

Sworders

Land West of Chipping Ongar

## Highway Impact Statement

November 2017  
(Revised December 2017)



[www.bancroftconsulting.co.uk](http://www.bancroftconsulting.co.uk)

## **LAND WEST OF CHIPPING ONGAR**

### **HIGHWAY IMPACT STATEMENT (NOVEMBER 2017)**

#### **1.0 INTRODUCTION**

- 1.1 Bancroft Consulting were appointed by Sworders on behalf of their Client, to consider how a safe and suitable access could potentially be delivered to serve residential development on land to the south of the A414 (Epping Road), west of Chipping Ongar. At present, the site comprises undeveloped land that is bound by Epping Road to the north, third party undeveloped land to the east, and additional undeveloped land within the same ownership to the south and west. Details of the site location, including the adjacent plot of land, are shown on **Figure 1**.
- 1.2 The site is currently proposed for allocation through the Epping Forest District Council Submission Version Local Plan for approximately 99 dwellings. However, this report also considers the potential to access the land to the east, which is being proposed for allocation for approximately 135 dwellings.
- 1.3 The following assessment has been prepared with due regard to national policy and design guidance in the form of the National Planning Policy Framework (DCLG, March 2012) and also Manual for Streets (DfT, 2007) and its companion guide Manual for Streets 2 (CIHT, 2010). Where relevant, it also considers adopted local design guidance set out within the Essex Design Guide, although this was published in 2005 and refers to many obsolete documents, particularly concerning highway design principles.

#### **2.0 BASELINE CONDITIONS**

- 2.1 The site is currently served by a gated field access at the western end of the Epping Road frontage, immediately opposite the Auckingford Gardens cul-de-sac, which appears to provide pedestrian access to the nearby Ongar Primary School.
- 2.2 Epping Road is a wide single carriageway road at approximately 9 metres, with a single traffic lane in each direction and central ladder markings that accommodate pedestrian refuge areas and right turn harbourage for turning vehicles. As it passes the site frontage Epping Road is subject to a 30-mph speed limit with direct access to adjacent dwellings, a footway along the northern edge, and bus laybys on both

sides of the road. Although it is a classified A road, it does not form part of the Trunk Road network that is governed by Highways England. As such, access should be provided in line with the principles of Manual for Streets and not the Design Manual for Roads and Bridges.

- 2.3 Inspection of Essex County Council's online Definitive Public Rights of Way map shows how there is an existing public footpath that runs along the western site boundary, connecting Epping Road to the western end of Marks Avenue. An extract of the website showing this information is included at **Appendix A**.
- 2.4 Details of passing traffic speeds and flow volumes have not been obtained for this report. However, it has been assumed that drivers will generally be adhering to the posted speed limit of 30 mph and hence visibility splays of 43 metres in each direction should be appropriate, in line with established design guidance.
- 2.5 Inspection of Personal Injury Accident records presented for the past three years within the Crashmap website ([www.crashmap.co.uk](http://www.crashmap.co.uk)) shows three recorded incidents along Epping Road in the vicinity of the site frontage (see **Figure 2** for details). Two of these incidents occurred in 2014, while the third took place in June 2017. The details of each accident have not been considered further at this stage, although the presence of three incidents in the past three years would warrant some further attention in due course.

### **3.0 POTENTIAL TRIP GENERATION AND INTERNAL LAYOUT**

#### ***Trip Generation***

- 3.1 Typically, a residential development of this scale, and in this location, would generate a peak hour vehicular two-way trip rate of 0.7 movements per dwelling, or 8 daily movements per dwelling. A scheme of 99 dwellings would therefore result in up to 69 peak hour two-way movements and 792 daily two-way movements.
- 3.2 Considering the adjacent plot to the east, which could accommodate up to 135 dwellings, the above trip rates would equate to a peak hour two-way generation of up to 95 movements and 1080 daily two-way movements.

#### ***Internal Layout Issues***

- 3.3 Given the proximity of bus services using Epping Road it is unlikely that development of the site, or the adjacent plot, would require diversion of any existing route. This is important as it means that the internal road layout can be designed to support the predominantly car based environment associated with residential areas. Accordingly, the key internal distributor roads within the site (99 dwellings) should reflect a design speed of 20 mph with carriageway widths at a minimum of 5.5 metres and 2 metres wide footways on each side. Internal junctions should include 6 metres kerb radii and ensure visibility splays of at least 2.4 x 33 metres can be achieved in each direction from any minor roads. Minor roads spurring off the key routes could comprise a mix of unadopted private driveways (including shared use) or adopted accessways, at a reduced width of 4.8 metres where refuse collection vehicles are unlikely, where 5 metres carriageway width should be applied. The principle of this arrangement could be extended throughout the adjacent plot to the east.
- 3.4 Adequate car parking should be provided throughout at an average of between 2 and 3 spaces per dwelling. In the event that garages are constructed to a reasonable size, typically around 6 metres x 3 metres for single garage units, then this could count towards the overall parking provision. Hence, two compliant garages with corresponding driveways should equate to four off-street parking spaces. The full detail of any parking provision would clearly need to be calculated and assessed on completion of a more detailed layout plan for any scheme.

## **4.0 ACCESS STRATEGY**

- 4.1 Current guidance for the provision of access to new residential development requires authorities to adopt a more pragmatic approach that is ultimately guided by any risk assessment undertaken by the local fire authority. Typically, a figure of around 400 dwellings is adopted as a starting point for triggering a second point of access. Although emergency accesses are often presented to support large schemes being served by a single junction, current guidance advises against this in favour of second points of access. The need for second points of access is also largely dictated by the potential internal road layout, whereby schemes that quickly establish an internal circuit road minimise the risk of access being blocked and generally considered to be acceptable.

- 4.2 Given the above, three options have been prepared for delivering a potentially suitable access to the site and its adjoining plots. These options are as follows:
- Option 1 – Easternmost Site Access Location (Ghost Island)
  - Option 2 – Westernmost Site Access Location (Ghost Island)
  - Option 3 – Site Access Location (Roundabout)

***Option 1 – Easternmost Site Access Location (Ghost Island)***

- 4.3 Drawing Number F17035/01 shows how a new site access could be generated towards the eastern end of the site frontage at Epping Road. The layout comprises some reconfiguration of the existing central ladder markings to establish a left-right stagger with the opposite Springfield Close junction. In accordance with the Essex Design Guide requirements for a 30mph road an opposite junction spacing of 60 metres has been shown, although this could be reduced if necessary to reflect any specific constraints and in line with current design guidance.
- 4.4 The suggested layout also includes 2.4 x 43 metres visibility splays in each direction within publicly maintained land at the southern edge of Epping Road. Moreover, it is immediately evident how the alignment of Epping Road would offer extended splays if required by higher vehicle speeds.
- 4.5 To accommodate pedestrian movements the layout includes 2 metres wide footways at each edge along with 2 metres wide pedestrian refuges on each side of the junction to accommodate potential pedestrian desire lines. For bus travel, the existing bus laybys would be stopped up and replaced by a footway and bus bay within the carriageway, in line with current best practice. The effect of the bus bays and pedestrian refuges should serve to significantly reduce overall vehicle speeds passing through this section of Epping Road.

***Option 2 – Westernmost Site Access Location (Ghost Island)***

- 4.6 Drawing Number F17035/02 shows how a similar arrangement to that demonstrated within Option 1 could be achieved towards the western end of the Epping Road site frontage. This includes pedestrian refuges and a reconfiguration of the existing central ladder markings to deliver a left-right stagger within the Ghost

Island junction. As with Option 1, the bus laybys would be built out as bus bays within the carriageway, with connection by new footways where necessary.

### ***Option 3 – Site Access Location (Roundabout)***

- 4.7 Drawing Number F17035/03 Revision B shows how a new 32 metres Inscribed Circle Diameter four-arm roundabout could be delivered at the Springfield Close junction to serve the site. The layout currently includes an access that extends to the west but this could equally switch to the east if the balance of development produced greater traffic flow from this direction (for example, only the site and easternmost plot were developed).
- 4.8 The suggested layout would require further attention to the design so that it adequately accommodated private driveways, but this should be sufficient evidence to achieve comfort that land would exist to deliver a suitable solution. The layout shown includes footways and crossings at three of the arms and as with Options 1 and 2, the bus laybys would be replaced by bus bays in each direction. The eastbound bus stop would need to be located further west to avoid conflict with the roundabout approach.
- 4.9 The roundabout option would offer very clear and significant benefits to the pattern of traffic flow using Epping Road within the site frontage. Firstly, the positioning of the roundabout would act as a major speed restriction along what is a long, straight, and wide section of highway, thereby enforcing the 30mph speed limit and making conditions for other users (such as pedestrians) much safer. It would also improve conditions for vehicles turning to and from Springfield Close by improving visibility for emerging movements and giving priority to right turning inbound movements.

### ***Preferred Option/s***

- 4.10 It is important to note that the current layout of Epping Road, which is primarily one-sided with development only at the northern edge, is likely to lead to vehicle speeds that exceed the posted 30 mph speed limit and subsequent highway safety implications for turning manoeuvres and other non-motorised users. This is reflected in the initial search on Personal Injury Accident records, which indicates a cause for concern. Research has shown how the presence of activity at both sides

of the carriageway should make drivers more alert to potential conflict points and therefore helps to reduce speeds. The presence of any development along the southern edge of Epping Road, with any corresponding access strategy, should provide substantial benefits to other users of the highway network in this area.

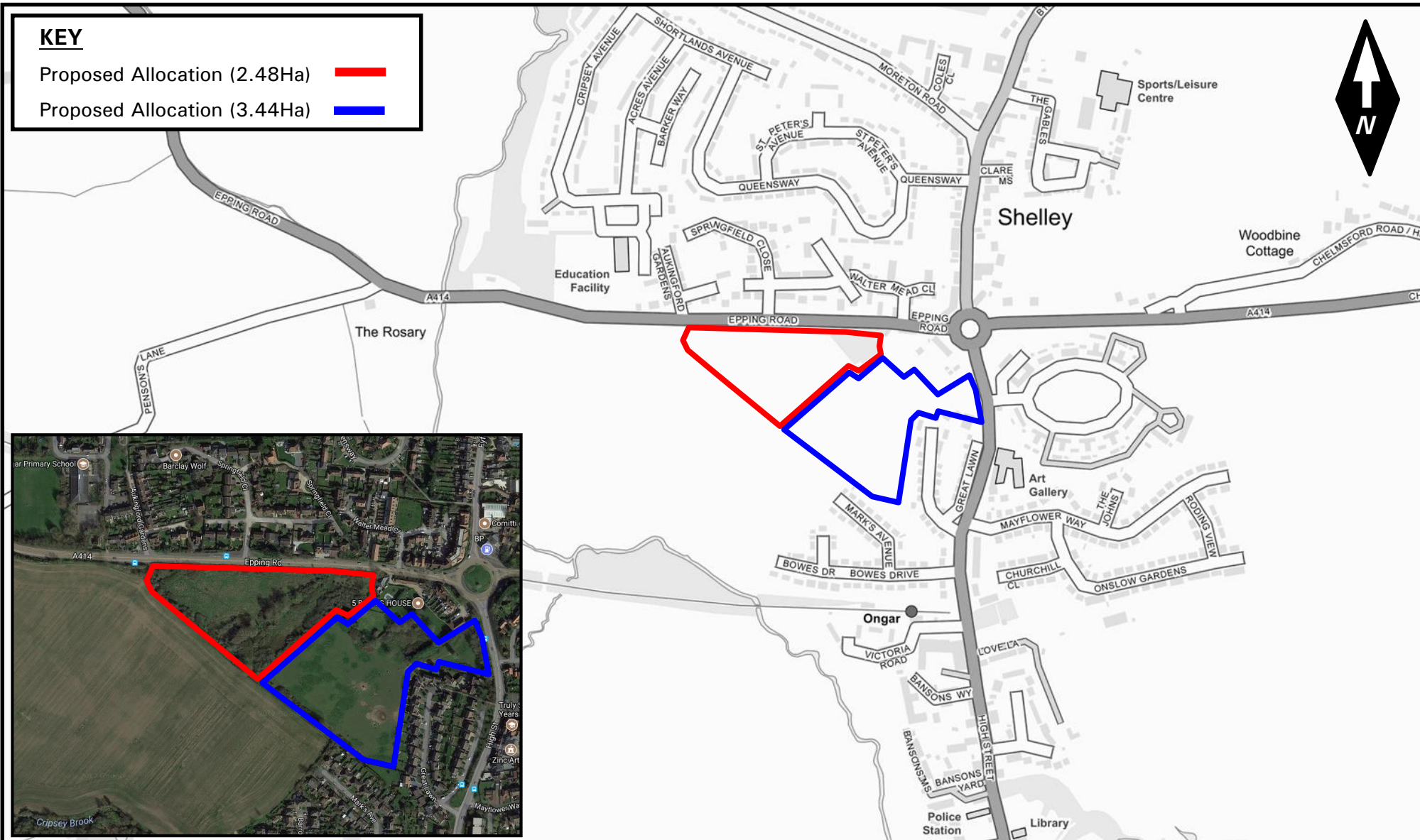
- 4.11 Notwithstanding the above, in the event that access is only required for the development site comprising 99 dwellings then the preferred strategy would be to deliver Option 2, as this would provide a new junction closer to the western edge of the developed frontage that should effectively serve to extend and enforce the 30mph zone along Epping Road. It would also better suit the pedestrian desire line to the Primary School, although the potential to punch through the site frontage at various points within any of the three options should be noted.
- 4.12 Should the site be extended to serve the plot to the east, resulting in a total development of circa 234 dwellings, then the single point of access should continue to be acceptable. Alternatively, a combination of Options 1 and 2 may provide sufficient frontage activity to assist in reducing vehicle speeds and providing connectivity to both the site and the adjacent plot to the east. However, in lieu of the significant benefit that a roundabout could have in slowing vehicle speeds along this section of Epping Road, the delivery of a single roundabout could present the optimum solution for delivering access to the site and any adjacent scheme.
- 4.13 Any future access strategy would need to be fully checked for capacity, but it is unlikely that the predicted peak hour movements could not be accommodated through this arrangement.



## KEY

Proposed Allocation (2.48Ha) —

Proposed Allocation (3.44Ha) —



SCALE: **Do Not Scale**

DATE: **05.12.17**

DRAWN: **KH**

CLIENT:

**SWORDERS**

TITLE:

**SITE LOCATION PLAN**

JOB TITLE:

**LAND WEST OF CHIPPING ONGAR**

**bancroftconsulting**  
transport consultancy services

JOB NUMBER:  
**F17035**

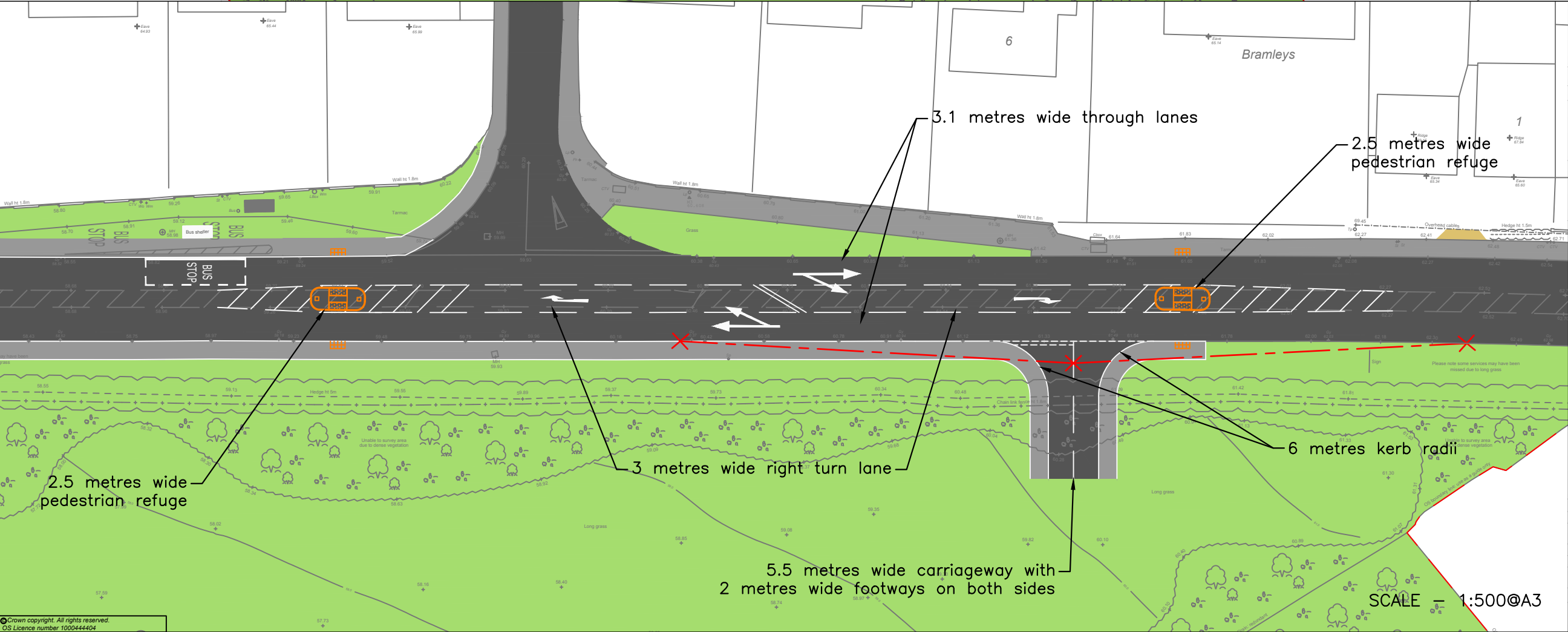
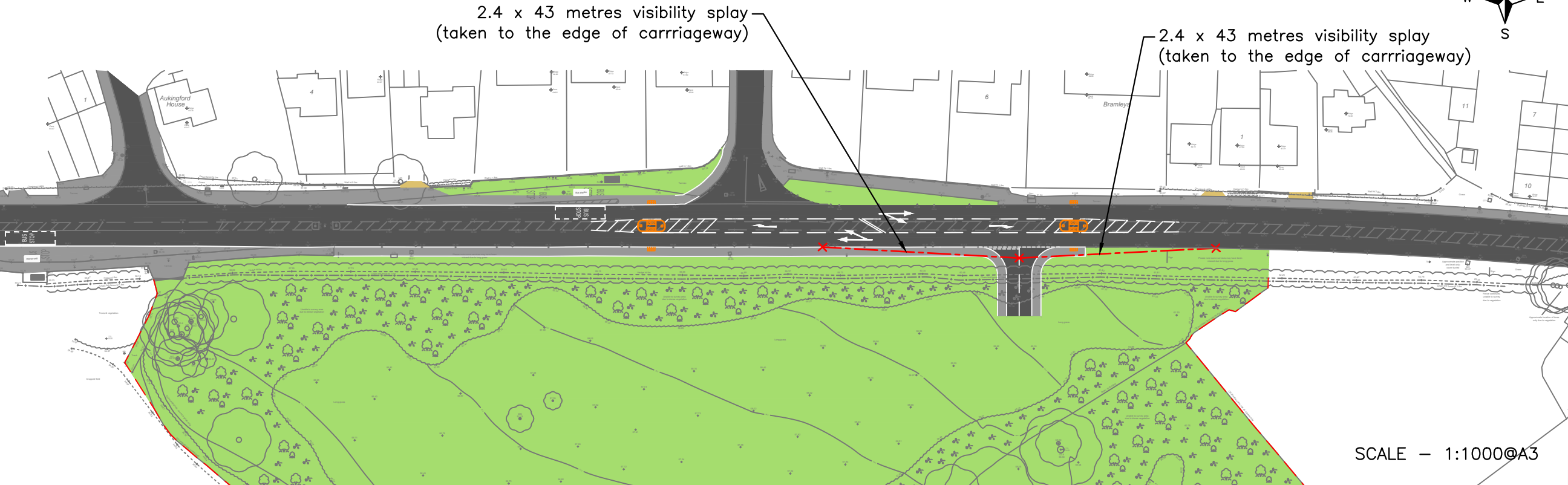
FIGURE:  
**1**





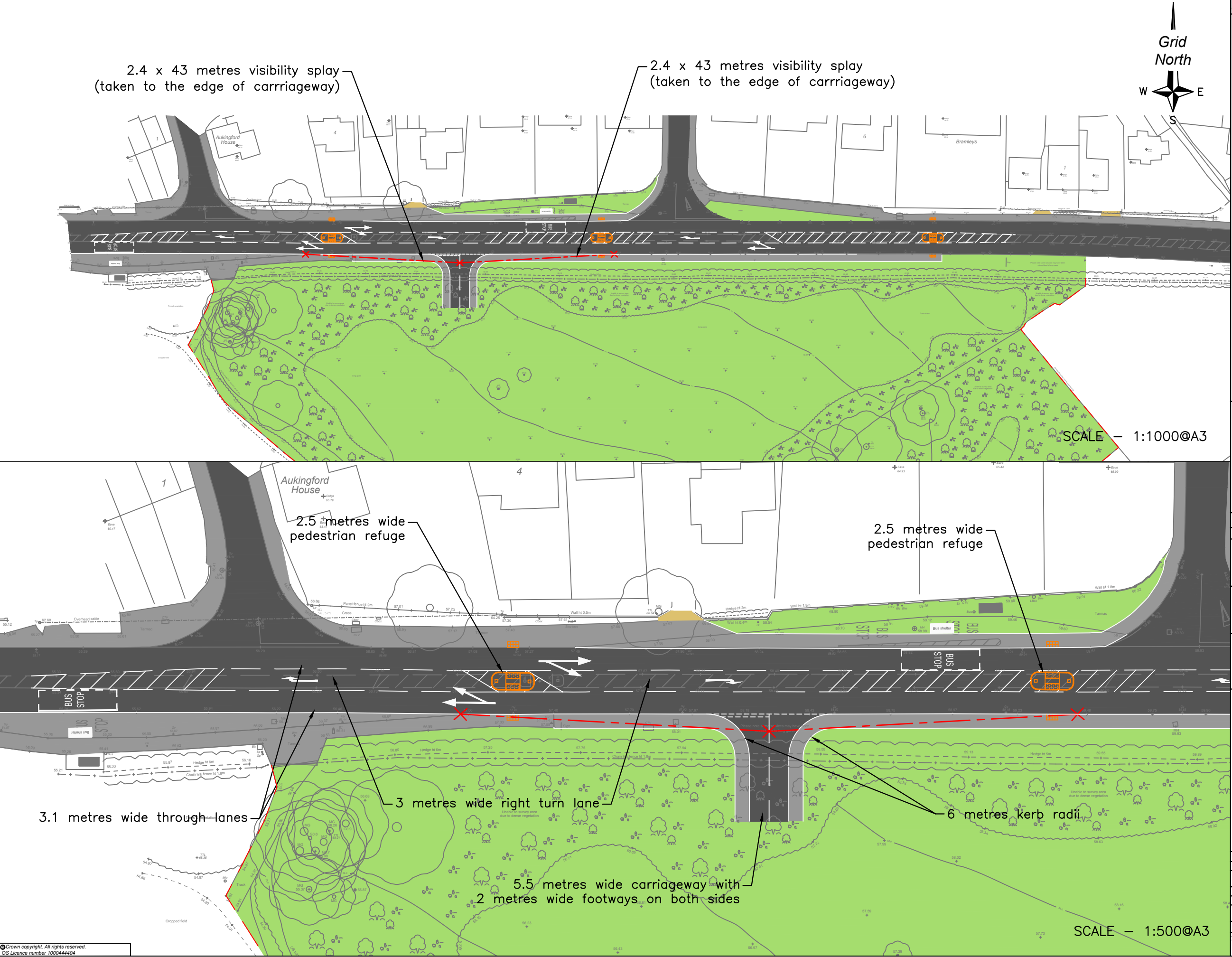
SCALE: <b>Do Not Scale</b>	CLIENT: <b>SWORDERS</b>	JOB TITLE: <b>LAND WEST OF CHIPPING ONGAR</b>	<b>bancroftconsulting</b> transport consultancy services	
DATE: <b>05.12.17</b>	TITLE: <b>Accident Data (taken from www.crashmap.co.uk) from 2014-2016</b>		JOB NUMBER: <b>F17035</b>	FIGURE: <b>2</b>
DRAWN: <b>KH</b>				

- NOTES:
- = Carriageway
  - = Footway
  - = Grassed/verge/wood area
  - = Private driveway
  - = Pedestrian refuge island



REV.	DATE	DESCRIPTION	BY	CHK'D
CLIENT				
SWORDERS				
CONTRACT				
LAND WEST OF CHIPPING ONGAR				
TITLE				
OPTION 1 – EASTERNMOST SITE ACCESS LOCATION (GHOST ISLAND)				
<div><b>bancroft</b>consulting</div> <div>transport consultancy services</div>				
<div><b>Bancroft Consulting Ltd</b></div> <div>Jarodale House</div> <div>7 Gregory Boulevard</div> <div>Nottingham</div> <div>NG7 6LB</div>				
<div>t 0115 9602919</div> <div>f 0115 9648201</div> <div>e office@bancroftconsulting.co.uk</div>				
DRAWN BY				
NAME (PRINT)		DATE		
KH		31.10.17		
CHECKED BY				
NAME (PRINT)		DATE		
CJB		01.11.17		
SCALE AS SHOWN		STATUS		PRELIMINARY
DBG. NO.				REV
F17035/01				

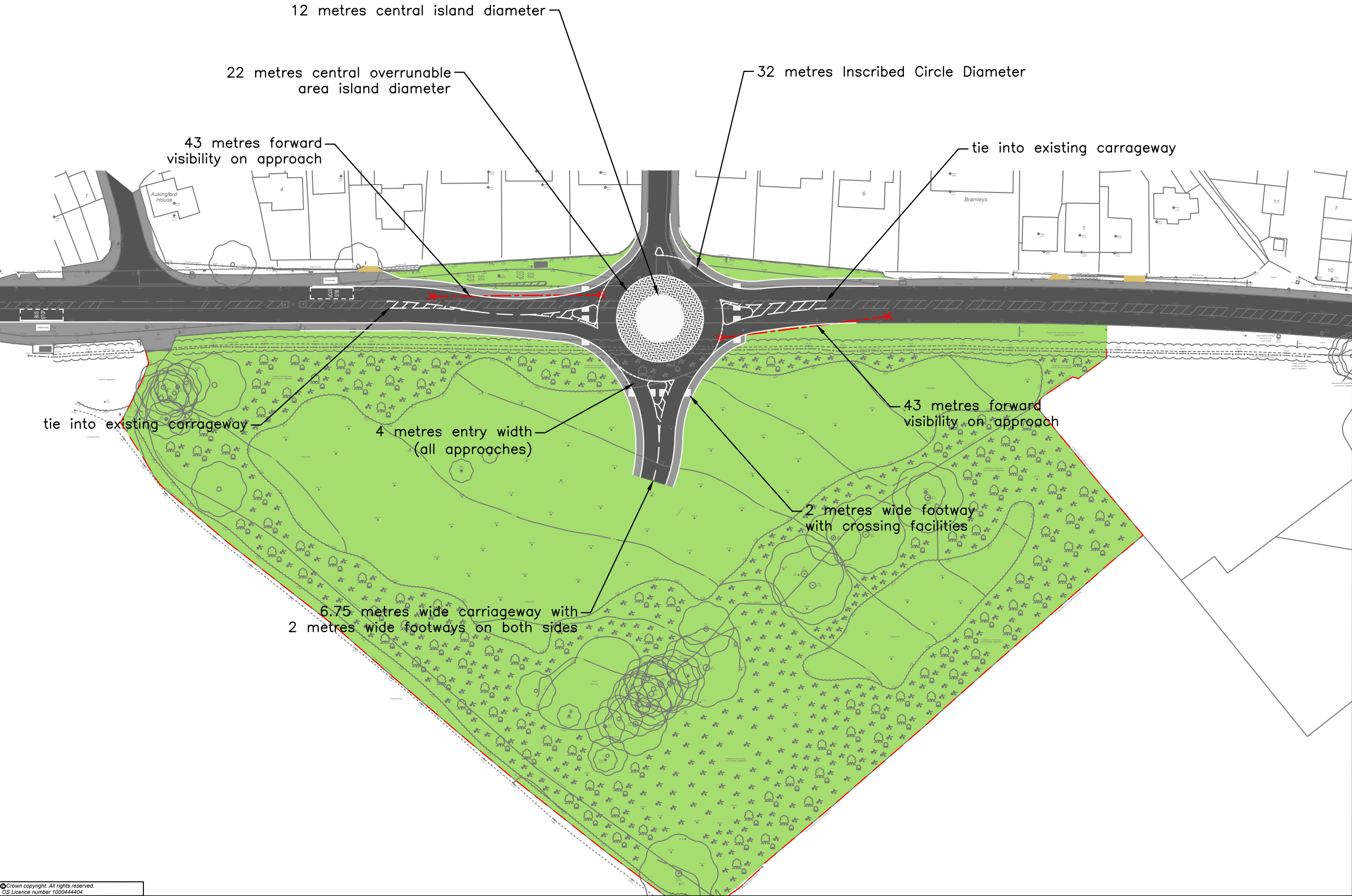
- NOTES:
- = Carriageway
  - = Footway
  - = Grassed/verge/wood area
  - = Private driveway
  - = Pedestrian refuge island



REV.	DATE	DESCRIPTION	BY	CHECKED
CLIENT				
SWORDERS				
CONTRACT				
LAND WEST OF CHIPPING ONGAR				
TITLE				
OPTION 2 – WESTERNMOST SITE ACCESS LOCATION (GHOST ISLAND)				
<b>bancroft</b> consulting transport consultancy services				
<b>Bancroft Consulting Ltd</b> Jarodale House 7 Gregory Boulevard Nottingham NG7 6LB				
t 0115 9602919 f 0115 9648201 e office@bancroftconsulting.co.uk				
DRAWN BY				
NAME (PRINT)		DATE		
KH		31.10.17		
CHECKED BY				
NAME (PRINT)		DATE		
CJB		01.11.17		
SCALE AS SHOWN		STATUS		PRELIMINARY
DBG. NO.				REV
F17035/02				



- NOTES:
- = Carriageway
  - = Footway
  - = Grassed/verge/wood area
  - = Private driveway



B	14.12.17	UPDATED FOLLOWING COMMENTS FROM SWORDERS (DATED - 13.12.17)	KH	CJB	
A	06.12.17	INTERNAL ROAD ALIGNMENT ADJUSTED	KH	CJB	
REV.	DATE	DESCRIPTION	BY	CHECK'D	

CLIENT

SWORDERS

CONTRACT

LAND WEST OF CHIPPING ONGAR

TITLE

OPTION 3 – SITE ACCESS LOCATION (ROUNDAABOUT)

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NAME (PRINT)	DATE
KH	27.11.17
CHECKED BY	
NAME (PRINT)	DATE
CJB	28.11.17
SCALE 1:1000@A3	STATUS PRELIMINARY
DBG. NO.	REV
F17035/03	B

**APPENDIX A – DEFINITIVE PUBLIC RIGHTS OF WAY  
EXTRACT (TAKEN FROM [WWW.ESSEXHIGHWAYS.ORG](http://WWW.ESSEXHIGHWAYS.ORG))**

