 03 Oct, whilst the peak average westbound speed was 64.5mph at 07:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

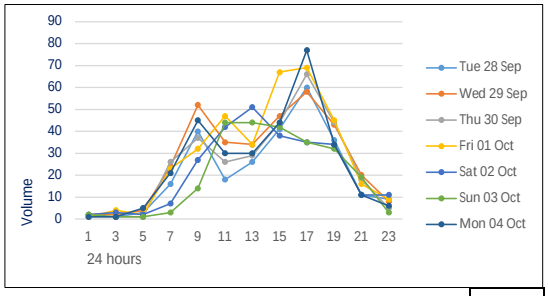
HOURLY VOLUMES

EASTBOUND →



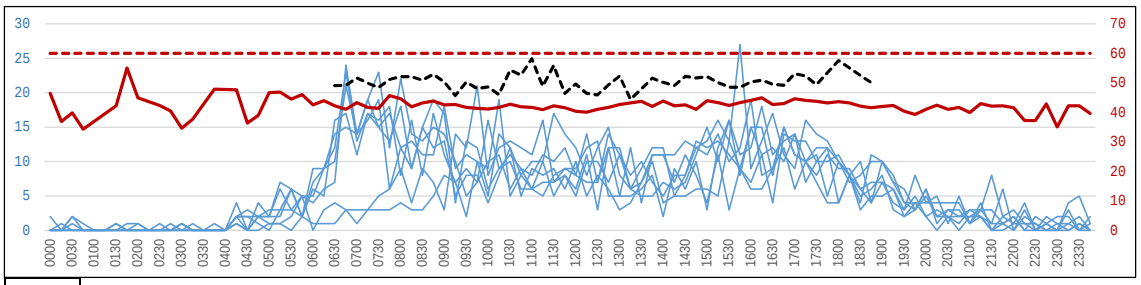
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

WESTBOUND ←

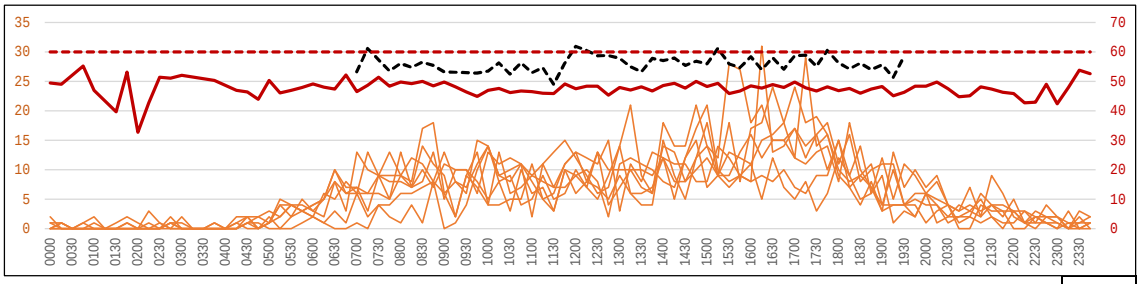


Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



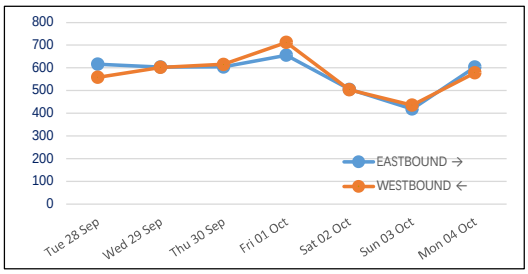
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

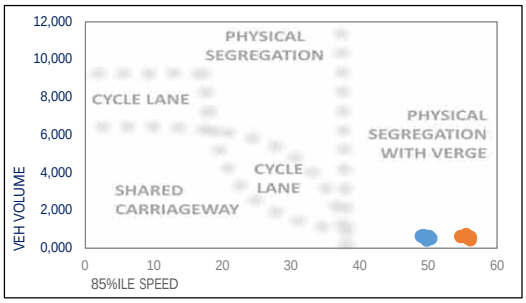
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	**1.3**
0100	0.0	0.4	0.0	0.0	0.0	**0.4**
0200	0.0	0.6	0.0	0.0	0.0	**0.6**
0300	0.0	0.7	0.0	0.0	0.0	**0.7**
0400	0.0	3.6	0.0	1.3	0.0	**4.9**
0500	0.0	10.4	0.0	1.4	0.0	**11.9**
0600	1.4	30.3	0.6	2.0	0.6	**34.9**
0700	1.3	44.0	0.6	1.0	1.0	**47.9**
0800	1.0	42.3	0.6	0.9	0.0	**44.7**
0900	0.3	37.1	1.4	0.4	0.0	**39.3**
1000	0.7	35.0	1.4	0.9	0.0	**38.0**
1100	0.4	34.6	0.9	0.1	0.0	**36.0**
1200	0.6	34.0	1.3	0.6	0.1	**36.6**
1300	0.0	28.3	1.0	1.0	0.3	**30.6**
1400	0.6	30.7	1.1	0.7	0.1	**33.3**
1500	0.3	43.0	1.0	0.3	0.0	**44.6**
1600	0.3	45.6	0.4	0.1	0.0	**46.4**
1700	0.4	41.3	0.0	0.1	0.0	**41.9**
1800	0.0	29.0	0.0	0.0	0.0	**29.0**
1900	0.4	20.9	0.4	0.0	0.0	**21.7**
2000	0.0	11.1	0.3	0.0	0.0	**11.4**
2100	0.0	8.3	0.0	0.0	0.0	**8.3**
2200	0.0	4.1	0.0	0.0	0.0	**4.1**
2300	0.0	4.0	0.0	0.0	0.0	**4.0**
12hr TTL	**5.9**	**444.9**	**9.7**	**6.1**	**1.6**	**468.1**
24hr TTL	**7.7**	**540.6**	**11.0**	**10.9**	**2.1**	**572.3**
	1%	94%	2%	2%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	**1.3**
0100	0.0	1.1	0.0	0.0	0.0	**1.1**
0200	0.0	1.6	0.0	0.1	0.0	**1.7**
0300	0.0	0.7	0.0	0.0	0.0	**0.7**
0400	0.0	2.6	0.0	0.0	0.0	**2.6**
0500	0.1	8.9	0.0	0.7	0.0	**9.7**
0600	0.0	16.4	0.3	0.4	0.0	**17.1**
0700	0.1	23.0	0.9	0.4	1.6	**26.0**
0800	0.3	31.3	2.0	1.1	0.6	**35.3**
0900	0.6	27.9	1.9	0.4	0.1	**30.9**
1000	0.6	31.9	1.1	1.0	0.0	**34.6**
1100	0.9	28.7	0.9	1.0	0.0	**31.4**
1200	1.4	32.4	0.7	0.9	0.0	**35.4**
1300	0.4	34.1	1.0	0.7	0.0	**36.3**
1400	0.3	44.0	0.6	0.9	0.4	**46.1**
1500	1.3	44.7	1.6	0.6	1.6	**49.7**
1600	1.9	53.0	0.6	0.9	0.9	**57.1**
1700	2.1	49.6	0.1	1.1	0.0	**53.0**
1800	0.3	36.4	0.7	0.6	0.3	**38.3**
1900	0.0	23.7	0.4	0.0	0.0	**24.1**
2000	0.0	15.1	0.0	0.0	0.0	**15.1**
2100	0.0	13.0	0.0	0.0	0.0	**13.0**
2200	0.0	7.3	0.0	0.0	0.0	**7.3**
2300	0.0	3.9	0.0	0.0	0.0	**3.9**
12hr TTL	**10.1**	**437.0**	**12.0**	**9.6**	**5.4**	**474.1**
24hr TTL	**10.3**	**532.6**	**12.7**	**10.9**	**5.4**	**571.9**
	2%	93%	2%	2%	1%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

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Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

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These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

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3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

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Generated	19 Oct 2021	v6.0
28925-006 Norfolk. Isleham Road. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-008 - B1085
LOC. DESC.	B1085
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085, commencing Fri 15 Oct 2021, recorded a total of 24,148 vehicles. The posted speed limit of 60mph was exceeded by 8.7% of vehicles, and the seasonally adjusted, combined AADT value is 3,648 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**24,148**
Avg daily volume (based on 7 days)	3,449.7
Average daily speed (7 days)	49.7mph
Average daily 85%ile (7 days)	57.2mph
AADT (annual average daily traffic)	3,648
Avg weekday volume (Mon-Fri, 24hrs)	3,740.8
Avg weekday speed (Mon-Fri, 24hrs)	49.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,305.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.5mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

EASTBOUND →

Total recorded volume	**12,221**
Avg daily volume (based on 7 days)	1,745.9
Average daily speed (7 days)	48.1mph
Average daily 85%ile (7 days)	55.7mph
% of vehicles exceeding 60mph	5.9%
Avg weekday volume (Mon-Fri, 24hrs)	1,863.8
Avg weekday speed (Mon-Fri, 24hrs)	48.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,635.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.3mph

WESTBOUND ←

Total recorded volume	**11,927**
Avg daily volume (based on 7 days)	1,703.9
Average daily speed (7 days)	51.2mph
Average daily 85%ile (7 days)	58.7mph
% of vehicles exceeding 60mph	11.5%
Avg weekday volume (Mon-Fri, 24hrs)	1,877.0
Avg weekday speed (Mon-Fri, 24hrs)	51.1mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,669.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	51.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	58.2mph

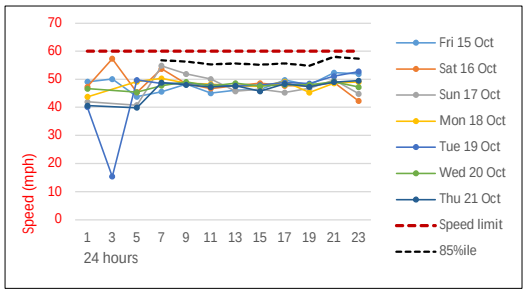
SITE LOCATION

SITE PLAN

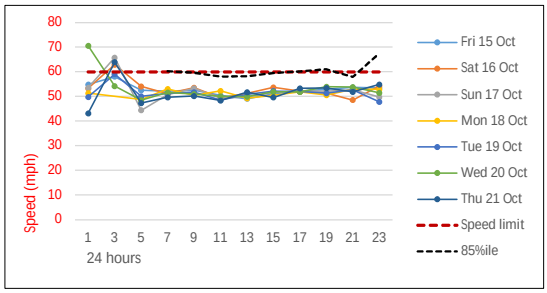
Location	B1085
Lat, lng.	52°17'26.70"N/0°27'38.58"E
Project & site	28925-008
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

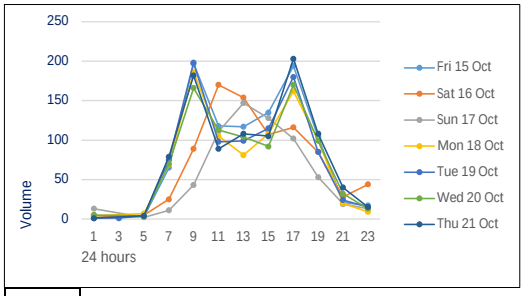


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

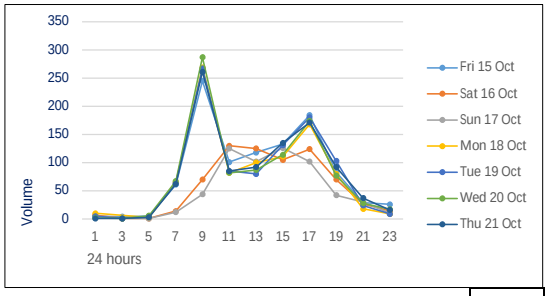
The peak average eastbound daytime speed was 55.3mph at 07:00 on Sat 16 Oct, whilst the peak average westbound speed was 59.2mph at 08:30 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

EASTBOUND →



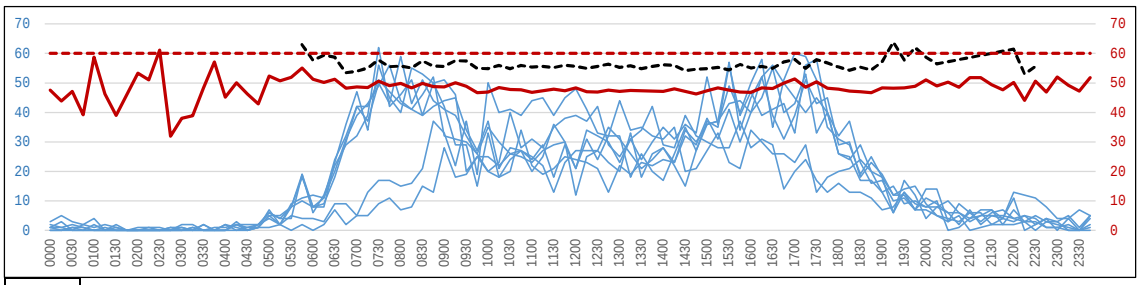
WESTBOUND ←



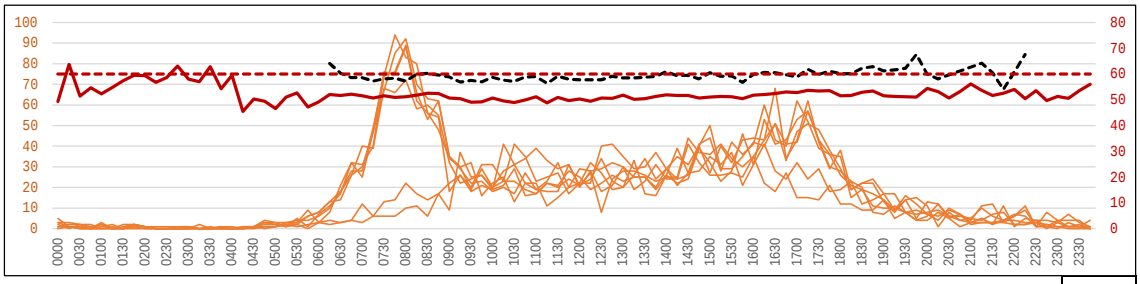
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

Hourly westbound traffic volumes over each 24hr period for 7 days from all available data. ←

15min VOL & SPEED



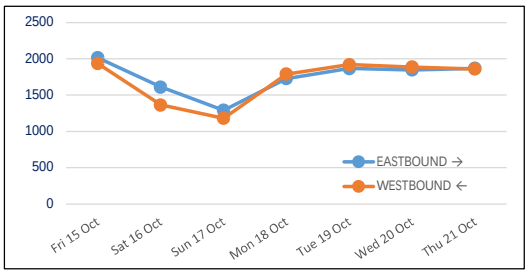
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

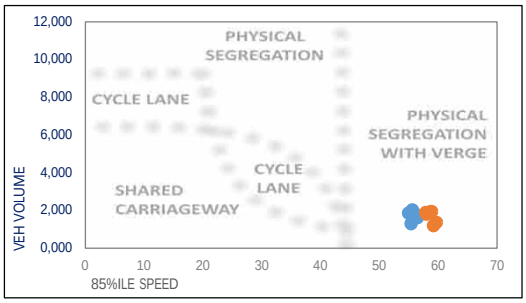
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	4.3	0.0	0.0	0.0	**4.4**
0100	0.0	1.9	0.1	0.0	0.0	**2.0**
0200	0.1	0.7	0.0	0.0	0.0	**0.9**
0300	0.3	1.6	0.0	0.0	0.0	**1.9**
0400	0.3	3.6	0.1	0.1	0.0	**4.1**
0500	0.0	24.9	0.7	0.1	0.0	**25.7**
0600	0.1	53.9	1.3	0.6	0.4	**56.3**
0700	0.4	132.6	3.1	1.3	2.6	**140.0**
0800	1.0	145.1	2.6	2.9	0.0	**151.6**
0900	1.7	115.7	4.0	2.0	0.1	**123.6**
1000	0.6	108.9	2.7	2.7	0.0	**114.9**
1100	3.4	103.7	3.7	2.7	0.0	**113.6**
1200	1.3	109.0	2.4	2.7	0.3	**115.7**
1300	1.9	104.0	2.1	1.3	0.1	**109.4**
1400	1.3	104.6	3.4	3.4	0.1	**112.9**
1500	0.6	141.7	2.0	2.4	1.1	**147.9**
1600	2.3	154.4	2.3	1.9	0.1	**161.0**
1700	1.1	148.9	1.6	0.7	0.0	**152.3**
1800	0.6	88.7	0.4	0.9	0.0	**90.6**
1900	0.3	46.3	0.3	0.1	0.1	**47.1**
2000	0.0	25.9	0.3	0.1	0.0	**26.3**
2100	0.0	16.6	0.4	0.1	0.1	**17.3**
2200	0.0	18.0	0.0	0.0	0.0	**18.0**
2300	0.0	8.1	0.4	0.0	0.0	**8.6**
12hr TTL	**16.1**	**1457.3**	**30.4**	**24.9**	**4.6**	**1533.3**
24hr TTL	**17.4**	**1662.9**	**34.1**	**26.1**	**5.3**	**1745.9**
	1%	95%	2%	1%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.0	0.0	0.0	0.0	**5.0**
0100	0.0	3.3	0.0	0.1	0.0	**3.4**
0200	0.0	1.3	0.0	0.0	0.0	**1.3**
0300	0.0	1.1	0.1	0.0	0.0	**1.3**
0400	0.0	3.3	0.0	0.0	0.0	**3.3**
0500	0.0	9.4	0.0	0.3	1.0	**10.7**
0600	0.7	45.9	1.1	1.4	0.1	**49.3**
0700	1.1	164.0	3.0	2.1	0.7	**171.0**
0800	0.6	195.0	7.7	2.4	0.4	**206.1**
0900	0.9	93.4	5.3	2.3	0.6	**102.4**
1000	1.1	91.3	3.1	3.0	0.0	**98.6**
1100	1.1	87.4	1.9	1.1	0.3	**91.9**
1200	1.0	94.4	3.3	1.6	0.3	**100.6**
1300	3.0	93.3	3.6	2.9	0.3	**103.0**
1400	0.7	116.0	2.9	2.1	0.4	**122.1**
1500	2.0	124.7	4.1	1.1	1.3	**133.3**
1600	2.1	151.3	1.9	2.1	0.1	**157.6**
1700	0.9	150.4	0.7	1.9	0.1	**154.0**
1800	0.6	76.1	0.9	0.0	0.6	**78.1**
1900	0.3	40.7	0.3	0.4	0.1	**41.9**
2000	0.0	27.4	0.1	0.0	0.0	**27.6**
2100	0.1	19.1	0.4	0.0	0.0	**19.7**
2200	0.0	14.4	0.0	0.0	0.0	**14.4**
2300	0.0	7.3	0.0	0.0	0.0	**7.3**
12hr TTL	**15.1**	**1437.4**	**38.3**	**22.7**	**5.1**	**1518.7**
24hr TTL	**16.3**	**1615.7**	**40.4**	**25.0**	**6.4**	**1703.9**
	1%	95%	2%	1%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and A-T-R cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, A-T-R cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, A-T-R may not be held liable for errors of fact or interpretation.

Generated	05 Nov 2021	v6.0
28925-008 Cambridge. B1085. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-009 - B1102
LOC. DESC.	B1102
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1102, commencing Fri 15 Oct 2021, recorded a total of 46,590 vehicles. The posted speed limit of 60mph was exceeded by 23.2% of vehicles, and the seasonally adjusted, combined AADT value is 7,013 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**46,590**
Avg daily volume (based on 7 days)	6,655.7
Average daily speed (7 days)	55.4mph
Average daily 85%ile (7 days)	62.1mph
AADT (annual average daily traffic)	7,013
Avg weekday volume (Mon-Fri, 24hrs)	7,341.0
Avg weekday speed (Mon-Fri, 24hrs)	54.8mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	6,303.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	54.4mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**23,818**
Avg daily volume (based on 7 days)	3,402.6
Average daily speed (7 days)	54.3mph
Average daily 85%ile (7 days)	60.6mph
% of vehicles exceeding 60mph	16.7%
Avg weekday volume (Mon-Fri, 24hrs)	3,766.0
Avg weekday speed (Mon-Fri, 24hrs)	53.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,282.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	53.3mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	59.5mph

SOUTHBOUND ↓

Total recorded volume	**22,772**
Avg daily volume (based on 7 days)	3,253.1
Average daily speed (7 days)	56.5mph
Average daily 85%ile (7 days)	63.6mph
% of vehicles exceeding 60mph	29.7%
Avg weekday volume (Mon-Fri, 24hrs)	3,575.0
Avg weekday speed (Mon-Fri, 24hrs)	55.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,021.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	55.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	62.4mph

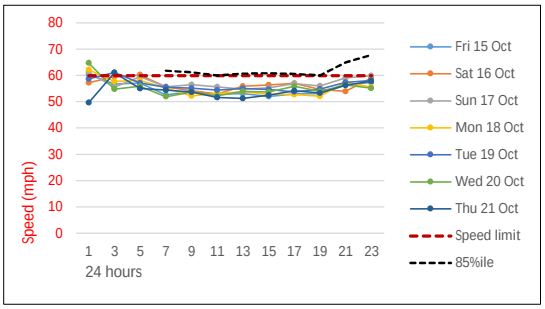
SITE LOCATION

SITE PLAN

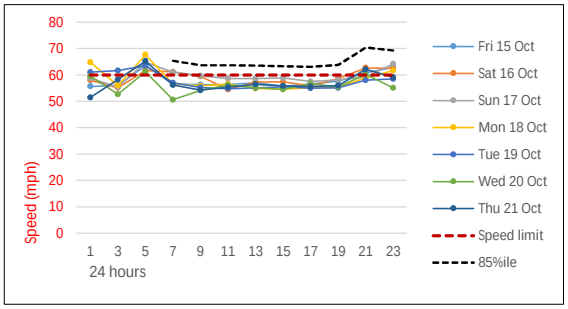
Location	B1102
Lat, lng.	52°17'35.11"N,0°20'55.67"E
Project & site	28925-009
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

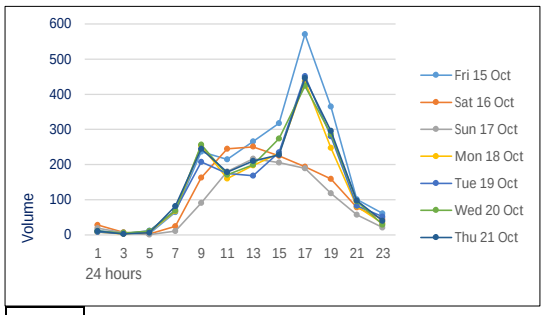


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 61.5mph at 07:15 on Sat 16 Oct, whilst the peak average southbound speed was 64.2mph at 07:00 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

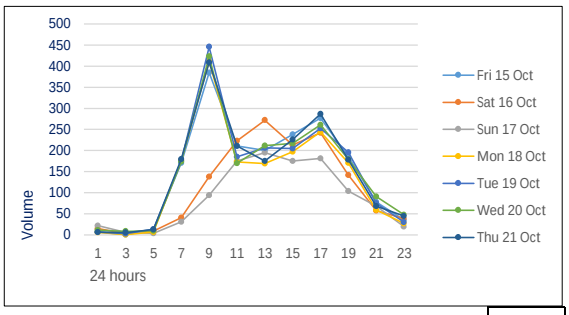
HOURLY VOLUMES

NORTHBOUND ↑



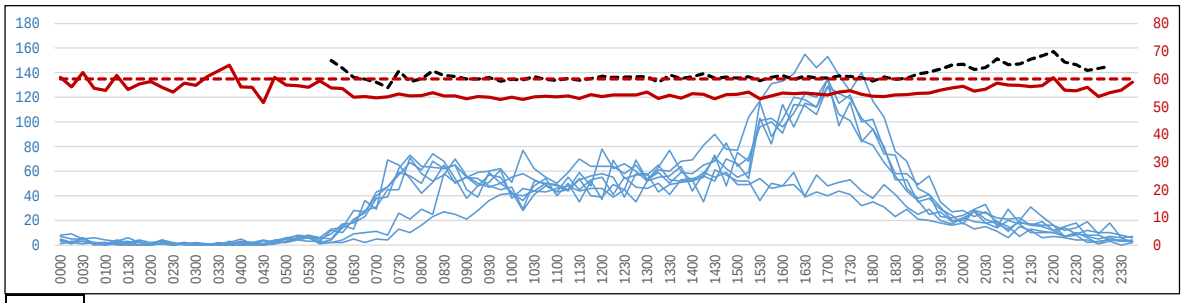
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

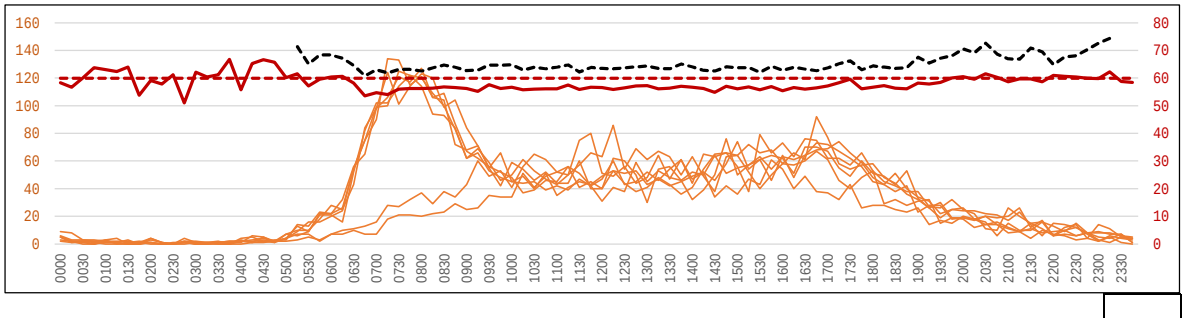


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

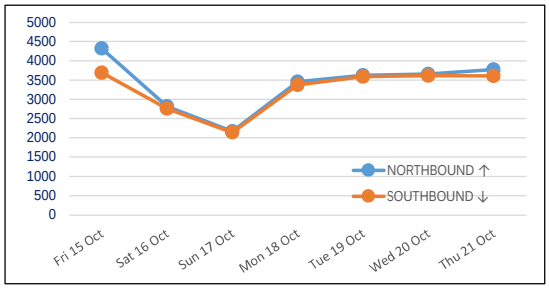


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	13.3	0.6	0.0	0.0	**13.9**
0100	0.0	6.7	0.3	0.0	0.0	**7.0**
0200	0.1	4.4	0.1	0.0	0.1	**4.9**
0300	0.0	2.4	0.4	0.0	0.0	**2.9**
0400	0.0	6.1	0.1	0.1	0.0	**6.4**
0500	0.0	18.7	0.7	0.3	0.0	**19.7**
0600	2.0	50.3	1.1	2.1	0.0	**55.6**
0700	1.9	155.3	2.7	1.3	1.0	**162.1**
0800	1.7	198.1	3.9	3.0	1.1	**207.9**
0900	1.3	185.9	5.4	3.4	0.1	**196.1**
1000	1.7	178.7	6.0	2.1	0.6	**189.1**
1100	0.9	188.0	5.3	3.1	0.4	**197.7**
1200	0.9	205.4	6.4	2.4	0.4	**215.6**
1300	2.0	211.3	5.9	2.7	1.0	**222.9**
1400	2.0	232.9	6.6	3.1	0.9	**245.4**
1500	1.7	290.1	6.6	3.1	1.0	**302.6**
1600	2.7	376.6	5.0	3.1	0.1	**387.6**
1700	2.1	379.4	3.1	1.9	0.3	**386.9**
1800	1.1	246.1	2.6	0.6	0.0	**250.4**
1900	0.7	116.6	0.9	0.1	0.0	**118.3**
2000	1.4	83.0	0.1	0.0	0.1	**84.7**
2100	2.0	61.6	0.1	0.1	0.1	**64.0**
2200	0.3	39.6	0.3	0.0	0.0	**40.1**
2300	0.4	19.6	0.7	0.0	0.1	**20.9**
12hr TTL	**20.0**	**2847.9**	**59.4**	**30.0**	**7.0**	**2964.3**
24hr TTL	**27.0**	**3270.1**	**65.0**	**32.9**	**7.6**	**3402.6**
	1%	96%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	9.6	0.4	0.4	0.3	**10.7**
0100	0.1	3.9	0.1	0.3	0.0	**4.4**
0200	0.0	3.7	0.0	0.3	0.1	**4.1**
0300	0.0	2.6	0.1	0.1	0.0	**2.9**
0400	0.0	9.7	0.0	0.0	0.0	**9.7**
0500	0.1	36.9	0.1	0.7	0.3	**38.1**
0600	1.0	130.0	2.7	1.4	0.4	**135.6**
0700	4.6	326.7	7.4	2.9	2.3	**343.9**
0800	0.9	317.0	6.9	3.4	1.4	**329.6**
0900	1.3	209.7	6.6	2.0	0.3	**219.9**
1000	1.1	181.4	5.9	3.3	0.9	**192.6**
1100	2.6	182.7	8.3	3.4	0.6	**197.6**
1200	1.4	193.3	6.9	1.9	0.7	**204.1**
1300	2.1	189.6	5.1	2.0	0.7	**199.6**
1400	2.6	198.7	5.6	1.4	1.9	**210.1**
1500	3.7	212.6	7.4	3.0	1.6	**228.3**
1600	2.4	238.9	4.9	2.3	0.9	**249.3**
1700	2.6	219.3	2.4	1.4	0.3	**226.0**
1800	1.1	162.1	1.4	0.4	0.0	**165.1**
1900	1.6	97.7	1.0	1.0	0.3	**101.6**
2000	0.4	69.1	1.1	0.3	0.0	**71.0**
2100	0.0	53.7	0.1	0.3	0.1	**54.3**
2200	0.0	34.1	0.3	0.4	0.1	**35.0**
2300	0.0	18.6	0.7	0.1	0.3	**19.7**
12hr TTL	**26.4**	**2632.0**	**68.7**	**27.4**	**11.4**	**2766.0**
24hr TTL	**29.7**	**3101.6**	**75.6**	**32.9**	**13.4**	**3253.1**
	1%	95%	2%	1%	0%	

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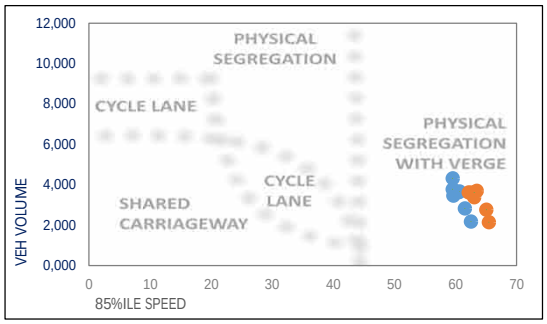

The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

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Roadworks & events

Where possible, roadworks checks are made 7 days before the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		OGV1 & PSV
5	TB3	3 axle truck / bus		OGV1
6	T4	4 axle truck		OGV2
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

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28925-009 Cambridge. B1102. Summary.xlsx		

ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-010 - Weirs Drove
LOC. DESC.	Weirs Drove
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Weirs Drove, commencing Fri 15 Oct 2021, recorded a total of 2,300 vehicles. The posted speed limit of 60mph was exceeded by 0.0% of vehicles, and the seasonally adjusted, combined AADT value is 353 (see Equipment & Methodology below).

COMBINED

Total recorded volume	**2,300**
Avg daily volume (based on 7 days)	328.6
Average daily speed (7 days)	19.0mph
Average daily 85%ile (7 days)	22.6mph
AADT (annual average daily traffic)	353
Avg weekday volume (Mon-Fri, 24hrs)	347.8
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	314.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

NORTHBOUND ↑

Total recorded volume	**1,174**
Avg daily volume (based on 7 days)	167.7
Average daily speed (7 days)	19.0mph
Average daily 85%ile (7 days)	22.4mph
% of vehicles exceeding 60mph	0.0%
Avg weekday volume (Mon-Fri, 24hrs)	175.4
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	156.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	22.1mph

SOUTHBOUND ↓

Total recorded volume	**1,126**
Avg daily volume (based on 7 days)	160.9
Average daily speed (7 days)	18.9mph
Average daily 85%ile (7 days)	22.8mph
% of vehicles exceeding 60mph	0.0%
Avg weekday volume (Mon-Fri, 24hrs)	172.4
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	158.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	22.3mph

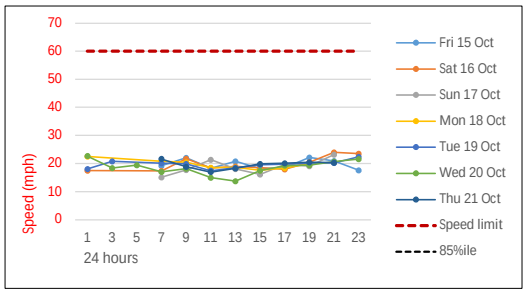
SITE LOCATION

SITE PLAN

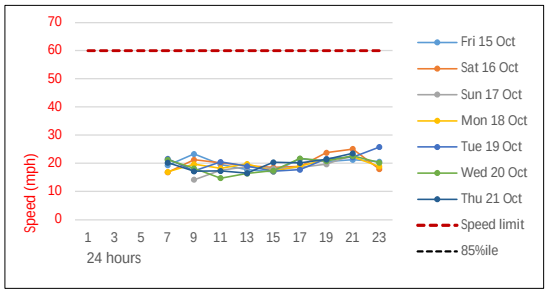
Location	Weirs Drove
Lat, lng.	52°16'44.68"N/0°19'1.33"E
Project & site	28925-010
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

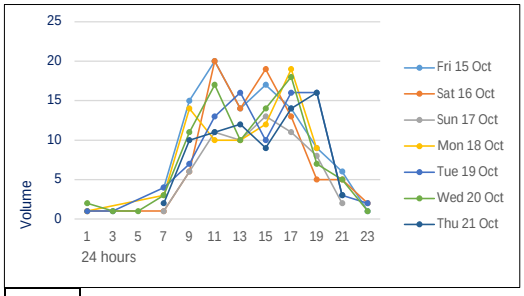


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average northbound daytime speed was 27.5mph at 11:00 on Fri 15 Oct, whilst the peak average southbound speed was 30.8mph at 08:15 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

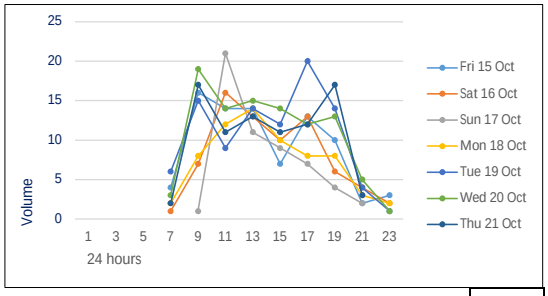
HOURLY VOLUMES

NORTHBOUND ↑



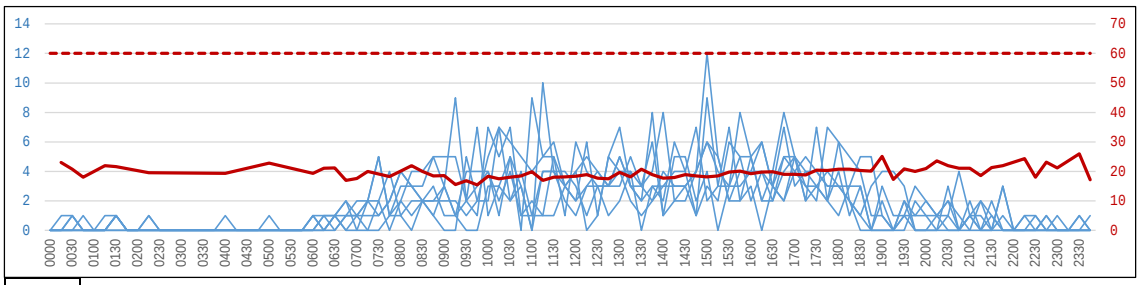
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

SOUTHBOUND ↓

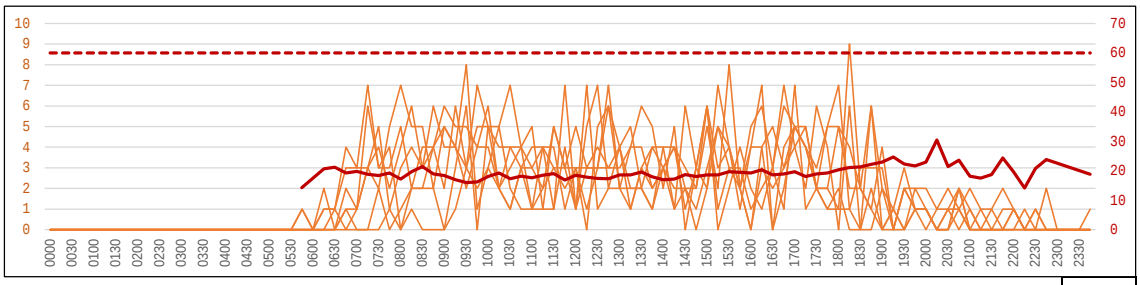


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data. ↓

15min VOL & SPEED



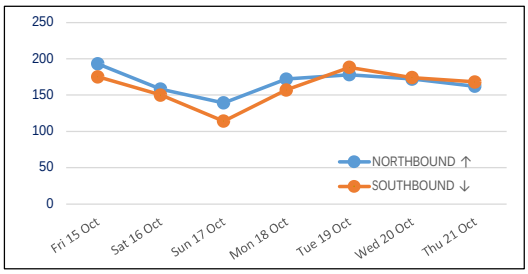
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

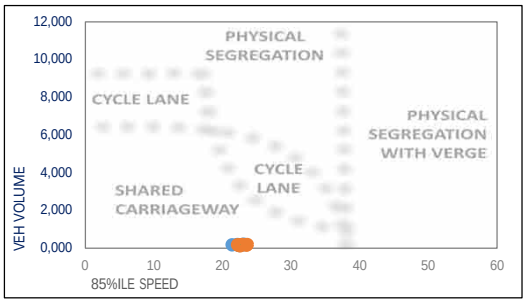
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	**0.7**
0100	0.0	0.9	0.0	0.0	0.0	**0.9**
0200	0.0	0.3	0.0	0.0	0.0	**0.3**
0300	0.0	0.0	0.0	0.0	0.0	**0.0**
0400	0.0	0.1	0.0	0.0	0.0	**0.1**
0500	0.0	0.1	0.0	0.0	0.0	**0.1**
0600	0.1	2.4	0.0	0.0	0.0	**2.6**
0700	0.6	5.3	0.0	0.1	0.0	**6.0**
0800	1.4	8.3	0.0	0.1	0.0	**9.9**
0900	1.0	8.4	0.6	0.1	0.0	**10.1**
1000	2.0	11.6	0.6	0.3	0.1	**14.6**
1100	0.9	11.7	0.6	0.4	0.0	**13.6**
1200	1.0	10.9	0.1	0.1	0.1	**12.3**
1300	1.6	11.6	0.3	0.3	0.0	**13.7**
1400	1.6	11.3	0.3	0.3	0.0	**13.4**
1500	1.3	15.3	0.4	0.0	0.0	**17.0**
1600	1.4	13.1	0.3	0.1	0.0	**15.0**
1700	1.1	13.6	0.0	0.0	0.0	**14.7**
1800	1.0	9.0	0.0	0.0	0.0	**10.0**
1900	0.4	4.3	0.0	0.0	0.0	**4.7**
2000	0.0	3.4	0.0	0.0	0.0	**3.4**
2100	0.0	3.1	0.0	0.0	0.0	**3.1**
2200	0.0	0.9	0.0	0.0	0.0	**0.9**
2300	0.0	0.6	0.0	0.0	0.0	**0.6**
12hr TTL	**14.9**	**130.0**	**3.1**	**2.0**	**0.3**	**150.3**
24hr TTL	**15.4**	**146.9**	**3.1**	**2.0**	**0.3**	**167.7**
	9%	88%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.0	0.0	0.0	0.0	**0.0**
0100	0.0	0.0	0.0	0.0	0.0	**0.0**
0200	0.0	0.0	0.0	0.0	0.0	**0.0**
0300	0.0	0.0	0.0	0.0	0.0	**0.0**
0400	0.0	0.0	0.0	0.0	0.0	**0.0**
0500	0.3	0.0	0.0	0.0	0.0	**0.3**
0600	0.3	2.3	0.0	0.0	0.0	**2.6**
0700	1.3	8.1	0.0	0.0	0.0	**9.4**
0800	0.7	10.1	0.9	0.1	0.0	**11.9**
0900	1.9	11.9	0.6	0.3	0.0	**14.6**
1000	0.6	12.6	0.4	0.3	0.0	**13.9**
1100	0.3	10.4	0.7	0.1	0.0	**11.6**
1200	1.3	11.6	0.3	0.1	0.1	**13.4**
1300	0.6	10.4	0.4	0.1	0.0	**11.6**
1400	0.7	9.3	0.0	0.3	0.1	**10.4**
1500	0.6	12.6	0.7	0.0	0.0	**13.9**
1600	0.3	11.4	0.3	0.1	0.0	**12.1**
1700	0.4	13.3	0.0	0.4	0.0	**14.1**
1800	0.1	10.1	0.0	0.0	0.0	**10.3**
1900	0.1	4.4	0.0	0.0	0.0	**4.6**
2000	0.0	3.3	0.0	0.0	0.0	**3.3**
2100	0.0	1.6	0.0	0.0	0.0	**1.6**
2200	0.0	1.3	0.0	0.0	0.0	**1.3**
2300	0.0	0.1	0.0	0.0	0.0	**0.1**
12hr TTL	**8.7**	**131.9**	**4.3**	**2.0**	**0.3**	**147.1**
24hr TTL	**9.4**	**144.9**	**4.3**	**2.0**	**0.3**	**160.9**
	6%	90%	3%	1%	0%	

Average daily northbound and southbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and A-T-R cannot be held responsible for any periods where data has not been captured.

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Weather & environmental

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7	ART3	3 axle articulated	LONG 11.5m to 19.0m	
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Vehicle classifications

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Annex G – 46.63m AIL Report

SUNNICA ENERGY FARM

Abnormal Indivisible Loads required for Sunnica Energy Farm

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Version number: 00

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Sunnica Energy Farm

Abnormal Indivisible Loads required for Sunnica Energy Farm

Version	Date	Status of Version
Rev 00	25/07/2022	For Issue

1 Introduction

1.1.1 To facilitate the grid connection at Burwell National Grid Substation, the Scheme needs to provide a substation or transformer capable of upgrading the voltage of the electricity generated by the Scheme to 400 kilovolts (kV). Within the application submitted in November 2021, the Scheme included two options for extending the Burwell National Grid Substation to do this. Within the application, these are called Option 1 and Option 2.

1.1.2 Through the relevant representations process, the Applicant was made aware of the representation made by National Grid Electricity Transmission (NGET). This representation stated that one of the two grid connection options, Option 1, is considered 'not technically feasible' by NGET. Option 1 has therefore proposed to be removed from the Application.

1.1.3 Following NGET's representation, the Applicant has revisited the technical solutions available to connect the Scheme into the NGET infrastructure at Burwell to seek to minimise compulsory acquisition requirements and environmental effects.

1.1.4 This design work has resulted in the identification of an additional option for the grid connection, referred to as 'Option 3'. Option 3 involves transforming the 33 kV received from the solar stations within the PV Sites directly to 400 kV within the onsite substation at Sunnica West Site A, Sunnica East Site A and Sunnica East Site B for export to the Burwell National Grid Substation.

1.1.5 Option 2 has not been discounted at this stage and is retained in the application whilst discussions continue with NGET about Option 3. Once NGET have confirmed that they are content with Option 3, the Applicant would seek to remove Option 2 from the application.

1.1.6 As a result of the above, the Applicant has undertaken additional swept path analysis (vehicle tracking) to ensure that the electrical infrastructure required under Option 3 i.e. a 400kV transformer can be safely transported to Sunnica West Site A, Sunnica East Site A and Sunnica East Site B. To ensure a robust assessment, the tracking has also been redone for Burwell National Grid Substation Extension Option 2 using a worst case vehicle that has been utilised for the Option 3 solution.

2 Swept Path Analysis

2.1.1 Based on the information provided by an experienced contractor, a 16-Axle Girder Trailer (46.63m long) would be required to transport the 400kV transformer to site. Refer to Plate 1 below for visual representations.

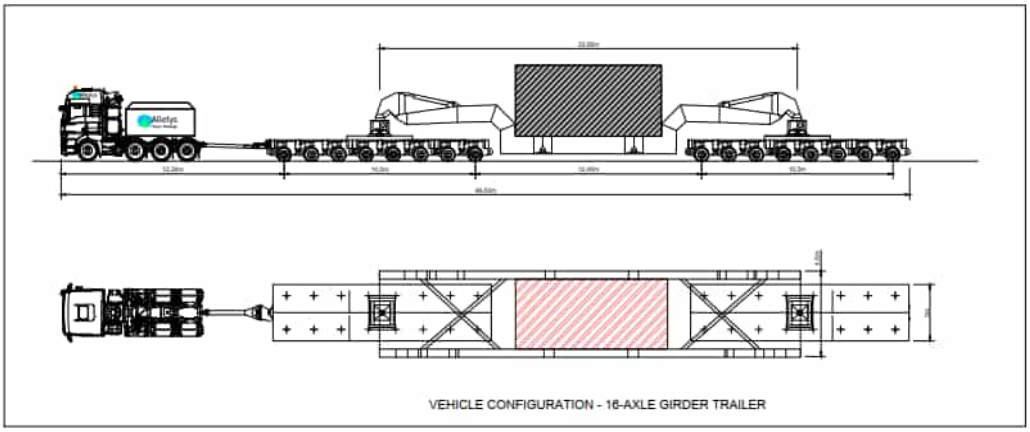


Plate 1: 16-Axle Girder Trailer

2.1.2 The swept path analysis has been undertaken based on the preferred routes identified within section 5.5 to 5.8 of the Framework Construction Traffic Management Plan and Travel Plan **[APP-118]**. This technical note provides a summary of the identified 'pinch points' along the identified routes where the AIL will over sail the existing road only and not a full route review. The note does not include junctions or manoeuvres where the AIL movement is within the bounds of the existing road; hence not all junctions are described in this technical note. The pinch points are shown in Figure 1. The 'pinch points' along the routes form the basis of the targeted consultation.

2.1.3 The swept path analysis for the routes has been undertaken for the entry routes only at this stage, as the AIL will be disassembled and transported off-site following delivery of the 400kV transformer.

2.1.4 The swept path analysis has been based on OS mapping which is considered sufficient for this stage of the planning process. Detailed topographical surveys will be undertaken of the routes post consent and a further review of the route will be carried out by an experienced haulage contractor prior to the AILs requirement on-site. The requirements for the AILs along the routes and consents required will be discussed with the relevant local highway authorities, National Highways and Police at that stage.

2.1.5 The swept path analysis included below shows the wheel lines (in blue) and the over sail of the vehicle's body (in orange). Where relevant the junctions and AIL manoeuvres have been cross referenced with Revision 1 of the Access and Rights of Way (ARoW) Plans **[AS-005]** submitted in response to the Section 51 letter.

3 Sunnica West Site A

3.1.1 The swept path analysis has shown that the AIL can safely manoeuvre the A11 / La Hogue Road junction; however, the trailer will over sail the inside grass verge of the junction by approximately 3.2m but will remain within the bounds of the highway and require a street sign to be temporarily removed or relocated, as illustrated in Plate 2 below.

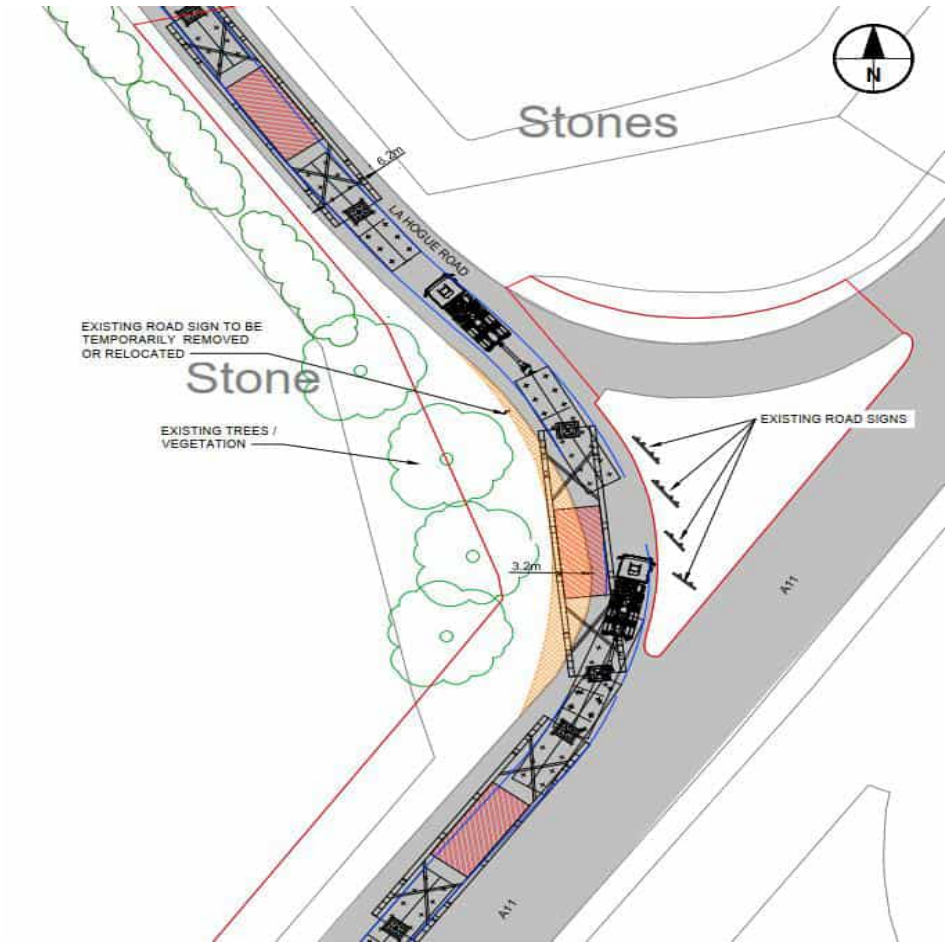


Plate 2: A11 / La Hogue Road Junction

4 Sunnica East Site A

4.1.1 The AIL can safely access Sunnica East Site A via the B1085 (High Street) through Chippenham B1104 and B1102 Fordham Road through Freckenham to Beck Road as outlined in Section 5.6 of the Construction Traffic Management Plan and Travel Plan **[APP-118]**. However as shown in Plates 3 to 8, the trailer will over sail the road in the following locations:

- A11 off-slip / B1085 Junction (Plate 3) the trailer will over sail the inside grass verge by approximately 2.5m but will remain within the bounds of the highway and no temporary alterations to streets are considered necessary to facilitate this manoeuvre.
- ‘S’-Bend on B1085 (Plate 4): the trailer will over sail the inside grass verge by approximately 2.1m at Low Park Corner but will remain within the bounds of the highway and no temporary alterations to streets are considered necessary to facilitate this manoeuvre.
- Bend on B1085 / Parkside Road (Plate 5): the trailer will over sail the inside grass verge by approximately 1.2m but will remain within the bounds of the highway and no temporary alterations to streets are considered necessary to facilitate this manoeuvre.
- Bend on B1102 The Street / Mildenhall Road (Plate 6) which is identified on sheet 21 of the ARoW Plans as AS-36: vegetation clearance (branch

trimming) of the tree located within the centre of the junction may be required to allow AIL to navigate the junction but the vehicle will remain within the bounds of the highway. The branch trimming was identified within the Construction Traffic Management Plan and Travel Plan **[APP-118]** and there is no requirement to amend the extent of AS-36 as a result of the updated tracking. With the implementation of mitigation outlined within the Framework Construction Environmental Management Plan **[App-123]** there are no new or different significant ecological effects associated with the branch trimming.

- 1102 Mildenhall Road / Unnamed Road Junction (Plate 7) and the junction in question is identified on sheet 21 of the ARoW Plans as AS-37: the trailer will over sail the inside verge by approximately 4.3m and over-sail private land. This will require the existing private fence/gate to be removed or relocated as well as some minor vegetation clearance to facilitate the manoeuvre. With the implementation of mitigation outlined within the Framework Construction Environmental Management Plan **[App-123]** there are no new or different significant ecological effects associated with the vegetation clearance.
- Unnamed Road / Beck Road Junction (Plate 8) and the junction in question is identified on sheet 4 of the ARoW Plans as AS-5: the trailer will over sail the inside verge by approximately 2m. This will require the temporary removal or relocation of two existing road signs. There may also be a requirement to clear vegetation (branch trimming) to facilitate access but the vehicle will remain within the bounds of the highway. With the implementation of mitigation outlined within the Framework Construction Environmental Management Plan **[App-123]** there are no new or different significant ecological effects associated with the branch trimming.

Plate 3: A11 off-slip / B1085 Junction

Plate 4: 'S' Bends on B1085

Plate 5: Bend on B1085 / Parkside Road

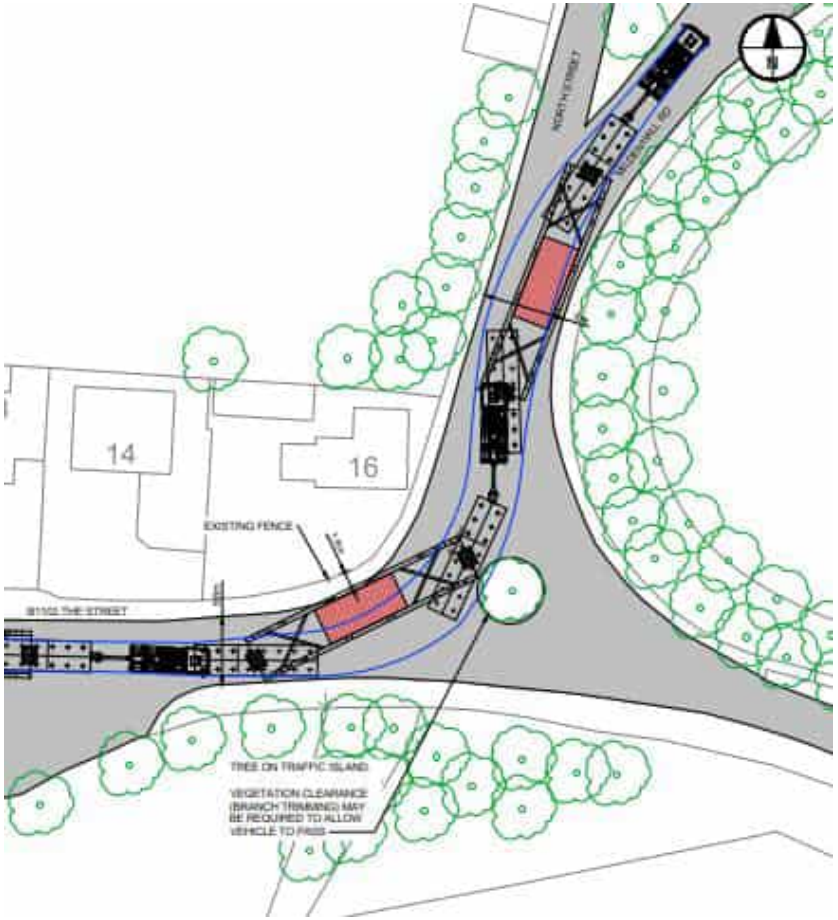


Plate 6: Bend on B1102 The Street / Mildenhall Road

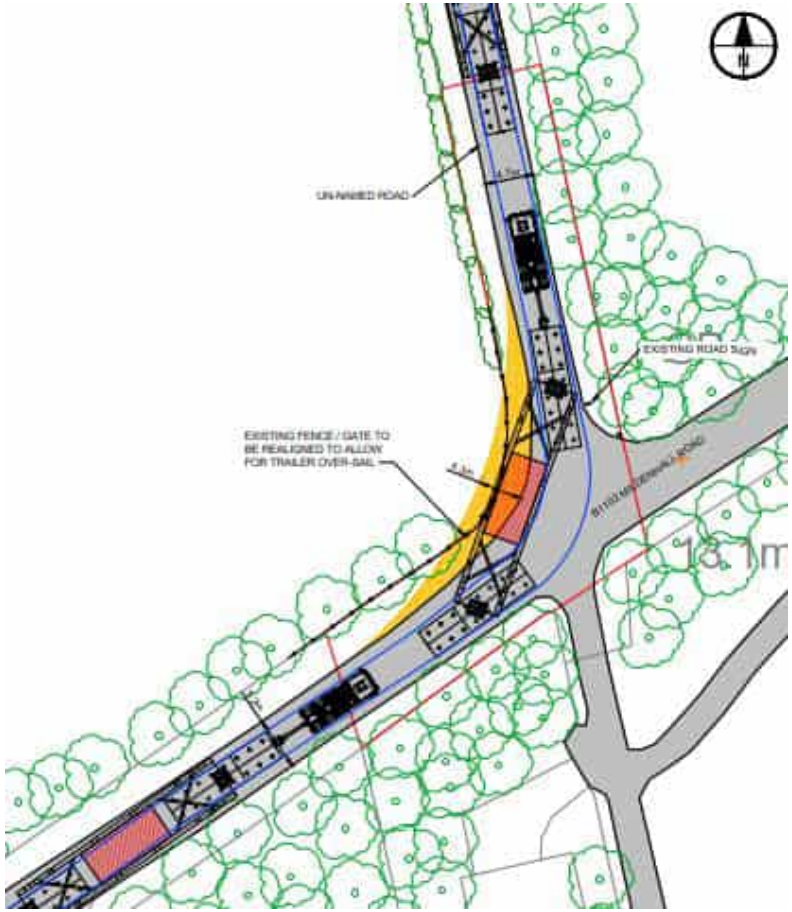


Plate 7: 1102 Mildenhall Road / Unnamed Road Junction

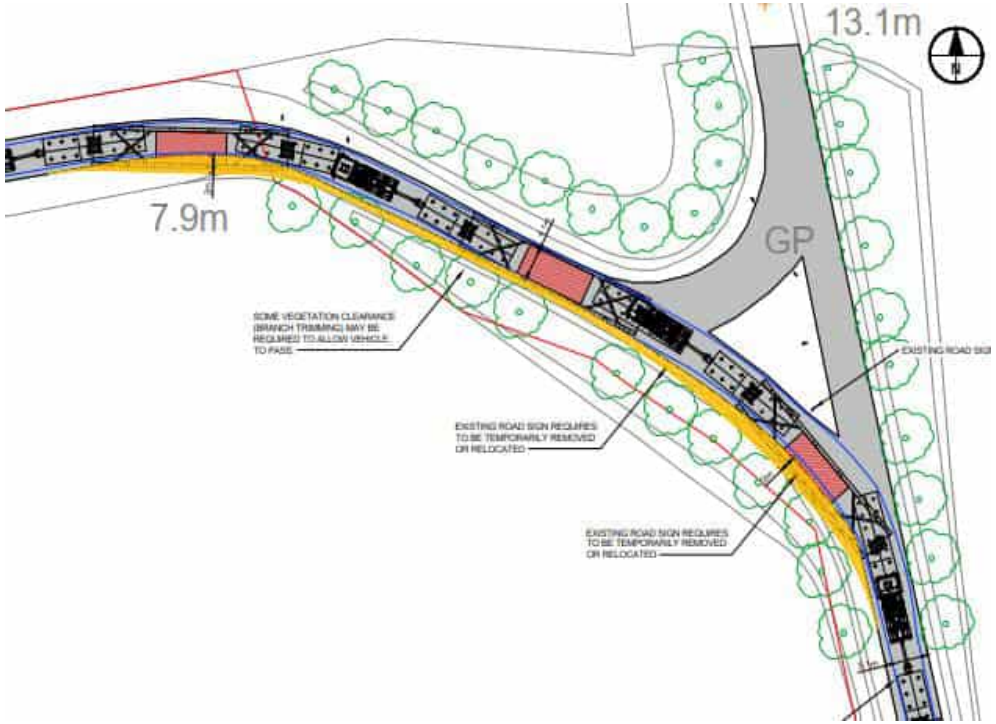


Plate 8: Unnamed Road / Beck Road Junction

5 Sunnica East Site B

5.1.1 The swept path analysis has shown that the AIL can safely manoeuvre the A11 / Elms Road junction; however, the trailer will over sail the inside grass verge of the junction by approximately 3.4m and require a street sign to be temporarily removed or relocated but the vehicle will remain within the bounds of the highway, as illustrated in Plate 9 below. The junction is identified on sheet 7 of the ARoW Plans as AS-15.

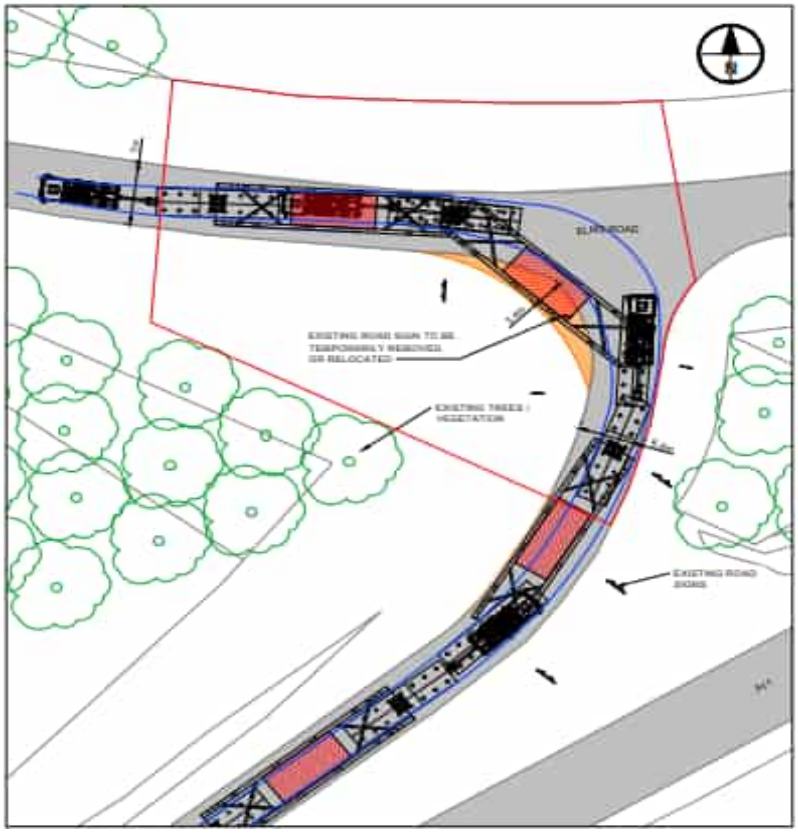


Plate 9: A11 / Elms Road Junction

6 Burwell National Grid Substation Extension Option 2

6.1.1 The AIL can safely access Burwell National Grid Substation Extension Option 2 site area via A14 to Newnham Drove along Windmill Hill Road, Oxford Street, B1103 (Burwell Road/Newmarket Road), B1102 (Isaacson Road), High Street, and Reach Road as outlined in Section 5.8 of the Construction Traffic Management Plan and Travel Plan **[APP-118]**. However as shown in Plates 10 to 14, the trailer will over sail the road in the following locations:

- B1103 Newmarket Road / B1102 Isaacson Road Junction (Plate 10) and the junction in question is identified on sheet 23 of the ARoW Plans as AS-39: the trailer will over sail the inside grass verge by

approximately 2.3m and existing vegetation may need to be cut back to allow for the trailer over sail but the vehicle will remain within the bounds of the highway. With the implementation of mitigation outlined within the Framework Construction Environmental Management Plan **[App-123]** there are no new or different significant ecological effects associated with the vegetation trimming.

- B1103 Swan Lane / Oxford Street Junction (Plate 11) and the junction in question is identified on Sheet 24 of the ARoW Plans as AS-40: the trailer will over sail the inside verge by approximately 2.9m bringing it in close proximity to the Swan Pub, but the vehicle will remain within the bounds of the highway. In addition an existing street sign will need to be temporarily removed or relocated.
- B1103 Reach Road / Weirs Drove Junction (Plate 12): the trailer will over sail the inside grass verge by approximately 2.6m, but the vehicle will remain within the bounds of the highway. An existing street sign will need to be temporarily removed or relocated.
- 'S'-Bend on Weirs Drove (Plate 13) the location of the manoeuvre is identified on Sheet 20 of the ARoW Plans as AS-35 : the trailer will over sail the inside grass verge of the first bend by approximately 3.6m. The trailer will over sail the inside grass verge of the second bend by 3.9m, this will require existing vegetation to be cut back but the vehicle will remain within the bounds of the highway during its transit of both bends. The two trees which may require pruning have low/moderate bat roost potential; however, no bat roosts were identified at the time of the previous survey in 2021. A re-survey for bats will be carried out prior to works being carried out. As required in Table 3-3 Biodiversity of the Framework Construction Environmental Management Plan **[App-123]**, the Contractor will updated species surveys, including bats, great crested newt, breeding birds, otter, water vole and badger, to re-confirm the status of protected species identified, to inform mitigation requirements and support protected species licence applications, if required by Natural England.
- Weirs Drove / Newnham Drove Junction (Plate 14) the location of the manoeuvre is identified on sheet 20 of the ARoW Plans as AS-34 and AS-35: the trailer will over sail the inside grass verge by approximately 8.2m but the vehicle will remain within the bounds of the highway. An existing street sign will need to be temporarily removed or relocated.
- Newham Drove (Plate 14): widening of Newnham Drove will be required to facilitate access to the Burwell National Grid Substation Extension Option 2as identified currently on sheet 20 of the ARoW Plans as AS-34.

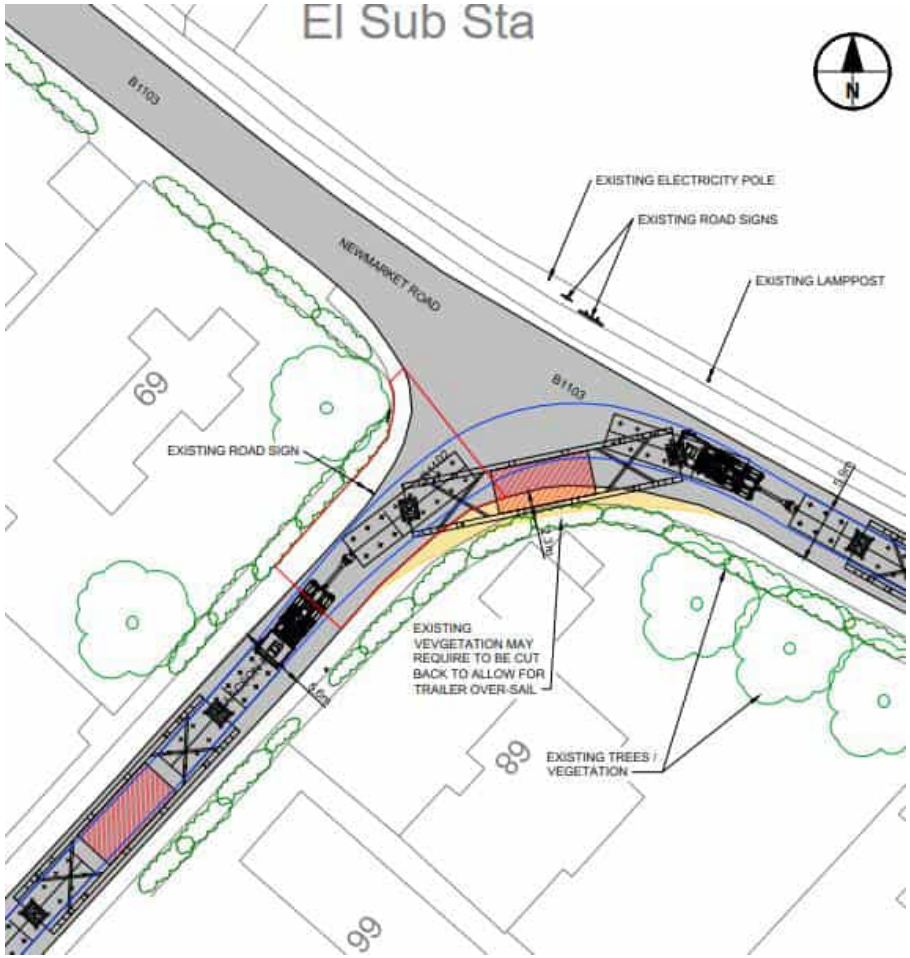


Plate 10: B1103 Newmarket Road / B1102 Isaacson Road Junction

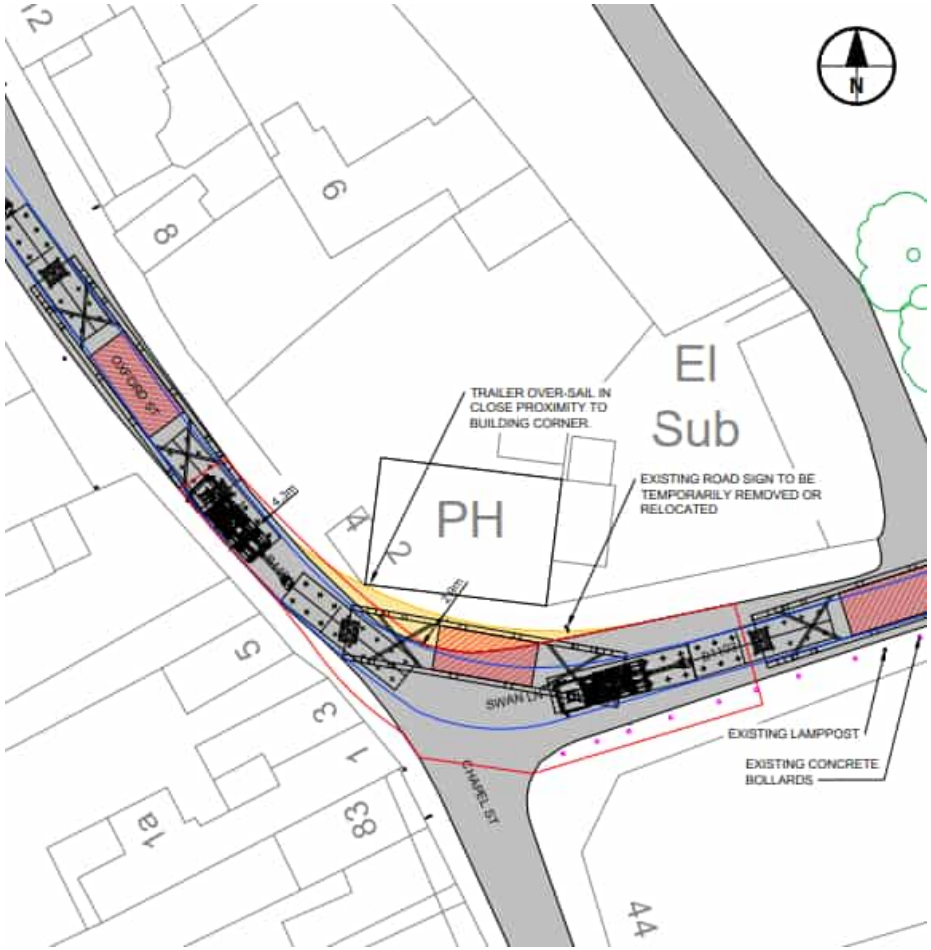


Plate 11: B1103 Swan Lane / Oxford Street Junction

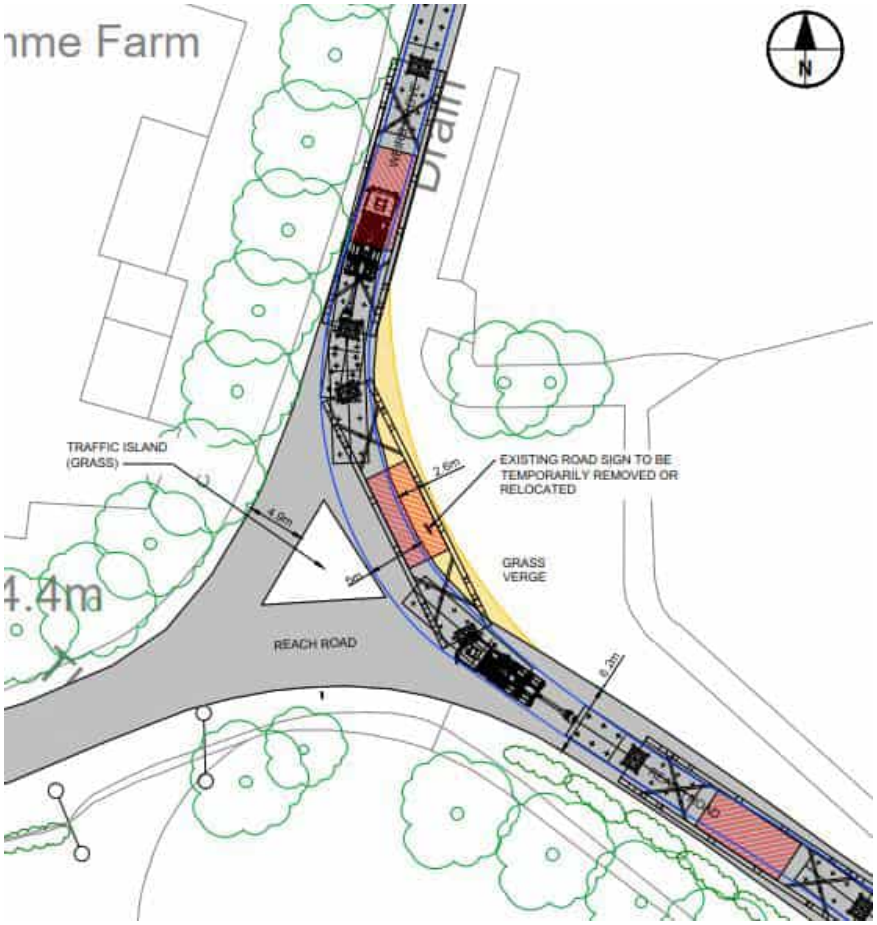


Plate 12: B1103 Reach Road / Weirs Drove Junction

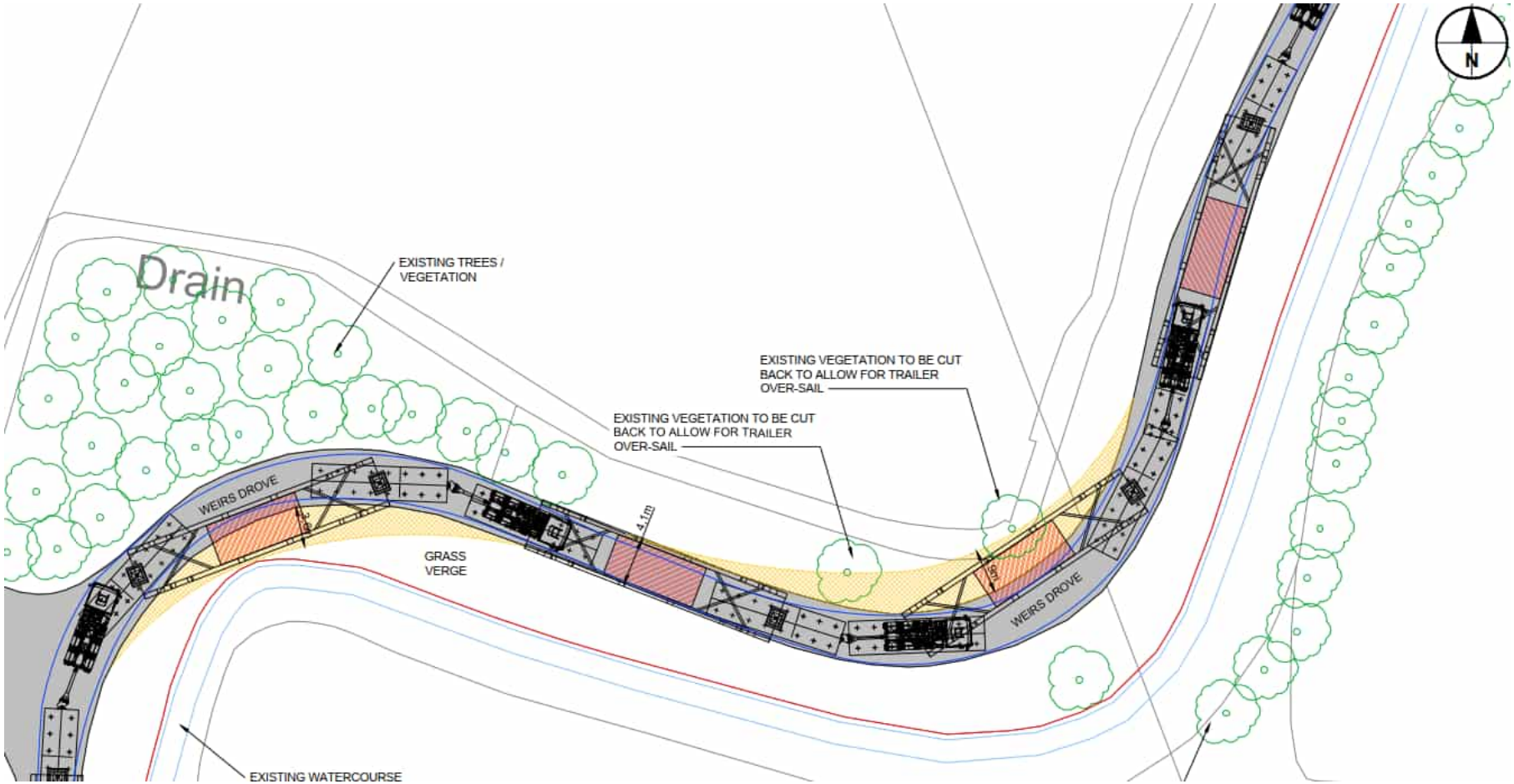


Plate 13: 'S'-Ben on Weirs Drove

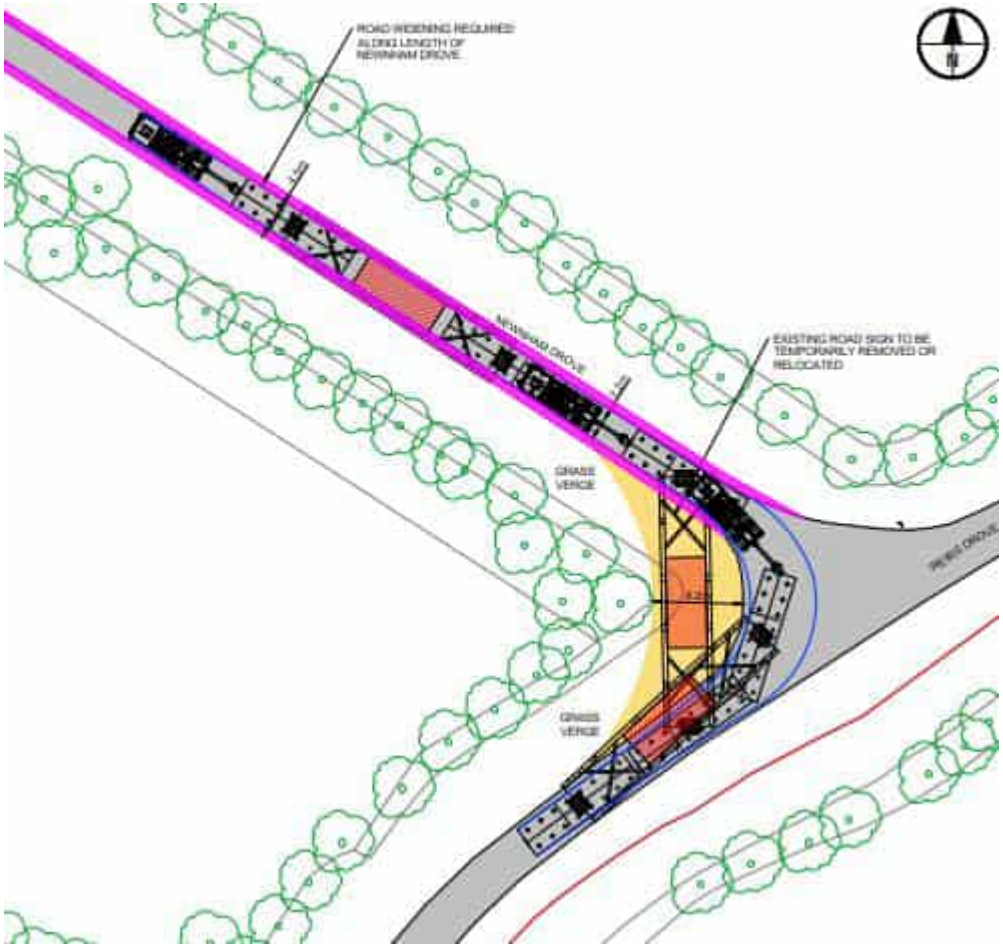


Plate 14: Weirs Drove / Newnham Drove Junction

Figures

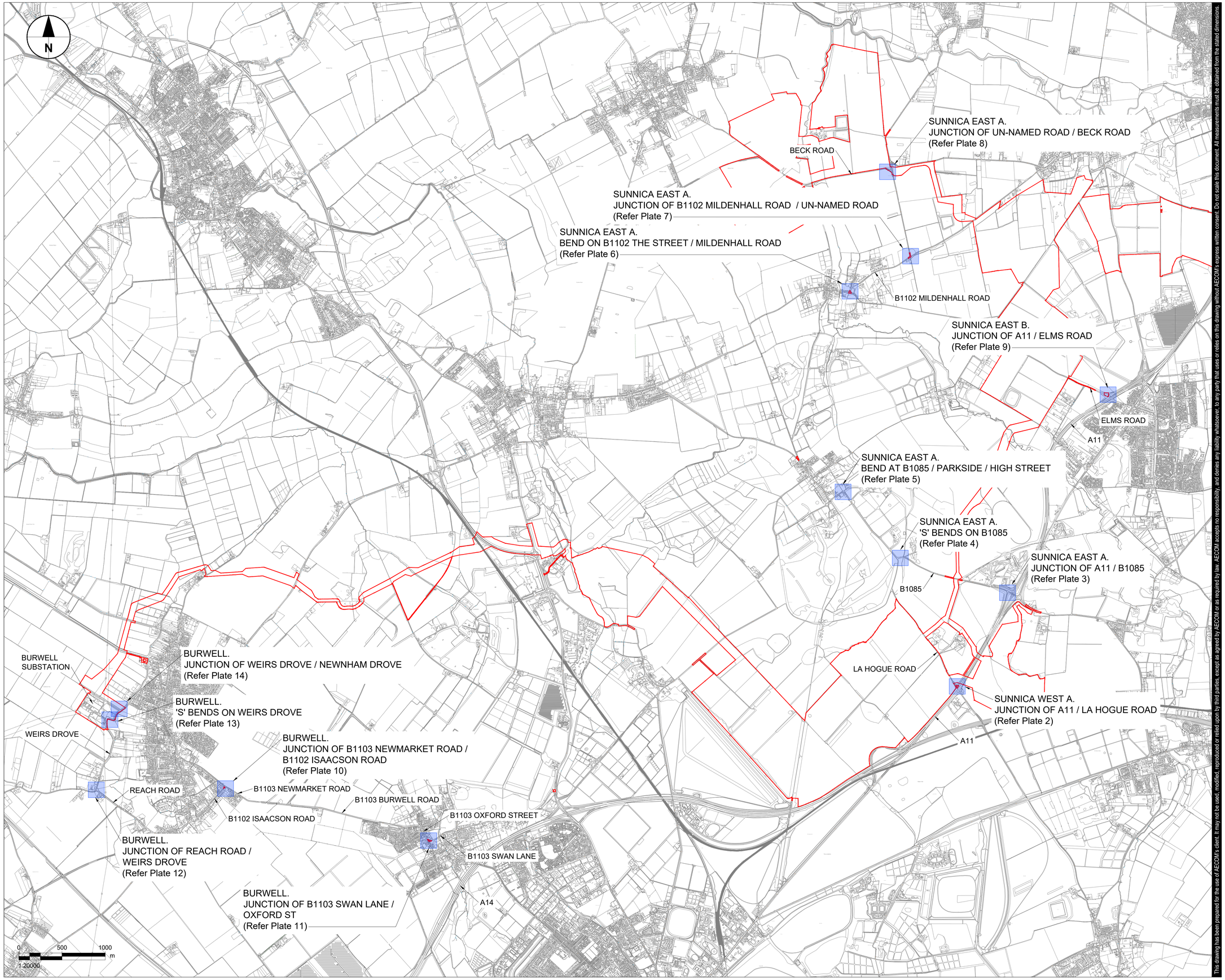
ISO A1 594mm x 841mm

Approved: CGY

Checked: EP

Designer: DWT

Project Management Initials:



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Notes

1. THIS DRAWING IS BASED ON ORDNANCE SURVEY MASTERMAP MAPPING.
2. FOR DETAILS OF VEHICLE TRACKING PINCH POINTS, REFER TO INDIVIDUAL TRACKING DRAWINGS.

ORDER LIMITS

ISSUE/REVISION

Rev	Date	Description	Drn/Chk/Appr
-	20.07.22	FIRST ISSUE	DWT/EP/CGY

Key Plan

Purpose Of Issue

FOR INFORMATION

Project Number

60589004

Sheet Title

FIGURE 1
LOCATION OF VEHICLE
TRACKING PINCH POINTS

Sheet Number

60589004-ACM-XX-00-DR-CE-1020

Scale: 1:20,000 @ A1 **Rev:** -