Mr S Mitchell

Land South of the A45

Site Access Appraisal

July 2023

BANCROFT
CONSULTING

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LAND SOUTH OF THE A45

SITE ACCESS APPRAISAL

JULY 2023

1.0 INTRODUCTION AND DEVELOPMENT PROPOSALS

1.1 Bancroft Consulting were appointed by Mr S Mitchell to provide highways and transport advice in respect of proposals for the development of a truck stop at land south of the A45 in Dunsmore Heath, Warwickshire. **Figure 1** shows the detailed site location.

1.2 The aim of this Site Access Appraisal is to consider access opportunities for a proposed development, with consideration to the achievable visibility and the level differences between the A4071 and the site. As part of this report, three access layouts have been identified within **Drawing Numbers F23076/01**, **F23076/02** and **F23076/03**. **Drawing Numbers F23076/01** and **F23076/02** have been designed in accordance with guidance contained within the DMRB CD 123 document and the layout shown in **Drawing Number F23076/03** has been designed in line with DMRB CD 116.

1.3 The development being considered is a truck stop and associated additional facilities (such as a restaurant and potential refreshment areas). The number of parking spaces have not yet been confirmed so assumptions will be made based on the site area with regard to trip generation.

1.4 To inform the findings of this report, a detailed site visit was completed on 14 June 2023. This was to review the existing highway conditions and potential constraints associated with the site. It also sought to understand the level differences between the site and the A4071.

1.5 This assessment has been completed using OS mapping and the existing layout is therefore subject to confirmation. In any future assessment, topographical survey mapping should be obtained to provide further detail regarding the level differences between the site and the A4071/existing highway layout.

2.0 INITIAL OBSERVATIONS

Highway Boundary

2.1 Whilst no highway boundary information has been obtained from Warwickshire County Council (WCC), an informed assumption (based on site visit observations and OS mapping boundaries) has been made. The boundary is considered to be circa 21 metres south and 3 metres north of the A4071 and is shown in each of the access drawings. This will need to be confirmed in due course.

Surrounding Highway Network

2.2 The development site is bound to the north by the A4071 and to the west by land owned by WCC and Bernhard's Nurseries/Landscapes. To the southwest, the site is bound by Popehill Lane, which acts as an extension from Draycote Road. Draycote Road extends southeast from Straight Mile and is served by a 5 metres wide access with 10 metres kerb radii. Beyond the access to Bernhard's which is located circa 30 metres from the Straight Mile/Draycote Road T-junction, the carriageway narrows and develops characteristics more commonly associated with a rural lane.

Characteristics of the A4071

2.3 The A4071 is a single-lane carriageway measuring circa 7.2 metres and is subject to a 50mph speed limit. It is bound to the north by a narrow grass verge and treeline and to the south it is bound by a circa 1 metre wide footway and treeline. The A4071 is on a continuous bend along the site frontage and street lighting and centreline road markings are provided. The road was subject to a Department for Transport Manual count in 2022 (site number 74858) which demonstrated annual average daily flows of 11,443 for all motor vehicles, 830 (circa 7.3%) of which were Heavy Goods Vehicles (HGVs). 728 of the motor vehicle movements occurred within the morning peak and 482 in the evening peak, both of which are below the typically expected 10% of daily traffic. The existing layout is shown in **Image 1** below.

Observed Level Differences

2.4 As previously mentioned, the site visit established there are level differences between the site and the A4071. This level difference is most extreme at the eastern edge of the site, where it is approximately 8 metres and is immediate. To the west, the difference is circa 3 metres which is also an immediate level change. These level differences will be taken into consideration when showing the layouts to ensure the access road is deliverable. It should be noted that these level changes are based off on-site observations and are subject to confirmation through topographical survey.

Straight Mile/A4071 Grade Separated Junction

2.5 Approximately 200 metres west of the westernmost point of the site frontage is the Straight Mile (B4453)/A4071 Grade Separated Junction. The footprint of the junction measures at circa 63 metres (measured across the minor arm) and a right-turn lane is provided on the major arm. It was observed on the site visit that there was occasional queuing on the minor arm (A4071) as shown in **Image 2** below.

Forward Visibility Requirements

2.6 At the site frontage, it was observed during the site visit that forward visibility is constrained due to the trees at the northern edge of the carriageway. As the A4071 is subject to a 50mph speed limit, 160 metres of unobstructed visibility is required. Initial observations have indicated this would not be achievable so it is recommended that discussions are started with the Highway Authority with regard to a potentially reduced speed limit to 40mph, which would in turn reduce the required visibility to 120 metres. The access layouts shown in Section 4 of this report have been designed with consideration of the required forward visibility (based on a 40mph design speed) to ensure that 'safe and suitable' access could be achieved in line with Paragraph 110 of the NPPF.

Proximity to Strategic Road Network and National Highways Input

2.7 The development site is bound to the northeast by the A45, which is part of the Strategic Road Network operated by National Highways. Access to the A45 from the site can be reached via the previously discussed Straight Mile/A4071 Grade

Separated Junction. Straight Mile provides access to the A45 circa 150 metres north of the aforementioned Grade Separated junction, where a priority junction with the A45 is provided.

2.8 Due to the proximity of the site to the Strategic Road Network and its use being directly linked to HGVs which would be using the A45, any report supporting a planning application will most likely need to be submitted to National Highways as the Strategic Highway Authority.

Highway Safety

2.9 An assessment of recent Personal Injury Accident (PIA) records within the vicinity of the site was completed to determine if there are any existing highway safety problems which could potentially be exacerbated by the proposed development. A review of the 'CrashMap' database (www.crashmap.co.uk) was completed using the latest available 5-year study period (2017 to 2021) for the extent of the A4071 at the site frontage alongside the Straight Mile/A4071 Grade Separated Junction. This review showed there has been a single recorded incident along the A4071 in the vicinity of the site, which was classified as slight and located circa 100 metres west of the site frontage. The data also shows there has been a cluster of 7 recorded incidents at the grade-separated junction, 3 of which are classified as slight, 2 as serious and 2 as fatal.

2.10 Based on the above findings, it is considered there is an existing highway safety issue at the Grade Separated Junction. The database indicated there have been no recorded incidents at the A45/Straight Mile priority junction, with the closest located circa 100 metres to the northwest (which was classified as serious). The PIA data is shown within **Figure 2**.

3.0 POTENTIAL TRAFFIC CONDITIONS

3.1 The development proposals are for a truck stop and associated facilities (such as a restaurant and potential refreshment areas). The number of parking spaces and the exact facilities to be provided at the truck stop have not yet been confirmed, but the use would fall within this definition.

3.2 To inform an assessment on the potential traffic impacts of the proposed development, survey data contained within a previous planning application has been extracted. The Ashford District Council Planning Reference: 18/00098/AS application included an increased 600-space truck stop and to identify the potential movements generated by the development, a 24-hour survey of the existing truck stop was completed. Relevant extracts of the Transport Assessment containing these trip rates is contained within **Appendix A.**

3.3 Based on the information provided within the planning application, the following trip rates (per parking space) are presented for the proposed development:

Peak Period	Trip Rate per Truck Parking Space					
	Arrivals		Departures		Total	
	Cars	HGVs	Cars	HGVs	Cars	HGVs
0800 – 0900	0.020	0.083	0.006	0.143	0.026	0.226
1700 – 1800	0.023	0.154	0.057	0.031	0.080	0.186
0700 - 1900	0.260	1.174	0.260	0.860	0.520	2.034

3.4 It is considered based on observations of other truck stops that there could be circa 42 HGV spaces per hectare. The development site measures circa 14.57 hectares, so it could accommodate up to approximately 612 HGV parking spaces. Based on this, the potential trips generated by the development are as follows:

Peak Period	Potential Movements (612 HGV space truck stop)						
	Arrivals		Departures		Total		
	Cars	HGVs	Cars	HGVs	Cars	HGVs	Overall
0800 – 0900	12	51	4	88	16	138	154
1700 – 1800	14	94	35	19	49	114	163
0700 - 1900	159	718	159	526	318	1245	1563

3.5 As shown within the table above, the proposed truck stop could generate up to 163 two-way movements in its busiest peak hour, resulting in circa 3 movements per minute. Of the overall movements between 0700 and 1900 hours (1,563), circa 80% would comprise HGV movements. Based on this, the daily movements converted to Passenger Car Units (PCUs) would total 2808 daily PCUs (with a car representing 1 PCU and a HGV as 2 PCUs).

3.6 Although this provides an initial review of the potential trip rates, any further work to support a planning application should be based on updated traffic surveys.

4.0 ACCESS OPTIONS

4.1 As noted earlier in this report, three potential access options have been designed in accordance with standards set out in DMRB. It should be clarified that an initial assessment confirmed the required forward visibility of 160 metres could not be achieved based on the existing 50mph speed limit, so it is proposed that the Highway Authority is consulted regarding a potential speed limit reduction to 40mph, especially if a T-junction is the preferred way forward. The visibility assessment at Access Options 1 and 2 have been completed based on a 40mph speed limit. It should also be noted that in any future assessment the observed capacity concerns at the Straight Mile/A4071 T-junction should be assessed to identify whether any improvements would be required.

Access Option 1 – Simple Priority T-Junction

4.2 **Drawing Number F23076/01** contains Access Option 1, which is a simple priority T-junction. In line with standards set out in the DMRB CD 123 document, this comprises an 8 metres wide carriageway, with 15 metres kerb radii and a taper with a 1:10 gradient over a distance of 25 metres. A visibility assessment has been completed from the centreline of the junction, which is based on a 40mph design speed and taken from a 2.4 metres setback distance to the nearside edge of the carriageway. Additionally, a visibility splay has been taken to the tangent to ensure any oncoming vehicles are visible throughout the entire splay.

4.3 As previously noted, it was observed during the site visit that forward visibility splays could be impeded by the treeline at the northern edge of the A4071. To assess this, a forward visibility assessment has been completed which is shown in Viewport 2 of **Drawing Number F23076/01**. This demonstrates that a vehicle waiting to turn right into the site could see an oncoming vehicle 120 metres away. It should be noted that the access would need to be designed with a maximum gradient of 1 in 25 (4%) to accord with DMRB standards, with a preferred gradient of 1 in 50 (2%).

4.4 Although this is subject to a more detailed capacity assessment and a speed limit reduction, a T-junction should present a viable option for consideration.

Access Option 2 – Priority T-Junction with Ghost Island Right-Turn Lane

4.5 The need for a right-turn lane is triggered by traffic conditions, with central treatment being required when traffic flows on the major arm exceed 13,000 daily movements and 300 on the minor arm. Whilst the major arm traffic flows are currently below 13,000 (which would need to be confirmed with a more detailed assessment in due course), the daily flows on the minor arm would total 1,563 movements, triggering the need for central treatment. This is subject to confirmation when there is more detail on the size of the scheme.

4.6 **Drawing Number F23076/02** contains Access Option 2, which is a priority T-Junction with a ghost island right-turn lane. In accordance with DMRB CD 123, the access would comprise an 8 metres wide access with 15 metres kerb radii, tying into the A4071 with a 1 in 6 taper over a distance of 30 metres. In terms of the ghost island, a 10 metres turning length would be provided with 40 metres deceleration length and a 15 metres long taper (in accordance with the DMRB standards for a 40mph road) and the ghost island would be 3 metres wide. A visibility assessment has been completed from a 4.5 metres setback taken to the nearside edge of the carriageway (also based on a 40mph design speed) and a tangential splay has been shown to confirm oncoming vehicles would be visible throughout the splay.

4.7 As with Option 1, a forward visibility assessment has been completed which shows 120 metres of forward visibility could be achievable for vehicles turning into the site from the right-turn lane. Subject to a speed limit reduction and capacity assessment, it is considered the proposed access layout should be suitable to serve the development if the speed limit was reduced to 40mph.

Access Option 3 – Roundabout

4.8 **Drawing Number F23076/03** contains Access Option 3, in which the development would be served from the arm of a new roundabout. This has been designed in line with guidance contained in DMRB CD 116 and would have an Inscribed Circle Diameter (ICD) of 40 metres, with a Circulatory Carriageway width of 6.6 metres. The

arm serving the development would have a 5.5 metres Entry Width and 6.5 metres Exit Width, with a 20 metres Entry and Exit Radius.

4.9 The A4071 (W) arm would have an Entry Width of 5.5 metres and an Exit Width of 6.5 metres in line with the DMRB standards, with a 20 metres Entry and Exit Radius. The A4071 (E) arm would have an Entry Width of 5.7 metres and an Exit Width of 6.5 metres, with a 20 metres Entry Radius and a 26 metres Exit Radius. Both arms would tie into the existing layout along the A4071 circa 40 metres east/west of the proposed roundabout.

4.10 Whilst the roundabout would require the most engineering to deliver the scheme, it would not necessarily require the reduction in speed limit from 50mph to 40mph. There would also not be an issue with vehicles turning right into the site as forward visibility would not be a concern. Based on this, a roundabout option should be a viable acces layout for consideration.

5.0 SUMMARY AND RECOMMENDATIONS

5.1 Bancroft Consulting were appointed by Mr S Mitchell to provide highways and transport advice in respect of proposals for the development of a truck stop at land south of the A45 in Dunsmore Heath, Warwickshire. **Figure 1** shows the detailed site location.

5.2 The aim of this site access appraisal was to consider opportunities for access for the new truck stop development. This would need to account for the forward visibility requirements at the access and the level differences between the development site and the A4071. To address this, three access opportunities were presented.

5.3 With regard to the potential movements generated by the development, a study of previously used trip rates based on a 24-hour survey have been used. This shows that a truck stop of up to 612 HGV spaces could generate up to 1563 daily movements (1245 of which would be HGVs) with up to 163 two-way movements in the busiest evening peak hour. The number of spaces at the truck stop is based on assumptions from other truck stops and the potential traffic generation will be updated following confirmation of the number of HGV spaces.

5.4 Access Option 1 (shown in **Drawing Number F23076/01**) would comprise a simple priority T-junction and should have the least impact on the highway network with regard to its construction. Due to the highway boundary to the north of the A4071 however, it would require a speed limit reduction to 40mph in order to accommodate the required forward visibility splays.

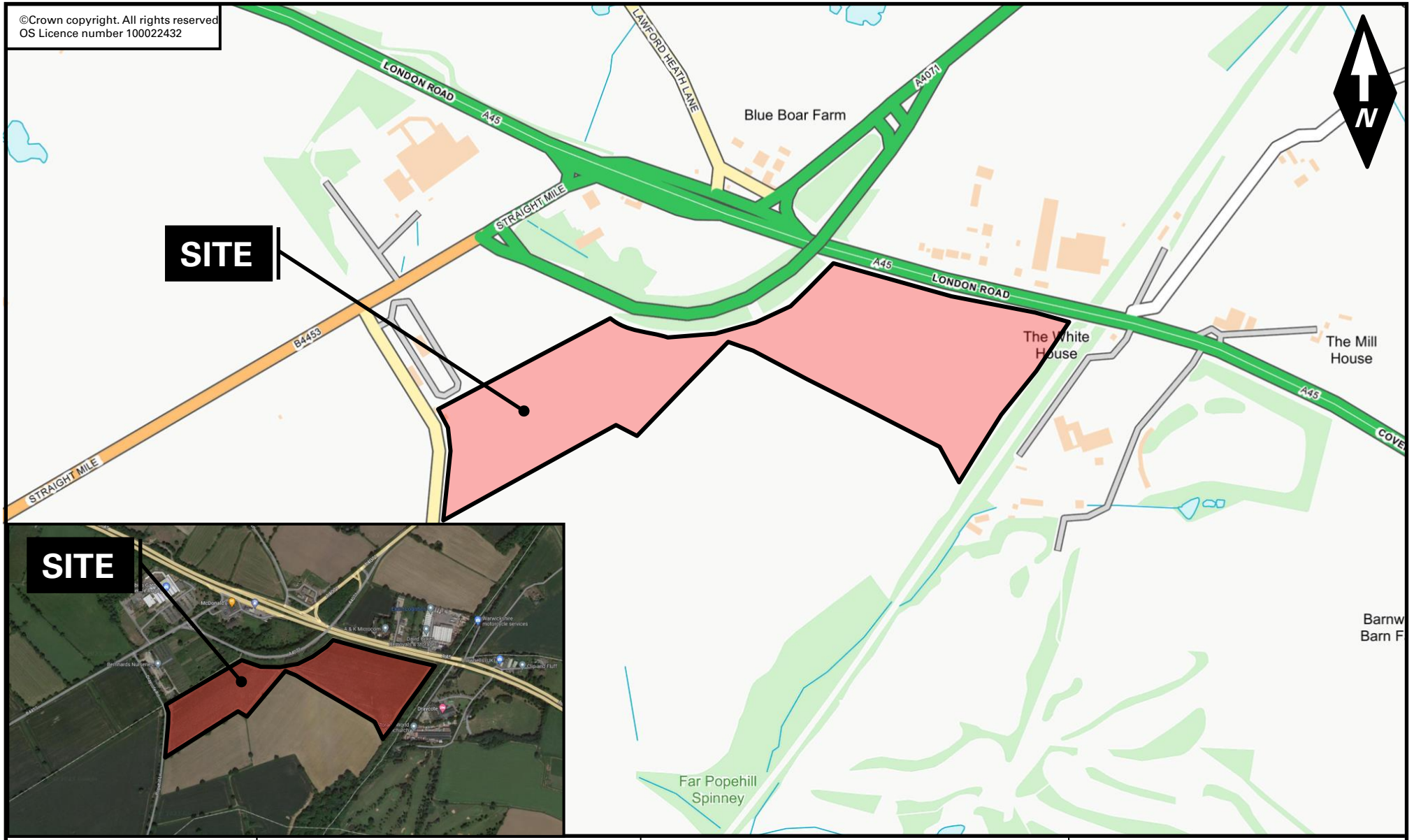
5.5 Access Option 2 (shown in **Drawing Number F23076/02**) would also be a priority T-junction but would have a right-turn lane provided. As with Access Option 1, this would require a speed limit reduction to 40mph and would require more remodelling of the existing access layout. Despite this, the provision of a right-turn lane would help maintain a more comfortable flow of traffic for vehicles not turning into the site.

5.6 Access Option 3 (shown in **Drawing Number F23076/03**) would comprise a roundabout arrangement and would require the most extensive works on the highway

network. Despite this, it would not necessarily require a reduction in speed limit along the A4071 and would likely be the safest option for vehicles turning right into the site.

5.7 It should be noted that this advice is given based on initial site visit observations and any future planning application should be supported with more detailed trip generation calculations and a more refined assessment.

5.8 In the meantime, it is recommended that discussions are opened up with the local Highway Authority to establish a suitable way forward, especially regarding the potential speed limit change. Three access options have been presented in this report for consideration and should present a suitable starting point for discussions with the Highway and Planning Authorities.



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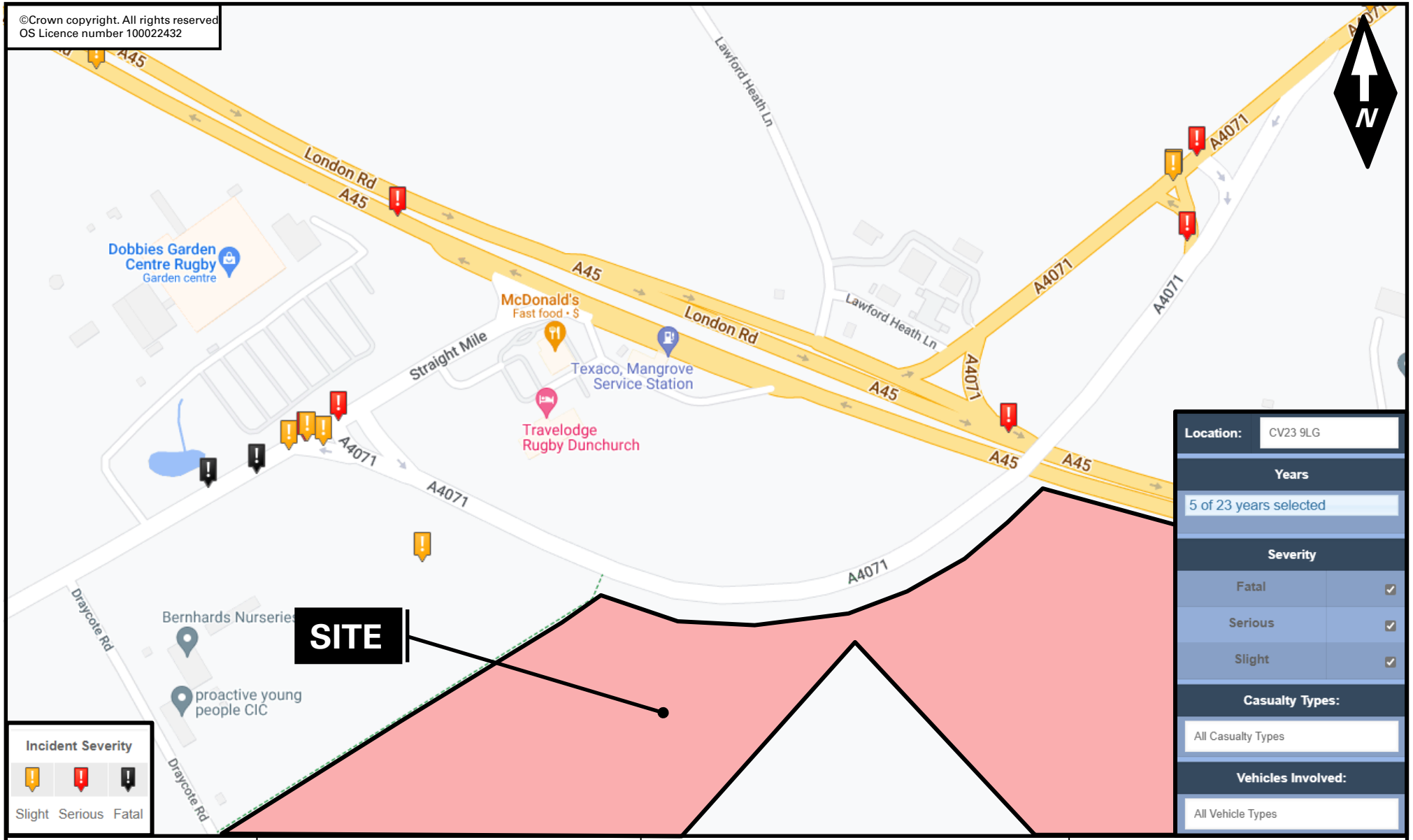
DRAWN: DS	TITLE: DETAILED SITE LOCATION PLAN	JOB NUMBER: F23076	FIGURE: 1



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DATE: 18.07.23	TITLE: ACCIDENT DATA TAKEN FROM CRASHMAP.CO.UK (2017-2021)	JOB NUMBER: F23076	FIGURE: 2
DRAWN: DS			

DRG. No. F23076/01 | REV. No.

NOTES:

assumed highway boundary (subject to confirmation)

Grid North

W E S

taper at gradient of 1:10 over distance of 25 metres

taper at gradient of 1:10 over distance of 25 metres

8 metres wide carriageway

15 metres kerb radii

site boundary

VIEWPORT 1: PROPOSED ACCESS LAYOUT
SCALE – 1:500@A3

2.4 x 120 metres visibility splays (taken to the edge of carriageway and in accordance with proposed 40mph speed limit change)

A1071

120 metres forward visibility

visibility taken to the tangent

VIEWPORT 2: VISIBILITY ASSESSMENT
SCALE – 1:1000@A3

REV.	DATE	DESCRIPTION	DRN	CHK'D

CLIENT

MR S MITCHELL

CONTRACT

LAND SOUTH OF A45

TITLE

ACCESS OPTION 1 – T–JUNCTION

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NAME (PRINT)	DATE
CJB	19.07.23

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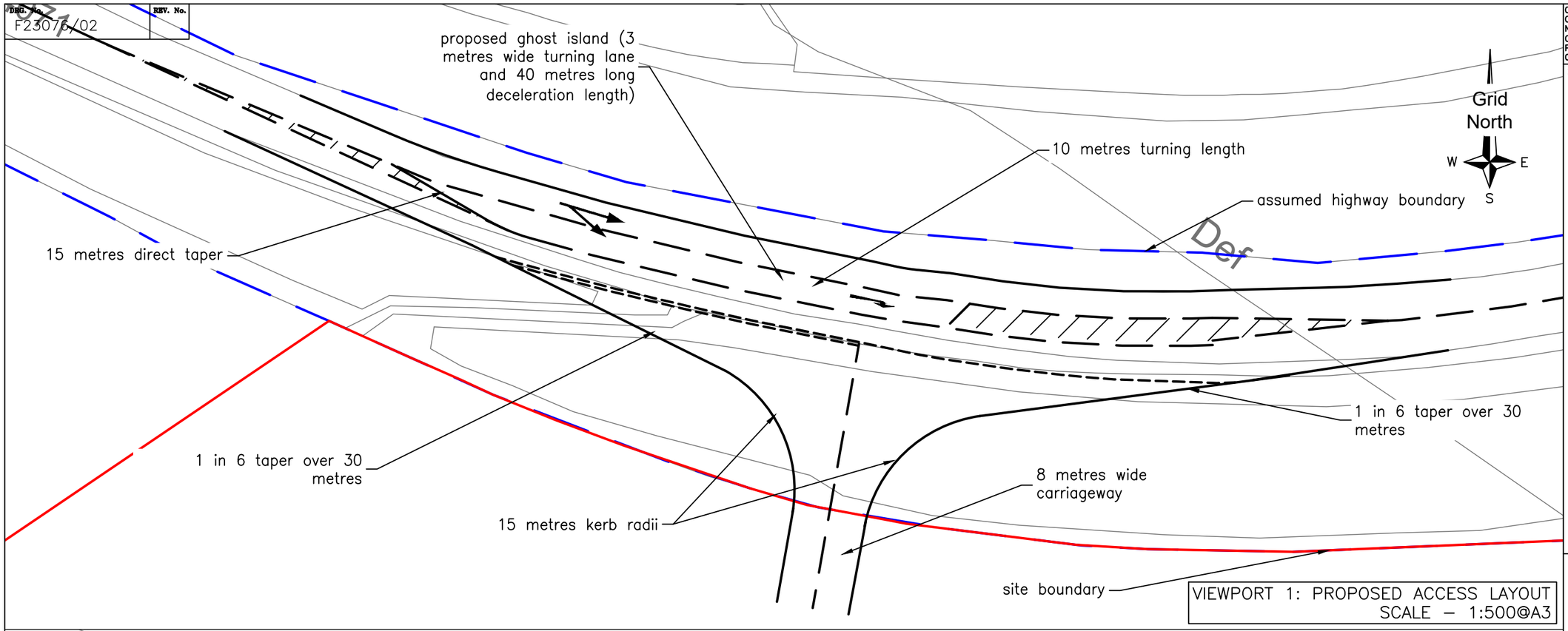
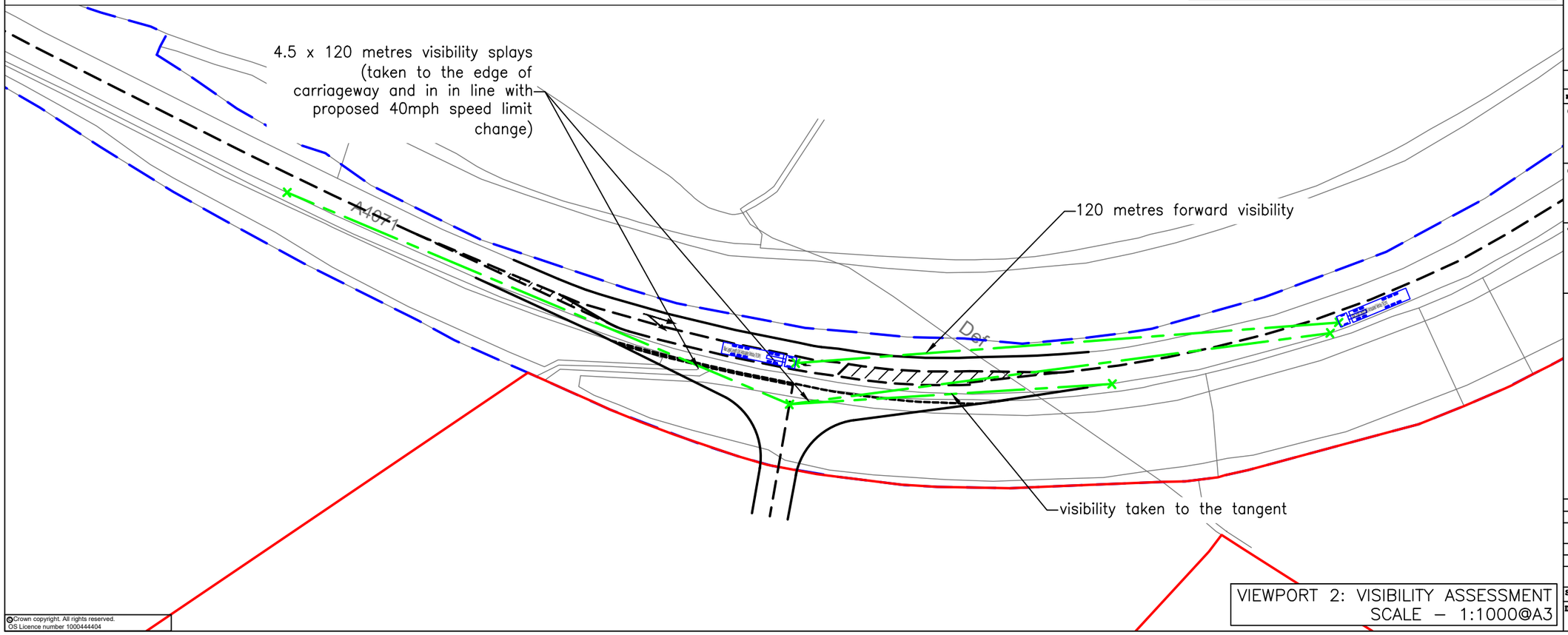
DRG. NO. F23076/02 | REV. No.



VIEWPORT 1: PROPOSED ACCESS LAYOUT
SCALE – 1:500@A3



VIEWPORT 2: VISIBILITY ASSESSMENT
SCALE – 1:1000@A3

NOTES:

REV.	DATE	DESCRIPTION	DRN	CHK'D

CLIENT

MR S MITCHELL

CONTRACT

LAND SOUTH OF A45

TITLE

ACCESS OPTION 2 – T–JUNCTION AND GHOST ISLAND

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SCALE	1:500@A3	STATUS	PRELIMINARY

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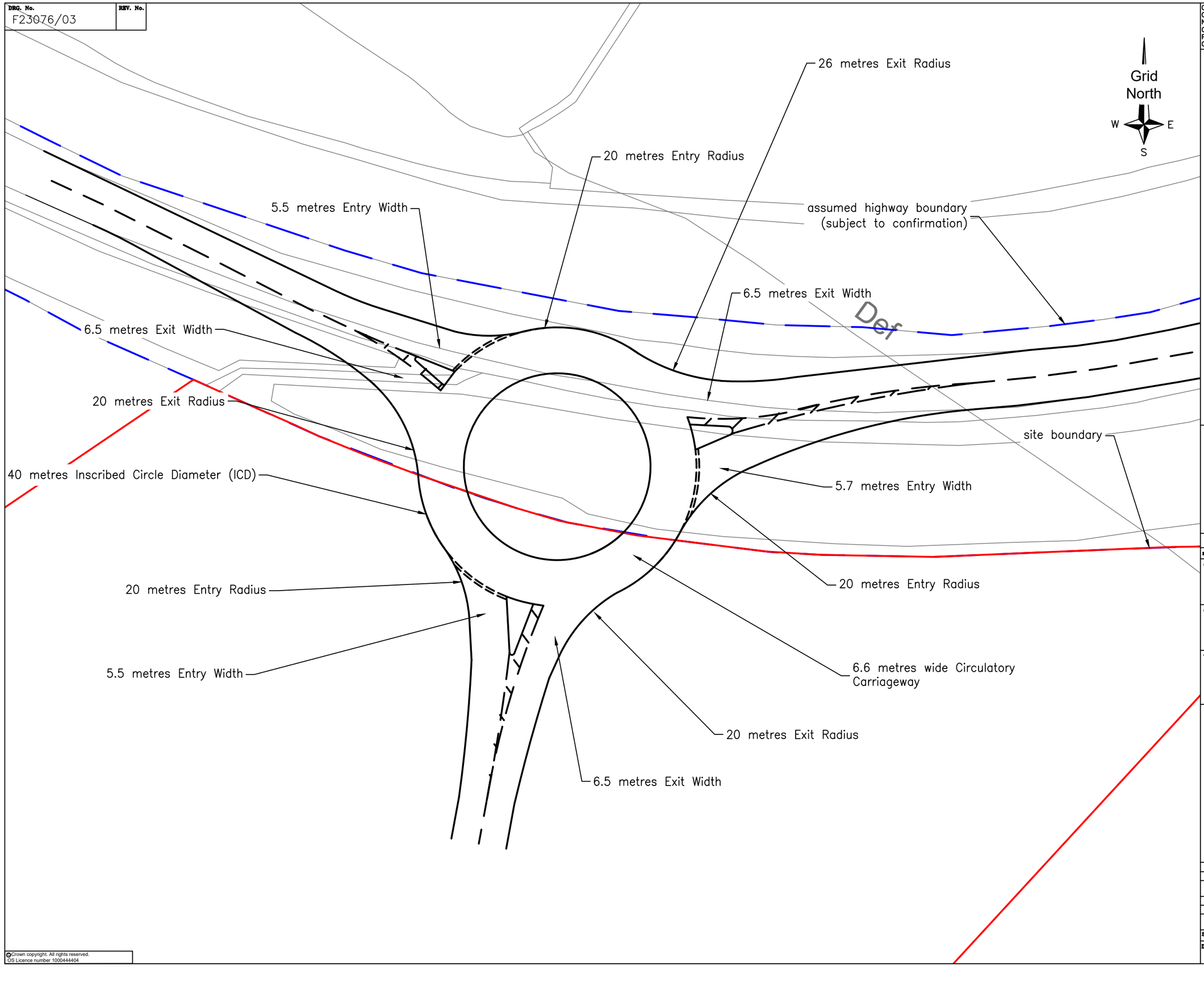
NOTES:



REV.	DATE	DESCRIPTION	DRN	CHK'D

CLIENT

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TITLE

ACCESS OPTION 3 – ROUNDABOUT

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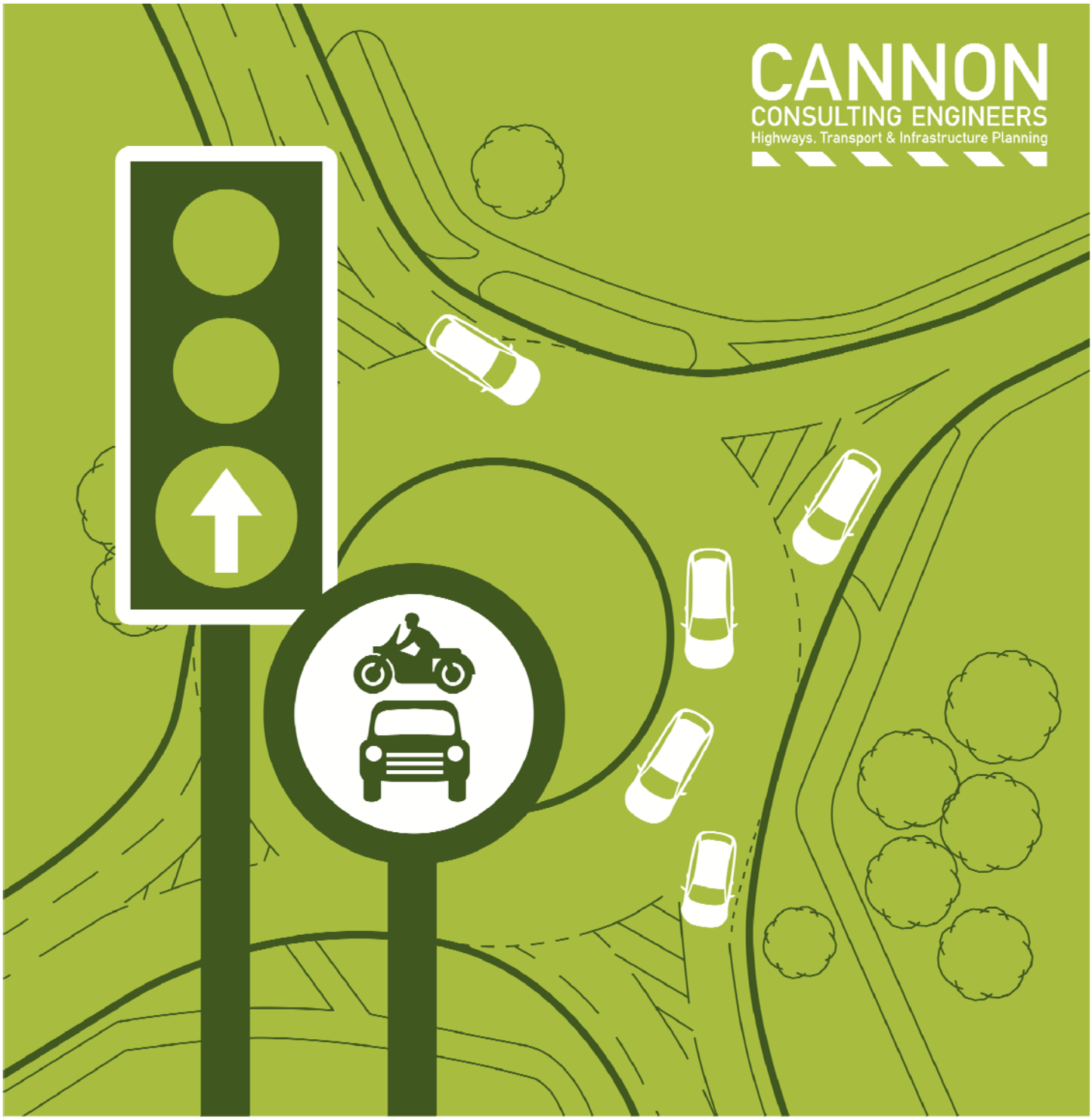
CJB	20.07.23

SCALE 1:500@A3 | STATUS PRELIMINARY

DRG. NO. F23076/03 | REV

APPENDIX A – RELEVANT EXTRACTS FROM TRANSPORT ASSESSMENT



transport assessment

Waterbrook Park, Ashford

Transport Assessment
Volume 1:
Text, Figures, Diagrams
& Drawings

January 2018

For: GSE Waterbrook Ltd & Cedarvale & C. C. Projects (trading as Ashford Great Park Partnership)

Document Review Sheet

This document has been prepared for the sole use of GSE Waterbrook Ltd & Cedarvale & C. C. Projects (trading as Ashford Great Park Partnership) as joint Development Partners for the Waterbrook Park proposals. Its content should not be relied upon by others without the written authority of Cannon Consulting Engineers. If any unauthorised third party makes use of this report they do so at their own risk and Cannon Consulting Engineers owe them no duty of care or skill.

Document Status

Issue	Date	Description	Author	Checked
-	15/12/2017	Draft for Comment	CTH	MK
A	16/01/2018	Issue for Planning	CTH	MK

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B492/TA/101 Rev A	Proposed Full Roundabout Junction Improvement – Romney Marsh Road
B492/TA/200 Rev A	Proposed Internal Road Layout – General Arrangement
B492/TA/201 Rev A	Proposed Spine Road – General Arrangement
B492/TA/202	Proposed Spine Road – Vertical Alignment
B492/TA/253	Indicative Bus Stop Provision
B492/TA/350	Swept Path Analysis – Phase 1 Roundabout
B492/TA/351	Swept Path Analysis – Three-Arm Roundabout
B492/TA/352	Swept Path Analysis – Proposed Truck Stop – 12.0m Rigid HGV
B492/TA/353	Swept Path Analysis – Proposed Truck Stop – 16.5m Articulated HGV

Appendices (Included in Volume 2)

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Appendix E	A2070 Interim Site Access Junction – General Arrangement Plan
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5.0 TRIP GENERATION & DISTRIBUTION

Introduction

5.1 CCE prepared a Technical Note setting out the proposed Trip Rates to be assigned to the respective land uses proposed for the hybrid application, as well as to propose the vehicle trip distributions associated with the Proposed Development. This Technical Note is included in full at **Appendix Q** of this TA.

5.2 The Technical Note was submitted to both KCC and HE on the 29th June 2017. KCC responded on the 05th July 2017 and HE responded on the 06th July 2017. In addition, further correspondence with both the highway authorities in relation to the inclusion of the relocated Foodstore from Finberry to Waterbrook Park was undertaken during November 2017. A copy of this further correspondence is included at **Appendix Q**. The Trip Rates set out below have been agreed with both authorities.

Proposed Development Trip Rates

5.3 The TRICS database (v7.4.1) was reviewed to establish current Trip Rates for the following land uses:

- Foodstore (A1)
- Drive Through (A5 Take Away)
- Office (B1)
- Industrial Estate (B2 & B8)
- Residential (C3)
- Car Showroom (Sui Generis)
- Petrol Filling Station (Sui Generis)

5.4 Whilst the Technical Note sets out details of proposed reductions to the respective Trip Rates that were identified, as some of these were agreed and some were not, the Trip Rates set out in the following Tables are those that have been agreed with both highway authorities, including any reductions that may have been proposed.

Proposed C3 Residential Trips

5.5 **Table 5.1** summarises the TRICS Trip Rates for mixed private housing (flats and housing), as agreed with both KCC and HE. No reductions have been included.

Table 5.1: Average TRICS C3 Residential Trip Rates

Peak Period	Trip Rate per Dwelling		
	Arrivals	Departures	Total
08:00-09:00	0.144	0.353	0.497
17:00-18:00	0.372	0.228	0.600
07:00-19:00	2.642	2.697	5.339

5.6 **Table 5.2** summarises the total vehicle trips predicted to be generated by up to 425 residential units.

Table 5.2: Total C3 Residential Vehicle Trips

Peak Period	425 Dwellings		
	Arrivals	Departures	Total
08:00-09:00	61	150	211
17:00-18:00	158	97	255
07:00-19:00	1,123	1,146	2,269

Proposed B1 Office Trips

5.7 **Table 5.3** summarises the TRICS Trip Rates for B1 Office use, as agreed with both KCC and HE. No reductions have been included.

Table 5.3: Average TRICS B1 Office Trip Rates

Peak Period	Trip Rate per 100 sqm		
	Arrivals	Departures	Total
08:00-09:00	1.114	0.113	1.227
17:00-18:00	0.112	1.022	1.134
07:00-19:00	4.027	4.037	8.064

5.8 **Table 5.4** summarises the total vehicle trips predicted to be generated by up to 24,474 sqm of B1 Office floor space associated with the new development at Waterbrook Park.

Table 5.4: Total B1 Office Vehicle Trips

Peak Period	24,474 sqm B1 Office Floor Space		
	Arrivals	Departures	Total
08:00-09:00	273	28	300
17:00-18:00	27	250	278
07:00-19:00	986	988	1,974

Proposed (B2 – B8) Industrial Estate Trips

5.9 **Table 5.5** summarises the TRICS Trip Rates for Industrial Estate use, as agreed with both KCC and HE. No reductions have been included.

Table 5.5: Average TRICS Industrial Estate Trip Rates

Peak Period	Trip Rate per 100 sqm		
	Arrivals	Departures	Total
08:00-09:00	0.489	0.255	0.714
17:00-18:00	0.141	0.470	0.611
07:00-19:00	3.665	3.619	7.284

5.10 Whilst Trip Rates have been agreed for the Industrial Estate land uses, i.e. B2 and B8, as a robust assessment of the SME Units is to only consider the floor areas as B1 land use, no vehicle trips are identified for the Industrial Estate land use.

Proposed A5 Drive-Through Takeaway Trips

5.11 **Table 5.6** summarises the reduced Trip Rates for A5 Drive-Through Takeaway use. The total reduction from the TRICS Trip Rate is identified as being approximately 34%, the details of which are set out within the Technical Note.

Table 5.6: Primary A5 Drive-Through Trip Rates (34% of Total Trips)

Peak Period	Trip Rate per 100 sqm		
	Arrivals	Departures	Total
08:00-09:00	1.763	1.576	3.339
17:00-18:00	2.559	2.695	5.254
07:00-19:00	29.938	29.167	59.105

5.12 **Table 5.7** summarises the total vehicle trips predicted to be generated by up to 1,332 sqm of A5 Drive-Through Takeaway floor space. It should be noted that additional vehicles are proposed to be associated with this use, but these have been accepted to already be associated with other uses, or are identified as being pass-by or diverted trips.

Table 5.7: Total A5 Drive-Through Vehicle Trips

Peak Period	1,332 sqm A5 Floor Space		
	Arrivals	Departures	Total
08:00-09:00	23	21	44
17:00-18:00	34	36	70
07:00-19:00	398	389	787

Proposed Car Showroom Trip Rate

5.13 **Table 5.8** summarises the Trip Rates for a Car Showroom. These Trip Rates have been derived from traffic surveys undertaken at the existing Jaguar Land Rover site within Orbital Park. The traffic flows associated with the existing Jaguar Land Rover site are set out in the Transport Statement that supported the permitted scheme (Planning Ref 16/00427/AS).

Table 5.8: Car Showroom Trip Rates

Peak Period	Trip Rate per 100sqm		
	Arrivals	Departures	Total
08:00-09:00	0.656	0.285	0.941
17:00-18:00	0.086	0.456	0.542
07:00-19:00	5.075	4.790	9.866

5.14 **Table 5.9** summarises the total new vehicle trips predicted to be generated by the proposed Car Showroom provision on the site. The permitted Jaguar Land Rover development is not included.

Table 5.9: Total Car Showroom Vehicle Trips

Peak Period	4,995 sqm of Car Showroom Floor Space		
	Arrivals	Departures	Total
08:00-09:00	33	14	47
17:00-18:00	4	23	27
07:00-19:00	253	239	493

Proposed Petrol Filling Station Trip Rate

5.15 **Table 5.10** summarises the reduced Trip Rates for a Petrol Filling Station (PFS). The total reduction from the TRICS Trip Rate is identified as being approximately 32%, the details of which are set out within the Technical Note.

Table 5.10: Petrol Filling Station Trip Rates (32% of Total Trips)

Peak Period	Trip Rate per pump		
	Arrivals	Departures	Total
08:00-09:00	0.887	0.900	1.787
17:00-18:00	0.865	0.865	1.722
07:00-19:00	9.629	9.598	19.227

5.16 **Table 5.11** summarises the total new vehicle trips predicted to be generated by up to 8 pumps at the proposed PFS. It should be noted that additional vehicles are proposed to be associated with this use, but these have been accepted to already be associated with other uses, or are identified as being pass-by or diverted trips.

Table 5.11: Total PFS Vehicle Trips

Peak Period	8 Pump PFS		
	Arrivals	Departures	Total
08:00-09:00	7	7	14
17:00-18:00	7	7	14
07:00-19:00	77	77	154

Proposed Truck Stop Trips

5.17 In order to establish the level of vehicular activity associated with the reconfigured 600-space Truck Stop, CCE commissioned a 24-Hour survey of the existing 350-space Truck Stop facility at the southern end of Waterbrook Avenue. The survey was undertaken on Tuesday the 21st March 2017 and included a video feed of the access to the Truck Stop.

5.18 The existing Truck Stop has permission for a total of 350 Truck Parking Spaces and is understood to be operating at capacity at present. As such, the Truck Stop Trip Rate has been defined by the number of arrivals and departures per Truck Parking Space. **Table 5.12** summarises the Truck Stop Trip Rates.

Table 5.12: Observed Truck Stop Trip Rates

Peak Period	Trip Rate per Truck Parking Space					
	Arrivals		Departures		Total	
	Cars	HGVs	Cars	HGVs	Cars	HGVs
08:00-09:00	0.020	0.083	0.006	0.143	0.026	0.226
17:00-18:00	0.023	0.154	0.057	0.031	0.080	0.186
07:00-19:00	0.260	1.174	0.260	0.860	0.520	2.034

5.19 **Table 5.13** summarises the additional vehicle trips predicted to be generated by a further 250 Truck Parking Spaces at the improved Truck Stop Facility.

Table 5.13: Extended Truck Stop Vehicle Trips

Peak Period	Additional 250 Truck Parking Spaces					
	Arrivals		Departures		Total	
	Cars	HGVs	Cars	HGVs	Cars	HGVs
08:00-09:00	5	21	2	36	7	57
17:00-18:00	6	39	14	8	20	47
07:00-19:00	65	294	65	215	130	509

5.20 It should be noted that whilst the existing 350 space Truck Stop is proposed to be relocated within Waterbrook Park, the observed vehicle trips associated with the existing 350-space

Truck Stop will form part of the baseline assessment of vehicle trips as these are considered to already be on the surrounding highway network.

Proposed A1 Foodstore Trips

5.21 **Table 5.14** summarises the Trip Rates for A1 Foodstore land use. As set out in the email correspondence with HE and KCC contained at **Appendix Q**, these Trip Rates have been derived from the TRICS database for a Food Superstore.

Table 5.14: A1 Foodstore Trip Rates

Peak Period	Trip Rate per 100 sqm		
	Arrivals	Departures	Total
08:00-09:00	2.773	2.017	4.790
17:00-18:00	5.135	5.432	10.567
07:00-19:00	53.805	51.581	105.386

5.22 The original Cheeseman's Green planning permission included a 2,600 sqm Foodstore as part of the outline planning permission (Planning Ref 02/00278/AS), which was finalised in the recently permitted Reserved Matters submission (Planning Ref 15/01435/AS). Traffic associated with the permitted Foodstore would access the Finberry development via Avocet Way, which forms part of the BG junction.

5.23 With the above in mind, CCE sought agreement from the highway authorities to assume that if a like-for-like level of Foodstore were to be proposed at Waterbrook Park, then the same level of vehicular activity would pass through the BG junction, albeit with slightly different turning movements as the traffic would be redirected to Waterbrook Avenue and not Avocet Way.

5.24 As per the correspondence contained at **Appendix Q**, it was identified that due to the fact that it is considered that the Foodstore would be more prominently located at Waterbrook Park than at the permitted location within Finberry, whilst the principle of the same vehicle trips being generated appeared to be sound, an increase in 10% of vehicle trips should be attributed to the relocated Foodstore to address the proximity of the relocated Foodstore to the A2070.

5.25 **Table 5.15** summarises the additional vehicle trips predicted to be generated by the relocated Foodstore, which is essentially, 10% of the total vehicle trips that would be generated by the identified Trip Rates set out in Table 5.14.

Table 5.15: A1 Foodstore Vehicle Trips (10% of Total Trips)

Peak Period	2,276 sqm A1 Floor Space		
	Arrivals	Departures	Total
08:00-09:00	6	5	11
17:00-18:00	12	12	24
07:00-19:00	122	117	240

Proposed Waterbrook Park Trips

5.26 **Table 5.16** summarises the total vehicle trips predicted to be generated by all of the combined new land uses proposed at Waterbrook Park.

Table 5.16: Total Waterbrook Park Vehicle Trips

Peak Period	Waterbrook Park		
	Arrivals	Departures	Total
08:00-09:00	429	262	691
17:00-18:00	287	447	734
07:00-19:00	3,319	3,236	6,555

Proposed Development Units associated with Waterbrook Park

5.27 Having established the level of traffic predicted to be generated by the new development proposed at the Waterbrook Park scheme, it is possible to calculate what these proposed traffic flows would equate to in terms of Development Units (DUs).

5.28 As set out in Section 4.0 and as noted at paragraph 6.3.4 of the 2008 SoCG, the total agreed level of development at Waterbrook Park that was permitted following the 2008 Appeal, was identified as being 11.1 Development Units (DUs). A DU is defined at paragraph 6.2 of SPG6 as being the level of development that would generate "*150 two-way trips in the two peak periods combined*". For completeness, SPG6 identifies that this level of development would be in the order of 100 homes or 5,500 sqm of B1 or 8,600 sqm of B2 or 16,700 sqm of B8 or 1,000 sqm of A1 (food).

5.29 The elements of development that are to be considered with respect to calculating the predicted DUs from Waterbrook Park, are as set out in **Table 5.17** with particular regard to the land uses.

Table 5.17 Proposed Development at Waterbrook Park that account for DUs

Zone	Land Ref	Land Use	GFA (sqm)
Zone A	Office Space	B1 Office	15,866
Zone A	Car Showroom	Sui Generis	4,995
Zone B	Jaguar Land Rover	Sui Generis	2,693
Zone B	Jaguar Land Rover	B1 Office	650
Zone C	Foodstore	A1 Retail	2,276
Zone C	Office Space	B1 Office	1,422
Zone C	Drive Through Take Away	A5 Take Away	1,332
Zone C	Petrol Filling Station (8 Pumps)	Sui Generis	508
Zone D	Office Space	B1 Office	878
Zone D	Truck Stop (250 new spaces)	Sui Generis	1,734
Zone D	SME Unit (B1, B2, B8 + Sui Generis)	B1 Office	1,224
Zone E	SME Units (B1, B2, B8 + Sui Generis)	B1 Office	3,248
-	VOSA	Sui Generis	312
		Total	**37,138**
Resi	**Residential – 425 Dwellings**	**C3 Residential**	**425 Units**

5.30 Having established the traffic flows associated with each of these land uses for the respective parcels, it is possible to set out that AM and PM Peak Hour flows that would be generated by the elements that would make up the DU calculations. To this extent, the traffic associated with existing 350-space Truck Stop is not to be included, nor is the traffic associated with the KICC or the Rail Sidings (which would not generate traffic in the AM and PM Peak Hours anyway).

5.31 **Table 5.18** summarises the traffic flows to be generated in the AM and PM Peak Hours for the land uses presented in **Table 5.17**.

Table 5.18: Waterbrook Park Total Traffic Flows that account for DUs

Peak Period	Waterbrook Park		
	Arrivals	Departures	Total
C3 Residential (425 Dwellings)			
08:00-09:00	61	150	211
17:00-18:00	158	97	255
B1 Office (24,474 sqm)			
08:00-09:00	273	28	300
17:00-18:00	27	250	278
A5 Drive Through (1,332 sqm)			
08:00-09:00	23	21	44
17:00-18:00	34	36	70
Car Showroom (4,995 sqm)			
08:00-09:00	33	14	47
17:00-18:00	4	23	27
Petrol Filling Station (8 pumps)			
08:00-09:00	7	7	14
17:00-18:00	7	7	14
Extended Truck Stop (250 Spaces)			
08:00-09:00	26	37	63
17:00-18:00	44	22	67
Additional Foodstore (10% of 2,276 sqm)			
08:00-09:00	6	5	11
17:00-18:00	12	12	24
Total Two-Way Traffic Flows			
08:00-09:00	429	262	691
17:00-18:00	287	447	734

5.32 As 1 DU is equivalent to 150 two-way vehicles movements in the AM and PM Peak Hours combined, by applying this value to the total two-way AM and PM Peak Hour traffic flows associated with the relevant level of new development at Waterbrook Park, identified as being 1,425 two-way total vehicle movements, we can derive that the new development at Waterbrook Park would generate traffic in the order of 9.5 DUs. As such, when added to the permitted DUs already associated with the permitted uses at Waterbrook Park, i.e. VOSA and the Jaguar Land Rover site, which are identified as generating 0.75 DUs in traffic terms when combined, the total level of DU activity associated with the Waterbrook park development is identified as being 10.25 DUs.

Proposed Development Traffic Distribution

5.33 2011 'Journey to Work' Census data for Output Area Ashford 009, has been used to derive two agreed distribution profiles for the proposed residential and employment uses. The Census data, and proposed distributions are set out in the Technical Note contained at **Appendix Q** and summarised in **Table 5.19** below.

Table 5.19: Proposed Residential and Employment Distribution

Origin / Destination	Waterbrook Park Distribution	
	Residential	Employment
A2070 (East) To / From M20	53%	54%
The Boulevard To / From Orbital Park	9%	3%
A2017 (West) To / From Ashford (West/Central)	38%	43%
Total	**100%**	**100%**

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