

SEE SITE ACCESS DRAWINGS 17213-09 and 17213-16. A43 CROSSINGS TO BE PROVIDED EITHER AS WITHIN OGB SCHEME OR INTERIM MITIGATION

CYCLE PLAN 1

CYCLE PLAN 2

CYCLE PLAN 3

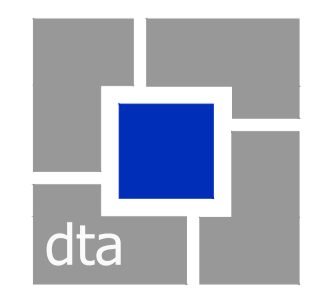
CYCLE PLAN 4

CYCLE PLAN 5

CYCLE PLAN 6

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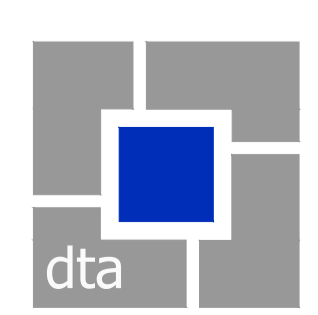
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JOB TITLE		M40 JUNCTION 10		CLIENT		ALBION LAND	
DRAWING TITLE							
PROPOSED CYCLEWAY CONCEPT							
SCALE	DRAWN BY	DATE	DRAWING No	REVISION			
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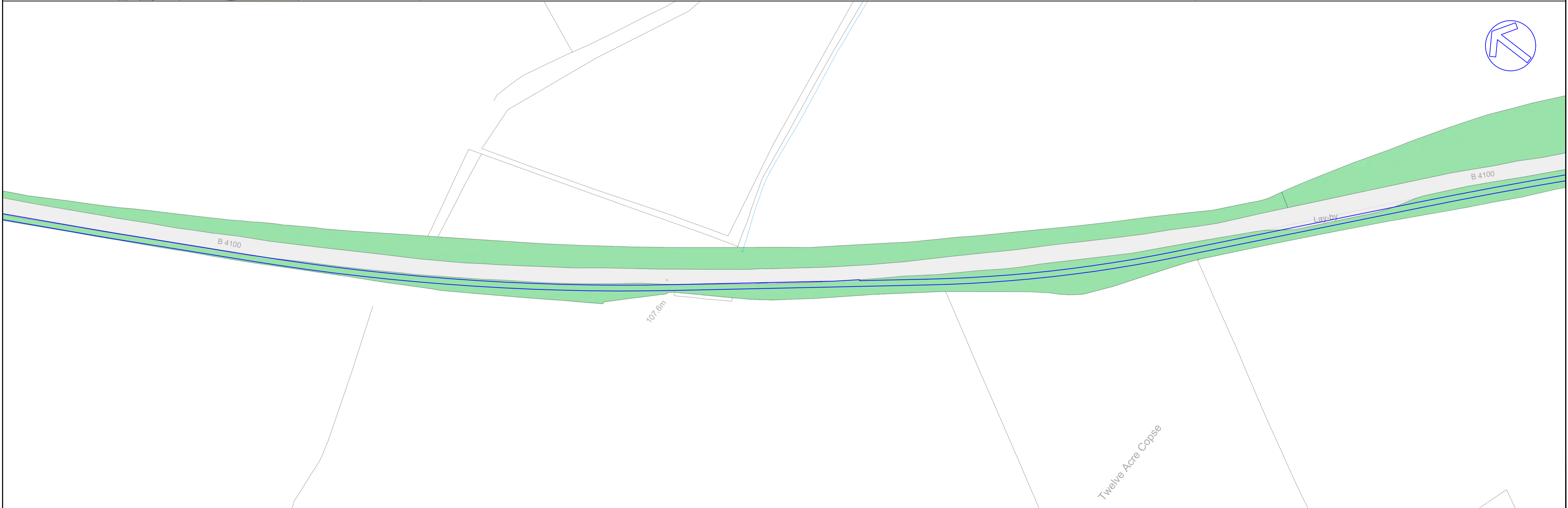
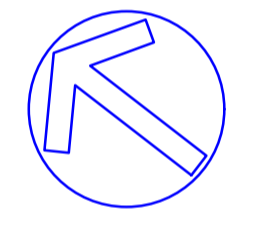
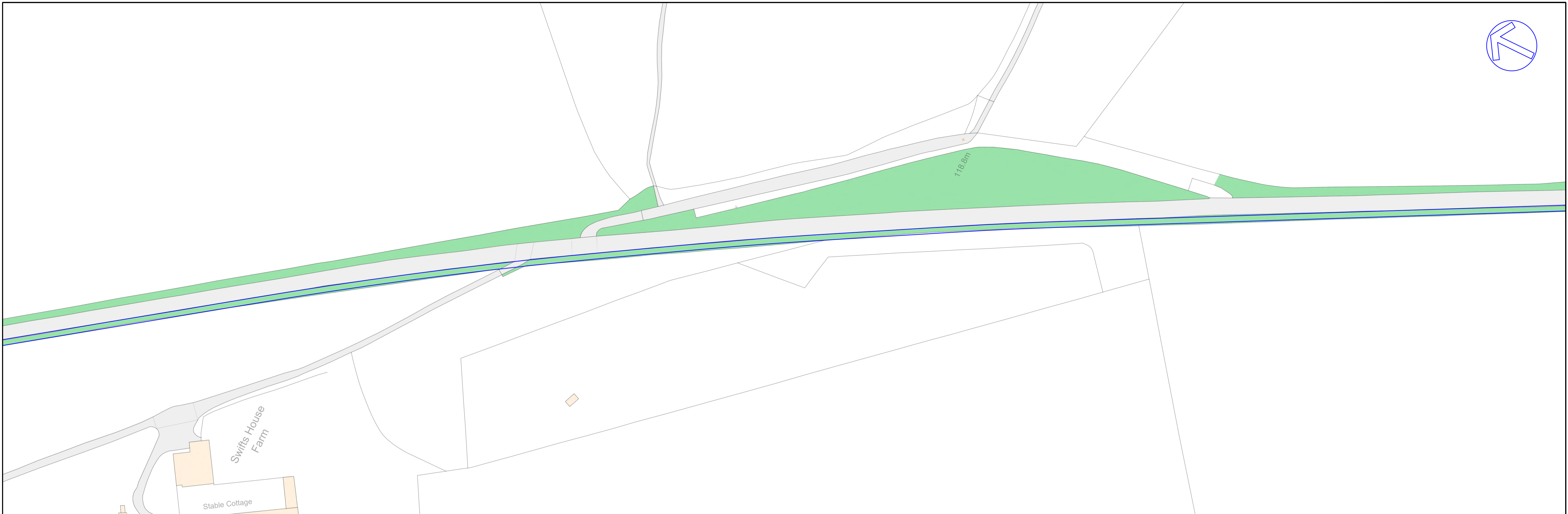
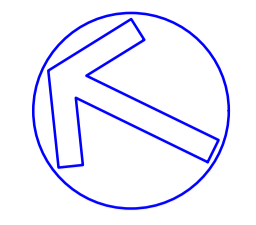
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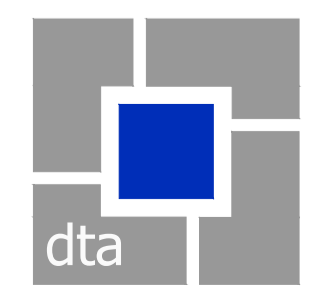
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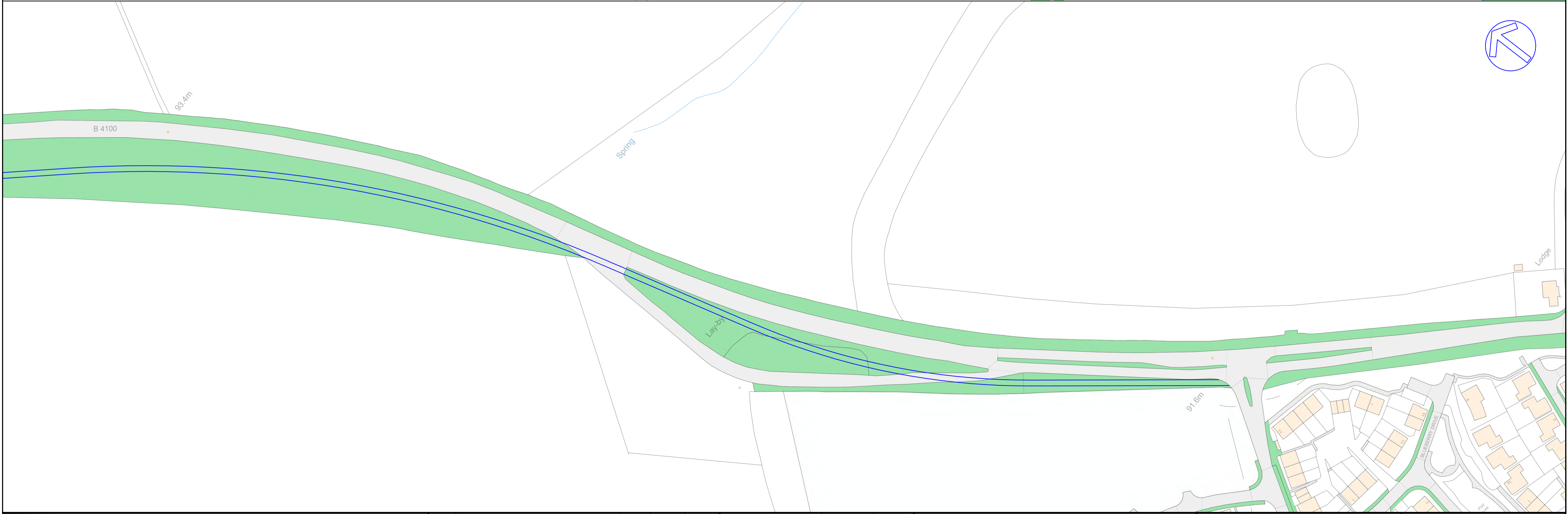
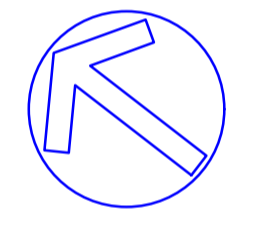
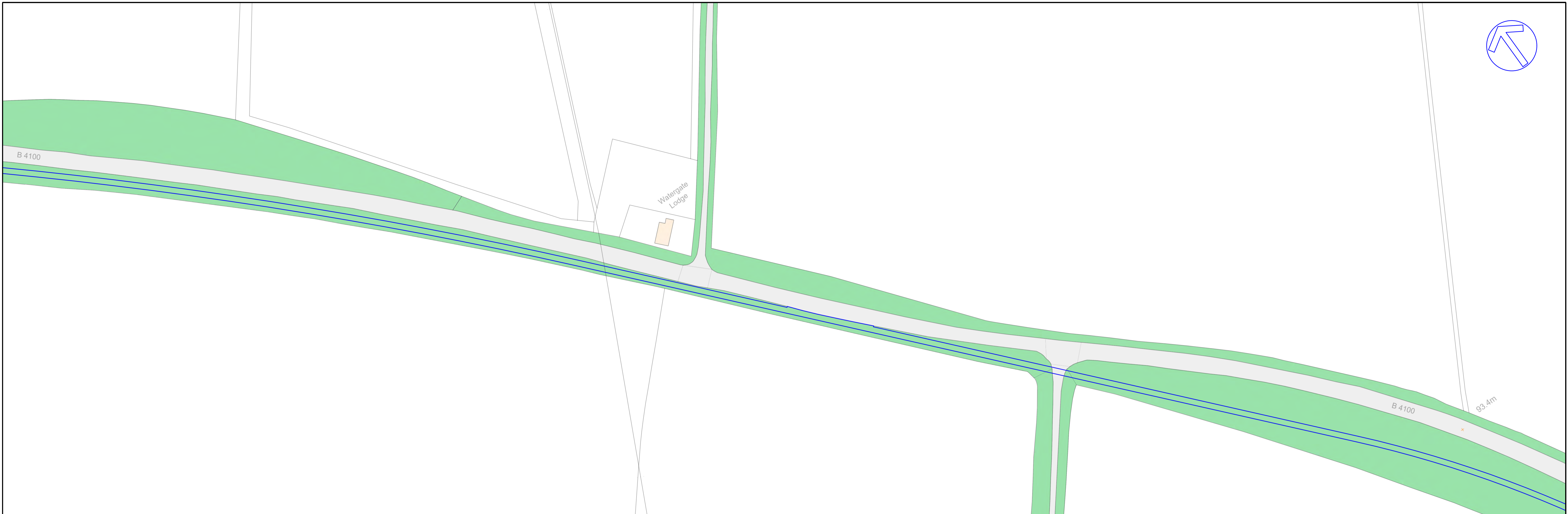
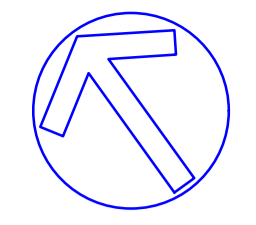
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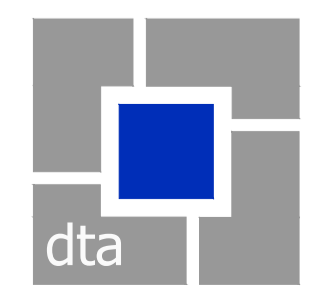
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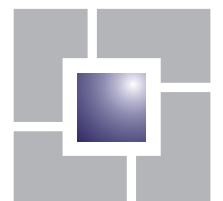
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Land adjacent to M40 Junction 10

Transport Assessment Appendices

September 2021



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Land adjacent to
M40 Junction 10

***Transport Assessment
Appendices***

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Revision:	E
Status:	Final
Prepared By:	SKP
Date:	20/09/21
Checked By:	SKP
Date:	20/09/21

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Albion Land

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Appendices

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Appendix A
Indicative Masterplan



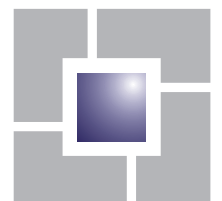
PRECEDENT STUDIES



Appendix B
Scoping Report

**Land adjacent to M40 Junction 10
Proposed B8 Employment Site**

Transport Assessment Scoping Report



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Land adjacent to
M40 Junction 10

***Transport Assessment
Scoping Report***

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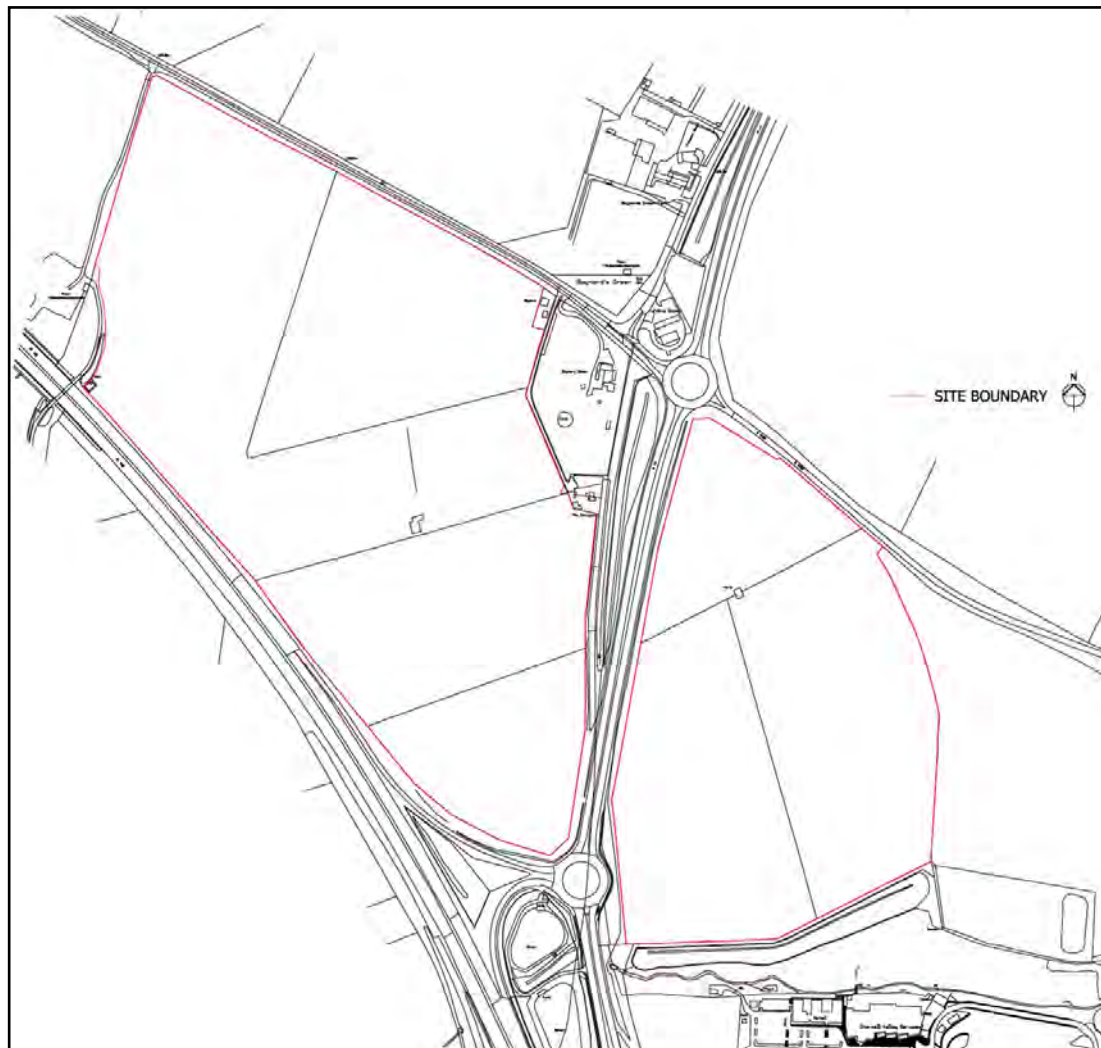
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1.0 INTRODUCTION

- 1.1 David Tucker Associates has been commissioned by Albion Land, to advise on the highway and transport implications of a large-scale strategic employment site to the east and west of the A43 on land adjacent to M40 Junction 10, in Cherwell District, Oxfordshire. The site location is shown on **Figure 1**.

Figure 1 Site Location



- 1.2 The site has the potential to deliver a quantum of 278,000m² of B8 employment floor space with associated ancillary office accommodation. The emerging masterplan, which subject to further development and input from environmental studies, is attached at **Appendix A**.
- 1.3 This report sets out the proposed approach with respect to the transport appraisal to support an outline application with access determined and agree the scope of the Transport Assessment and associated documents with the highway authorities.

2.0 EXISTING CONDITIONS

Site Location

- 2.1 The site is immediately northwest and east of Padbury roundabout at the southbound off-slip and is bisected by the A43. The larger portion of the site (Parcel A) at 42.8Ha is to the west of the A43 with the land to the east (Parcel B) being 23.8Ha.

Public Rights of Way

- 2.2 There is no foot or cycleway provision on A43 or B4100.
- 2.3 There is a bridleway 109/2/40 which runs along the western edge of the western parcel of land. This crosses the motorway at an accommodation overbridge where it turns to follow parallel to the northbound carriageway; the bridleway 109/2/10 continues to the village of Fritwell. A footpath 109/3/10 continues south from the overbridge into Fewcott.
- 2.4 There is a footpath 109/5/10 which follows the southern boundary of the western parcel of land. Approximately midway along the boundary it currently diverts into the site. It joins footpath 367/28/10 south of Baynard House. Footpath 109/5/10 is intended to be retained but diverted within the site.
- 2.5 There is a bridleway 367/21/10 which runs along the southern boundary of the eastern parcel with the Cherwell Valley Service Area.
- 2.6 A walking, cycling and horse-riding appraisal (WCHAR) will be undertaken in accordance with the requirements of GG142.

Local Highway Network

- 2.7 To the south the site is bounded by M40 motorway; a dual three lane motorway which runs between London and Birmingham. North of Junction 10, the M40 carries 92,800 vehicle per day (source: DfT Site 73855 [2019]) of which circa 12% are HGV. North of Junction 10, the M40 carries 120,800 vehicle per day (source: DfT Site 18628 [2019]) of which circa 14% are HGV.
- 2.8 The site is bisected by A43(T); a dual two lane all purpose (D2AP) road which runs between the M40 (adjacent to the site) and the M1 at Northampton. It serves the settlements of Brackley, Silverstone, Towcester and Northampton. North of the B4100 roundabout the A43 carries 37,000 vehicle per day (source: DfT Site 48791 [2019]) of which circa 12% are HGV.
- 2.9 The junction of A43 and M40 at M40 Junction 10 is a grade separated junction with an off-line motorway service area. The junction comprises a roundabout junction on the western side linking the northbound carriageway slip roads, the B430 and dual two-lane overbridges. On the eastern side of the roundabout is a partially signalised gyratory with a cut-through (which replaced linked priority roundabouts).
- 2.10 To the north the site is bounded by B4100; a single carriageway road which runs between Bicester and Banbury. The carriageway is relatively wide at 7.5m. It is unlit. The B4100 connects Bicester 5.5km to the south east of the site to Banbury 13km to

the north east. Banbury is also accessed via the M40 at Junction 11. The section to the east has a flowing alignment but within a wide highway corridor within which there is good forward visibility. Here the B4100 carries 10,400 vehicle per day (source: DfT Site 966790 [2009]) of which circa 5% are HGV.

- 2.11 The section to the west has a straighter alignment and visibility is very good. Here the B4100 carries 10,600 vehicle per day (source: DfT Site 806034 [2018]) of which circa 3% are HGV.
- 2.12 The B4100 is subject to a 60mph speed limit to the west of the A43 and 50mph to the east.
- 2.13 To the south of the M40, the A43 becomes the B430 which serves the village of Ardley, Middleton Stoney and Weston on the Green. A new strategic settlement of Heyford Park on the former Upper Heyford airbase site is also accessed from this road.
- 2.14 The junction of A43 and B4100 is a large four arm at-grade priority-controlled roundabout. The junction is lit and forward visibility on all approaches is commensurate with the posted speed limits. The roundabout has an inscribed circular diameter of 75m. The circulatory carriageway is 12m wide with lining markings to show two lanes. There are currently no flares on the A43 approaches and there is hatching on the outside of the offside lane to reduce the effective entry width to two lanes. Entry path curvature on both approaches is larger than recommended in current design guidance (CD116). The B4100 approaches are flared but the road lining does not formally show dual entry lanes. On the eastbound approach hatching significantly reduces the effective flare length. Entry path curvature of both side road approaches is in line with the recommendation in CD116. The exit width on the B4100 east arm is narrower than the recommendation in CD116.
- 2.15 There are roadside services in the north western quadrant accessed from the B4100W arm. These are served by a priority junction where the right-turn out movement is banned. There is a right turn lane for inbound movements.
- 2.16 The B4100 and B430 are the responsibility of Oxfordshire County Council with the A43 and M40 being trunk road and the responsibility of Highways England.

Traffic Patterns

- 2.17 Traffic surveys have been commissioned on the adjacent links and junctions to inform the design of the accesses and traffic appraisal. To establish the future baseline traffic flow position for the local road network confirmation of traffic models and data held by the highway authorities is sought.
- 2.18 Cumulative developments to be assessed will include traffic demand and supporting infrastructure from development at Northwest Bicester (eco-town) and consented development at Upper Heyford.
- 2.19 It has been assumed that construction would take place from 2023. It is assumed that future year operation of the road network will be considered (application year plus ten years). The future years will be agreed with the highway authorities.

Public Transport

- 2.20 There is an existing bus service which runs immediately adjacent to the site. There are no existing bus stops and provision would need to be made as part of the access works. The service is the 505 operated by Stagecoach. This service operates from Bicester Village railway station, with onward connections to Oxford and London, along the B4100, past the NW Bicester development site, to the A43 to Brackley. The service loops around Brackley covering the northern urban extension at Radstone Fields. The service currently runs hourly and provides access to two of the main local population centres. There are several options to enhance infrastructure and service provision to the site which will be considered through the TA process in conjunction with the operator and OCC.

3.0 ACCESS STRATEGY

Pedestrian and Cycle Access

- 3.1 A WCHAR is currently being prepared which will inform planning for pedestrian and cycle access to the site.
- 3.2 It is proposed that an existing footpath within the western parcel will be diverted within the site to ensure that there is no conflict between users of the path and the operations on the site.

Vehicular Access

- 3.3 The eastern parcel (also referred to below as Parcel B) will be accessed from a roundabout junction in accordance with the requirements set out in DMRB CD116 or priority-controlled junction with a right turn ghost island in accordance with the requirements set out in DMRB CD123. The location of the junction is indicatively shown (by the architect) on the masterplan. The junction will be designed for the prevailing 50mph posted speed limit. An automatic traffic counter will be commissioned to confirm parameters. Vehicle tracking will be provided based on a standard design vehicle (maximum legal articulated lorry).
- 3.4 The western parcel (also referred to below as Parcel A) will be accessed from a roundabout junction. The location of the junction is indicatively shown (by the architect) on the masterplan. The junction will be designed in accordance with the requirements set out in DMRB CD116. The junction will be designed for the prevailing derestricted speeds (60mph). An automatic traffic counter will be commissioned to confirm parameters.
- 3.5 The accesses will be subject to an Independent Road Safety Audit. The brief will be agreed with the highway authorities once the concept design has been progressed.

Public Transport

- 3.6 There are currently no bus stops in the immediate vicinity of the site although Stagecoach's 505 bus service between Bicester and Brackley runs along the B4100 site frontage before turning north up the A43.
- 3.7 The provision for bus stops in accordance with current best practice will be made in the emerging access designs. It is not envisaged that the buses would enter into the sites rather stops would be provided on the B4100 frontage. To ensure that the stops are accessible to users across the site it is envisaged that a stop will be provided to the west of the A43 roundabout with buses able to u-turn at the site access roundabout thereby minimising spur operation.

4.0 APPRAISAL METHODOLOGY

Travel Demand

- 4.1 The travel demand has been estimated from data from the TRICS database (Land Use 02 – Employment and Category F – Warehousing (commercial)). This database contains surveys of the vehicle and multimodal trip rates of a wide variety of sites which are classified by land use and various other attributes. DTA recently prepared several Transport Assessments for employment floorspace within the B8 land use class at Howes Lane to the west of Bicester (within the Ecotown allocation), at Skimmingdish Lane to the north of Bicester, and at Bicester Gateway/Catalyst to the south of Bicester.
- 4.2 The trip rates have been agreed in principle with the Local Highway Authority as a suitable proxy for a stand-alone site and these have therefore been used for the purposes of this assessment.
- 4.3 The resulting peak hour trip rates are summarised in **Table 1** below and the full outputs attached in **Appendix B**.

Table 1 - TRICS Warehousing Trip Rates - Per 100m²

		In			Out			Total		
		Lights	OGV	Total	Lights	OGV	Total	Lights	OGV	Total
AM Peak	0800-0900	0.058	0.013	0.071	0.032	0.015	0.047	0.090	0.028	0.118
PM Peak	1700-1800	0.021	0.010	0.031	0.069	0.010	0.079	0.090	0.020	0.110
12 Hours (AAWT)	0700-1900	0.619	0.283	0.902	0.661	0.320	0.981	1.280	0.603	1.883

- 4.4 **Table 2** below sets out the associated traffic generation of the site using the trip rates in **Table 1** where parcel A relates to the western part of the site (units 1-3), a GIA of 169,706m² and parcel B relates to the eastern part of the site (unit 4), a GIA of 110,575m².

Table 2 - Summary of Potential Site Traffic Generation

		In			Out			Total		
		Lights	OGV	Total	Lights	OGV	Total	Lights	OGV	Total
Parcel A AM Peak	0800-0900	98	22	120	54	25	80	153	48	200
Parcel A PM Peak	1700-1800	36	17	53	117	17	134	153	34	187
Parcel A 12 Hr	0700-1900	1050	480	1531	1122	543	1665	2172	1023	3196
Parcel B AM Peak	0800-0900	64	14	79	35	17	52	100	31	130
Parcel B PM Peak	1700-1800	23	11	34	76	11	87	100	22	122
Parcel B 12 Hr	0700-1900	684	313	997	731	354	1085	1415	667	2082
Total Site AM Peak	0800-0900	163	36	199	90	42	132	252	78	331
Total Site PM Peak	1700-1800	59	28	87	193	28	221	252	56	308
Total Site 12 Hours	0700-1900	1735	793	2528	1853	897	2750	3588	1690	5278

Trip Distribution & Assignment

- 4.5 The distribution of traffic from the site considers light (cars) and heavy (HGVs) traffic components separately. Light traffic will be distributed using 2011 journey to work census data. The 2011 journey to work census data has been interrogated.
- 4.6 The Bicester area comprises six Middle Super Output Areas (MSOA); the inner area broadly relating to development within the ring road is split into four quadrants (Cherwell 12-15), and an outer ring capturing development outside the ring road and functionally related villages is split into two (Cherwell 11 & 16).
- 4.7 The site is in Cherwell 11 which covers a broad arc around the north of Bicester. The pattern for Cherwell 13, the northeastern quadrant of Bicester, has also been reviewed as this contains more jobs overall and large-scale warehouses. The differential is not large as shown in **Table 3**.

Table 3 Journey to work (home trip ends)

	Cherwell 11	Cherwell 13	Average
Bicester (Cherwell 11-16)	56%	52%	54%
Cherwell Other	9%	13%	11%
Aylesbury Vale	8%	8%	8%
South Northamptonshire	6%	5%	6%
West Oxfordshire	2%	3%	3%
South Oxfordshire	2%	2%	2%
Oxford	1%	3%	3%
Vale of White Horse	2%	2%	2%
Milton Keynes	1%	1%	1%
Northampton	0%	1%	1%
Other	12%	9%	10%

- 4.8 There are variations between the two MSOA within the Bicester grouping although this will not make a significant overall difference to the routeing on the network in the immediate vicinity of the site. The distribution of trips has therefore been based on an average of Cherwell 11 and 13.
- 4.9 There is significant planned housing growth at Bicester, where the number of households will increase by circa 60% to 2031 from 2011, planned growth at Upper Heyford (1260 households) and planned growth at Brackley. There are two elements here. First development at Upper Heyford in Cherwell 10 represents a change in the overall spatial pattern relative to 2011 and its share should increase on a pro-rata basis from 2% to 8%. Second the growth at Bicester, particular the Ecotown is likely to draw more trips from Bicester. This should lead to a more compact pattern of trips for which there are wider travel choices.
- 4.10 On a pro-rata basis this is likely to represent around 11% of trips with a drawdown from destinations outside Bicester.