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TRANSPORT AND INFRASTRUCTURE PLANNING

LAND AT SOUTH CALDECOTTE

APPLICATION REF. 19/01818/OUT

PROOF OF EVIDENCE ON HIGHWAYS AND TRANSPORT

PINS REF HB/4/1

BWB

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Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

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1. INTRODUCTION AND PRINCIPAL ISSUES

Appointment

1.1 I am Matthew Addison, the author of this report. I am a Transport Planner and Associate Director at BWB Consulting Limited (BWB), an integrated engineering and environmental consultancy that delivers multi-disciplinary engineering solutions to the property, development and construction industry.

1.2 BWB was first appointed in August 2017 by HB (South Caldecotte) Ltd to advise upon transport matters in relation to a proposed employment development on the appeal site. The appeal site is located to the west of V10 Brickhill Street in South Caldecotte, Milton Keynes. With regards to this planning appeal I will be providing evidence in relation to transport on behalf of the appellant, HB (South Caldecotte) Ltd.

1.3 My proof (Ref. HB/4/1) is supplemented by a standalone summary report (Ref. HB/4/2) with all appendices referenced contained in a standalone Appendices report (Ref. HB/4/3).

Qualifications and Relevant Experience

1.4 I hold an Honours Degree in Environment and Transport Planning from the University of Leeds. I am a member of the Chartered Institute of Highways and Transportation (MCIHT).

1.5 I have over 10 years' of professional experience in the planning and design of transport infrastructure and highway schemes. I have worked at BWB Consulting Limited for over three and half years and I am responsible for providing traffic engineering, transport planning, sustainable transport, and preliminary highway design advice to a wide range of Clients. These include housebuilders, commercial property developers, landowners, retail developers, private individuals and public authorities.

1.6 Prior to working at BWB, I worked at JMP Consultants Ltd as a Senior Transport Consultant and I led reviews into development proposals on behalf of Highways England (HE) as part of their North East and Yorkshire & Humber Spatial Planning Framework. Therefore, I have a sound understanding of policy and protocols relating to the assessment of development impacts on the strategic road network.

1.7 My experience has been focussed on assessing the traffic and transport impacts of development schemes, relevant to the matters being discussed at this site. I will review the merits of the proposals and provide my expert opinion on outstanding transport matters related to the site. I have not elaborated further on matters which are contained within the Statement of Common Ground between BWB and Milton Keynes Council (as the relevant highways authority) and between BWB and Highways England. I anticipate that these will be agreed before the Inquiry and which is being developed at the time of submission. The Statement of Common Ground agreed with MKC as part of this Proof of Evidence is provided in **Appendix 3.A.**

1.8 I am acquainted with the Appeal Site and the surrounding highway network, having visited the site and reviewed video footage from the traffic surveys.

1.9 The evidence which I have prepared and provided for the inquiry is in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions, irrespective of by whom I am instructed.

Proposed Development Overview

1.10 The proposed development site, South Caldecotte, is in the area of Milton Keynes Council (MKC), which is both the local planning and highways authority. Highways England is responsible for the strategic road network, including the A5 Trunk road.

1.11 The proposals comprise up to 2,600,000 sq.ft. (241,548 sq.m.) of B1(c)/B2/B8 land uses, which include storage, warehouse, distribution, light industrial and ancillary offices. A drawing of the Indicative Masterplan for the site is included as **Appendix 3.B**.

1.12 Further details about the proposed development from a transport perspective are provided in **Chapter 2**.

History of the Scheme from a Planning Perspective

1.13 The original planning application (LPA reference 19/01818/OUT) was made on 17th July 2019 and validated on the same date. The potential impacts of the development in highways terms were assessed within a Transport Assessment (TA) and a Framework Travel Plan (FTP), for which I have been responsible for preparing. The Transport Assessment and related documentation highlighted that traffic flow volumes related to the development can be accommodated on the existing highway network with the mitigation measures identified. A copy of the original Transport Assessment submitted with the application is included as **Appendix 3.C**.

1.14 The planning application was presented to the LPA's Development Control Committee on 6th February 2020 with an officers' recommendation for refusal. At the meeting, the Committee resolved to refuse planning permission with three reasons for refusal. The third reason for refusal relates to transport and is worded as follows:

> "The proposal, by reason of failure to demonstrate provision of necessary infrastructure to mitigate the impact of the development, in particular in relation to transport, would have a harmful impact on the transport network, in terms of road, cycle and public transport provision, and would therefore fail to mitigate the impact of development, contrary to Plan: MK policies INF1, CT1 CT2, CT3, CT5 and SD14 (C.3) of Plan: MK."

1.15 Specific Highways-related responses to application 19/01818/OUT are documented in Stirling Maynard Transportation's (SMT) most recent advice made on behalf of MKC Highways dated 16th January 2020, a copy of this is provided in **Appendix 3.D** for reference. This concluded that "whilst there is no objection in principle to the proposed development, planning consent should not be granted until these issues have been satisfactorily addressed".

1.16 A copy of Highways England's (HE) recommendation to MKC on strategic road network (SRN) impact is contained in **Appendix 3.E**.

1.17 In response to the above, a Transport Assessment Addendum (TAA) report dated 10th July was submitted to MKC on the same date. A copy of the TAA is provided in **Appendix 3.F**.

Issues to be Addressed

1.18 The following table provides a summary of the transport matters raised by SMT on behalf of MKC Highways and Highways England's holding response along with the location where they are specifically addressed within this proof.

Table 1: Summary of Highways Issues to be Addressed

Traffic and Transport Items Raised		Reference in this Document
1	Redway Provision There remains no Redway provision proposed on this section of Brickhill Street. Again, due to the Anglian Water compound, the applicant is not in a position to provide the Redway along Brickhill Street within land they control. The Redway is an essential piece of infrastructure that the development must contribute towards, notwithstanding the provision of a Redway through the site. This echoes the comments made in the Transport Policy team's consultation response.	See Chapter 5
2+3	Upgrading Brickhill Street to a Grid Road Policy SD14 includes the upgrading in recognition of the key link between the A5 and south Milton Keynes provided by Brickhill Street. Paragraphs 6.58-6.64 of the TA set out why the upgrading of Brickhill Street to a Grid Road is not required for capacity reasons. The information provided is sound; however the upgrading / safeguarding for upgrading is a matter of policy (SD14) and therefore the Council will need to consider the policy and the response. As already stated above, the upgrading is not required to enable this development. It should be noted that whilst the proposals safeguard the future upgrading of the road with a green corridor adjacent to the existing road, there is a compound	See Chapter 6

	labelled "Anglian Water" within the area that would prevent any enhancement / widening of Brickhill Street. The applicant has made available the land within their gift, but this excludes the compound. At the 31st October (2019) meeting the applicant clarified, to an acceptable level, the width of the reserved land and agreed to provide drawings to demonstrate this. Those drawings do not appear to have been provided. The applicant should be aware that the width of the corridor remains a matter to be agreed; however, an appropriately worded condition could cover this. Brickhill Street / Station Road mini-roundabout The assessment concludes that no mitigation is required at this junction. Due to the nature of the proposed uses, the main impact of the development at this junction is considered to be outside peak hours. Whilst this may be true in capacity terms, the retention of a mini-roundabout is not desirable when considered against the potential increase in HGV use and the future upgrading of Brickhill Street. Currently the junction does not have a recorded accident record (no Personal Injury Accidents) and therefore a request for an improvement at this stage could be considered unreasonable. However, the protection of the future upgrading of Brickhill Street should include sufficient land to improve this junction to a minimum 40m ICD roundabout or a suitable alternative junction arrangement that offers comparable HGV provision and capacity. This was another matter covered in the 31st October meeting and another matter where a drawing was to be provided. Again, no drawing appears to have been submitted.	
4	Public Transport The TA refers to public transport provision in Paragraphs 7.7-7.11, but there is no commitment to services. It is essential that a frequent service, from early morning to late evening, including weekends, is provided to this site given its likely round-the-clock operation. Since the August Highway Observations there is no obvious formal response from the Passenger Transport team although discussions were being held. Any	See Chapter 7

	agreement on levels of service and contributions should be secured as part of the Section 106 agreement that any planning approval will no doubt be subject to.	
5	A5/A4146 (Kelly's Kitchen) Roundabout This junction has been assessed using VISSIM microsimulation model and the results are summarised in Paragraphs 7.13-7.32 of the TA. The impacts on queuing at the junction have been assessed both with and without the major improvement scheme secured as part of the Eaton Leys proposals. The assessment shows that the impact from this development is relatively minor in terms of queue lengths in the short term. Once background growth and committed developments are included the picture is less clear and the TA acknowledges that journey times across the junction will increase. However, the assertion in the TA is that this is due primarily to traffic growth and other development (such as Eaton Leys), which generate more significant volumes of peak hour traffic. This junction assessment is being reviewed, as part of the review of the TA, by Highways England. Any mitigation sought by HE will need to be assessed for its impact on queuing at the non-A5 arms of the junction. It is noted that Highways England has recommended that the application is not determined prior to 28th February 2020 in order for that review to be completed.	See Chapter 8

Structure of this Proof of Evidence

1.19 This Proof of Evidence is structured as follows:

- Chapter 2 of this document sets the scene for the site in terms of the surrounding highway network and the site's accessibility.
- Chapter 3 provides an overview of the proposed development and summarises the mitigation measures proposed as part of it.
- Chapter 4 provides an overview of the policy fit of the proposed development from a transport perspective.
- Chapter 5 addresses the issue relating to Redway infrastructure provision.

- Chapter 6 addresses the issue associated with the safeguarding of land along Brickhill Street to enable this to be upgraded to Grid Road Standard in the future if required.

- Chapter 7 addresses public transport provision to serve the proposed development.

- Chapter 8 addresses the impact and mitigation requirements associated with the operation of the A5 Kelly's Kitchen Roundabout and informed by the VISSIM microsimulation traffic model.

- Chapter 9 provides a summary of the key points raised in this note.

- Finally, the appendices to this proof are contained in a standalone document **Ref. HB/4/3** and incorporate the documents listed on page 2 of this proof.

1.20 This Proof of Evidence presents my professional opinion that from a transport perspective the Appellant's site is one which is suitable and sustainable for the scale of the development proposed and will enhance the local walking and cycling network. This opinion is based upon my qualitative assessment of routes and opportunities, relating this to experience and examples from elsewhere.

1.21 The key disputed issues addressed by this Proof of Evidence include:

- The provision of an on-line Super Redway Route alongside V10 Brickhill Street.

- The safeguarding of land along Brickhill Street to enable this to be upgraded to Grid Road Standard.

- Public transport provision to serve the proposed development; and

- Impact of traffic on the A5 Kelly's Kitchen Roundabout.

2. SETTING THE SCENE

Site Location

2.1 The appeal site is located to the east of Bletchley, approximately 6km south east of Milton Keynes Town Centre. **Figure 1** shows the location of the site in relation to the local and strategic highway networks.

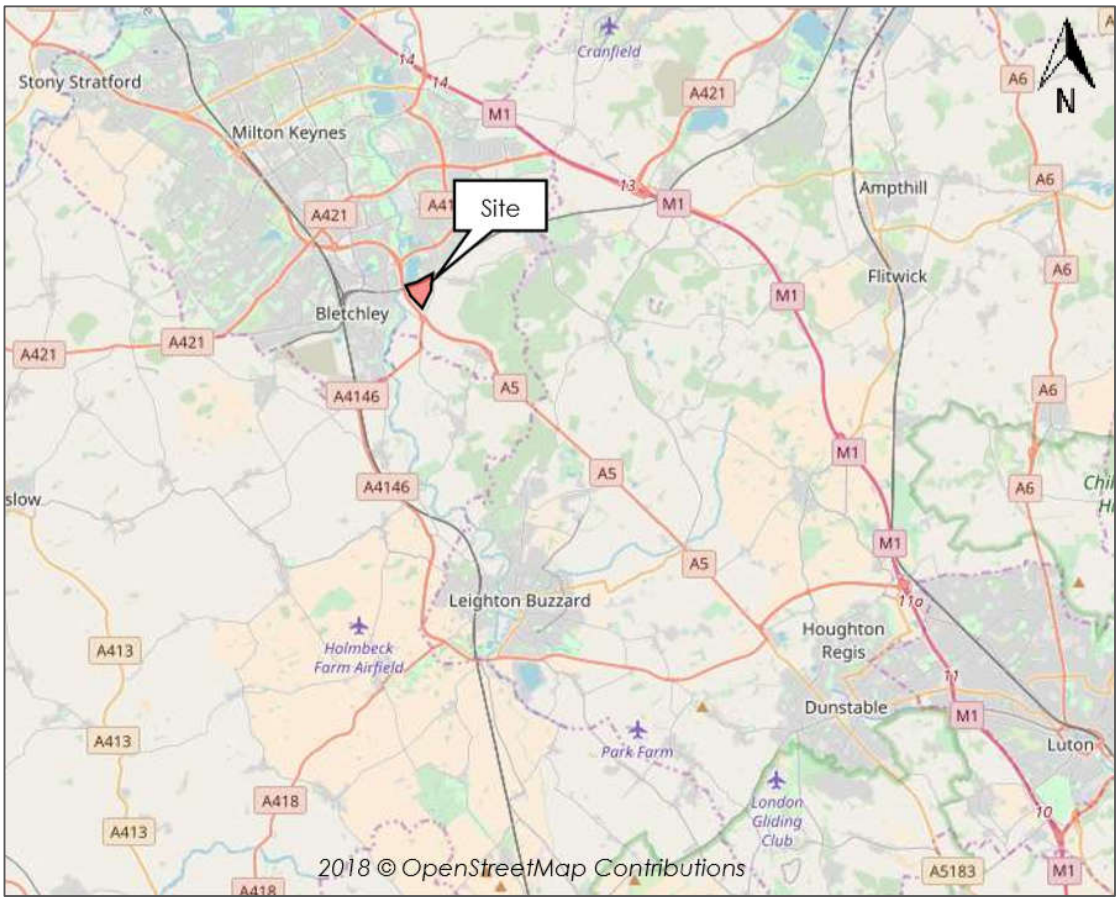

Figure 1: Site Location Plan

Study Area

2.2 The following junctions have been subject to detailed junction capacity assessment as part of the Transport Assessment and are referenced on **Figure 2**.

1. A5 / A4146 / Watling Street / V10 Brickhill Street (Kelly's Kitchen Roundabout)
2. V10 Brickhill Street / Station Road mini-roundabout
3. V10 Brickhill Street / Caldecotte Lake Drive (Tilbrook Roundabout)
4. A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)

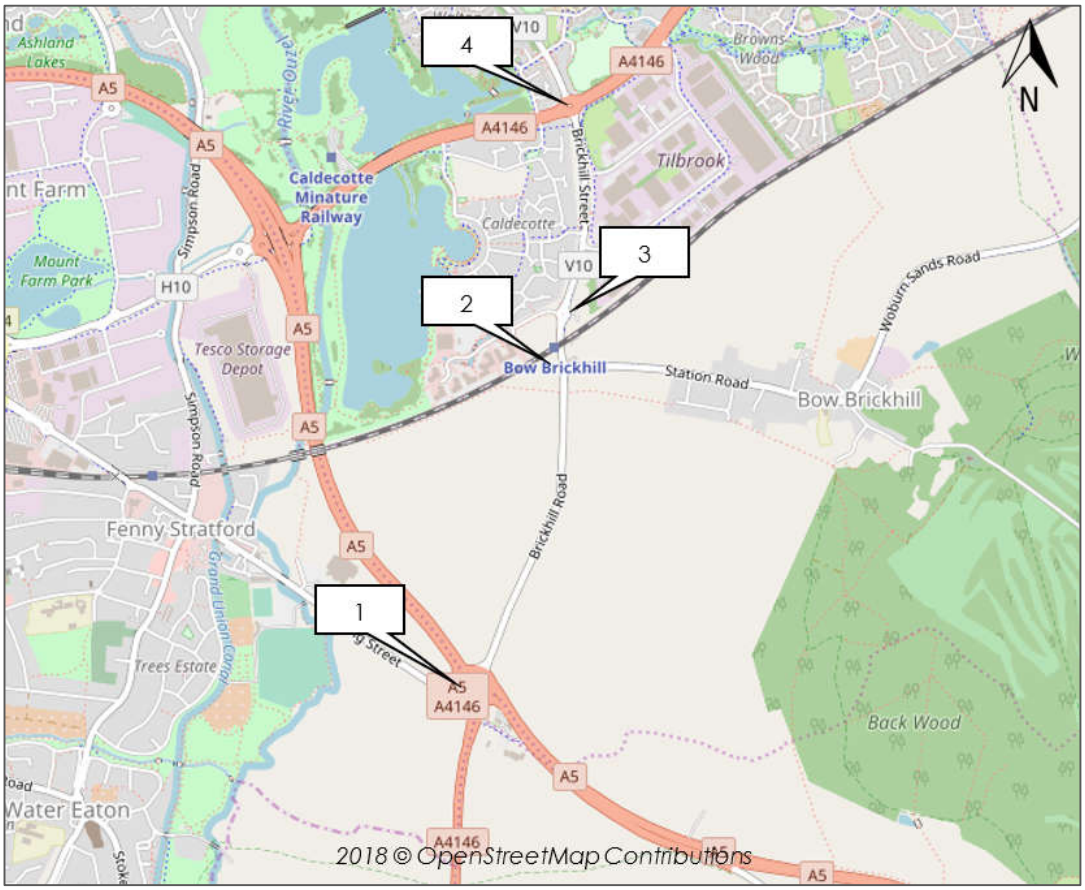

Figure 2: Transport Assessment Study Area Junctions

Public Transport Network

2.3 In relation to bus accessibility, the Chartered Institute of Highways and Transportation's (CIHT) 'Buses in Urban Developments, January 2018' publication, recommends that the maximum walking distance to 'single high-frequency routes (every 12 minutes or better)' should be 400m. For less frequent bus routes, the maximum recommended walking distance is 300m.

2.4 The nearest bus stops to the site are located on V10 Brickhill Street, approximately 560m north of the proposed site access. Bus shelters with table information and laybys are provided on both sides of the road at these bus stops. These bus stops currently only serve rail replacement bus services for Bow Brickhill Station.

2.5 Further bus services can be accessed from Station Road and Caldecotte Lake Drive approximately 660m and 780m respectively from the proposed site access.

2.6 The bus stops on Station Road are served by bus Routes 17 and 18 operated by Z & S Transport. The southern side bus stop consists of a bus flag with timetable information on the road verge. The northern side bus stop however has a bus shelter with flag and

timetable information on the continuous footway on Station Road. Bus services 11/11A and 12/12A can be accessed via Caldecotte Lake Drive at Caldecotte Business Park.

2.7 A summary of the local bus services is provided in **Table 2** below.

Table 2: Local Bus Services Summary

Service (Operator)	Route (two-way)	Time of Operation & Frequency		
		Weekdays	Saturdays	Sundays
17 (Z & S Transport)	Kingston -Woburn Sands - The Brickhills - Bletchley	09:03 -16:54 (every 2-3 hours)		No Service
18 (Z & S Transport)	Woburn Sands – Bletchley – CMK – Oakridge Park	07:33 - 19:04 (Hourly)		No Service
11/11A and 12/12A (Vale Travel)	Milton Keynes Central - Kents Hill (12/12A) - Monkston - Open University - Caldecotte	06:27-22:25 (every 30 minutes up to ~18:00 and hourly thereafter)		No Service
Source: https://www.milton-keynes.gov.uk/highways-and-transport-hub/bus-and-taxi/bus-timetables-maps-and-travel-updates *Note: Status checked in June 2020*				

2.8 As shown, bus route 17 operates Monday to Saturday with an average frequency of one bus every 2-3 hours. Bus routes 11/11A and 12/12A offer a more frequent service with one bus every 30 minutes up until around 18:00 and hourly thereafter. They connect to a number of key public transport hubs, such as Milton Keynes Central railway station and bus station.

2.9 Bow Brickhill railway station is located approximately 600m (7-9 minutes walking) to the north of the proposed site access. It links to a number of railway stations, including Bletchley to the west and Bedford to the east. **Table 3** shows the direct train journeys to/from Bow Brickhill, including frequency and journey time.

Table 3: Direct Train Services to/from Bow Brickhill

Destination (two-way)	Journey Time	Time of Operation & Frequency		
		Weekdays	Saturdays	Sundays
Bletchley	8-10 minutes	06:47-22:37 (every 60 minutes)	07:06-21:35 (every 60 minutes)	No Service
Bedford, Main	35-37 minutes	06:32-21:08 (every 60 minutes)	06:41-21:08 (every 60 minutes)	No Service
Source: https://www.thetrainline.com/				

2.10 As shown, Bow Brickhill railway station provides direct hourly train journeys to/from Bletchley and Bedford on Weekdays and Saturdays. Although no direct train services are available between Bow Brickhill and Milton Keynes Central, the change is called at Bletchley railway station, with approximate journey time of 18 minutes.

2.11 Bow Brickhill is on the Bletchley – Bedford Marston Vale line, hence connecting to a number of railway stations along the line, such as Woburn Sands, Lidlington and Bedford St Johns.

2.12 **Chapter 7** of this Proof describes how public transport access to the appeal site will be improved to serve the development.

Walking and Cycling Network

2.13 In terms of existing pedestrian infrastructure, footways are not currently provided in the immediate vicinity of the proposed site access along the V10 Brickhill Street. Public footpath Bow Brickhill 004 (A+B) however runs to the north of the site between Belvedere Lane and Greenways to the east, with links to Caldecotte Lake and V10 Brickhill Street near the mini roundabout.

2.14 **Figure 3** shows an extract of Milton Keynes 2018 Redway Map. Redways are shared pedestrian / cycling routes that provide traffic-free links across Milton Keynes. They are generally surfaced with tarmac and run alongside grid roads with underpasses or bridges where they meet major junctions.

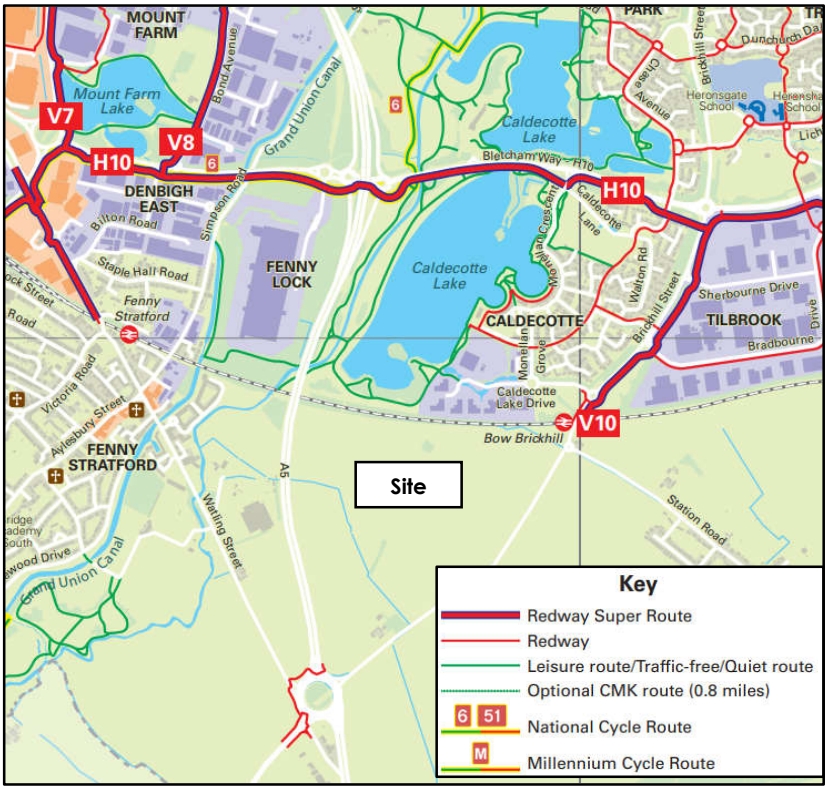

Figure 3: Milton Keynes 2018 Redway Map

Source: https://www.milton-keynes.gov.uk/highways-and-transport-hub/get-cycling-mk/cycle-routes-and-maps

2.15 As shown, there is an existing Redway Super Route provided along V10 Brickhill Street between Bow Brickhill station and the A4146 Bletcham Way (H10). Both routes connect to local Redways in Caldecotte and Tilbrook.

2.16 To the south, a Redway route is provided across the A5 North, Watling Street and A4146 approach arms to the A5 Kelly's Kitchen Roundabout junction. This provides links to footway provision along Watling Street.

2.17 In addition to the above, **Figure 4** below has been prepared following a site audit and shows other pedestrian infrastructure in the vicinity of the appeal site. This includes public rights of way, footways and pedestrian crossing points linking the appeal site with the wider Redway and footway networks.

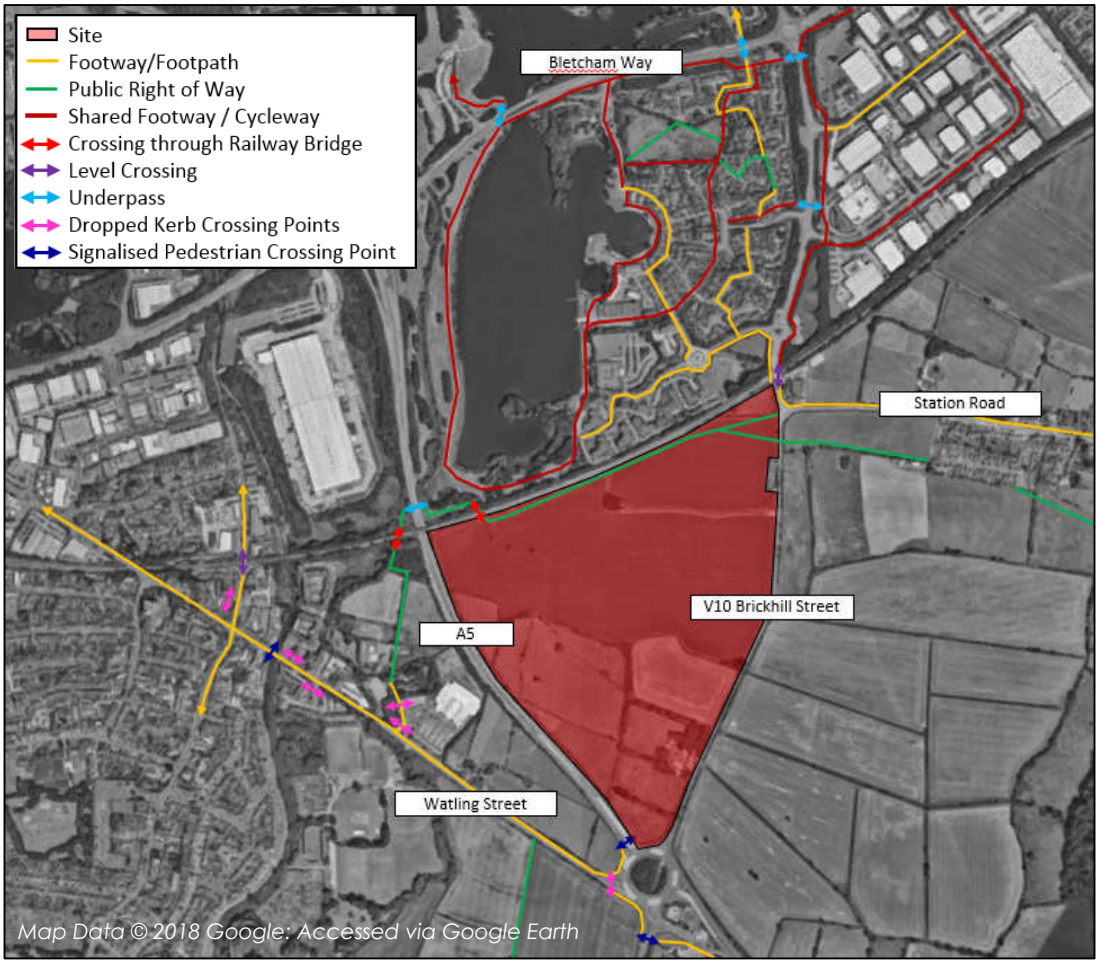

Figure 4: Existing Pedestrian Infrastructure

2.18 The existing pedestrian and cycling infrastructure identified above forms a good basis from which to open the site for access by such active travel modes. Chapter 3 of this Proof describes how walking and cycling routes, including Redways and public rights of way have been incorporated into the indicative masterplan and site access arrangements as part of the development proposals.

3. DEVELOPMENT PROPOSALS

Proposed Development

3.1 As I set out previously, the proposed development comprises an Outline planning application for up 2,600,000 sq.ft. (241,540 sq.m.) Gross Internal Area (GIA) of B1(c)/B2/B8 employment land uses.

3.2 In accordance with the planning proposals, the Transport Assessment considered a development split of 80% B8 Storage and Distribution and 20% B2 General Industrial use class.

3.3 The Indicative Masterplan is provided in **Appendix 3.B** and shows how the site layout could be laid out within the total floor areas proposed.

3.4 Details of car and cycle parking provision for individual plots will be determined as part of future reserved matters in accordance with the parking standards adopted by MKC at that time.

Proposed Access Arrangements

3.5 Vehicular access to the appeal site for both HGV and non-HGV traffic is proposed to be taken from V10 Brickhill Street via a new 60m Inscribed Circle Diameter (ICD) roundabout junction. It includes dualling of Brickhill Street between the A5 and the new access roundabout.

3.6 The access roundabout has been designed in accordance with Design Manual for Roads and Bridges (DMRB) standards set out in TD 16/07 Geometric Design of Roundabouts (now DMRB Volume 6 Section 2 CD 116 Road Layout. Design. Geometric design of roundabouts).

3.7 The proposed site access arrangements are presented on Drawing **SCD-BWB-GEN-01-DR-TR-001-S2-P12** contained in the TA Addendum in **Appendix 3.F.**

3.8 The geometric design of the site access junction was tested in terms of operational capacity using Junctions 9 (ARCADY) modelling software and the results reported in Table 18 of the Transport Assessment (July 2019). I have extracted and analyse the results in **Table 4**.

Table 4: Junctions 9 Modelling Results – Proposed Site Access Roundabout

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (S)	2	4	0.59	1	3	0.40
Arm B = Site Access	0	3	0.21	0	3	0.27
Arm C = V10 Brickhill Street (N)	2	5	0.59	2	7	0.68

3.9 Junctions 9 ARCADY models return results in Ratio of Flow to Capacity (RFC) and queuing in each 15-minute time segment, measured in the number of Passenger Car Units (PCUs).

3.10 RFC values between 0.00 and 0.85 indicate satisfactory operating conditions, values of between 0.85 and 1.00 represent variable operation (i.e. queues building at the junction resulting in increased vehicle delay moving through the junction). RFC values in excess of 1.00 represent overloaded conditions.

3.11 On this basis, the Junctions 9 modelling results for the access junction presented in Table 4 above clearly show that the proposed design is sufficient in capacity terms in the projected opening year with the inclusion of committed developments an background traffic growth. The maximum RFC value is shown in the weekday evening peak hour on the Brickhill Street (North) approach arm at 0.68 RFC, well within operational capacity thresholds with limited queuing and delay.

3.12 The proposed design of the junction and dualling of the section of V10 Brickhill Street between the junction and A5 has been coded into the VISSIM microsimulation model with the results discussed in **Chapter 8** of my evidence. This demonstrates that the size and location of the junction will operate satisfactorily as part of the wider highway network.

3.13 In their Highways Observations Note (January 2020), SMT accepts the location and the principle of a roundabout access junction, but has recommended that the any approval should exclude the submitted plans and will require submission of technical detailed as part of the Reserved Matters. However, it is my professional opinion that sufficient detail has been provided as part of the planning submission and that further design details can be dealt with as part of the technical approvals process as part of the S278 legal agreement between the Appellant and MKC.

Proposed Mitigation

3.14 The following mitigation measures are proposed as part of the Transport Assessment and Transport Assessment Addendum reports which accompanied the planning application and appeal respectively. Mitigation takes the form of improvements to the road network as well as measures to reduce reliance on the private car.

A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)

3.15 The junction capacity assessment work undertaken as part of the Transport Assessment demonstrates that a mitigation scheme would sufficiently offset the impact of the proposed development at this junction.

3.16 The mitigation scheme involves the following works which are all within the adopted highway or within land controlled by the Appellant:

- Increasing the flare length of V10 Brickhill Street North (Arm A) from 11.6m to 20m.
- Increasing the flare length of A4146 Bletcham Way East (Arm B) from 19.7m to 25m.
- Increasing the entry width of A4146 Bletcham Way East (Arm B) from 9.35m to 10m.
- Increasing the flare length of V10 Brickhill Street South (Arm C) from 14.3m to 25m.

3.17 The mitigation proposals at Walton Park Roundabout are shown on Drawing **SCD-BWB-GEN-01-DR-TR-005_S2_P2** appended to the TA Addendum report in **Appendix 3.F**.

3.18 The Appellant will provide a financial contribution to fund the mitigation scheme at Walton Park Roundabout and this can be secured through the Section 106 agreement. This was considered the most appropriate form of mechanism by SMT in their Highways Observations Note (January 2020) included as **Appendix 3.D**.

Tilbrook Roundabout

3.19 The proposed development impact at this junction was assessed in the Transport Assessment using Junctions 9 (ARCADY) modelling software. This concluded that with the Red Bull scheme mitigation proposals in place, the proposed development impact at the junction would be immaterial.

3.20 However, as part of the wider VISSIM modelling assessment in consultation with Highways England, further mitigation is proposed at the junction in the form of widening the northbound exit from the roundabout to two lanes for 30 metres, allowing for an exit merge.

3.21 Full details of the VISSIM modelling work that has been undertaken to assess the mitigation need at the A5 Kelly's Kitchen Roundabout junction is detailed in **Chapter 5** of the evidence.

3.22 The mitigation scheme at Tilbrook Roundabout, which is proposed in addition to the Redbull Racing mitigation scheme, can be seen on Drawing **SCD-BWB-GEN-XX-DR-TR-008-S2-P1** appended to the TA Addendum in **Appendix 3.F**. The Appellant is committed to funding this improvement, which can be conditioned to be delivered prior to first occupation of the development through a S106 or Highways Act S278 Agreement with MKC.

Brickhill Street / Station Road mini-roundabout

3.23 The evidence presented in the Transport Assessment demonstrates that no mitigation is required at this junction in capacity or road safety terms.

3.24 However, at the request of SMT and MKC Strategic Transport Policy Team, the Appellant has demonstrated that sufficient land has been safeguarded to accommodate a 40m ICD roundabout at the junction as part of any future upgrade to this section of Brickhill Street. This is detailed in **Chapter 6** of my evidence.

A5/A4146 (Kelly's Kitchen) Roundabout

3.25 Details of the assessment used to inform the mitigation proposals is provided in **Chapter 8** of my evidence. Drawing **SCD-BWB-GEN-01-SK-TR-SK02_Kelly's Kitchen Roundabout_S2_P3** is appended to the TA Addendum in **Appendix 3.F** and illustrates the mitigation scheme proposals at the junction, in summary this consists of:

- Extending the offside flare on the A5 North arm to 40 metres; and
- Widening the A5(S) approach to create a fourth lane; and associated changes to white lining, hard strips and the inner circumference of the roundabout between the A5(S) and A4146.

3.26 Highways England has confirmed that their preferred mechanism for delivery of the mitigation at this junction would be a S278 Agreement with the Appellant. This could be delivered as a standalone S278 Agreement between the Appellant and Highways England or jointly with the MKC S278 Agreement including the Brickhill Street dualling and site access arrangements.

PRoW Diversions

3.27 The proposals include minor diversions to existing public rights of way (PRoW) 004A and 004B in the north-east corner of the site. These diversions are detailed on Drawing **SCD-BWB-GEN-01-DR-TR-002-S2-P2** appended to the original TA in **Appendix 3.C**.

Redway (Walking and Cycling) Route Provision

3.28 Details of the proposed Redway infrastructure is detailed in **Chapter 5** of my evidence and shows that the proposed development will be connected into the existing Redway network, facilitate access to the appeal site by walking and cycling.

Travel Plan

3.29 A Framework Travel Plan (July 2019) was produced by BWB and submitted with the planning application. This outlines a range of sustainable measures which would be undertaken to support the sustainability of the site and reduce reliance upon private vehicles. The final travel plan will be secured by condition.

3.30 The core measures included in the Framework Travel Plan include:

- Provision of a Redway footway/cycleway route through the site linking to external connections, including Bow Brickhill railway station;
- Appointment of a Travel Plan Coordinator (TPC) to implement, promote and monitor the Travel Plan measures across the site;
- Staff travel incentives – cycle parking, discount tickets, car sharing;
- Marketing and promotional measures, including the provision of travel information for staff in Welcome Packs; and
- Freight route planning initiatives – e.g. end users to sign up to the Freight Operators Recognition Scheme (FORS) to achieve efficient and sustainable freight practices.

Construction Environment Management Plan

3.31 A Construction Environmental Management Plan (CEMP) will be secured via an appropriately worded planning condition. In accordance with Condition 19 suggested by MKC, it shall include site procedures to be adopted during the course of construction including:

- Routes for construction traffic
- Method of prevention of mud being carried onto the highway
- Location of site compound
- Loading and unloading of plant materials
- The erection and maintenance of security fencing /hoardings and lighting
- Proposed temporary traffic restrictions
- Parking of vehicles of site operatives and visitors

3.32 The development shall be carried out in accordance with the approved CEMP, thus ensuring that there are adequate mitigation measures in place during the construction phase. In the interim, an Outline Construction Traffic Management Plan (OCTMP) has been appended to the EIA.

4. POLICY CONTEXT

Overview

4.1 With regard to transport provisions at the proposed site, the Appellant has shown that the appeal site is in line with local and national policy in relation to traffic and transport, as outlined below.

National Planning Policy Framework (Revised February 2019)

4.2 The National Planning Policy Framework is a material consideration in planning decisions with the latest version being revised in February 2019. Chapter 9 of the NPPF 'Promoting sustainable transport' is considered most relevant to my Proof.

4.3 Paragraphs 108 to 111 of the NPPF relates to 'Considering development proposals' from a sustainable transport perspective. I have quoted these paragraphs verbatim below along with my opinion on how the development proposals accord with this policy.

4.4 Paragraph 108 states that:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location; b) safe and suitable access to the site can be achieved for all users; and

c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

4.5 The Transport Assessment submitted with the application has demonstrated that opportunities to promote sustainable transport modes can be taken up and safe and suitable access to the site can be achieved for all users.

4.6 Paragraph 109 states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

4.7 The Transport Assessment demonstrates that proposals would not give rise to an unacceptable impact on highway safety. The cumulative impacts on the surrounding road network would not be severe based on the proposed off-site highways improvements.

4.8 Paragraph 110 states that:

"Within this context, applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;

c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;

d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."

4.9 **Chapters 5 and 7** of my proof demonstrates how the proposals have incorporated access for pedestrians/cyclists and public transport users respectively.

4.10 The proposed access arrangements enable the efficient delivery of goods and access by service and emergency vehicles. Details of the internal layout in this regard will be dealt with as part of future reserved matters.

4.11 Details such as electric vehicle charging provision will be determined as part of future reserved matters in accordance with building regulations, local and national parking standards adopted at that time.

Plan: MK (March 2019)

Policy SD14

4.12 The appeal site is allocated under Policy SD14 of Plan:MK for "Strategic Employment, Land South of Milton Keynes, South Caldecotte". This policy suggests that the development must accord with the below principles, including being brought forward in line with policies SD1, SD9, SD10, NE1-6, and INF1. The principles relevant to highways and transport planning are extracted below.

1) *A minimum of 195,000m2 of Class B2/B8 and ancillary B1 employment floorspace.*

2) *Access to be taken from Brickhill Street, which will be upgraded to grid road standard.*

3) *The development will be subject to a Transport Assessment, which will investigate the development's impact on the local highway network, including the A5/Watling Street roundabout. The development will contribute to any*

necessary improvements, as agreed by the relevant highway authorities and Highways England. The Transport Assessment will also set out the basis for effective public connections to and from the site to be implemented prior to completion of the development.

4) *Direct footpath connections to Bow Brickhill railway station and the existing Public Right of Way running along the site's northern boundary will be effectively integrated into the development.*

4.13 The Transport Assessment submitted with the application demonstrates that the above principles for developing the site are met or sound reasoning provided where this is not the case.

4.14 In relation to the first bullet point, the Outline planning application is for up to 2,600,000 sq.ft. (241,548 sq.m.) of B1(c)/B2/B8 land uses, which is in excess of the minimum requirement and is reflected in the level of floor space assessed in the Transport Assessment.

4.15 In relation to bullet point two, the proposed access is being taken from Brickhill Street in the form of a 60m ICD roundabout and this includes dualling of Brickhill Street between the access and the A5 junction to the south. To the north of the proposed access junction, evidence has been submitted in the Transport Assessment demonstrating that there is no capacity requirement to upgrade this section or to facilitate the proposed development. This has been agreed with MKC Highways in the SOCG. **Chapter 6** of my evidence demonstrates how sufficient land has been safeguarded in the form of a Grid Road Reserve to enable the northern section of Brickhill Street to be upgraded in the future as and when required.

4.16 In relation to bullet point three, a Transport Assessment has been produced and has investigated the proposed development impact on the surrounding highway network. Off-site mitigation measures are proposed to offset the cumulative impact of the development and these measures will be secured through a financial agreement between the Appellant and MKC/Highways England.

4.17 In relation to bullet point four, the Indicative Masterplan included as **Appendix 3.B**, demonstrates how the proposals provide direct connects to Bow Brickhill railway station.

Policy CT1 Sustainable Transport Network

4.18 The proposed development is planned in accordance with this policy as measures are proposed to minimise the need for travel and reduce the dependence on the private car. The development includes access for pedestrians and cyclists with the provision of new Redway connections to existing Redway routes, including Bow Brickhill station for train services. The proposals will be served by bus services running between the site and Central Milton Keynes.

Policy CT2 Movement and Access

4.19 The proposed development is consistent with this policy, a Transport Assessment was produced and submitted in support of the planning application and considered the impact of the development on the Bow Brickhill level crossing and agreed study area junctions on the local and strategic road network. Mitigation measures have been proposed to ensure that the cumulative impacts of the development are addressed and will be secured through financial contributions made by the Appellant.

Policy CT3 Walking and Cycling

4.20 The development has been proposed in accordance will this policy in that new Redway infrastructure is proposed and provides attractive, convenient and direct access for future staff and visitors from surrounding areas as part of an integrated walking and cycling network. Details of this are provided in Transport Assessment and is expanded upon in **Chapter 5** of my evidence.

4.21 Details referred to in Part 6 of the policy, such as wayfinding, pick up points, secure cycle parking, electric bike charging facilities and shower/changing facilities will all be addressed as part of future reserved matters and in accordance with the Framework Travel Plan measures.

Policy CT5 Public Transport

4.22 The policy requires development proposed to be designed to meet the needs of public transport operators and users. The proposed access arrangements have been designed to include convenient and safe public transport routes, including an internal roundabout facility and verge areas to accommodate new bus stops. Specific consideration has been given to the provision of public transport services in **Chapter 7** of my evidence. Public transport waiting areas and associated infrastructure will be detailed as part of reserved matters and funded as part of the Public Transport Contribution to be made by the Appellant, which will also cover the extension of existing services into the site.

Policy CT8 Grid Road Network

4.23 As part of the proposed development site access arrangements, the section of Brickhill Street between the access junction and A5 will be upgraded to a dual carriageway grid road standard. **Chapter 6** of my evidence addresses how land along the northern section of Brickhill Street, which does not require upgrading to accommodate the proposals, will be safeguarded by the Appellant and handed over to MKC in the form of a Grid Road Reserve. The proposal is therefore considered to be in accordance with this policy.

5. ISSUE 1: REDWAY INFRASTRUCTURE

Issue Overview

5.1 This chapter focuses on the following outstanding matters associated with Redway infrastructure and contributions noted in SMT's Highways Observations note (**Appendix 3.D**) and MKC Transport Policy Team's formal consultation response by email (dated 6th December 2019):

1a. Redway Provision

There remains no Redway provision proposed on this section of Brickhill Street. Again, due to the Anglian Water compound, the applicant is not in a position to provide the Redway along Brickhill Street within land they control.

The Redway is an essential piece of infrastructure that the development must contribute towards, notwithstanding the provision of a Redway through the site. This echoes the comments made in the Transport Policy team's consultation response.

1b. Off-Site Cycling Infrastructure Contribution

The planning application includes provision of a redway through the site connecting the V10 Redway Super Route north of the level crossing with the existing redway provision at the A5 Kelly's Kitchen roundabout. The new redway being provided would need to accord with the new Redway Design Guide being adopted in 2020, which includes the principle to give cyclists and pedestrians priority where the redway crosses over side roads. In addition to the redway improvements within the site and across the site frontage, we would expect a contribution from the developer to the wider redway super routes programme. Specifically this would fund an upgrade of the V10 Super Route, including the delivery of the missing link adjacent to Walton Park along the V10 grid road. The V10 Super Route would be the principle north bound route from the South Caldecotte site to the rest of Milton Keynes and onto the wider redway network. This would be an attractive cycle and walking route for people accessing the site by bike and hence would be well used by employees and visitors. Delivery of the Redway Super Routes is a high priority for Milton Keynes Council as defined in its recently adopted Mobility Strategy Transport Infrastructure Delivery Plan, and S106 contributions from new development was identified as a key funding means for this project.

Redway Provision

5.2 Existing walking and cycling routes in the vicinity of the site are detailed in Chapter 2 of my Proof.

5.3 Significant improvements to walking and cycling facilities are proposed as part of the development, including the provision of a 3.0m wide Redway route along the western side of Brickhill Street, linking the existing Redway Route Network at Kelly's Kitchen Roundabout with the proposed site access junction. From the site access, the Redway is proposed to be diverted through the site alongside the spine road along the southern side leading up to the central roundabout and thereafter the western side leading up

to the northern site boundary. Close to the northern boundary, the Redway Route ties in with the public right of way, routing to the north-east corner of the Appeal site to tie back in with the existing Redway network beyond the Bow Brickhill level crossing.

5.4 The proposed alignment of the Redway through the site is shown on the Indicative Masterplan (Drawing **SGP-XX-00-DR-A-1006-P11 Indicative Masterplan**) appended in the TA Addendum in **Appendix 3.F**. Owing to the Outline nature of the planning application, the exact detailed design of the Redway link running through the site would be dealt with as a reserved matter.

5.5 The section of Redway linking the A5 Kelly's Kitchen Roundabout to the proposed site access is shown on Proposed Site Access Roundabout and Dual Carriageway Link to the A5 (Drawing **SCD-BWB-GEN-01-DR-TR-001-S2-P12**), which is appended to the TA Addendum in **Appendix 3.F**.

Safeguarded Land within Grid Road Reserve for Future 'On-line' Redway Route

5.6 Drawing **SCD-BWB-GEN-01-DR-TR-006-S2-P6** appended to the TA Addendum in **Appendix 3.F** shows the Brickhill Street Grid Road Reserve, which is expanded upon on further in **Chapter 6** of my evidence.

5.7 In respect to the future provision of a Super Redway Route alongside Brickhill Street between the proposed site access and Bow Brickhill level crossing, the Grid Road Reserve drawing demonstrates that adequate land can be safeguarded by the Appellant. This includes a strip of land to the rear (west) of the Anglian Water (AW) compound to enable the alignment of a future Super Redway Route to bypass this third party land when constructed in the future as part of any future upgrade.

5.8 The indicative design of the future Super Redway alignment has been considered in accordance with MKC's Redway Design Manual: Consultation Draft (January 2020), including the key design requirements presented in **Figure 5** below.

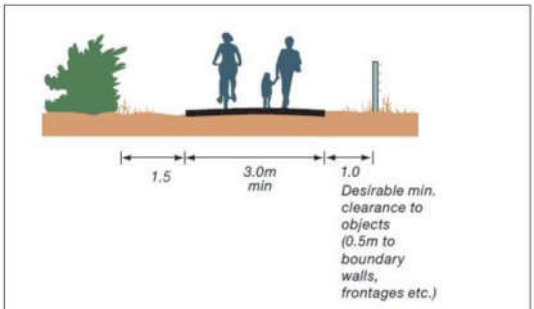

Figure 3: Standard Cross Section for a Shared Use Redway

Type of cycle route	Speed	Minimum stopping sight distance (SSD)	Sight distance in motion (SDM)
Super Redway	20 mph	25 m	80 m
Redway	12 mph	15 m	50 m

Figure 10: Forward visibility requirements on traffic free routes

Figure 5: Redway Design Requirements

5.9 The Grid Road Reserve drawing shows that a minimum width of 10.8 metres has been retained between the amended site boundary and third-party AW compound to allow for a future Super Redway route. This width provides a 2.0 metre offset between the compound and the Redway for construction, the 3.0 metre Super Redway and also a

4.5-metre-wide landscape buffer between the Redway and application site with approximately 1.3 metres in reserve.

5.10 The inter-visibility between cyclists emerging from behind the AW compound and other cyclists and pedestrians has been considered. The indicative alignment of the Super Redway route at this location can accommodate these visibility requirements (80 metres Sight Distance in Motion) and therefore the proposed Grid Road Reserve at this point is considered adequate to facilitate this infrastructure.

Developer Contributions to Off-Site Redway Network Improvements

5.11 As detailed in the Transport Assessment report (**Appendix 3.C**) submitted to support the application, there were only 4 and 5 two-way cycle movements at the A5 Kelly's Kitchen Roundabout during the morning and evening peak hours as recorded from the traffic survey undertaken in October 2017. As such, there is currently minimal demand for cycling along Brickhill Street.

5.12 In comparison, Table 14 of the Transport Assessment forecasts that the proposed development will generate 19 and 15 two-way cycle movements during the weekday morning and evening peak hours on the local highway network. Therefore, it is my professional opinion that the proposed Redway route through the site achieves several key objectives. It provides integration with the existing Redway network, facilitates walking and cycling access to and from the site for future users and also caters for existing cycle movements between the A5 and Bow Brickhill.

5.13 The proposed development would not generate cycle trips along the Brickhill Street frontage of the site between the proposed access roundabout and Bow Brickhill level crossing as the proposed infrastructure caters for trips being made to and from the north and south. Furthermore, there is no obvious additional reason why the need for this provision relates to the proposed development in scale and kind or is otherwise necessary. It is therefore considered unreasonable for MKC to request that the Appellant provides a financial contribution towards the 'on-line' Super Redway route between Bow Brickhill level crossing and the proposed site access. It is also important to note that the Appellant is proposing to make a land contribution to MKC in the form of the Grid Road Reserve, which includes additional land to the rear of the AW compound to facilitate a future Super Redway route.

5.14 MKC has also requested financial contributions from the Appellant towards Redway infrastructure improvements towards:

a) Upgrade and maintenance works to existing V10 Redway Route;

b) Upgrade and maintenance works to existing H10 Redway Route; and

c) Provision of the missing V10 Redway link between H9 and H10.

5.15 Discussions are currently on-going between the Appellant, DLP and MKC/SMT regarding how these funding requests comply with three tests set out in CIL regulation 122 and

thereafter agree a contribution that is commensurate. I envisage that this can be agreed prior to the inquiry and secured via the S106 Agreement.

6. ISSUES 2 + 3: V10 BRICKHILL STREET GRID ROAD RESERVE AND JUNCTION WITH STATION ROAD

Issues Overview

6.1 This chapter focuses on the following two outstanding matters noted in SMT's Highways Observations note (**Appendix 3.D**) dated 16th January 2020:

2. Upgrading Brickhill Street to a Grid Road

Policy SD14 includes the upgrading in recognition of the key link between the A5 and south Milton Keynes provided by Brickhill Street. Paragraphs 6.58-6.64 of the TA set out why the upgrading of Brickhill Street to a Grid Road is not required for capacity reasons.

The information provided is sound; however the upgrading / safeguarding for upgrading is a matter of policy (SD14) and therefore the Council will need to consider the policy and the response. As already stated above, the upgrading is not required to enable this development.

It should be noted that whilst the proposals safeguard the future upgrading of the road with a green corridor adjacent to the existing road, there is a compound labelled "Anglian Water" within the area that would prevent any enhancement / widening of Brickhill Street. The applicant has made available the land within their gift, but this excludes the compound.

At the 31st October meeting the applicant clarified, to an acceptable level, the width of the reserved land and agreed to provide drawings to demonstrate this. Those drawings do not appear to have been provided. The applicant should be aware that the width of the corridor remains a matter to be agreed; however, an appropriately worded condition could cover this.

3. Brickhill Street / Station Road mini-roundabout

The assessment concludes that no mitigation is required at this junction. Due to the nature of the proposed uses, the main impact of the development at this junction is considered to be outside peak hours.

Whilst this may be true in capacity terms, the retention of a mini-roundabout is not desirable when considered against the potential increase in HGV use and the future upgrading of Brickhill Street. Currently the junction does not have a recorded accident record (no Personal Injury Accidents) and therefore a request for an improvement at this stage could be considered unreasonable.

However, the protection of the future upgrading of Brickhill Street should include sufficient land to improve this junction to a minimum 40m ICD roundabout or a suitable alternative junction arrangement that offers comparable HGV provision and capacity.

This was another matter covered in the 31st October meeting and another matter where a drawing was to be provided. Again, no drawing appears to have been submitted.

Brickhill Street Grid Road Reserve

6.2 As noted in SMT's above comments, the requirement to upgrade V10 Brickhill Street is a matter of site-specific Policy SD14 of Plan:MK on the back of MKC's strategic infrastructure aspirations.

6.3 It has been demonstrated in paragraph 6.59 onwards in the Transport Assessment (**Appendix 3.C**) that there is no link capacity justification to upgrade Brickhill Street to Grid Road to the north of the proposed site access roundabout and that the upgrading is not required to support the development proposals. This point has been agreed with SMT on behalf of MKC Highways.

6.4 In light of this, a Grid Road Reserve drawing has been prepared to clarify the following in response to SMT's comments:

- Land to the rear (west) of the Anglian Water compound has been safeguarded to enable the provision of an 'on-line' Redway route in the future alongside Brickhill Street.

- A 40 metre Inscribed Circle Diameter (ICD) roundabout is shown indicatively at the junction of V10 Brickhill Street and Station Road to show that the Grid Road Reserve has sufficient land to facilitate improving the junction in the future.

6.5 The TA Addendum **(Appendix 3.F)** contains a copy of my notes from the meeting with MKC, SMT, DLP and the Appellant held on 31st October 2019 following receipt of MKC Highways' Observations Note on 20th August 2019. One of the outcomes of the meeting was clarification of the extent of the grid road reserve and that this should be a minimum of 30 metres to the west of the centreline of the proposed dual carriageway. It should accommodate a 7.3m carriageway, 3m verge, 3m Redway and further buffer of 15m to the development site boundary to accommodate landscaping requirements.

6.6 The proposed extent of the Grid Road Reserve along Brickhill Street is shown on Drawing **SCD-BWB-GEN-01-DR-TR-006-S2-P6** appended to the TA Addendum in **Appendix 3.F**. The future realignment of Brickhill Street, the future Redway alongside Brickhill Street and the 40 metre ICD roundabout at the junction with Station Road are all shown indicatively. As agreed at the aforementioned meeting, the land to be reserved adjacent to the proposed development is a minimum of 30m from the centreline of a central reserve of the indicative Brickhill Street. This demonstrates that the proposed development would not preclude the entirety of Brickhill Street being upgraded to Grid Road Standard in the future.

6.7 MKC and SMT confirmed during a meeting with the Appellant and DLP on 27th July 2020 that the submitted Grid Road Reserve drawing is agreed as acceptable.

6.8 The land shown hatched in purple on Drawing **SCD-BWB-GEN-01-DR-TR-006-S2-P6** would be transferred to MKC to enable them to control the delivery of the potential future upgrade of Brickhill Street to Grid Road Standard.

Brickhill Street / Station Road mini-roundabout Impact and Mitigation

6.9 As noted in their Highway Observations detailed at 6.1 (Point 3) of this Proof, SMT on behalf of MKC Highways agree that there is no capacity reason to upgrade the existing mini-roundabout junction on the back of the evidence presented in the Transport Assessment report (July 2019). They have however requested that sufficient land is protected to enable this junction to be improved to a minimum 40m ICD roundabout or a suitable alternative junction arrangement that allows comparable HGV provision and capacity.

6.10 As detailed in paragraph 6.6 above, Drawing SCD-BWB-GEN-01-DR-TR-006-S2-P6 demonstrates that a 40m ICD roundabout can be accommodated within the Grid Road Reserve and this land will be safeguarded to enable this section of V10 Brickhill Street is upgraded to Grid Road Standard in the future. Therefore, I consider that sufficient land has been made available by the Appellant within their control to facilitate the potential future upgrade to Grid Road.

Summary

6.11 Considering the updated drawings showing the extent of land safeguarded for the Brickhill Street Grid Road Reserve, it is my professional opinion that this adequately demonstrates that the proposals would not preclude the delivery of this infrastructure in the future. This includes sufficient land to accommodate the width of the Grid Road, a future Super Redway Route along the western side of Brickhill Street and the potential to upgrade the Brickhill Street / Station Road junction to a 40m ICD roundabout in the future if required. MKC and SMT has agreed that the Grid Road Reserve drawing submitted with the TA Addendum is acceptable.

7. ISSUE 4: PUBLIC TRANSPORT PROVISION

Issue Overview

7.1 This chapter focuses on the following outstanding matter noted in SMT's Highways Observations note (**Appendix 3.D**) dated 16th January 2020:

4. Public Transport

The TA refers to public transport provision in Paragraphs 7.7-7.11, but there is no commitment to services. It is essential that a frequent service, from early morning to late evening, including weekends, is provided to this site given its likely round-the-clock operation.

Since the August Highway Observations there is no obvious formal response from the Passenger Transport team although discussions were being held. Any agreement on levels of service and contributions should be secured as part of the Section 106 agreement that any planning approval will no doubt be subject to.

Context

7.2 With up to 2,450 Full Time Equivalent jobs expected to be created at the site once the development is fully operational, there is significant potential for a sustainable public transport solution.

7.3 Historically, similar sites have developed in out of town location due to their size and infrastructure requirements. At the same time, the demographics and range of skills means that driving is not always a possibility. As a result, occupiers often tend to provide their own staff buses or minibuses. This means that employees can be guaranteed transport, particularly at the various shift times, which are currently unknown.

7.4 The full site extents are within 1km of Bow Brickhill Station, which is on the Marston Vale Line and is served by hourly services between Bletchley and Bedford, Monday to Saturday only. Milton Keynes Central is accessible via rail with a change at Bletchley Station. The proposal includes a Redway (foot/cycleway) connection between the site and Bow Brickhill Station to cater for journeys to work by rail.

Bus Strategy

7.5 The proposed site access arrangements from Brickhill Street have been designed to accommodate HGV access and therefore bus access is also catered for. An internal roundabout is provided within the site, which will facilitate a bus service entering and exiting the site. A bus stop with sheltered waiting area will provided on the estate road as part of the reserved matters layout considerations.

7.6 In accordance with the TA and TA Addendum reports, the proposals include extending the existing bus services 11/11A/12/12A to the site, which will provide access to and from Central Milton Keynes. These services currently operate at a 30-minute frequency on weekdays and Saturdays between 07:05 and 23.10. There is currently no service

provided on Sundays and therefore the proposals also include a new Sunday service covering the typical key shift changeover times for industrial warehousing development (06:00, 14:00 and 22:00) and typical office hours (09:00 – 17:00).

7.7 At the time of writing and following discussions with Vale Travel, the Appellant and MKC Passenger Transport Team are close to reaching an agreement on the appropriate level of financial contribution towards public transport provision. Therefore, I envisage that the above can be secured as part of the S106 Agreement and agree prior to the inquiry.

8. ISSUE 5: A5/A4146 (KELLY'S KITCHEN) ROUNDABOUT IMPACT AND MITIGATION

Further HE Correspondence and Assessment

8.1 Since the determination of the planning application, I have been in regular discussions with HE to address their concerns relating to the assessment of the A5/A4146 junction.

8.2 A timeline of this correspondence and associated assessment is contained in Chapter 5 of the TA Addendum included as **Appendix 3.F.**

8.3 The impact mitigation needs of the development at the junction has been informed through VISSIM modelling based on the Opening Year (2023) assessment assuming full build out and occupation, which is in accordance with HE policy set out in DfT Circular 02/2013 and The strategic road network, Planning for the future, A guide to working with Highways England on planning matters (September 2015).

8.4 The impacts of the proposals at the junction have been considered in terms of cumulative impacts on both average journey times through the junction and average queuing on approaches.

8.5 **Table 5** presents the results of the VISSIM modelling for 2023 weekday morning and evening peak hours assessments of average journey times through the junction provides a summary of the average and cumulative journey times through each arm of the junction for the assessment scenarios during both the weekday morning and evening peak hours in the opening year.

8.6 The highlighted columns show the cumulative impact of the development following implementation of the proposed mitigation scheme. As can be seen, with the mitigation proposals in place the development would result in a cumulative decrease in average journey times through the junction of -37 in the morning peak hour and -30 seconds in the evening peak hour.

Table 5: Cumulative Journey Time (in seconds) Comparison without and with mitigation

	AM					PM				
	2023 DM	2023 DS	2023 DS + Mit	2023 DS - 2023 DM	2023 DS + Mit - 2023 DM	2023 DM	2023 DS	2023 DS + Mit	2023 DS - 2023 DM	2023 DS + Mit - 2023 DM
Brickhill Street	99	107	108	7	9	215	168	194	-47	-21
A5 South	361	402	313	41	-49	43	42	46	-2	3
A4146	199	199	201	1	2	171	173	178	2	7
Watling Street	64	63	66	0	2	57	62	62	5	5
A5 North	58	60	57	1	-1	231	298	207	67	-24
Cumulative JT	781	831	744	50	-37	718	743	688	26	-30

8.7 **Table 6** below provides a comparison of the difference in average queues (PCUs) on all approach arms to the junction in the peak hours in 2023.

Table 6: Average Queues Comparison (PCUs) – excluding Eaton Leys Scheme

Average Queues (PCU)							
Queue Counter	Approach arm	2023 AM DM	2023 AM DS + Mit	Difference	2023 PM DM	2023 PM DS + Mit	Difference
1	Brickhill St	2	2	0	35	19	-16
2	A5 S	82	77	-5	3	3	0
3	A4146	62	63	1	48	50	2
4	Watling Street	2	3	1	2	3	1
5	A5 N	6	4	-2	73	62	-11

8.8 The results show that the mitigation proposals would offset the impact of the proposed development on average queue lengths on the A5 arms with negligible increases 1 (5.75 metres) or 2 (11.5 metres) PCUs on the minor arms. An average increase of up to 2 PCUs on the A4146 arm and 1 PCU on the Watling Street arm is not considered a severe impact, particularly taking into account the wider average journey time savings through the junction.

Mitigations Proposals

8.9 The mitigation proposals informed by the above VISSIM modelling assessment are shown on Drawing **SCD-BWB-GEN-01-SK-TR-SK02_Kelly's Kitchen Roundabout_S2_P2** appended to the TA Addendum in **Appendix 3.F**. In summary, the proposals involve increasing the flare on the A5 (N) approach arm and widening of the A5 (S) approach to create a fourth lane along with associated changes to white lining, hard strips and the inner circumference of the roundabout between the A5(S) and A4146.

8.10 Drawing SCD-BWB-GEN-01-SK-TR-SK03_Kelly's Kitchen Roundabout Visibility Splays_S2_P3 has also been produced at the request of Highways England, as has Drawing SCD-BWB-GEN-01-SK-TR-SK04_Kelly's Kitchen Roundabout (HGV Swept Paths)_S2_P3. These supplementary drawings are also included in the TA Addendum in **Appendix 3.F** to my proof.

8.11 These mitigation proposals are currently undergoing a Stage 1 Road Safety Audit (RSA).

8.12 As noted in 3.26 of my proof, Highways England has confirmed that their preferred mechanism for delivery of the mitigation at this junction would be a S278 Agreement with the Appellant. This could be delivered as a standalone S278 Agreement between the Appellant and Highways England or jointly with the MKC S278 Agreement, including the Brickhill Street dualling and site access arrangements.

9. CONCLUSION

9.1 This document has sought to provide further evidence in relation to the traffic and transport impacts of the proposed South Caldecotte development. It is my professional opinion that this development, when combined with the proposed mitigation measures will not have a detrimental traffic impact upon the local highway network and will support sustainable access for those employed at the site and visitors.

9.2 It is my professional opinion that this development should be permitted, and in light of the evidence set out herein, there is no reason for refusal from a transportation perspective subject to the implementation of the mitigation measures identified.

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