



Tritax Symmetry Gloucester Ltd

LAND WEST OF HARESFIELD, GLOUCESTER

Site Promotion for B8 Use Class Development -
Transportation and Infrastructure Considerations





Tritax Symmetry Gloucester Ltd

LAND WEST OF HARESFIELD, GLOUCESTER

Site Promotion for B8 Use Class Development -
Transportation and Infrastructure Considerations

PUBLIC

PROJECT NO. 70070923

OUR REF. NO. 70070923.01

DATE: SEPTEMBER 2020



Tritax Symmetry Gloucester Ltd

LAND WEST OF HARESFIELD, GLOUCESTER

Site Promotion for B8 Use Class Development -
Transportation and Infrastructure Considerations

Three White Rose Office Park
Millshaw Park Lane
Leeds
LS11 0DL
Phone: +44 113 395 6200
WSP.com



QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	1 st Issue			
Date	September 2020			
Prepared by	[REDACTED]			
Signature	[REDACTED]			
Checked by	[REDACTED]			
Signature	[REDACTED]			
Authorised by	[REDACTED]			
Signature	[REDACTED]			
Project number	70070923			
Report number	70070923.01			
File reference	\\uk.wspgroup.com\central data\Projects\700709xx\70070923 - Land at Haresfield, Gloucester\02 WIP\TP Transport Planning\03 Document			

CONTENTS

	EXECUTIVE SUMMARY	3
1.	SETTING THE SCENE	4
2.	RESPONDING TO POLICY AND DELIVERING OUTCOMES	6
3.	OPPORTUNITIES CREATED IN COMBINATION WITH COMMITTED AND PROPOSED DEVELOPMENT	13
4.	A SAFE AND FUNCTIONAL HIGHWAY	16
5.	OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT	18
6.	ACCESSING THE SITE AND UNDERSTANDING THE OUTCOMES	21
7.	ASSESSING THE CUMULATIVE IMPACTS FROM DEVELOPMENT AND UNDERSTANDING THE 'NEW' NORMAL	23
8.	THE RIGHT FIT – REALISING THE POTENTIAL	36

TABLES

	Table 2-1 – NPPF Policy Compliance	7
	Table 2-2 – Gloucestershire LTP Compliance and Delivery	8
	Table 2-3 – Stroud District Local Plan Compliance and Delivery	9
	Table 2-4 – Draft Stroud District Local Plan Compliance and Delivery	12
	Table 5-1 - Bus Services and Frequencies	20
	Table 6-1 – Vehicle Movements Generated by the Promoted Sites (B8 Use Class)	22
	Table 6-2 – Vehicle Movement Distribution onto the Surrounding Highway Network	22
	Table 7-1 – SDLP Allocated Development	23
	Table 7-2 – St. Modwen Park Assumed and Consented Vehicle Generation Levels	24

Table 7-3 –M5 J12 SDLP Junction Capacity Assessments	24
Table 7-4 – Gloucester 12 and Promotion Site Forecast Vehicle Generation Levels	25
Table 7-5 – Gloucester 12, accepted Paramics model results	27

FIGURES

Figure 1-1 – Symmetry Park West and East locations	4
Figure 3-1 - Hunts Grove Development Overview	13
Figure 3-2 – St. Modwen Park Development Overview	14
Figure 3-3 – Gloucester 12 Development Overview	15
Figure 5-1 - Stroud Cycle Routes	19
Figure 5-2 – B4008 Bus Stop Locations	19
Figure 7-1 - Change in Traffic Flows since March 2020	30
Figure 7-2 – Potential to Work from Home by Industry	31
Figure 7-3 – Potential to Work from Home, M5 J12 Traffic	32
Figure 7-4 - Change in Forecast UK GDP	33
Figure 7-5 – The fluctuation of Traffic Flows with GDP	34
Figure 7-6 – Changes in Traffic Flows M5 Corridor 2007 - 2016	34

APPENDICES

Appendix A – Indicative Masterplans
Appendix B – Committed Highway Works
Appendix C – Gloucester 12 GCC and HE Response
Appendix D – Stonehouse A419 Corridor Works
Appendix E – St. Modwen Park Accepted Trip Rates



EXECUTIVE SUMMARY

This report examines the transportation potential for B8 Use Class development in response to the emerging Stroud District Local Plan, with two adjacent parcels of land considered (referred to as 'Symmetry Park West' and 'Symmetry Park East'). They are located to the south of the M5 Junction 12 interchange (either side of the B4008 corridor) and approximately 1 mile west of Haresfield, Gloucestershire.

The study has considered the existing infrastructure and surrounding development. It is believed that the location and nature of the sites make them ideal to accommodate in the region of 2,005,500ft² of B8 Use Class development (with 1,123,500ft² on 'Symmetry Park West' and up to 882,000ft² on 'Symmetry Park East') to support growth aspirations of the Local Authority.

The allocation of these sites would respond to and help deliver both local and national policy aspirations, which aim to encourage development and growth in viable locations where it would not have a severe impact on the operation of the highway network. The land promoter is committed to the delivery of efficient, low-carbon and cost-effective development that assist the delivery of the high-quality freight network within Stroud (which is an aspiration of local policy goals).

The report establishes details of consented development and applications currently being considered in the vicinity of the site, which will provide significant infrastructure improvements and establish that the surrounding area is appropriate to support B8 Use Class development. These schemes will provide upgrades, which will ensure that the highway network surrounding the site is safe and functional, creating the potential for further development in the area. Both plots of the promoted site can be safely accommodated from the B4008 corridor. It is anticipated (at this stage) that Symmetry Park West could be accessed via a Ghost-Island priority junction, with Symmetry Park East accessed by means of improvements to the Gloucester 12 roundabout to create an eastern arm, with the potential for an additional access point to be provided from Stonehouse.

The site presents an opportunity to achieve sustainable development due to its location (a principle which has been accepted within the evidence for the Stroud District Local Plan) and through the granting of the neighbouring St. Modwen Park development. The site can be accessed by regular bus services, which route via the B4008 corridor and provide links to/from surrounding towns/cities. The potential for trips to the site via multi-modal trips already exists and will be further enhanced if the Hunts Grove Railway Station is developed, which has land safeguarded as part of the Hunts Grove development located north of the M5 Junction 12 interchange.

The impact of future development has been considered and modelling work developed to support the previous Stroud District Local Plan has established that the promoted Symmetry Park development can be accommodated without having a severe impact on operational performance of the surrounding road network and only modest mitigation would be required to facilitate appropriate boundary connections with adjacent public highway infrastructure.

This report concludes that there is no reason why the sites should be denied allocation in the Stroud District Local Plan from the perspective of highways and access. The impacts of Covid-19 and the committed infrastructure upgrades surrounding the site create a unique opportunity to bring forward further development in the area. Allocation of these parcels of land for B8 Use Class development would generate recovery and growth in the area, whilst assisting to achieve growth aspirations that accord with national and local planning policy.

1. SETTING THE SCENE

OVERVIEW OF SITE PROMOTION REPORT

- 1.1.1. This report has been prepared to examine the transportation potential for B8 Use Class development in response to the emerging Stroud District Local Plan (SDLP), with two adjacent parcels of land considered (referred to as ‘Symmetry Park West’ and ‘Symmetry Park East’). They are located approximately 1 mile west of Haresfield, Gloucestershire (as shown in **Figure 1.1** below).
- 1.1.2. It is believed that the location and nature of the sites make them ideal to accommodate in the region of 2,005,500ft² of B8 Use Class development (with 1,123,500ft² on ‘Symmetry Park West’ and up to 882,000ft² on Symmetry Park East’) to support growth aspirations of the Local Authority. Illustrative masterplans for each plot of land are included in **Appendix A** to demonstrate the broad principle of development at this location.

Figure 1-1 – Symmetry Park West and East locations



1.1.3. This report demonstrates:

- The potential synergies with adjacent employment areas;
- The site can be safely and appropriately accessed from the B4008;
- The accepted future baseline performance of the road network (including mitigation measures required of committed development through planning obligations); and
- The modest level of infrastructure which will be required to enable development of the site.

1.1.4. The evidence base also establishes how the allocation of this site will assist the Local Authority in promoting development that accords with national and local policy aspirations, whilst identifying opportunities associated with future delivery of B8 Use Class development upon these parcels of land.

1.1.5. It is intended that the parameters discussed within this report be used to assist in developing the vision, objectives and key principles of development upon the site, whilst also acting to guide any future planning application which may be submitted for consideration by Stroud District Council (SDC), Gloucestershire County Council (GCC) and Highways England (HE).

1.1.6. The following are demonstrated in each section of this report:

- Section 2: How B8 development on the site would be in accordance with and support the delivery of National and Local Policy aspirations;
- Section 3: How already committed development in the vicinity of the site have created the opportunity for further development in the area;
- Section 4: Discusses existing conditions and safety of the highway network and how these are conducive to further development in the area;
- Section 5: Highlights the potential for sustainable travel to the proposed allocations site;
- Section 6: The opportunity for B8 development on the site and its potential impact on the surrounding highway;
- Section 7: How already accepted modelling has demonstrated the potential for further development, with due consideration given to societal changes caused by the COVID-19 Pandemic; and
- Section 8: Provides a summary of the sections above, concluding any future development, of the scale of that anticipated proposed site, would not result in a severe impact on the highway network.

2. RESPONDING TO POLICY AND DELIVERING OUTCOMES

ALIGNMENT WITH PLANNING POLICY

- 2.1.1. This section demonstrates how an allocation of the promoted sites will assist in the delivery of both national and local policy. An allocation as part of the emerging SDLP would allow objectives and goals set out in the following policy base to be achieved using committed infrastructure to support growth aspirations of the Local Authority.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

- 2.1.2. The latest NPPF was updated on the 19th June 2019 and sets out central Government's planning policies for England and how these are expected to be applied. The preparation of this report is consistent with guidance set out in the NPPF, which advocates the submission of such documents to support new developments.
- 2.1.3. In the context of the decision-making process this general presumption means approving development that accords with development plans without delay and where relevant policies of the development plan are out of date, granting planning permission unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits.
- 2.1.4. Paragraph 91 details the role of the planning system in creating healthy and inclusive communities, a matter that is underpinned by sustainable modes of transport in and near localities.
- 2.1.5. Section 9 of the NPPF, entitled 'Promoting Sustainable Transport', outlines the Government's planning policies to ensure that appropriate parking provision and sustainable transport choices are available for promoting sustainable development, it states the following at paragraphs 108, 109, 110 and 111:

“108. 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.*

109. 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.

110. 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.

111. All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.”

2.1.6. Paragraphs 150 and 151 highlight the importance of new developments providing solutions which support reductions in greenhouse gas emissions and levels of traffic congestion.

2.1.7. In conclusion, **Table 2-1** shows that allocating the promoted site for B8 Use Class development would support the policy aspirations of the NPPF set out above and the Government also recognises that the nature and location of development should be considered when exploring the opportunities for sustainable transport modes.

Table 2-1 – NPPF Policy Compliance

<p>1. The residual cumulative impact of the development (with a modest level of mitigation provided) would not be severe, within the context of Paragraph 109 of the NPPF.</p>
<p>2. A Personal Injury Collision study has been undertaken and has demonstrated that there are no untypical highway safety issues within the vicinity of the site. Furthermore, the proposals will not have an unacceptable impact on highway safety.</p>
<p>3. Access via sustainable modes should not be considered a severe issue with the site with the premise of such development in the area permitted through the granting of St. Modwen Park and no objection being raised by GCC and HE to Gloucester 12.</p>

GLOUCESTERSHIRE LOCAL TRANSPORT PLAN 2015-2041 (DRAFT)

2.1.8. The GCC Local Transport Plan (LTP) is still in draft phase, however, it is considered development has a number of key policies which would both, support the Symmetry Park development and be supported by the development. A number of policies are set out which aim to improve the safety and operation of the highway network throughout the region and provide a high-quality integrated transport network.

2.1.9. Policy PD0.4 of the LTP sets out the following which sets out the responsibilities of developers when submitting applications:

“GCC will work with local planning authorities to make a positive contribution towards a step change in sustainable land use planning and enable multimodal transport opportunities with a clear priority towards sustainable travel choices. GCC will support planning authorities and require developers, through agreements and securing of planning obligations; to mitigate against the impacts of proposed new development on the transport network and transport infrastructure by requiring site master

planning and making sure transport considerations are integral to the design of schemes and contribute to making high quality places.”

Policy PD3.1 of the LTP sets out the goals for the freight network within the county:

“LTP PD3.1 – Gloucestershire’s Freight Network GCC in its role as Local Highway Authority will work with its partners; Highways England, Network Rail, neighbouring highway authorities, District, Parish and Town Councils and the Police to maintain a functioning freight network by ensuring the safe and expeditious movement of freight, whilst working towards decarbonising road and rail freight by 2050.”

- 2.1.10. In conclusion, Table 2-2 shows that allocating the promoted site for B8 Use Class development would support the policy aspirations of the LTP and the specific objectives set out above.

Table 2-2 – Gloucestershire LTP Compliance and Delivery

- 1. The development would provide the required level of infrastructure (anticipated to be modest) to ensure the development would not have a severe impact on the highway network. Any infrastructure require will be integral to the design process**
- 2. The land promoter is committed to implementing facilities to minimise car travel at development sites. A Travel Plan would also be implemented at the development to encourage use of sustainable modes of travel.**
- 3. The development would support Policy PD3.1 by improving the quality of the freight network on the highway network with the proposed development essentially an extension to the Gloucester 12 and St. Modwen Park developments.**

STROUD DISTRICT LOCAL PLAN – NOVEMBER 2015

- 2.1.11. The SDLP was adopted in November 2015 and sets out the aspirations for the district from 2015 – 2031 with consideration given to the economy, infrastructure requirements and environmental responsibilities of the district as well as other key requirements for the region.

- 2.1.12. The existing key issues are set out in the SDLP, with relevant issues set out associated with providing job opportunities across the district and achieving a better transport system summarised below:

“Para 39 - Stroud District has relatively low levels of unemployment but there are too few jobs within the District itself to meet the needs of the resident workforce;

Para 41 - Projections suggest a need to plan for between 6,800 and 12,500 net new jobs (2006-2031) and a need to provide about 58 ha of additional employment (B1 – B8) land from 2006 to 2031, based upon past take-up rates;

Para 50 - The District has a relatively poor public transport system. At best, frequent bus services only run in Stroud urban area on a few main routes. Many communities have only a few services a day or, worse, only a few services a week.”

- 2.1.13. Strategic objective SO2 ‘Local economy and jobs’ (of the SDLP) aims to; *“Provide for a strong, diverse vibrant local economy that enables balanced economic growth coupled with enhanced job opportunities across the District”*. The objective sets out the benefit of locating sites on the M5/A38 corridor to ensure that development can be located closed to the SRN (i.e. places where businesses want to be located). The location of these development creates the opportunity to provide a range of

units from large warehousing and distributions units down to offices and smaller industrial units. Specific developments allocated in the SDLP are discussed in the following sections of the report.

- 2.1.14. Strategic objective S04 ‘Transport and travel’ aims to succeed in: *“Promoting healthier alternatives to the use of the private car and seeking to reduce CO2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services”*. The objective sets out the need for developments to be located close to district’s large developments to make travel by sustainable travel modes easier and more viable. By locating development close larger settlement areas potential access to rail, bus, public transport and the SRN are maximised.
- 2.1.15. The environmental responsibilities are also referenced throughout the SDLP, such as the need for developments to delivered with low or zero carbon and ensuring buildings are designed efficiently.
- 2.1.16. The SDLP was prepared and adopted prior to the COVID-19 pandemic (the potential impacts of which are discussed in more detail in Section 3.3 of this report) as such, the focus of the SDC is likely to have shifted to stimulating economic recovery and growth as well as ensuring the necessary infrastructure is in place to support flexible working and a shift in travel modes.
- 2.1.17. In conclusion, **Table 2-3** shows that allocating the promoted site for B8 Use Class development would support the policy aspirations of the SDLP, with reference to the potential impacts of COVID-19.

Table 2-3 – Stroud District Local Plan Compliance and Delivery

1. The site is located to provide direct access to the SRN as well as close to the town of Quedgeley where residents have access to sustainable transport provision to provide access to the site. The location of the site will ensure the development is attractive to occupiers as well as good place to work for residents of the district.
2. The site is located close to the Gloucester 12 and St. Modwen Park developments to which GCC and HE have provided no objection at this stage, meaning the premise of the site being acceptable for B8 development in terms of access has already been accepted.
3. The provision of this development will assist economic recovery and growth following the impacts of COVID-19, taking advantage of changes to the way people travel to take advantage of the possible additional capacity on the highway network.
4. The land promoter is committed to delivering efficient, low-carbon and cost-effective buildings as well as investigating the use of integrated renewable energy systems during developments. This will help support the economic responsibilities for Stroud set out in the SDLP.

KEY DEVELOPMENT SITES

Hunts Grove

- 2.1.18. The Hunts Grove Extension is allocated in the SDLP, which will be located to the southwest of the already committed/partially developed Hunts Grove development area that comprises of 1,750 residential dwellings and supporting infrastructure (discussed in more detail in Section 3). The permitted Hunts Grove site was allocated within the 2005 Stroud District Local Plan located on land to the north of the M5 at Junction 12 interchange.

- 2.1.19. The Hunts Grove Extension will comprise circa 750 residential dwellings with the following additional development to be integrated into the overall scheme (the list below is not exhaustive, only considering the components which should be considered from a highways and transportation perspective):
- A local centre of sufficient scale to meet the day to day needs of the Hunts Grove new community as a whole, incorporating local retail and community uses;
 - A primary school of sufficient scale to meet the needs of the Hunts Grove new community;
 - Accessible natural greenspace and publicly accessible outdoor playing-space;
 - Cycle and pedestrian routes through the development connecting with Haresfield Lane and the existing Hunts Grove development;
 - Primary vehicular access from the principal A38 junction serving the Hunts Grove new community, with secondary access from Waterwells Drive, as part of a wider managed, safe and accessible transport network, identified in the evidence base transport assessments;
 - Access arrangements in the site to encourage the use of public and sustainable modes of transport and encourage lower vehicle speeds;
 - Bus stops and shelters at appropriate locations to serve the new development;
 - Contributions towards bus services to improve bus frequencies and quality; and
 - Safeguarding land for the provision of a potential future railway station and appropriate conditions towards the opening of the Hunts Grove railway station (subject to the plans of Network Rail).
- 2.1.20. The above will be brought forward as an extension to the approved Hunts Grove masterplan and will include provision to support/supplement the previous scheme. Some of the principles of the previously approved masterplan will be re-examined under the master planning of the Hunts Grove extension to ensure that the resulting development is a high-quality, sustainable urban extension with a strong sense of place that meets the day to day needs of its residents.

St. Modwen Park (formerly Quedgeley East)

- 2.1.21. Land at Quedgeley East, St. Modwen Park (13 hectares) was allocated in the SDLP for the development of B1/B2/B8 employment uses with the development acting as an extension to the existing business park. It was established in the SDLP that the site will provide contributions to off-site highway works including public transport, pedestrians and cycle links. Access to the site will be from the B4008 and achieved via the access to the existing business park.

Gloucester 12 (formerly Javelin Park)

- 2.1.22. Gloucester 12 is retained for B Use Class development within the SDLP, having previously been used for B8 land use before the site was cleared in 2003. Several applications have been submitted since with the goals of providing B Use Class development on the site.

STROUD DRAFT LOCAL PLAN (NOVEMBER 2019)

- 2.1.23. The Stroud Draft Local Plan, November 2019 (which is currently going through consultation) sets out the opportunities and challenges facing the district. The following two proposed allocations are worth noting due to their potential impact on the highway network in the vicinity of the Symmetry Park Development:

- ‘G1 South of Hardwicke’: This site has been identified as part of the draft local plan as land which *may* have the potential to contribute towards future housing needs. The site is currently included in the Draft Local Plan for the purposes of public consultation. It is stated the land could accommodate 1200 dwellings, local centre, community infrastructure, community uses, primary school, green infrastructure, open space and strategic landscaping. No policy criteria have been developed at this stage setting out what mitigation would be required to make the development viable, nor has any significant assessment of the impact of the site been undertaken. It is therefore clear this development is not committed at this stage.
- ‘G2 Land at Whaddon’: This site is described in the Draft Local Plan as ‘safeguarded the meet the housing needs of Gloucester City should it be required’. It is stated the site can accommodate approximately 2500 dwellings, local centre including shops, community and employment uses, secondary and primary schools, bus interchange, rail halt, green infrastructure, open space and strategic landscaping. As the ‘G1 South of Hardwicke’ No policy criteria have been developed at this stage setting out what mitigation would be required to make the development viable, nor has any significant assessment of the impact of the site been undertaken. It is therefore clear this development is not committed at this stage.

2.1.24. The two developments described above would clearly have an impact on the highway network if they were to come forward, however, at this stage they have not been allocated in the local plan and therefore cannot be considered as committed development. If the developments were to come forward (along with Symmetry Park) each would be responsible for mitigating their own impact on the highway network with it likely the two developments described above would not be built out until long after Symmetry Park is operational.

Stroud Sustainable Transport Strategy

- 2.1.25. The Stroud Sustainable Transport Strategy (November 2019) forms part of the evidence base for the Stroud District Council’s Local Plan Review. The strategy aims to provide an opportunity to tackle issues in the district such as congestion, accessibility, air quality, public health and safety. A number of strategic objectives are included in the Sustainable Transport Strategy including:
- ‘SO2: Local Economy and Jobs’: *Providing for a strong, diverse, vibrant local economy that supports existing businesses and encourages new enterprise - enabling balanced economic growth, coupled with enhancing skills and job opportunities across the District;*
 - ‘SO4:Transport and Travel’: *Promoting healthier alternatives to the use of the private car and seeking to reduce CO2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services;*
 - ‘SO5 Climate Change and environmental limits’: *Promoting a development strategy that reduces our District’s carbon footprint, adapts to climate change and respects our environmental limits by:*
 - *Securing zero carbon development through building design - Maximising the re-use of buildings and recycling of building materials - Minimising the amount of waste produced and seeking to recover energy - Promoting the use of appropriately located brownfield land - Supporting a pattern of development that facilitates the use of sustainable modes of transport - Minimising and mitigating against future flood risks, recycling water resources and protecting and enhancing the quality of our District’s surface and groundwater resources.*

2.1.26. Although yet to be adopted, Table 2-4 set out how Symmetry Park would support the Stroud Draft Local Plan, particularly the objectives set out in Sustainable Transport Strategy.

Table 2-4 – Draft Stroud District Local Plan Compliance and Delivery

1. The development would support 'SO2 Local Economy and Jobs' by providing a large employment premise to provide jobs for the local community such as future residents at Hunts Grove or potential residents of proposed allocation sites.

2. The development would support 'SO4 Transport and Travel' by supporting travel to site by active travel modes where possible, this will be encouraged through smart working systems and the implementation of a Travel Plan at the site.

3. The development would support 'SO5 Climate Change and Environmental Limits' The land promoter is committed to delivering efficient, low-carbon and cost-effective buildings as well as investigating the use of integrated renewable energy systems during developments.

3. OPPORTUNITIES CREATED IN COMBINATION WITH COMMITTED AND PROPOSED DEVELOPMENT

INTRODUCTION

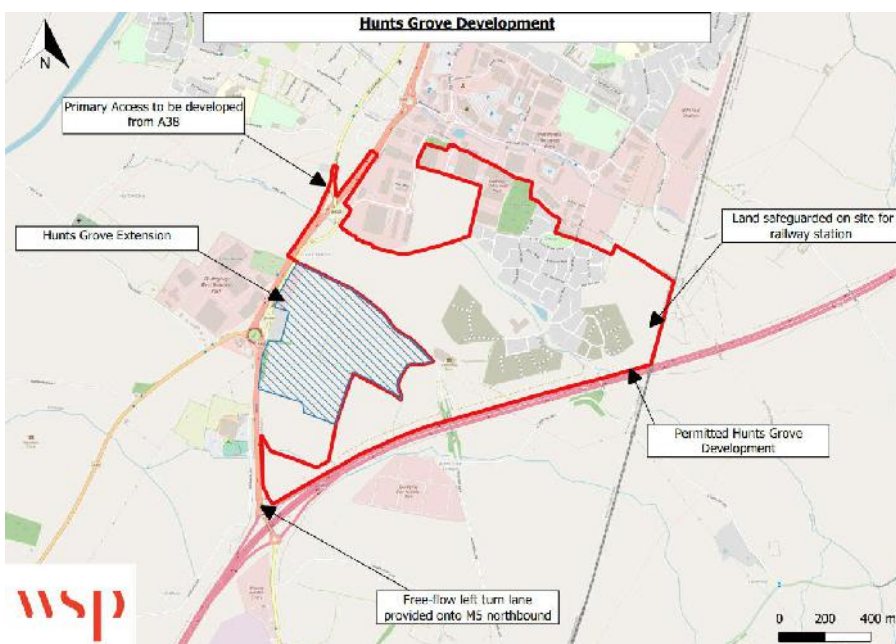
3.1.1. This section summarises the planning history of consented schemes at Hunts Grove and St. Modwen Park, plus a live application at Gloucester 12 (which is currently being considered by the Local Authority). These developments will impact the highway network in the vicinity of the proposed site through, both, the generation of traffic and physical changes to the highway layout. Details of planning obligations and required infrastructure upgrades are presented in order to provide an overview of the anticipated future layout of the highway network and how this will relate to the future delivery of circa 2,005,500ft² of B8 Use Class development upon the promotion sites.

HUNTS GROVE

3.1.2. An outline application for the initial phase of the Hunts Grove development was approved in July 2008, which will deliver approximately 1,750 dwellings, a school, employment, recreational space and other local amenities. As part of the application, alterations were proposed to the surrounding highway network, which included an upgrade to the M5 Junction 12 interchange to develop a free-flow left-turn lane from the B4008 northern arm of the roundabout onto the M5 in an eastbound direction of travel. This scheme has now been delivered and is open to traffic.

3.1.3. As part of the development, a primary site access from the A38 will be constructed (with the proposal having been subject to minor revisions in subsequent submissions to the outline application detailed above). The location of the site and the highway mitigation summarised above are shown in **Figure 3-1**. Alterations were also proposed to the Cross Keys roundabout as part of the application however, these have been superseded by more extensive changes to the roundabout proposal conditioned as part of the St. Modwen Park consented scheme (discussed below).

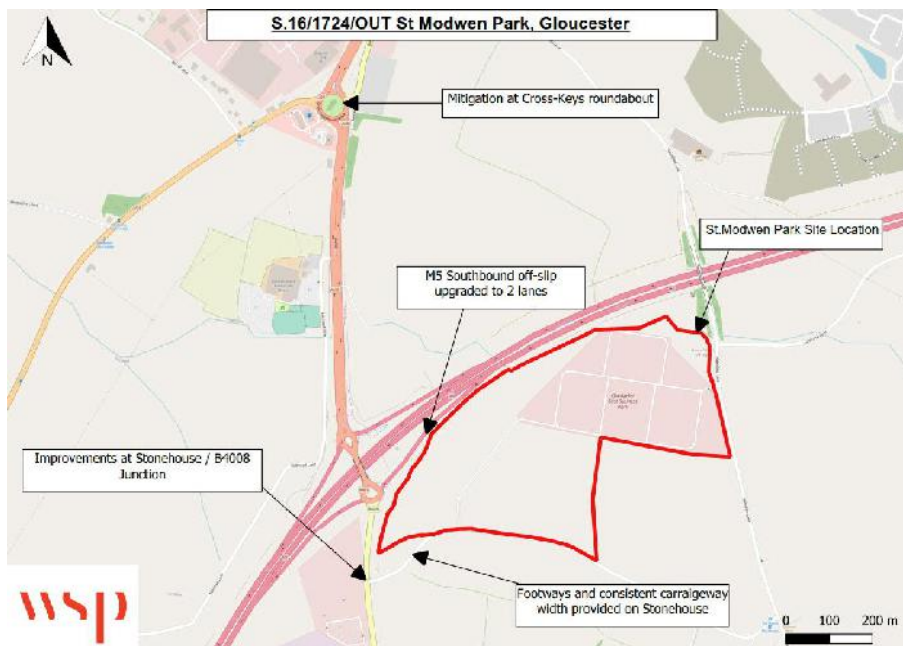
Figure 3-1 - Hunts Grove Development Overview



ST. MODWEN PARK, GLOUCESTER (FORMERLY QUEDGELEY EAST)

- 3.1.4. An outline application for Quedgeley East was approved in November 2018 with the application delivering a business park comprising B1/B2/B8 uses with associated access. The location of the site and the highway mitigation summarised below are shown in **Figure 3-2** with the most recent junction designs surrounding the site included in **Appendix B**.
- 3.1.5. To facilitate the development, numerous alterations were proposed to the surrounding highway network to ensure all junctions in the vicinity of the site would operate with spare capacity. Access will be achieved from Stonehouse, along which new footways will be provided to connect the site with existing pedestrian infrastructure along the B4008.
- 3.1.6. The B4008/Stonehouse priority junction will be upgraded as part of the scheme, by realigning the kerb lines to facilitate safe HGV access. A yellow box will also be delivered on the B4008 mainline (covering the northbound approach) to ensure that gap acceptance is protected for vehicles egressing. Local widening will be delivered on Stonehouse to ensure a consistent width of 7.2m is achieved throughout.
- 3.1.7. At the M5 Junction 12 interchange a mitigation scheme will be delivered in order to increase storage capacity on the M5 Southbound off-slip and manage impact of approaching vehicles (to reduce the likelihood of queuing traffic extending back to the mainline of the SRN). The ramp will be widened to provide two full lanes for the entire length slip-road. This was conditioned despite junction modelling undertaken as part of the evidence base for the SDLP indicating that the junction will operate with spare capacity following delivery of all allocated developments. It is understood that this work was scheduled to begin in June 2020 (prior to the current COVID-19 disruptions).
- 3.1.8. Analysis undertaken as part of the application for St. Modwen Park demonstrated that the permitted scheme at the Cross Keys Roundabout (associated with Hunts Grove) would not provide a sufficient level of capacity to accommodate trips associated with the proposed development. An alternative mitigation scheme was, therefore, agreed as part of the application, which took account of the predominant traffic movement from the B4008 south to the A38 north.

Figure 3-2 – St. Modwen Park Development Overview



GLOUCESTER 12 (FORMERLY JAVELIN PARK)

- 3.1.9. A full planning application for the Gloucester 12 development (allocated under Policy EK14 of the SDLP) was submitted in October 2019 comprising the “erection of four buildings (5 units) for B1c (Light Industry), B2 (General Industry) and B8 (Storage and Distribution) uses and associated access and drainage infrastructure.”
- 3.1.10. No significant changes to the highway network are proposed as part of the application, with the developer forecasting that there is adequate residual spare capacity within the network following the implementation of upgrades conditioned as part of the St. Modwen Park consent. Footways will be provided into the site connecting with the existing infrastructure on the B4008.
- 3.1.11. The planning application was undetermined at the time of authoring this report, however, GCC and HE have both provided formal consultation responses offering no objection to the scheme on the grounds of its transportation impact upon the surrounding road network (on the basis that a planning condition be imposed which requires the M5 Junction 12 southbound off-slip upgrade (associated with the St. Modwen Park application) be completed prior to the occupation of Gloucester 12). The GCC and HE consultation responses are included in **Appendix C**.
- 3.1.12. The location of the proposed Gloucester 12 site is shown in Figure 3-3.

Figure 3-3 – Gloucester 12 Development Overview



4. A SAFE AND FUNCTIONAL HIGHWAY

SURROUNDING HIGHWAY INFRASTRUCTURE

- 4.1.1. In the vicinity of the promotion sites, the B4008 is a single-carriageway, two-way road, which is subject to a 60mph speed limit. The principle of access to existing and committed development in the area (direct from the B4008 corridor) is well established, with the majority of sites served by means of either priority 'T' junctions or roundabout intersections.
- 4.1.2. Existing infrastructure on the B4008 corridor is generally of a good standard, with shared footway/cycleways provided on both sides of the carriageway (approximately 2.5 metres in width) which facilitate access to local bus services by means of stops located adjacent to the Gloucester 12 access. Street lighting is also provided between 'Symmetry Park East' and the M5 Junction 12 interchange.
- 4.1.3. The shared pedestrian and cycle infrastructure does not currently extend as far south as the frontage of the promoted 'Symmetry Park West' parcel of land, however, a planning obligation associated with the Waste Recycling Centre (immediately south of Gloucester 12) requires this development to upgrade existing infrastructure to provide a continuous 3.0 metre wide shared footway/cycleway on the western side of the carriageway up to the M5 Junction 12 interchange.
- 4.1.4. The B4008 currently provides a single-lane, priority-controlled approach to the M5 Junction 12 grade-separated dumb-bell roundabout (which is partially signalised on the M5 southbound off-slip and the preceding section of the circulatory carriageway).
- 4.1.5. To the north of this junction, the B4008 is a dual-carriageway, two-way road which is subject to a 70mph speed limit, before reducing to 60mph at the approach to the Cross Keys roundabout (as the route enters the built environment of Hardwicke to the south of Gloucester).
- 4.1.6. Approximately 850m north of the M5 Junction 12 intersection, the B4008 connects with the A38 at the five-arm Cross Keys roundabout junction, which will be upgraded to satisfy planning obligations associated with extant consents at Hunts Grove and St. Modwen Park. The roundabout has recently been upgraded to provide traffic signal control and additional approach lanes to deliver a significant capacity increase in order to accommodate future residential/employment growth in the area. A supplementary committed mitigation scheme at this roundabout, will also provide a direct connection between the Hunts Grove residential development and the A38 corridor.

STONEHOUSE A419 CORRIDOR HIGHWAY UPGRADE PACKAGE

- 4.1.7. Conditions at the M5 Junction 12 interchange and on the B4008 corridor (adjacent to the promotion sites) are likely to improve in future following the delivery of congestion relief measures on the A419 corridor (between Chipman's Platt and Horsetrough roundabouts) to the south of Haresfield. A summary of the highway changes is included in **Appendix D**.
- 4.1.8. A series of improvements are being delivered between Stonehouse and the M5 Junction 13 interchange (with the aim of reducing journey times and increasing reliability along the route). It is understood that they were scheduled for completion in Spring 2020 (prior to the current COVID-19 disruptions).

- 4.1.9. Once completed, it is anticipated that the upgrades will result in a redistribution of local traffic away from the B4008 Gloucester Road corridor (as the A419 and M5 become more attractive route choices for local trips) thus alleviating the congestion issues historically experienced on the southern B4008 approach to the M5 Junction 12 interchange (adjacent to the promotion site).

HIGHWAY SAFETY

- 4.1.10. The highway safety characteristics of the surrounding road network were recently assessed as part of the St. Modwen Park and Gloucester 12 planning applications (both of which were considered acceptable by the Local and Strategic Highway Authorities).
- 4.1.11. The supporting Transport Assessment evidence bases concluded that there are no existing highway safety issues on the surrounding network, which would be exacerbated by commercial development in the area. This position was accepted by GCC and HE (who did, however, request that queuing on the M5 Junction 12 southbound off-slip be mitigated, as part of a planning obligation associated with the St. Modwen Park consent).
- 4.1.12. To consider if there have been any significant changes to highway safety in the vicinity of the promotion sites since these evidence bases were prepared, an interrogation of the 'Crashmap' database has been performed. The review of this data has demonstrated that no collisions have occurred on the B4008 or at the M5 Junction 12 interchange.
- 4.1.13. It is evident that there continues to be no highway safety issues on the surrounding network, which It is also located immediately to the south of the M5 Junction 12 interchange. This makes the parcels of land ideal to accommodate 2,005,500ft² of B8 Use Class development (with 1,123,500ft² on 'Symmetry Park West' and up to 882,000ft² on Symmetry Park East') as promoted within this report, to support growth aspirations of the Local Authority.

5. OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT

SDLP SUSTAINABLE TRANSPORT ASSESSMENT – MAY 2015

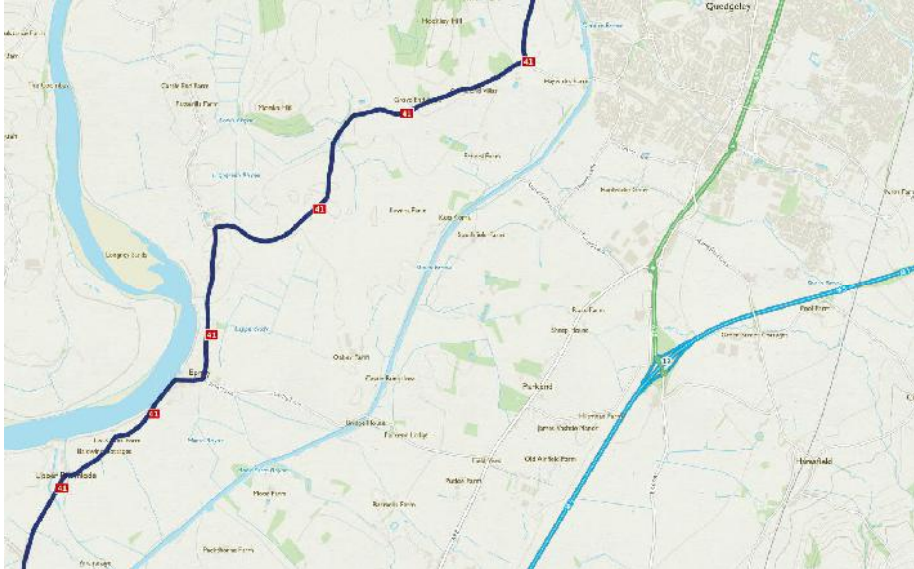
- 5.1.1. As part of the evidence base for the SDLP, a Sustainable Transport Assessment was undertaken to examine the existing infrastructure at each of the allocation sites across Stroud District (which included St. Modwen Park, Gloucester 12 and the promoted sites which form the subject of this report). A summary of the St. Modwen Park audit is provided below:
- There is some pedestrian and cycle infrastructure in the vicinity of the site, however, this requires improvement, particularly on Stonehouses where there is no pedestrian infrastructure (note: this has been addressed as part of the now approved St. Modwen Park planning application);
 - Street lighting should be provided on the B4008 and Stonehouses as part of any development;
 - Frequent bus services operate which provide connections between Stonehouse and Gloucester;
 - Although the railway stations in Gloucester/Stonehouse are only accessible via bus or cycle, the existing bus services commence early enough to provide access to the site from the stations; and
 - The existing highway network operate safely.
- 5.1.2. Since the publication of the Sustainable Transport Assessment, GCC and HE have provided formal consultation responses offering no objection to either the St. Modwen Park or Gloucester 12 planning applications on the grounds of accessibility. It is evident that the Local Authority accept the principle that sustainable B8 Use Class development can be achieved within this area of Stroud District. This makes the parcels of land promoted within this report ideal to accommodate 2,005,500ft² of B8 Use Class development to support growth aspirations of the Local Authority.

OPPORTUNITIES FOR ACTIVE TRAVEL MODES

- 5.1.3. A shared use footway/cycleway is currently available on both sides of the B4008 Gloucester Road, which begins at the three-arm roundabout access to Gloucester 12 and continues north to the Cross Keys roundabout (where it provides access to the residential area of Hardwicke). The promotion sites are capable of providing appropriate boundary connections with this existing pedestrian infrastructure to create an inclusive environment which promotes sustainable access for active travel modes.
- 5.1.4. The site is ideally located to encourage walking trips from Haresfield and Hardwicke, in addition to potentially servicing the needs of Hunts Grove occupants by creating synergies between future employment sites in the Gloucester Fringe and residential areas on the southern side of the city. Haresfield Footpath No. 3 and No. 5 are located to the south and east of the promoted 'Symmetry Park East' site respectively. Both links provide a route into the village of Haresfield, which has a range of shops and services to facilitate the daily needs of future occupiers of a commercial development upon the promotion sites.
- 5.1.5. Any future proposals upon the promotion sites would have the ability to provide high-quality walking routes through to the parcel of land, to maximise the likelihood of linkages to existing facilities being adopted by occupiers to achieve truly sustainable development at this location.
- 5.1.6. The site is also ideally located to encourage cycling trips from various residential settlements in and around Gloucester. There are additional cycle facilities within a reasonable distance of the site, such as the Gloucester and Sharpness Canal Towpath (which is accessible approximately 3km north of the

site, providing a traffic free route into Gloucester and to other surrounding villages). Additionally, National Cycle Network route no. 41 also passes north of the canal path and this is a long-distance route, which connects Cheltenham with Bristol as shown in **Figure 5-1** below.

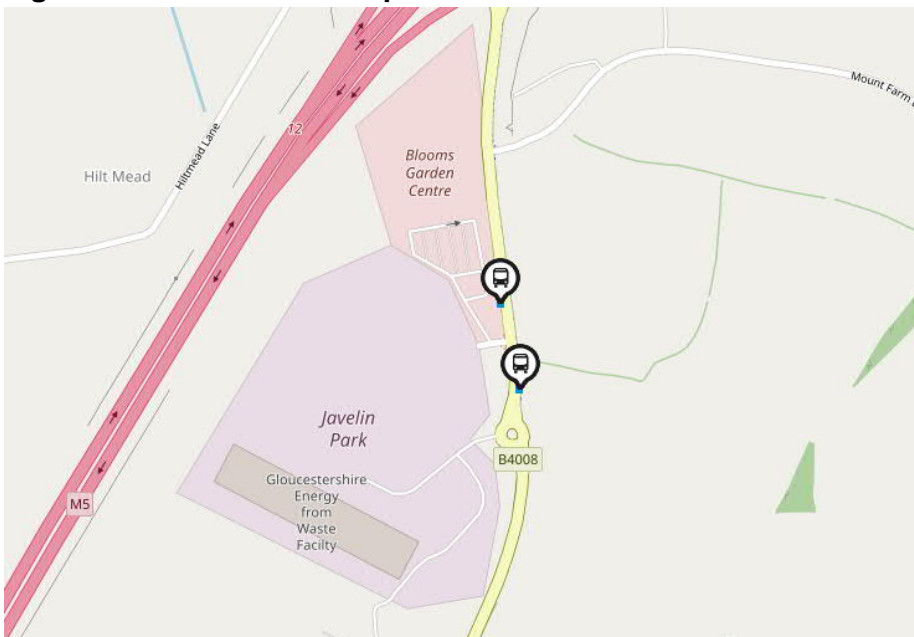
Figure 5-1 - Stroud Cycle Routes



OPPORTUNITIES FOR PUBLIC TRANSPORT ACCESS

- 5.1.7. These parcels of land are ideally located to encourage the use of public transport and makes them ideal to accommodate 2,005,500ft² of B8 Use Class development to support growth aspirations of the Local Authority. Two bus stops are currently located on the B4008 in the vicinity of the promotion sites, which are within an acceptable walking distance and will ensure that public transport can be promoted as a viable mode of travel. The location of the existing bus stops is shown on **Figure 5-2** below.

Figure 5-2 – B4008 Bus Stop Locations



- 5.1.8. These stops facilitate services which link the site with residential areas within Quedgeley, Hardwicke, Stonehouse, and King’s Langley. A summary of the services is provided in **Table 5-1**, which demonstrates that regular frequency buses are currently available linking the promotion sites with surrounding towns and cities.
- 5.1.9. A target of SDLP is to improve the quality of bus service across the District. On this basis, it can be assumed the frequency of services may potentially increase above this baseline position over the coming years with improvements to accommodate 24/7 logistics operations. The allocation of these sites for 2,005,500ft² of B8 Use Class development would also provide opportunities for the scheme to positively contribute to further enhancements to public transport infrastructure in the area to achieve truly sustainable development.
- 5.1.10. It is considered that a Travel Plan strategy could also be developed for the benefit of any future occupiers of a commercial development upon the promotion sites to maximise potential for uptake of public transport services and ensure that the allocation site accords with national planning policy.

Table 5-1 - Bus Services and Frequencies

Services	Route	Key Destinations	Mon-Sat	Sun
64	Gloucester to Stonehouse	Quedgeley, Hardwicke	Every 60 minutes	Every 60 minutes
66x	Stroud to Gloucester	King’s Stanley, Leonard Stanley, Stonehouse, Hardwicke, Quedgeley	AM Peak service northbound (commencing at 07:30); PM Peaks service southbound (commencing at 17:35)	No service
866	Gloucester to Cirencester	Quedgeley, Kingsway, Hardwicke, Stonehouse, Bowbridge	AM Peak service southbound (commencing at 07:10); PM Peak service northbound (commencing at 16:10) – no service Saturday	No Service

- 5.1.11. As highlighted within the SDLP Sustainable Transport Assessment - St. Modwen Park site audit (discussed previously) the nearest existing rail stations can only be accessed from the site by bus or cycle. This means that travel by rail would currently likely require a multi-modal journey to be completed.
- 5.1.12. The SDLP highlights the need for a rail station to be developed at Hunts Grove and, as discussed previously, when the outline application was granted planning permission in July 2008, the Secretary of State required that a 205ha parcel of land be reserved for the provision of a new railway station (which has been safeguarded in the SDLP for a railway facility under Policy EI14). Once this public transport interchange is delivered, it is considered that the facility will be ideally located to encourage further trips to the promotion sites by rail.

6. ACCESSING THE SITE AND UNDERSTANDING THE OUTCOMES

ACCESSING THE SITE

- 6.1.1. In the context of the local road network, the site is located either side of the B4008 corridor, which is one of the principal radial routes into Gloucester city centre to the north of the promoted parcels of land. It is also located immediately to the south of the M5 Junction 12 interchange and, therefore, benefits from an excellent level of accessibility to the strategic road network. This makes the parcel of land ideal for B8 Use Class development (as confirmed by the presence of neighbouring sites, which are allocated within the current Stroud District Local Plan for B1, B2 and/or B8 Use Class development at Gloucester 12 and St. Modwen Park).
- 6.1.2. The 'Symmetry Park West' plot of the promoted site directly borders the southern boundary of Gloucester 12 and 'Symmetry Park East' is located directly adjacent to the southern boundary of Modwen Park.
- 6.1.3. It is considered appropriate to take access to 'Symmetry Park East' from the B4008 corridor, by means of a modification to the existing three-arm roundabout junction which provides access to the units proposed as part of the Gloucester 12 application. Additionally, it would also be possible to serve the site by means of a new priority junction onto the Stonehouse link, due to the number of trips on the B4008 at the B4008 / Stonehouse junction it is likely mitigation would be required to enable this. Any necessary mitigation will be proposed as part of an application for the development. The masterplans included in Appendix A of this report shows how access arrangements could be arranged if access junctions from Stonehouse were included or excluded from the design.
- 6.1.4. The parcel of land at 'Symmetry Park West' could be accessed from the B4008 corridor, by means of a ghost-island priority junction based on guidance provided in the Design Manual for Roads and Bridges 'CD123 – Geometric design of at-grade priority and signal controlled junctions'. The AADT figures required to determine the design of junction which would be required have been obtained by taking the AADT flows calculated in the St. Modwen Park Environmental Statement and adding the daily trips which will be generated by Gloucester 12 and the Symmetry Park development.

VEHICLE MOVEMENTS GENERATED BY DEVELOPMENT OF THE PROMOTED SITES

- 6.1.5. This section of the report provides a high-level overview of the number of peak hour trips forecast to be generated by the quantum of development promoted upon 'Symmetry Park West' and 'Symmetry Park East' of the sites.
- 6.1.6. The exercise adopts the same vehicular trip rates/distribution assumptions previously agreed with the Local Authority (in granting planning consent for a similar form of development at St. Modwen Park). It is used to demonstrate that delivery of an additional 2,005,500ft² of B8 Use Class development upon the promotion sites would be viable and that the network is capable of supporting such a scheme with only a modest level of mitigation required to achieve boundary connections with existing infrastructure on the highway. The TRICS report associated with the St. Modwen Park application is included in **Appendix E**.
- 6.1.7. The quantum of new vehicle movements likely to be generated by 2,005,500ft² of B8 Use Class development (with 1,123,500ft² on 'Symmetry Park West' and up to 882,000ft² on Symmetry Park

East') on the promotion sites is presented in **Table 6-1** below. These movements have then been distributed onto the surrounding highway network and this is presented in **Table 6-2**.

Table 6-1 – Vehicle Movements Generated by the Promoted Sites (B8 Use Class)

2,005,500ft ² B8 Development	AM		PM	
	Arrival	Departure	Arrival	Departure
Accepted Trip Rates	0.066	0.040	0.029	0.076
Symmetry Park West (104,377m ²)	69	42	30	79
Symmetry Park East (81,940m ²)	54	33	24	62
Total Movements	123	75	54	142

Table 6-2 –Vehicle Movement Distribution onto the Surrounding Highway Network

M5 J12 Junction	Distribution	AM		PM	
		Arrivals	Departures	Arrivals	Departures
M5 J12 south	11.5%	14	9	6	16
M5 J12 north	27.5%	34	20	15	39
B4008 north	32.9%	40	25	18	47
B4008 south	28.1%	35	21	15	40

6.1.8. The trip generation rates adopted above are based upon traditional B8 operating models which were agreed for Quedgeley East. It is likely these trip rates will fall as the area becomes a more established employment area with improved sustainable transport links enhancing those routes which already exist. The following section demonstrates that the trips shown in the table above would be unlikely to have a severe impact on the highway network with consideration given to the existing baseline position (which is demonstrated using modelling work which has been accepted by the LHA and HE) and how this will be impacted by the Covid-19 pandemic and associated recession.

7. ASSESSING THE CUMULATIVE IMPACTS FROM DEVELOPMENT AND UNDERSTANDING THE ‘NEW’ NORMAL

SDLP TRANSPORT IMPACT ASSESSMENT – MARCH 2014

- 7.1.1. In order to support the development of the previous Local Plan, a Transport Impact Assessment was prepared in March 2014 to form part of the Local Authority highways evidence base. This study considered the operation of the M5 Junction 12 interchange to forecast the impact of allocation site generated vehicle movements. To inform the study, on-site observations were conducted (in February 2014) at these locations in order to validate existing conditions.
- 7.1.2. Observations were conducted during the AM and PM peaks, documenting that the intersection was free flowing with no significant queueing and that queues generally reached only three vehicles in length at any one time. No capacity issues were noted as part of the assessment.

SDLP JUNCTION CAPACITY ASSESSMENT – DECEMBER 2014

- 7.1.3. The SDLP Junction Capacity Assessment was prepared to form part of the supporting evidence base and inform the infrastructure development plan. This report followed on from the previous Transport Impact Assessment (March 2014) which forecast the impact of emerging allocation sites. The trips generated by the developments shown in **Table 7-1** were considered within the report:

Table 7-1 –SDLP Allocated Development

Site	Local Plan Development	
	No. of Dwellings	Employment (ha)
Hunts Grove	750	-
St. Modwen Park	-	13
North East Cam	750	12.5
Sharpness	300	17
Stroud Valley	400	-
Stonehouse	1,350	10
Council Housing	150	-
Windfall	750	-

7.1.4. It must be emphasised, however, that the number of vehicle movements forecast to be generated by St. Modwen Park (within the SDLP Junction Capacity Assessment) assumed that the majority of the 13ha site would comprise of B1 Use Class development, which resulted in an overestimation of the quantum of trips (in relation to the actual form of development that was applied for and subsequently consented, that comprised mostly of B2/B8 which traditionally generates considerably less traffic than B1). The net difference between the traffic levels tested within the Junction Capacity Assessment and those agreed as part of the St. Modwen Park planning application are presented at **Table 7-3**.

Table 7-2 – St. Modwen Park Assumed and Consented Vehicle Generation Levels

Development Sites	AM		PM	
	Arrival	Departure	Arrival	Departure
St. Modwen Park SDLP Tested Scheme	521	93	85	456
St. Modwen Park Consented Scheme	186	76	43	225
Net Difference	- 352 Two-way Trips		- 273 Two-way Trips	

7.1.5. The SDLP Junction Capacity Assessment appraised the operation of the M5 Junction 12 interchange using the overly robust vehicle movement forecast presented above. The Cross Keys roundabout was not assessed within the report as it was already subject to a mitigation scheme (now complete) which was further enhanced by St. Modwen Park. **Table 7-2** summarises the assumed traffic flows and modelling results for the M5 Junction 12 interchange (with no mitigation provided).

Table 7-3 –M5 J12 SDLP Junction Capacity Assessments

Junction Name	AM		PM	
	Existing 2014 Scenario	Forecast 2031 Scenario (with LP generated traffic)	Existing 2014 Scenario	Forecast 2031 Scenario (with LP generated traffic)
Traffic Flow	2,992	4,056	3,017	4,041
Utilised Capacity	78.0%	86.3%	64.5%	93.4%
Remaining Capacity	22.0%	13.7%	35.5%	6.6%

7.1.6. As set out above, the Junction Capacity Assessment demonstrated that the M5 Junction 12 interchange was forecast to operate with adequate spare capacity and requires no migration to support the overly robust quantum of traffic assumed to represent full development built out.

7.1.7. Gloucester 12 and the promoted parcels of land (which form the basis of this report) were not included in this modelling exercise. The level of additional traffic which could also be generated by the development of these sites is presented at **Table 7-3** below.

Table 7-4 – Gloucester 12 and Promotion Site Forecast Vehicle Generation Levels

Development Sites	AM		PM	
	Arrival	Departure	Arrival	Departure
Gloucester 12 Trip Generation	98	41	23	121
Symmetry Park West' Trip Generation	69	42	30	79
Symmetry Park East Trip Generation	54	33	24	62
Total	+ 337 Two-way Trips		+ 339 Two-way Trips	

7.1.8. These developments are forecast to generate 337 (AM) and 339 (PM) two-way vehicle trips combined. As discussed previously, the SDLP Junction Capacity Assessment assumed that St. Modwen Park would generate 352 (AM) and 273 (PM) two-way vehicle trips more than what was eventually applied for and consented, whilst still forecasting that the M5 Junction 12 interchange would operate with 13.7% (AM) and 6.6% (PM) spare capacity.

7.1.9. It is considered that during the morning peak, the additional development trips associated with Gloucester 12, 'Symmetry Park West' and 'Symmetry Park East' of the promoted site can be wholly accommodated within the threshold tested by and considered acceptable to the Local Authority within the SDLP Junction Capacity Assessment (i.e. the additional vehicle movements it was assumed that St. Modwen Park would generate).

7.1.10. Similarly, it is also evident that during the evening peak, the additional development trips associated with Gloucester 12 and 'Symmetry Park West' of the promoted site can also be wholly accommodated within the threshold previously tested by and considered acceptable to the Local Authority. A total of 66 two-way trips generated by 'Symmetry Park East' would be in excess of this threshold, however, it is considered that they could be adequately accommodated within the remaining 6.6% of spare capacity contained within the M5 Junction 12 intersection (on the basis of the previous modelling, which consumed approximately 2.8% of the spare capacity for every 100 additional vehicles travelling through the junction).

7.1.11. It is important to remember that this forecast was prepared prior to the delivery of congestion relief measures on the A419 corridor. Once completed, these upgrades will result in a redistribution of local traffic away from the B4008 Gloucester Road corridor (as the A419 and M5 become more attractive route choices for local trips) thus alleviating the congestion issues historically experienced on the southern B4008 approach to the M5 Junction 12 interchange.

7.1.12. The modelling results presented above should, therefore, be considered an over-estimation of the forecast performance of the local road network in the vicinity of the promoted site and provide the

Local Authority with comfort that the highway network has adequate spare capacity to support a total of 2,005,500ft² of B8 Use Class development without the requirement for highway mitigation.

ST. MODWEN PARK TRANSPORT IMPACT ASSESSMENT – AUGUST 2016

- 7.1.13. As discussed previously, an outline application for St. Modwen Park was submitted in August 2016, which was supported by a quantitative Transport Assessment (TA) to appraise the operation of the highway network within the immediate vicinity of the promotion sites. Consistent with the conclusions drawn by the Local Authority within the SDLP Junction Capacity Assessment, it forecast that there will be adequate spare capacity within the M5 Junction 12 interchange, which requires no highway migration to offset the impact of the development.
- 7.1.14. Despite the accepted modelling conclusions drawn within the TA, a modest level of highway mitigation was agreed as part of the consented St. Modwen Park development proposal, to increase storage capacity on the M5 Junction 12 interchange southbound off-slip. This will further enhance the operation of the network in the immediate vicinity of the promotion sites, ensuring improved access/egress for existing and future commercial operations to the south of Gloucester.
- 7.1.15. It was also acknowledged that a degree of queuing would occur on the B4008 southern arm of the M5 Junction 12 interchange, however, this was not considered severe enough to make the planning application unacceptable to the Local Authority in terms of highway operation and safety. The Officers' report acknowledged that there is the potential for the impact on this arm of the junction to be reduced by effects such as peak-spreading and the redistribution of traffic associated with other highway works. Specific reference was also made to the Hunts Grove A38 access, which has the potential to redistribute traffic along Haresfield Lane to provide access to the A38 northbound.
- 7.1.16. This forecast was also prepared prior to the development and delivery of congestion relief measures on the A419 corridor, which will result in a redistribution of local traffic away from the B4008 Gloucester Road corridor and reduce the length of the stationary queues, that were considered previously acceptable to GCC and HE when determining the application.

GLOUCESTER 12 TRANSPORT IMPACT ASSESSMENT – OCTOBER 2019

- 7.1.17. A full planning application was also submitted at Gloucester 12, which was supported by a quantitative TA to appraise the operation of the highway network within the immediate vicinity of the promotion sites. Consistent with the conclusions drawn by the Local Authority within the SDLP Junction Capacity Assessment and St. Modwen Park TA, it similarly forecast that there will be adequate spare capacity within the M5 Junction 12 interchange, which requires no highway migration to offset the impact of the development.
- 7.1.18. The TA presented results extracted from a validated HE Paramics Discover microsimulation model, which was created for the purpose of providing a consistent basis for testing development impacts upon the M5 Junction 12 interchange.
- 7.1.19. This modelling exercise considered the impact of the previously discussed mitigation scheme, which now forms a planning obligation of the consented St. Modwen Park development, concluding that both the southbound and northbound slip-roads will operate with spare capacity in future during the network

peak periods (following delivery of St. Modwen Park and Gloucester 12). The modelling results accepted by HE are shown in **Table 7-4** below.

Table 7-5 – Gloucester 12, accepted Paramics model results

Approach	Length	Lane	AM Peak average maximum queue length (metres)	PM Peak average maximum queue length (metres)
NB off-slip	288	1	34	29
		2	10	7
SB off-slip	363	1	84	340
		2	202	316

- 7.1.20. As demonstrated above there is forecast to be adequate capacity remaining within the northbound and southbound M5 Junction 12 interchange slip-roads to accommodate a total of 2,005,500ft² of B8 Use Class development without resulting in a severe impact.
- 7.1.21. During the AM peak it has been forecast that a total of 14 trips will approach the site via the southbound off-slip of the M5 Junction 12 interchange, which would equate to less than 1 trip every 4 minutes and would be comfortably accommodated on the remaining length of the slip road (even without considering the positive traffic reducing impact of the various issues discussed within this report). In the PM peak, it has been forecast that 6 trips will approach the site via the southbound off-slip of the M5 Junction 12 interchange, which would equate to approximately 1 trip every 10 minutes and could also be adequately accommodated within the remaining stacking space on the off-ramp.
- 7.1.22. Consistent with the St. Modwen Park application, the Gloucester 12 TA also acknowledged that a degree of queuing would occur on the B4008 southern arm of the M5 Junction 12 interchange, however, this was not considered severe enough to make the planning application unacceptable in terms of highway operation and safety either. Similar to before, this forecast was also prepared prior to the development and delivery of congestion relief measures on the A419 corridor, which will reduce the length of the stationary queues, that were considered acceptable to GCC and HE.

HIGHWAYS ENGLAND CONSULTATION - STROUD DRAFT LOCAL PLAN

- 7.1.23. It is noted that as part of the consultation for the Stroud Draft Local Plan a response was provided by HE in January 2020, which set out concerns they have with the Draft Local Plan. With regards to the M5 Junction 12 it set out the scale of development in the Draft Local Plan would pose a challenge at the junction which “*already experiences significant capacity issues in the peak hours and we would be concerned about the cumulative impact of the proposed development*” which includes the previously mentioned proposed allocations of ‘Land at Whaddon’ and ‘South of Hardwicke’.

- 7.1.24. No evidence is provided in the consultation response to demonstrate that the junction already experiences significant capacity issues although it is accepted the junction would be likely to have capacity issue in the future if all the proposed allocations were to come forward. However, due the timescales involved it is likely this would be a future issue to be addressed by those development and not Symmetry Park which would come forward and be fully operational in a much shorter period of time.
- 7.1.25. It should be emphasised that the HE response to the Draft Local Plan predated the acceptance of the modelling undertaken for Gloucester 12 which was undertaken using HE's own M5 J12 to J14 Paramics model. The response to the Stroud Draft Local Plan was provided in January 2020, however, the modelling undertaken for Gloucester 12 was accepted in February 2020, with follow up responses to the application provided by HE in May which maintained this position and also disregarded concerns raised by the application for St. Modwen Park.
- 7.1.26. In summary, although it is acknowledged HE raised concerns with the operation of the M5 J12 interchange as part of the consultation to the Stroud Draft Local Plan it is clear that the consultation response to the Gloucester 12 application is their most recent position which has been considered as part of this report.

TRAVEL MODE BEHAVIOURAL CHANGES AND THE EFFECT OF A 'NEW NORMAL'

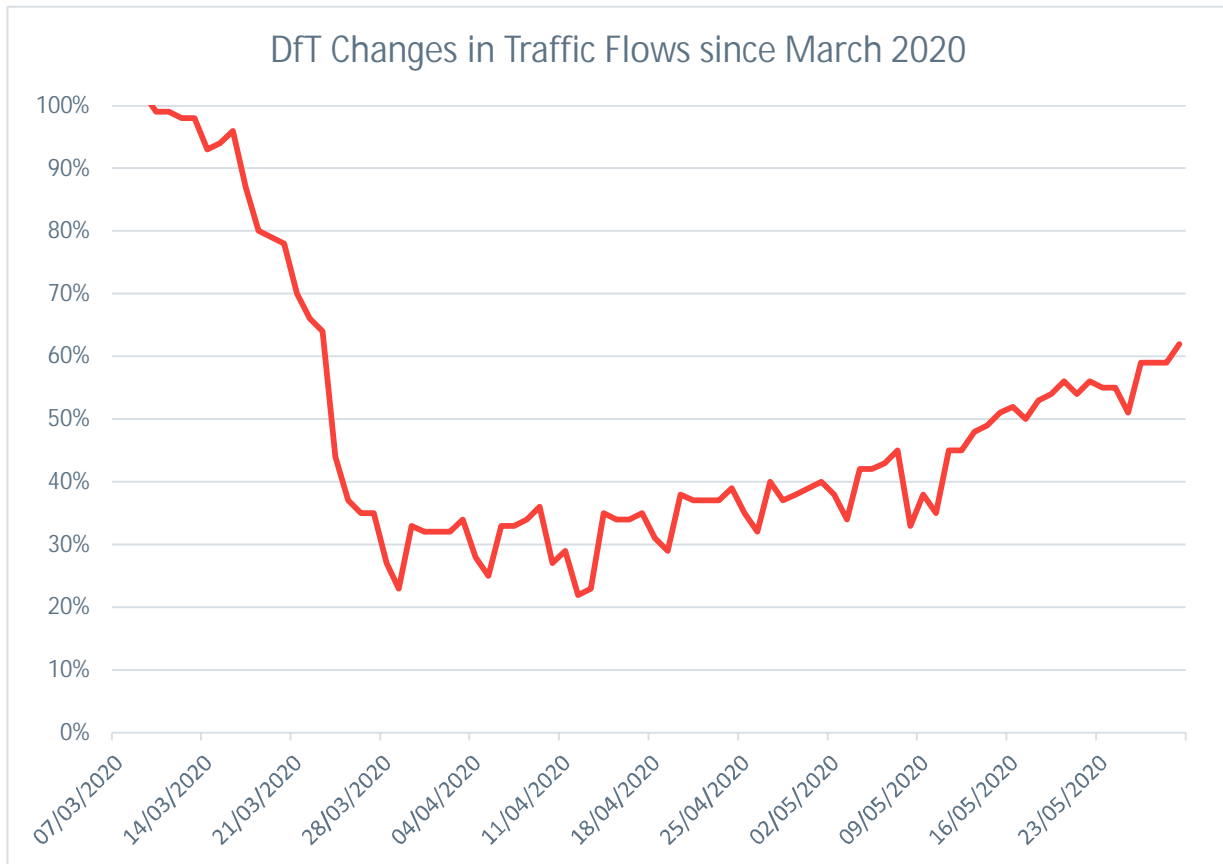
- 7.1.27. The information presented in this section has demonstrated that four evidence bases have been prepared by and/or accepted by the Local Authority between 2014-2019, which presented overly robust analysis, adequately demonstrating that:
- Land to the west of Haresfield is appropriate in nature to support future B8 commercial development to meet SDC aspirations for employment growth within the District;
 - The B4008 is forecast to operate with adequate spare capacity and requires no migration to support a total of 2,005,500ft² of B8 Use Class development; and
 - The M5 Junction 12 interchange is also forecast to operate with adequate spare capacity and requires no migration to support a total of 2,005,500ft² of B8 Use Class development.
- 7.1.28. The policy, guidance, planning applications and associated modelling work discussed in this report were all developed prior to the COVID-19 pandemic, which has had a severe positive impact upon baseline traffic levels using the local/strategic highway network. This has created a unique opportunity to bring forward further development in the district without the need for significant infrastructure upgrades or concern regarding to the impact of additional development on the highway network.
- 7.1.29. Recorded vehicular flows have reduced significantly since the middle of March 2020 (i.e. prior to the implementation of recent 'lock-down' conditions intended to control the spread of COVID-19). During this time there has been a pronounced mode-shift away from single-occupancy peak-hour car trips, resulting in an improved public appetite for the uptake of active travel modes nationwide.
- 7.1.30. This will be further supported by Central Government pledging £2billion of funding to improve walking and cycling infrastructure throughout the UK to capitalise on opportunities to safe-guard the longer-term benefits of this mode-shift. Many Local Authorities have applied for central Government funding to deliver investment in sustainable travel infrastructure, which has only served to further fuel the desire to use active travel modes for local journeys.

- 7.1.31. Similarly, a large proportion of employers (especially in professional business sectors) have recently invested in modern technological infrastructure in order to enable them to embrace truly flexible working arrangements for their staff.
- 7.1.32. Following a significant period of time adjusting to this 'new normal' way of working, initial forecasts appear to indicate that many employers have realised the positive impact that flexible practices have had in relation to corporate social responsibility profiles, carbon neutral agendas and the wellbeing of employees.
- 7.1.33. During this initial period of adjustment, many employees have also come to appreciate the personal benefits that flexible arrangements can offer in terms of achieving a more desirable work-life balance and realising health improvements (because of the increased amount of personal time offered by not commuting to a designated place of employment five days a week).

TRAFFIC FLOWS

- 7.1.34. Current forecasts indicate that recent investment in sustainable travel infrastructure and technology will likely result in longer term benefits to the operation of the highway network.
- 7.1.35. To illustrate the reduction in recorded weekday vehicle trips on the strategic road network, statistics published by the DfT between March-July 2020 are presented below at **Figure 7-1**. The 100% line represents expected traffic flow levels on the highway network under normal operating conditions. Data more recent than that shown in the table is not considered due to the impact of the summer school holidays on normal traffic levels.

Figure 7-1 - Change in Traffic Flows since March 2020



7.1.36. In order to provide context to the above graph, it is essential that the following dates are borne in mind:

- 16th March 2020 – Initial advice issued to work from home where possible;
- 20th March 2020 – Schools and places of work advised to close;
- 23rd March 2020 – Formal restrictions on movement introduced;
- 10th May 2020 – Restrictions on movement reduced and those unable to work from home advised to return to a place of employment (but temporarily avoiding public transport where possible).
- 4th July 2020 – More wide-ranging changes with social distancing cut to one metre, leisure facilities allowed to open, and people allowed to travel on holiday.

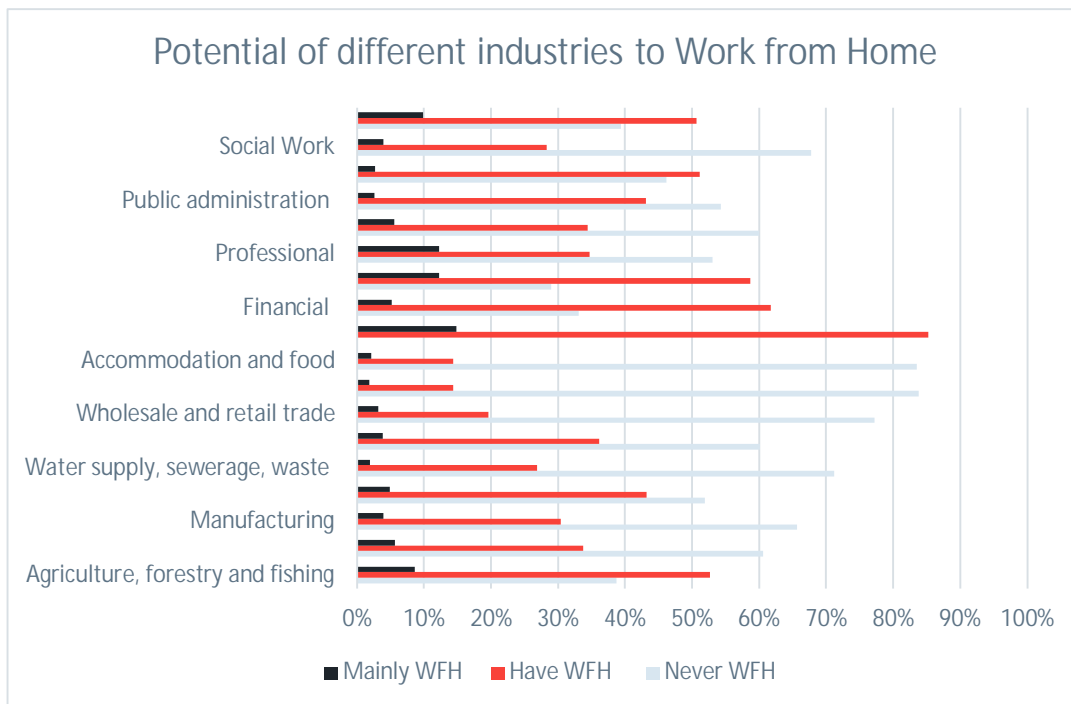
7.1.37. It is evident that recorded traffic flows using the strategic road network experienced a gradual rise following the easing of restrictions on movement on 10th May 2020, however, it must be noted that overall they remained approximately 45% lower than initially forecast levels for this time period.

7.1.38. Although in the longer-term traffic flow levels will increase further as the UK comes out of full 'lock-down' conditions, the pandemic is expected to result in many businesses embracing revised operating models as part of a 'new normal' way of working, which may result in an unprecedented mode-shift away from single-occupancy peak-hour car trips and towards many employees predominantly working from home (or staggering start-finish times when attending a designated employment base, thus resulting in peak-spreading).

BENEFITS OF A SHIFT TOWARDS INCREASED LEVELS OF WORKING FROM HOME

- 7.1.39. In April 2020 figures released by the Office for National Statistics (ONS) indicated that 49.2% of adults in employment were working from home as a result of the social distancing measures (with many more having already been signed up to the Government furlough scheme). A recent survey undertaken by 'liftshare' indicated that an appetite for working from home (post COVID-19) could increase by around 552% (with trips undertaken driving alone reducing by 20%).
- 7.1.40. To consider the proportion of employees around Gloucestershire who may be capable of (and also have an appetite for) working flexibly, a review has been conducted of an ONS survey, which was undertaken in 2019 into how often people in a variety of industries worked from home over the previous 12 months. **Figure 7-2** summarises the proportion of employees who claimed to have never worked from home (as a proportion of the total). It is considered that those who already mainly worked from home are likely to continue to do so post COVID-19 and will be unlikely to have any impact on future mode-shift away from commuting to a place of work by car.

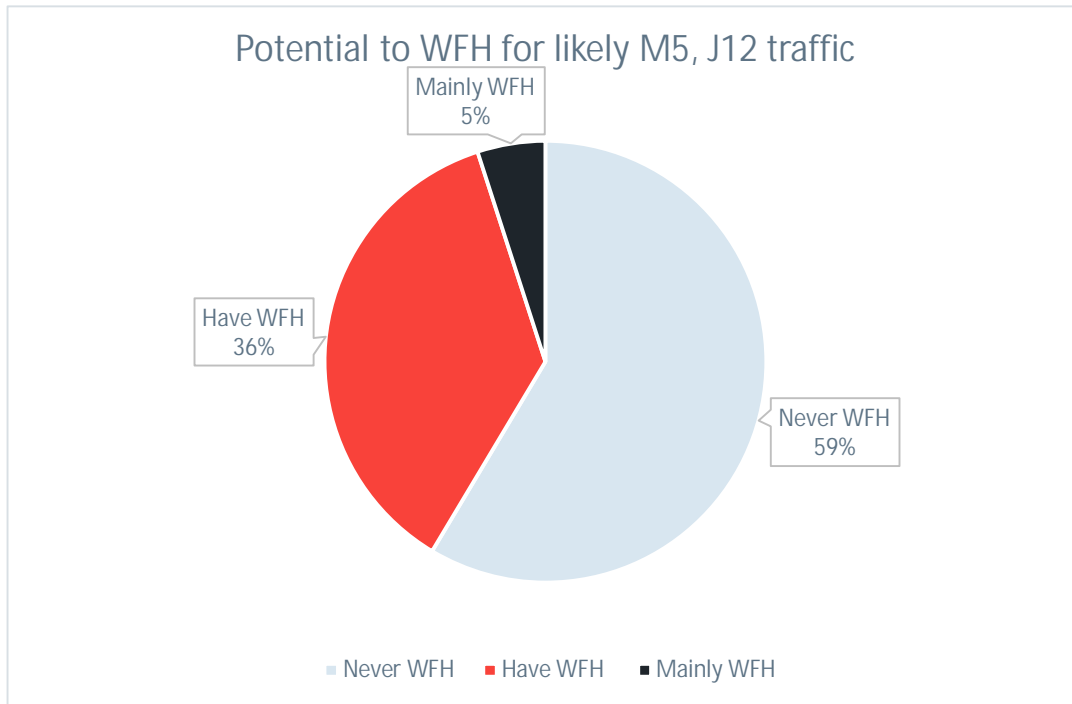
Figure 7-2 – Potential to Work from Home by Industry



- 7.1.41. The results above demonstrate that in 2019 the majority of individuals who claimed to 'mainly work from home' were employed within professional industries, with those who claimed to 'rarely work from home' being employed in industries such as food servicing, manufacturing, etc. This is to be expected, as professional industries are not reliant upon working at a central, fixed location and can easily take advantage of technological infrastructure to establish connections with clients.
- 7.1.42. Current forecasts indicate that recent investment in sustainable travel infrastructure and technology will enable employees who were already capable of working from home to do so more regularly, in addition to encouraging those who have never previously worked from home to do so in certain industries. This will likely result in longer term benefits to the operation of the highway network.

- 7.1.43. The industry specific figures presented previously have been applied to the most recent 2011 census data for residents in Bristol, South Gloucestershire, Stroud, Gloucester, Tewkesbury and Cheltenham (who are considered to be those most likely to use the M5 corridor passing through Junction 12).
- 7.1.44. **Figure 7-3** summarises the proportion of people in these output areas who may be capable of and have an appetite for working from home post COVID-19 (based on the figures in the ONS survey).

Figure 7-3 – Potential to Work from Home, M5 J12 Traffic

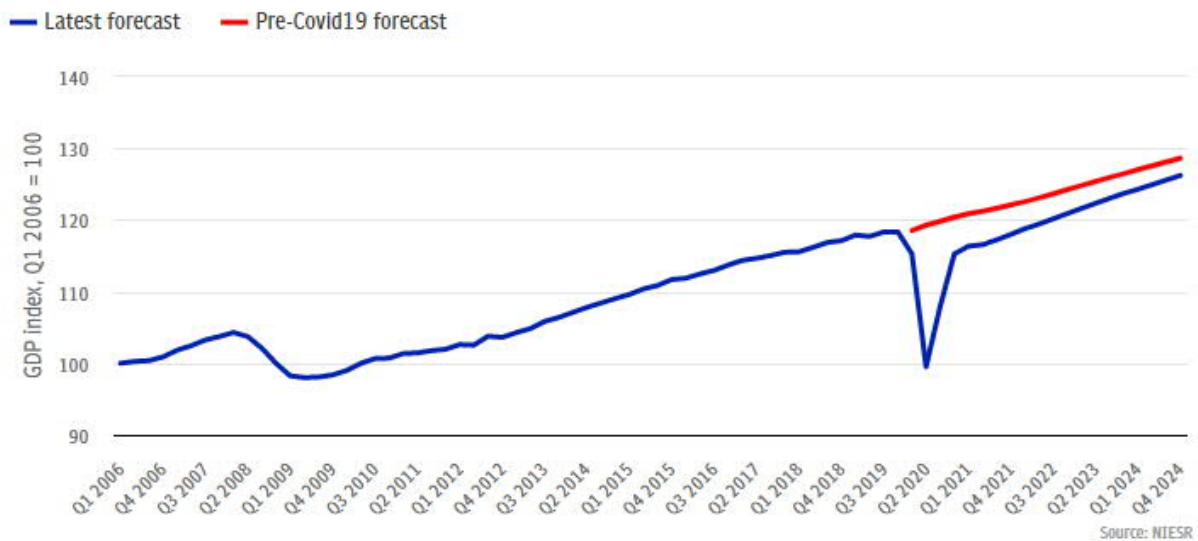


- 7.1.45. As demonstrated above, some 59% of people who are employed in areas surrounding the promoted site, never worked from home in 2019, which indicates that they potentially do not operate in industries which are capable of supporting flexible arrangements or have elected not to. A total of 41% of people already had the capability to work from home pre-lockdown and may be significantly more likely to do so as their default arrangement once the pandemic is over. A more cautious forecast may anticipate that this demographic may be able to work from home 2-3 days a week, however, this would still result in a reduction to traffic flow in the region of 16-24% overall (which would have a significant positive impact upon the operation of the highway network).
- 7.1.46. If, as expected, professional services businesses and employees embrace revised operating models, which results in an unprecedented mode-shift away from single-occupancy peak-hour car trips and towards many employees predominantly working from home, then the modelling results of the M5 Junction 12 interchange (presented within the technical evidence base reports discussed previously) should be considered an even greater over-estimation of the forecast performance of the local road network in the vicinity of the promoted site. This should provide the Local Authority with comfort that the highway network will have even greater spare residual capacity to support a total of 2,005,500ft² of B8 Use Class development as promoted within this report.

THE IMPACTS OF RECESSION AND POTENTIAL FOR FURTHER DEVELOPMENT

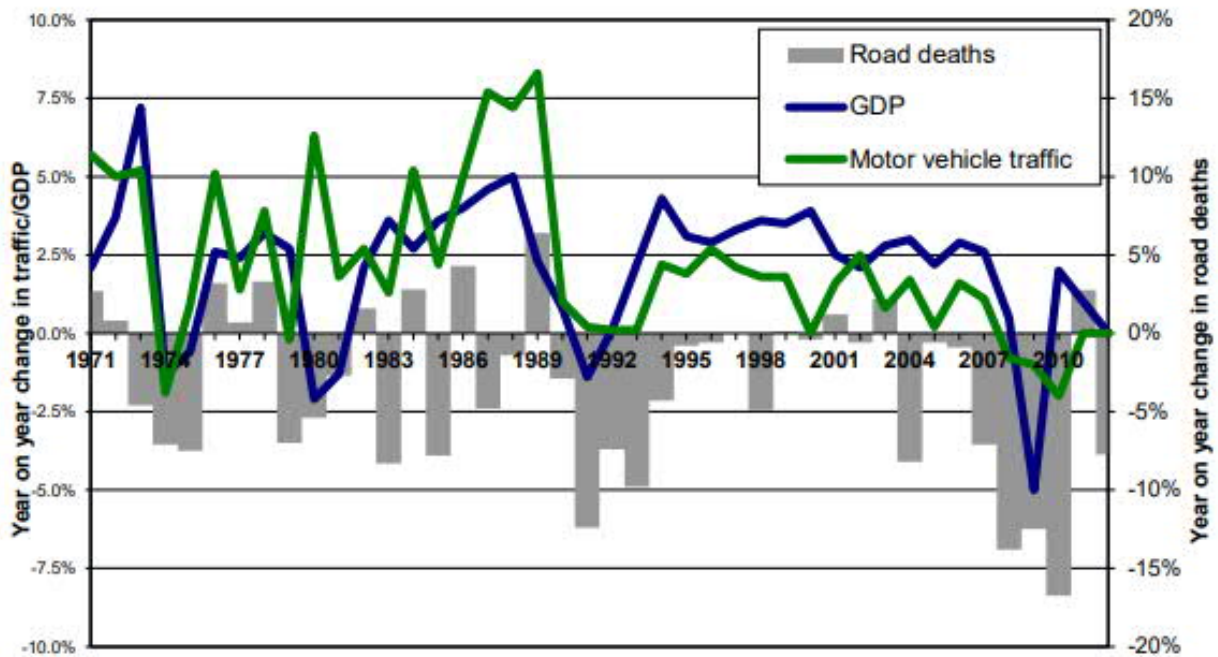
7.1.47. At the time of preparing this report it has been announced that the UK economy shrank by 2.0% in the first quarter of 2020 (with an individual reduction of 5.8% in March and 20.4% in April and 19.1% in May following the introduction of lock-down conditions). The Bank of England has forecast that the UK will likely enter a deep recession during the period 2020-2021 (as shown in the latest available GDP forecast in **Figure 7-4** below). The impact on traffic levels will undoubtedly see further decreases in vehicular flow and the estimated outcome may be considered by studying the historical relationship between vehicular flow and fluctuation in GDP following the 2008 economic recession.

Figure 7-4 - Change in Forecast UK GDP



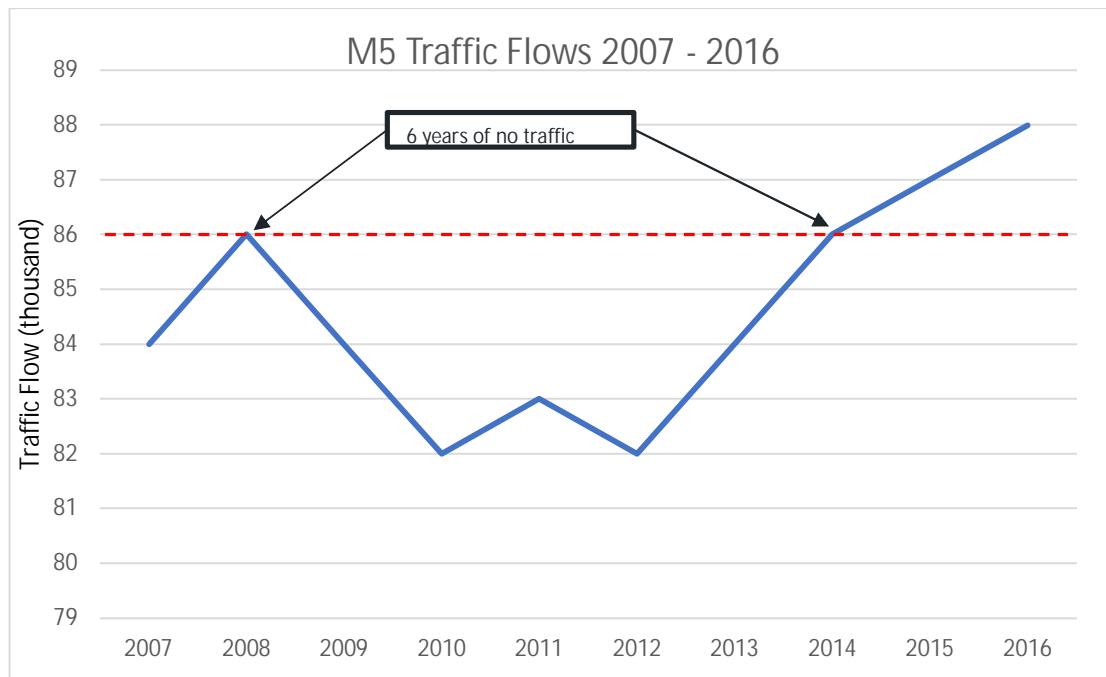
7.1.48. A study titled 'Why Does Road Safety Improve when Economic Times are Hard' was undertaken by the International Transport Forum following the 2008 recession. The published paper demonstrated the impact of GDP on traffic flows (which was investigated by the DfT for traffic in the United Kingdom). **Figure 7-5** below is extracted from the study and demonstrates how traffic flows fluctuated relative to GDP. The graph demonstrates that in the years following the 2008 economic recession there was an annual reduction in traffic flows between 2007 and 2011 as the GDP decreased.

Figure 7-5 – The fluctuation of Traffic Flows with GDP



7.1.49. The trend for traffic flow reduction following the 2008 economic recession is further demonstrated in **Figure 7-6** below, which shows average daily vehicular rates on the M5 corridor at this time. The table demonstrates that traffic flow fell by 4,000 vehicles per day (approximately 5%) during the recession, followed by a 6-year period which experienced no growth on the highway network. Background growth forecasts generated prior to this time severely over-estimated conditions.

Figure 7-6 – Changes in Traffic Flows M5 Corridor 2007 - 2016





- 7.1.50. Assuming traffic flows will fluctuate with GDP, the impact of the forecast imminent economic downturn will result in similar overestimations associated with the modelling results of the M5 Junction 12 interchange (presented within the technical evidence bases discussed previously). This should also provide the Local Authority with comfort that the highway network has spare capacity to support a total of 2,005,500ft² of B8 Use Class development as promoted within this report.

8. THE RIGHT FIT – REALISING THE POTENTIAL

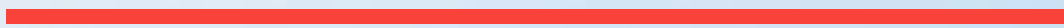
OPORTUNITIES OFFERED BY ALLOCATION OF THE PROMOTED SITES

- 8.1.1. This report has been prepared to examine the transportation potential for B8 Use Class development in response to the emerging Stroud District Local Plan (SDLP). The two adjacent parcels of land are located in an area where the principle of B8 development has already been established with the plots benefitting from an excellent level of accessibility to the strategic road network and this makes them ideal to accommodate in the region of 2,005,500ft² of B8 Use Class development (with 1,123,500ft² on 'Park West' and up to 882,000ft² on 'Symmetry Park East') to support growth aspirations.
- 8.1.2. The Local Authority has accepted the principle that sustainable B8 Use Class development can be achieved within this area of Stroud District and this is confirmed by the presence of neighbouring sites, which are allocated within the current SDLP for B1, B2 and/or B8 Use Class development at Gloucester 12 and St. Modwen Park. This report has demonstrated how this further allocation would help enable to rapid delivery of policy aspiration of the Local Authority. A summary of how the development would help achieve key policies is provided below.
- Allocation of these sites would support Policy PD3.1 of the SDLP by improving the quality of the freight network in Stroud District and achieve sustainable development, without having a severe impact on the highway network, which accords with the principles of the NPPF;
 - The site is ideally located to capitalise upon synergies with neighbouring key sites, such as providing job opportunities for residents of Hunts Grove;
 - An allocation would deliver efficient, low carbon and cost-effective development;
 - A Travel Plan would be implemented at any future development to encourage a modal shift in the way people travel;
 - 'Future Ready' Ready advancements have the potential to reduce vehicular trips associated with B8 Use Class development, reducing the impact of adjacent schemes on the highway network.
- 8.1.3. The site is ideally located to promote sustainable travel and embed a modal shift in travel patterns. The accessibility of this site has already been accepted by HE and GCC (through the Gloucester 12 and St. Modwen Park application) with the SDLP Sustainable Transport Evidence, which forms part of the evidence base for the local plan, concluding that both of these sites are appropriate for development. The allocation of the proposed sites would provide opportunities for the scheme to positively contribute to future enhancements to public transport and active travel infrastructure in the area to achieve truly sustainable development. Future development would also capitalise on synergies with surrounding developments such as the Hunts Grove development which will safeguard land for a future railway station, further enhancing the sustainable potential of the sites.
- 8.1.4. The surrounding highway network has been upgraded as part of neighbouring applications to ensure it can facilitate vehicle movements and sustainable trips associated with B8 development. It has been demonstrated in the report that the surrounding network is a safe and functional highway with it entirely feasible for the site to be accessed from the B4008 corridor. The nature of the surrounding highway network and location of the site in relation to the strategic road network will ensure any future development on the plots would be attractive to potential occupiers ensuring the development would help the rapid recovery and subsequent growth of the economy in the Stroud District.

- 8.1.5. The nature of historic modelling undertaken for surrounding development and the impact of a 'new normal' has created a unique opportunity for further development to be brought forward without a requirement for significant infrastructure upgrades or concern regarding the operation of the highway network. It has been demonstrated in this report that the additional trips which would be generated by the development in the AM Peak can be wholly accommodated within in the threshold tested and accepted by the Local Authority within the SDLP Junction Capacity Assessment. In the PM Peak there would be a net increase of 66 two-way trips following the development of both proposed plots, however, this can be accommodated within the remaining 6.6% capacity at the M5 J12 interchange. In Summary:
- The B4008 is forecast to operate with adequate spare capacity and requires no migration in a 2031 future year scenario (to make planning applications for commercial development acceptable) with full Local Plan build-out; and
 - The M5 Junction 12 interchange is also forecast to operate with adequate spare capacity and requires no migration to make planning applications for commercial development acceptable; and
 - The trips which will be generated by Gloucester 12, St. Modwen Park and the proposed allocation site will be similar to those modelled in the SDLP Junction Capacity Assessment for the 2031 future year scenario.
- 8.1.6. The modelling within the SDLP Junction Capacity Assessment (and all other modelling) must also be considered robust assessment which represent a worst-case scenario due to being undertaken prior to the COVID-19 pandemic which has had a severe positive impact upon baseline traffic levels using the local/strategic highway network. The pandemic has resulted in pronounced mode-shift away from single-occupancy peak-hour car trips, resulting in an improved public appetite for the uptake of active travel modes nationwide. A large proportion of employers have recently invested in modern technological infrastructure in order to enable them to embrace truly flexible working arrangements for their staff and forecasts which have been considered in this report indicate that this is likely to result in longer term benefits to the operation of the highway network.
- 8.1.7. It is considered that there is no reason why the sites should not be allocated in the SDLP from the perspective of highways and access, with the impacts of COVID-19 and recently committed infrastructure upgrades creating a unique opportunity to bring forward further development in the District.
- 8.1.8. It is clear that the impact of development upon the allocation sites would not be severe and only modest mitigation would be required to facilitate appropriate boundary connections with the adjacent public highway network. Allocation of these parcels of land for B8 Use Class development would generate recovery and growth in the area, whilst assisting to achieve growth aspirations that accord with national and local planning policy.

Appendix A

INDICATIVE MASTERPLANS



NOTES
 This drawing and design is the copyright of aja architects ltd and must not be reproduced in part or in whole without prior written consent. Contractors must verify all dimensions on site before commencing work or preparing their drawings.
 Where this drawing contains any Ordnance Survey mapping material, it has been reproduced under license from the Ordnance Survey.
 Where this drawing contains any Ordnance Survey mapping material, it has been reproduced under license from the Ordnance Survey.
 Ordnance Survey © Crown copyright

Symmetry Park - Gloucester East



Schedule of Accommodation

All areas are square feet gross internal

Unit	B8	Offices	Total	Parking	Net Site Area
04	385,000	17,500	402,500	312no. cars	21.29 acres
05	605,000	30,000	635,000	492no. cars	27.54 acres
	B2/B8				
06	10,000	1,000	11,000	7no. cars	2.65 acres
07	10,000	1,000	11,000	7no. cars	
08	10,000	1,000	11,000	7no. cars	
09	10,000	1,000	11,000	7no. cars	
10	40,000	2,000	42,000	32no. cars	3.05 acres
Total			1,123,500 sq.ft.		54.53 acres
Gross Site Area					66.71 acres

A 10/9/20 Layout and notes updated mjl
 no. date revision by

aja architects
 aja architects ltd
 1170 Elliott Court
 Harold Avenue
 Coventry Business Park
 COVENTRY CV5 6UB
 E: aja@aja-architects.com
 W: www.aja-architects.com
 aja architects ltd is a limited liability partnership registered in England no. OC338721
 client

T: 024 7625 3200
 F: 024 7625 3210

TRITAX SYMMETRY
 A TRITAX BIG BOX COMPANY

project
 symmetry park
 Junction 12, M5
 Gloucester

drawing
 Illustrative Masterplan

scale 1:1250 drawn mjl
 checked mjl date 14/1/19

no
 6440 - 3 Rev A



Schedule of Accommodation
All areas are square feet gross internal

Unit	B8	Offices	Total	Parking	Net Site Area
01	522,500	25,000	547,500	424no. cars	24.95 acres
02	250,000	10,000	260,000	199no. cars	12.20 acres
Total			807,500 sq.ft.		37.15 acres
Gross site area (within red line)					51.13 acres

NOTES
This drawing and design is the copyright of aja architects llp and must not be reproduced in part or in whole without prior written consent. Consultation must verify all dimensions on the before commencing work or preparing any drawings.
Where this drawing contains any Ordnance Survey mapping material, it has been reproduced under license number: 100022716.
Ordnance Survey © Crown copyright

no. date revision by
aja architects
aja architects llp
1170 Elliott Court
Herald Avenue
Coventry Business Park
COVENTRY CV5 6UB
E: aja@aja-architects.com
W: www.aja-architects.com
A JA ARCHITECTS IS THE TRADING NAME OF A JA ARCHITECTS CONSULTING LIMITED BY PRIVATE COMPANY
no. 1060791 and A JA ARCHITECTS LLP (LIMITED LIABILITY PARTNERSHIP) IN ENGLAND no. OC330711
client

TRITAX SYMMETRY
A TRITAX BIG BOX COMPANY

project
**Symmetry Park
Junction 12, M5
Gloucester**

drawing

Illustrative Masterplan

scale 1:1000 @ A0 drawn up

checked alps date 18/09/20

no

6440 - 32

Appendix B

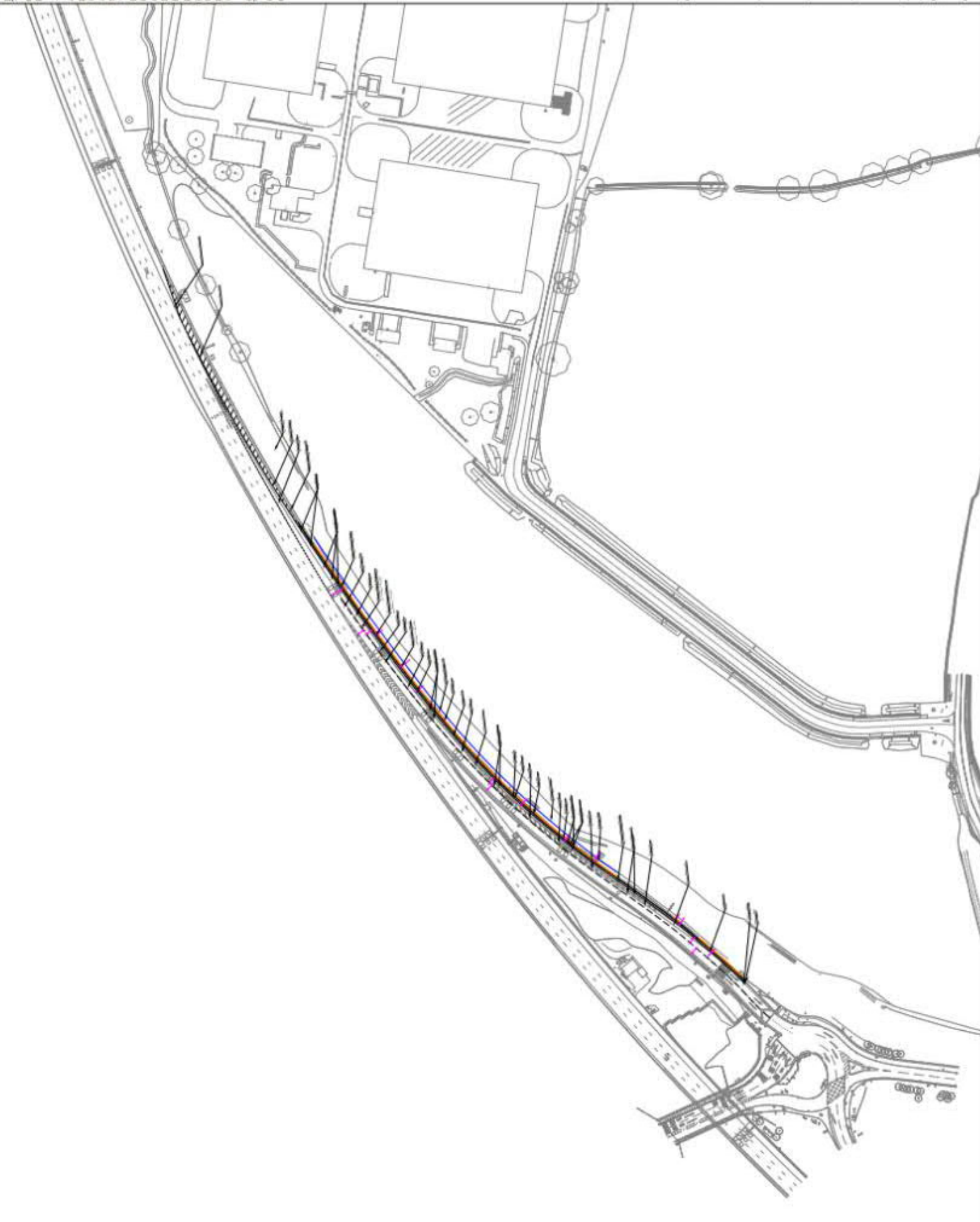
COMMITTED HIGHWAY WORKS



Drawing Status:
These drawings have been produced with reference to the CDM Regulations 2015; Regulation 9.

These Drawings are for planning approvals and are not to be used for construction purposes. It is the responsibility of the Contractor and Client to identify risks associated with the construction stage and to design appropriate measures to mitigate the risks identified on the PIA Scheme Design Risk Assessment are based on the information available at the time of the design (drawing date) Where shown on PIA Design Drawings, the position of services is based on information provided by other parties at the time of the design and is for guidance only. It is the responsibility of the Client and Contractor to verify the exact position of any services before commencing works on site.

Client Duties:
The client is directed to Regulation 4 of the CDM 2015 Regulations; Client duties in relation to managing projects.



PHIL JONES ASSOCIATES
100 St. John's Square, 11 Regency
London, W1J 8AB
Tel: 01 235 888888
www.philjonesassociates.co.uk

Client
St Modwen Development

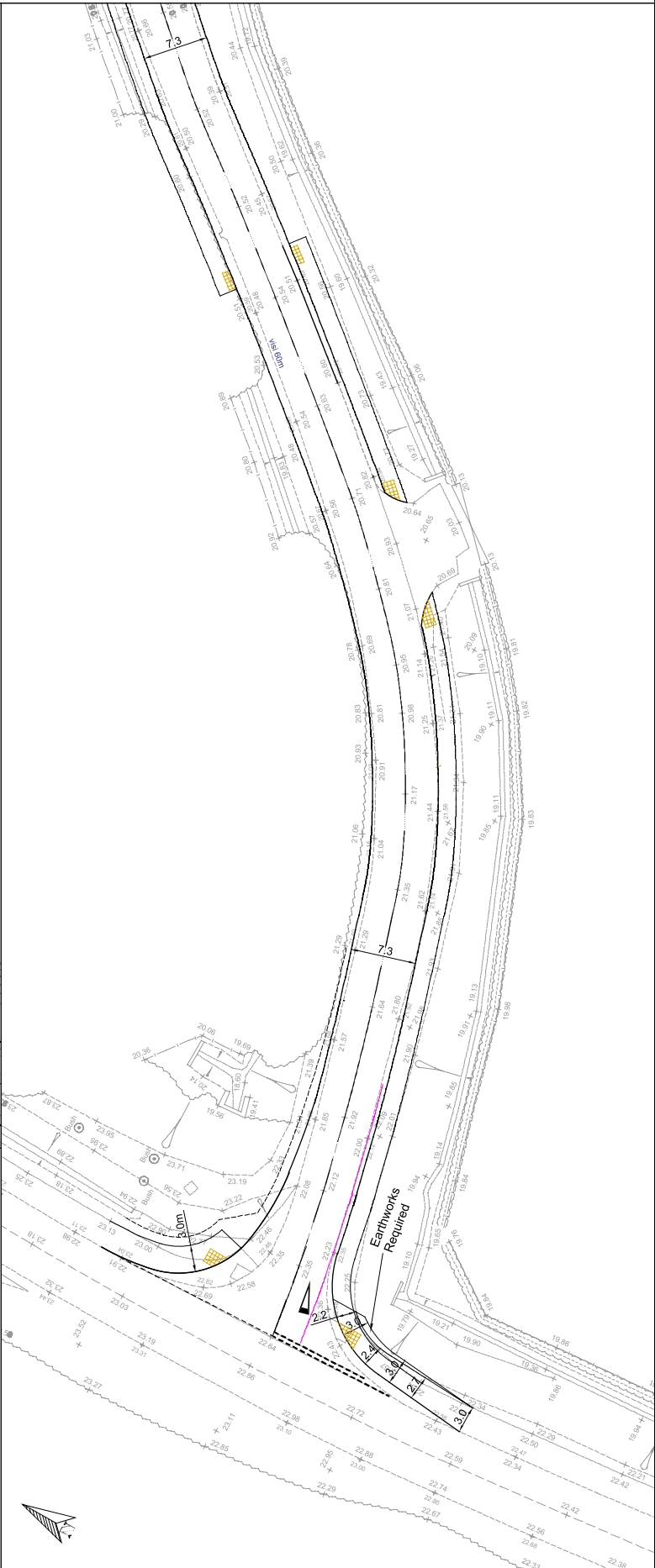
Project
1589L Quedgeley East

Drawing
M5 Junction 12,
Interim Mitigation Scheme -
Overall Layout

Drawn by: AJH 02/03/11
Checked by: MJP 04/03/11
Scale
1:2000 @ A3

Drawing No. 02644-01-2
Revision
B

© Phil Jones Associates 2014.
All rights reserved. Unauthorised reproduction is prohibited.



Access Shells have been produced in accordance with the CDM Regulations 2015, Regulation 6.
 These Drawings are for planning approval and are not to be used for construction. It is the responsibility of the Client to ensure that the Client's duties in relation to managing projects are met. The risks identified on the design appropriate measures to mitigate. The risks identified on the available at the time of the design (drawing date) Where shown on the drawings are the responsibility of the Client and Contractor to verify the Client's duties in relation to managing projects.
 The Client is directed to Regulation 4 of the CDM 2015 Regulations: Client duties in relation to managing projects

Key:
 Proposed Tackling
 Proposed Kerbline
 Proposed Footway edging
 Highway Boundary

Draw Date: Description: Dim Check:
 PHIL JONES ASSOCIATES
 Surveyors & Engineers
 Smart House, High Street
 Longbridge, Birmingham, B41 2AU
 Tel: 0121 435 0234 Fax: 0121 475 2027
 phil@philjonesassociates.co.uk
 www.philjonesassociates.co.uk

Client:
 St. Mowden Developments

Project:
 Quedgeley East Business Park

Drawing:
 Proposed Highway Improvements

Drawn by: PAS 000102011
 Checked by: MF 000102017
 Drawing No. 02371-01
 Revision B
 Ordnance Survey (c) Crown Copyright, 2014.
 All rights reserved.

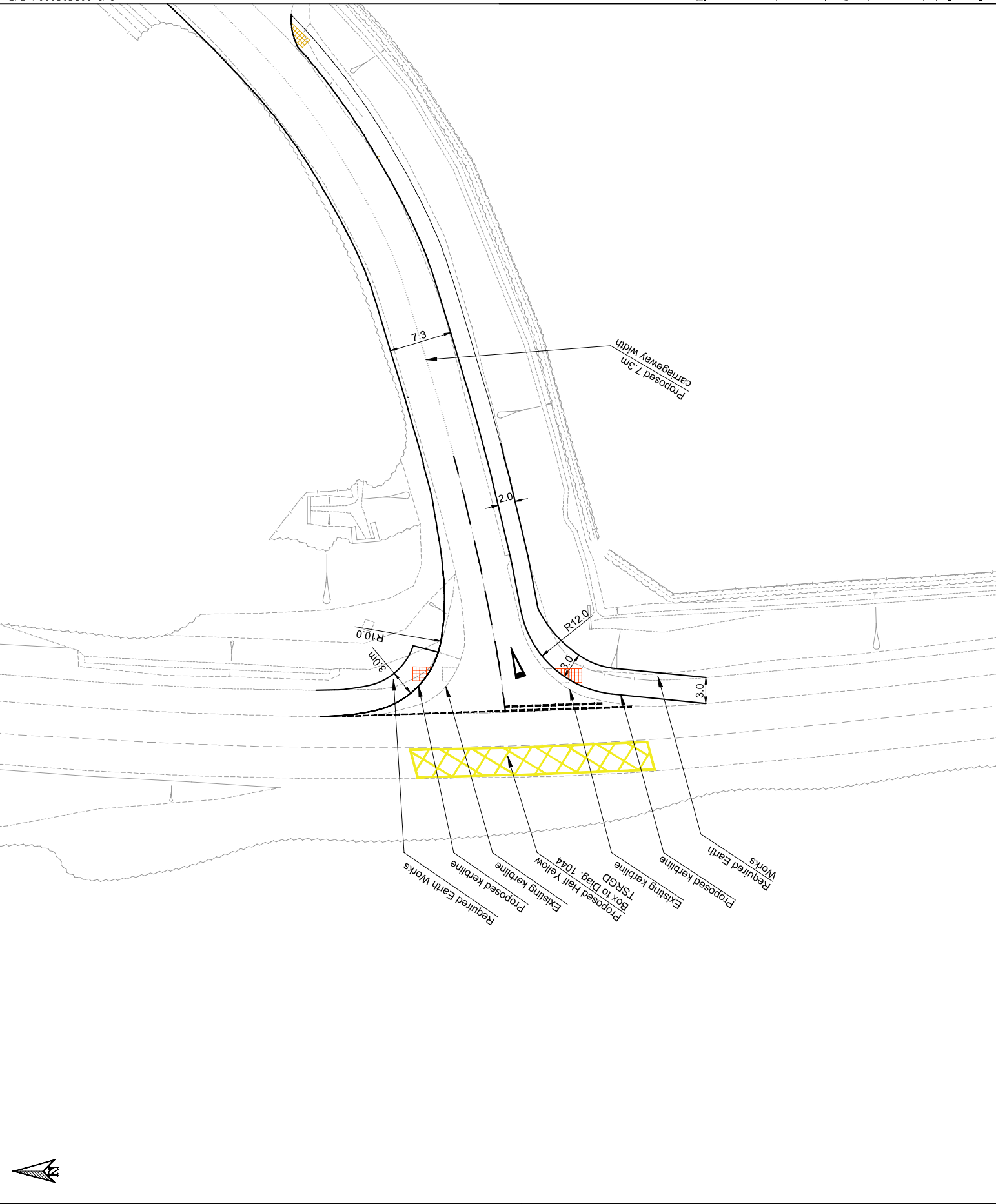


Disclaimer: This has been produced with reference to the CDM Regulations 2015, Regulation 12.

These Drawings are for planning approval and are not to be used for construction purposes. It is the responsibility of the contractor and design team to ensure that the design is suitable for the intended use and that appropriate measures are taken to mitigate the risks identified on the drawings. The design team is not responsible for the construction of the works shown on the drawings. The position of services is based on information provided by the client and is not guaranteed to be accurate. It is the responsibility of the Client and Contractor to verify the exact position of any services before commencing works on site.

The Client is subject to Regulation 4 of the CDM 2015 Regulations. Client duties in relation to managing projects

- Proposed Tackle Paving
- Proposed Kerline
- Proposed Footway edging
- Highway Boundary



Rev.	Date	Description	Drn. Checked

PHIL JONES ASSOCIATES
 CONSULTING ENGINEERS

Seven House, High Street,
 Longbridge, Birmingham, B81 2JQ
 Tel: 0121 475 0204 Fax: 0121 475 2027
 www.philjonesassociates.co.uk
 phil@philjonesassociates.co.uk

Client
 St. Mowden Developments

Project
 Quedgeley East Business Park

Drawing
 Option1 - Priority Junction

Drawn by: AH	10/01/2018	Scale:
Checked by: MF	10/02/2018	1:200 @ A1
Drawing No.	02371-01	Revision
		C

Target Zero
Let's make it happen together
Call for more information: **0800 521 660**

NOTES

General:
1. The road location of all Excessory Undertake plants and equipment must be verified by the contractor in accordance with HSE07 and G88. Excessory Undertake plants and equipment must be located in the proposed work area.
2. Layout shows a 4m wide verge on either side of the highway. Highway alignment has been shown and road markings to be made to the green area generally before any works.

KEY

- Reasons (25 and Survey comments)
- Existing kerbline to be widened
- Proposed new kerbline
- Existing footway to be removed
- Proposed new footway with tactile paving
- Proposed new footway
- Proposed or to be widened verge
- Existing highway to remain
- Existing road too high to cover
- Proposed new road mark
- Site limit of proposed contractual works

Rev	Revision details	Drawn	Checked	Date
01	Issue for tender	SA	SA	15/03/2018
02	Issue for tender	SA	SA	15/03/2018
03	Issue for tender	SA	SA	15/03/2018
04	Issue for tender	SA	SA	15/03/2018

amey consulting
www.amey.com/consulting

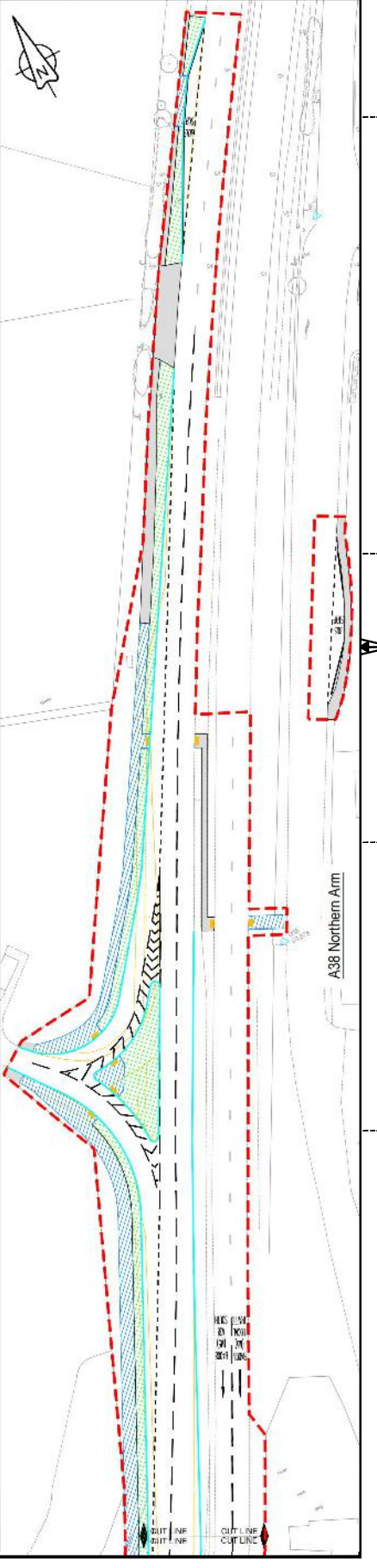
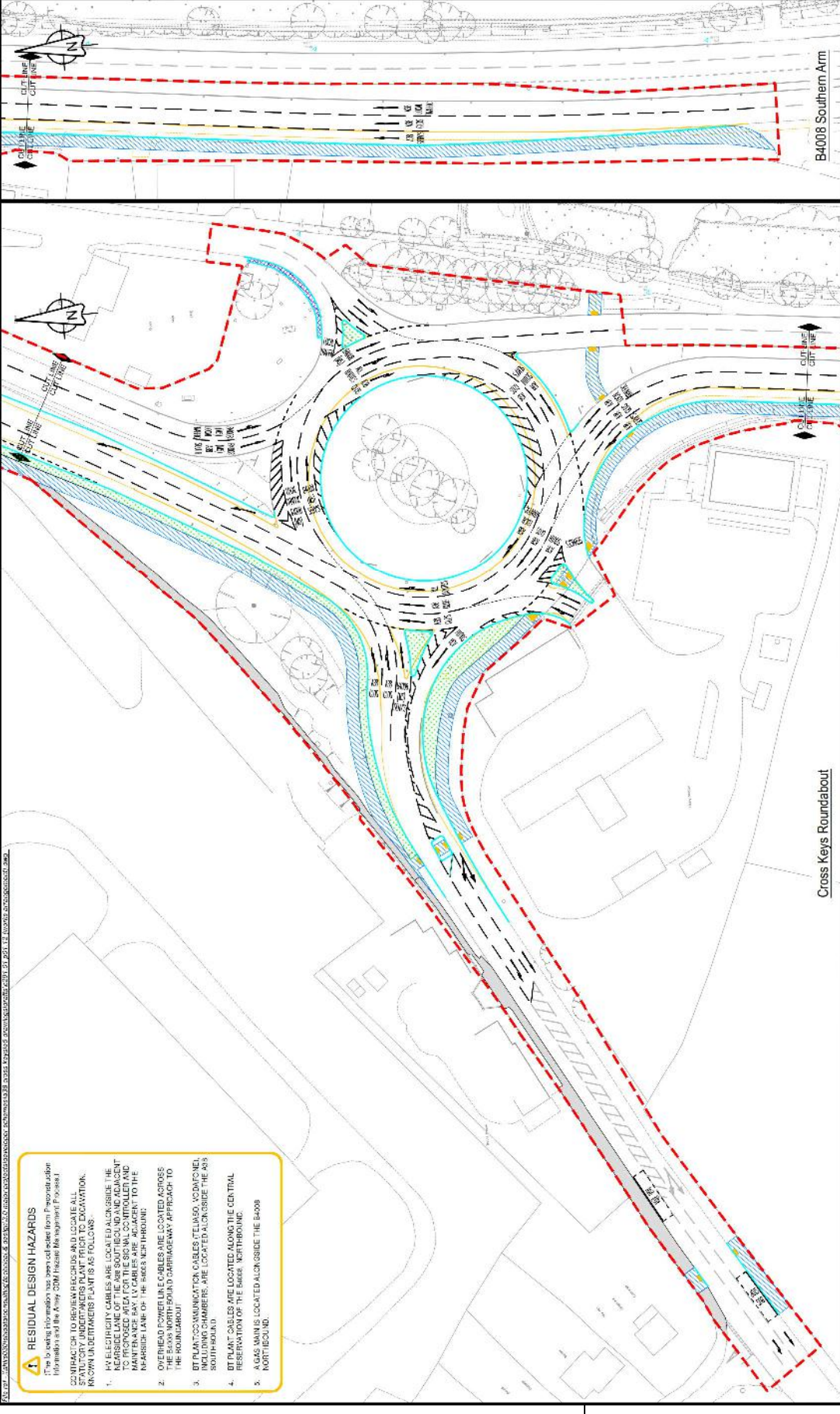
Gloucestershire COUNTY COUNCIL

Project Name: **A38 Cross Keys Roundabout Improvements**

Drawing Title: **Works Arrangement**

Scale: 1:100 @ A1
Drawing Status: **WORK IN PROGRESS**

Subsidiary: **S0**
Drawing No: **C2911.01**
Rev: **P01.12**



RESIDUAL DESIGN HAZARDS

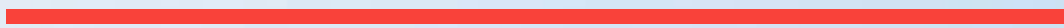
The following information has been extracted from the Pre-construction Information and the Final Construction Information provided to the contractor.

KNOWN LIMITATIONS OF THE PROPOSED WORKS ARE AS FOLLOWS:

1. ALL EXCESSORY UNDERTAKE PLANTS AND EQUIPMENT MUST BE LOCATED WITHIN THE PROPOSED WORK AREA. EXCESSORY UNDERTAKE PLANTS AND EQUIPMENT MUST BE LOCATED IN THE PROPOSED WORK AREA. EXCESSORY UNDERTAKE PLANTS AND EQUIPMENT MUST BE LOCATED IN THE PROPOSED WORK AREA.
2. OVERHEAD POWER LINE CABLES ARE LOCATED ALONGSIDE THE ROUNDABOUT. OVERHEAD POWER LINE CABLES ARE LOCATED ALONGSIDE THE ROUNDABOUT.
3. TELEPHONE CABLES ARE LOCATED ALONGSIDE THE ROUNDABOUT. TELEPHONE CABLES ARE LOCATED ALONGSIDE THE ROUNDABOUT.
4. ALL PLANT CABLES ARE LOCATED ALONGSIDE THE CENTRAL RESERVATION OF THE ROAD, WITHIN THE ROUNDABOUT.
5. AGES MAINS ARE LOCATED ALONGSIDE THE B4008 NORTHERN ARM.

Appendix C

GLOUCESTER 12 GCC AND HE
RESPONSE



		Highways Development Management Shire Hall Gloucester <u>GL1 2TH</u>	
John Chaplin Stroud District Council Council Offices Ebley Mill Stroud Gloucestershire GL5 4UB		Email: devcoord@gloucestershire.gov.uk	
Our Ref: S/2019/043825		Your Ref: S.19/2135/FUL	Date: 15 May 2020
Proposal:	Erection of four buildings (5 units) for B1c (Light Industry), B2 (General Industry) and B8 (Storage and Distribution) uses and associated access and drainage infrastructure. (379981-210406) Javelin Park Bath Road Haresfield Stonehouse Gloucestershire GL10 3ET	Received date:	14 October 2019
Recommendation:	No objection	No objection (Subject to conditions)	X
	Refusal	Further information	
Document(s), drawing(s) and reference(s):		Planning history ref(s):	
Details of recommendation:	<p>Highway Development Management has reviewed the ammended plans and details and has no objection subject to a section 106 contribution is made for travel plan monitoring and the following conditions are applied:</p> <p>Works affecting the Highway</p> <p>No works shall commence on site on the development hereby permitted until details of the [user defined highway works] have been submitted to and approved in writing by the Local Planning Authority and no occupation/opening to the public shall occur until the approved works have been completed and are open to the public.</p> <p>Reason: In the interest of highway safety and to ensure that all road works associated with the proposed development are: planned; approved in good time (including any statutory processes); undertaken to a standard</p>		

approved by the Local Planning Authority and are completed before occupation.

[SEE NOTE A8]

Construction Management Plan

Prior to commencement of the development hereby permitted details of a construction management plan or construction method statement shall be submitted to and approved in writing by the Local Planning Authority. The approved plan/statement shall be adhered to throughout the demolition/construction period. The plan/statement shall include but not be restricted to:

- Parking of vehicle of site operatives and visitors (including measures taken to ensure satisfactory access and movement for existing occupiers of neighbouring properties during construction);
- Routes for construction traffic;
- Any temporary access to the site;
- Locations for loading/unloading and storage of plant, waste and construction materials;
- Method of preventing mud and dust being carried onto the highway;
- Arrangements for turning vehicles;
- Arrangements to receive abnormal loads or unusually large vehicles; and
- Methods of communicating the Construction Management Plan to staff, visitors and neighbouring residents and businesses.

Reason: In the interests of safe operation of the adopted highway in the lead into development both during the demolition and construction phase of the development.

[SEE NOTE A17]

Completion and Maintenance of Car/Vehicle Parking – Shown on approved plans

No building or use hereby permitted shall be occupied or use commenced until the car/vehicle parking area (and turning space) shown on the approved plans [DRAWING NO.] has been completed and thereafter the area shall be kept free of obstruction and available for the parking of vehicles associated with the development.

Reason: To ensure that there are adequate parking facilities to serve the development constructed to an acceptable standard.

Completion and Maintenance of Cycle Provision – Shown on approved plans

The development hereby permitted shall not be occupied until the cycle storage facilities have been made available for use in accordance with the submitted plan [user defined drawing no.] and those facilities shall be maintained for the duration of the development.

Reason: To ensure the provision and availability of adequate cycle parking.

Travel Plan – Submitted

Prior to occupation or use commenced, evidence that the pre-occupation elements of the approved Travel Plan have been put in place shall be prepared, submitted to and approved in writing by the Local Planning Authority.

The approved Travel Plan shall then be implemented, monitored and reviewed in accordance with the agreed Travel Plan to the satisfaction of Local Planning Authority unless agreed in writing by the Local Planning Authority.

Reason: To support sustainable transport objectives including a reduction in single occupancy car journeys and the increased use of public transport, walking and cycling.

NOTES

A8 Impact on the highway network during construction

The development hereby approved and any associated highway works required, is likely to impact on the operation of the highway network during its construction (and any demolition required). You are advised to contact the Highway Authorities Network Management Team at Network&TrafficManagement@gloucestershire.gov.uk before undertaking any work, to discuss any temporary traffic management measures required, such as footway, Public Right of Way, carriageway closures or temporary parking restrictions a minimum of eight weeks prior to any activity on site to enable Temporary Traffic Regulation Orders to be prepared and a programme of Temporary Traffic Management measures to be agreed.

A12 Travel Plan

The proposed development will require a Travel Plan as part of the transport mitigation package (together with a Monitoring Fee and Default Payment) and the Applicant/Developer is required to enter into a legally binding Planning Obligation Agreement with the County Council to secure the Travel Plan.

A17 Construction Environmental Management Plan (CEMP)

It is expected that contractors are registered with the Considerate Constructors scheme and comply with the code of conduct in full, but particularly reference is made to “respecting the community” this says:

Constructors should give utmost consideration to their impact on neighbours and the public

- Informing, respecting and showing courtesy to those affected by the work;
- Minimising the impact of deliveries, parking and work on the public highway;
- Contributing to and supporting the local community and economy; and
- Working to create a positive and enduring impression, and promoting the Code.

The CEMP should clearly identify how the principle contractor will engage with the local community; this should be tailored to local circumstances. Contractors should also confirm how they will manage any local concerns and complaints and provide an agreed Service Level Agreement for responding to said issues.

Contractors should ensure that courtesy boards are provided and information shared with the local community relating to the timing of operations and contact details for the site coordinator in the event of any difficulties. This does not offer any relief to obligations under existing Legislation.

CEMP can include but is not limited to:

- A construction programme including phasing of works;
- 24 hour emergency contact number;
- Hours of operation;
- Expected number and type of vehicles accessing the site;
 - Deliveries, waste, cranes, equipment, plant, works, visitors;
 - Size of construction vehicles;
 - The use of a consolidation operation or scheme for the delivery of materials and goods;
 - Phasing of works;
- Means by which a reduction in the number of movements and parking on nearby streets can be achieved (including measures taken to ensure satisfactory access and movement for existing occupiers of neighbouring properties during construction):
 - Programming;
 - Waste management;
 - Construction methodology;
 - Shared deliveries;
 - Car sharing;
 - Travel planning;
 - Local workforce;
 - Parking facilities for staff and visitors;

	<ul style="list-style-type: none"> o On-site facilities; o A scheme to encourage the use of public transport and cycling; • Routes for construction traffic, avoiding weight and size restrictions to reduce unsuitable traffic on residual roads; • Location for storage of plant/waste/construction materials; • Arrangements for the turning of vehicles, to be within the site unless completely unavoidable; • Arrangements to receive abnormal loads or unusually large vehicles; • Any necessary temporary traffic management measures; • Measures to protect vulnerable road users (cyclists and pedestrians); • Arrangements for temporary facilities for any bus stops or routes; • Highway Condition survey; • Method of preventing mud being carried onto the highway; and 		
Required consultation:	ITU		Highways Records
	Rd Safety		Fire Service
	PROW		Structures
	LHM		Police

Observations

The application is for five warehouses with a combined G.I.A. of 23,179sqm on the previously named Javelin Park, now called Gloucester 12. The smallest unit is for 1,439sqm warehousing with 140sqm office, the largest unit is 11,385sqm, 557sqm of office. Access to the site is from the B4008 but is fed from the wider network, A48 and M5 at junction 12. The application includes car parking for 237 vehicles, 14 disabled bays, and 70 bicycles. Plans show loading bays for 18 HGVs, the largest unit having 11 bays, and 2 loading bays whose vehicle sizes are unspecified. The site is served by three bus routes and approximately 6km from a local train station. Some cycling and walking facilities exist but are not extensive. Travel to and from the site by employees will predominantly be by car.

The applicant provided pre-application documentation to the County Council; advice was given as to what would be expected from the application when submitted. No presumption was made on determination.

Parking

The levels of parking are acceptable for this scale of development, with 237 spaces. Revised drawings have dealt with all issues raised in the first response:

- Disabled bays are provided and are located in the appropriate position
- Electric charging bays and infrastructure are being provided to an acceptable level and standard
- Car sharing bays are provided and given suitable priority in the parking layout

- Cycle parking has been provided to standards and is now deemed acceptable
- Visitor parking is provided and is acceptable

Parking is now deemed acceptable and will not need a condition, provided the amended plans are listed as part of any planning permission.

Layout

The site layout now provides for suitable walking and cycling, more crossings have been provided and overall the site layout is acceptable.

Travel plan

A revised travel plan has been submitted and is now deemed acceptable.

Servicing management plan

The servicing management plan, as submitted, is acceptable and will be continuously reviewed to ensure it meets the end users operations.

The current plan is unacceptable and does not provide any mitigation.

Conclusion

The applicant has gone a long way to resolve the initial concerns and has revised the plans and documentation to enable the Highway Development Management team to accept the proposal and provide no objections subject to some conditions.



Developments Affecting Trunk Roads and Special Roads

Highways England Planning Response (HEPR 16-01)

Formal Recommendation to an Application for Planning Permission

From: Regional Director,
Operations Division: South West Region
Highways England
planningsw@highwaysengland.co.uk

To: John Chaplin, Stroud District Council

CC: transportplanning@dft.gsi.gov.uk
growthandplanning@highwaysengland.co.uk

Council's Reference: S.19/2135/FUL

Referring to the full planning application validated on 04 October 2019 – regarding M5 Junction 12; The erection of four buildings (5 units) for B1c (Light Industry), B2 (General Industry) and B8 (Storage and Distribution) uses and associated access and drainage infrastructure at Javelin Park, Bath Road, Haresfield, Stonehouse, Gloucestershire, GL10 3ET, notice is hereby given that Highways England's formal recommendation is that we:

- a) ~~offer no objection;~~
- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – Highways England recommended Planning Conditions);
- c) ~~recommend that planning permission not be granted for a specified period (see Annex A – further assessment required);~~
- d) ~~recommend that the application be refused (see Annex A – Reasons for recommending Refusal).~~

Highways Act Section 175B is not relevant to this application.¹

¹ Where relevant, further information will be provided within Annex A.

This represents Highways England formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should you disagree with this recommendation you should consult the Secretary of State for Transport, as per the Town and Country Planning (Development Affecting Trunk Roads) Direction 2015, via transportplanning@dft.gsi.gov.uk.

Signature: 	Date: 10 February 2020
Name: 	Position: Assistant Planning Manager
Highways England: Brunel House, 930 Aztec West, Bristol, BS32 4SR	
	

Annex A **Highways England recommended Planning Conditions /**
~~Highways England recommended further assessment required /~~
~~Highways England recommended Refusal.~~

HIGHWAYS ENGLAND (“we”) has been appointed by the Secretary of State for Transport as strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

This response represents our formal recommendations with regard to the planning application (App Ref – S.19/2135/FUL) and has been prepared by the planning manager for Gloucestershire.

We have undertaken a review of the relevant documents supporting the planning application to ensure compliance with the current guidance of the Secretary of State as set out in DfT Circular 02/2013 “The Strategic Road Network and the Delivery of Sustainable Development” and the MHCLG National Planning Policy Framework (NPPF), being advised on this matter by our consultants, Jacobs.

Statement of Reasons

Highways England has previously undertaken a review of the Transport Assessment (TA) dated 26 September 2019 as prepared on behalf of the applicant by David Tucker Associates (DTA).

Highway England previously issued a planning response to the LPA on 21 January 2020, requesting that the Planning Authority do not to grant planning permission for the proposals for a period of 3 months, until such time that the PARAMICS traffic modelling undertaken by DTA has been reviewed and the results considered. This review has now been completed.

Highways England interests relate to the operation and safety of the SRN, which in proximity to the site include M5 J12. This planning response now concludes Highways England’s consideration of planning application submission proposals.

Policy Context

The site is allocated for B Class use employment under Plan Policy E11 (Allocation reference EK14 Haresfield – Javelin Park) of the adopted Stroud Local Plan (2015).

Highways England has previously recommended Grampian conditions requiring improvement schemes to the M5 J12 southbound off-slip and Cross Keys Junction and to be in place prior to the occupation of other development allocated within the Local Plan. This is identified to be necessary mitigation to offset what would otherwise be unacceptable/severe road safety impact on the SRN.

Development Proposals

It is understood that the development proposals include 23,179sqm of B1c/B2/B8 land uses. The applicant advises that the proposals may come forward as a single land use or combination of land uses, within the thresholds identified.

Trip rates and trip generation

Trip rates representing the proposals have utilised those accepted by Highways England for the nearby Quedgeley East Business Park (QEBP) proposals (Ref: S.16/1724/OUT), which are again considered to be acceptable.

Based on a gross floor area of 23,179m², the proposals are predicted to generate 116 (AM) and 119 (PM) two-way vehicle trips during weekday peak hours, based on a worst-case assumption that the proposals materialise as a B1(c)/B2 land use,

A separate HGV trip rate has also been identified for trip distribution purposes. Trip rates agreed exclude B1a office development and a B8 land use typical of a distribution/storage warehouse such as an amazon warehouse/ parcel distribution centre.

Trip rates agree exclude B1a office development and a B8 development un-typical of a standard distribution / storage warehouse i.e. amazon warehouse, parcel distribution centre, etc.

Trip distribution / assignment

Development trip distribution has been identified from 2011 'journey to work' Census data for the Middle Super Output Area (MSOA) – Stroud 001. A separate distribution has been identified for vehicles and HGV trips.

Trip distribution includes 14.8% of trips to the B4008 Gloucester Road South and 1.3% of trips to Stonehouse. The remaining trips (83.9%) travel north and impact on M5 J12. Of these trips, 38.3% travel to/from the M5 North, 10.6% M5 South and 51.2% to/from Gloucester via the B4008 and A38.

At this stage, the end users of the proposals are unknown and therefore the exact distribution for operational trips (HGV) cannot be determined. However, given the close proximity of the site to M5 J12, the majority of HGV trips will route via this route. For the purposes of the TA, 40% of HGV trips would route to/from M5 North, 40% M5 South and the remaining 20% routing into Gloucester.

Traffic impact

Highways England is currently aware of existing capacity issues at M5 J12, with recent surveys revealing vehicle queues on the M5 J12 southbound off-slip extending onto the mainline. The surveys are further supported by 'Watchman Report' findings, which monitor the performance and operation of the SRN in the southwest region. Highways England also continues to receive HAILS (external customer correspondence) regarding queues at the junction, including an MP enquiry raising mainline queuing in this location as a safety concern for the travelling public.

In accordance with paragraphs 9 and 10 of DfT Circular 02/2013, Highways England considers that any development which results in an increase in demand for trips on an off-slip which then results in mainline queuing; or extends an existing mainline queue; and/or increases the frequency at which a mainline queue occurs, represents an unacceptable/severe road safety impact.

Committed infrastructure schemes are identified for M5 J12 or nearby, and currently include an improvement to the M5 Southbound off-slip at M5 J12, and a signal-controlled scheme at Cross Keys Roundabout.

Traffic Modelling

Highways England holds a fully validated and calibrated Paramics Discovery microsimulation traffic model which has been created for the purpose of providing a consistent basis for testing development impacts at M5 J12. This model used in combination with the 'M5 J12 Development Tracker', presents a basis for undertaking 2021 forecast year scenario tests.

This development tracker has been prepared alongside Gloucester City Council and Stroud District Council and at this time, best represents key development traffic uplifts predicted in this locality over the next 5 years. A proportion of TEMPro growth is also added to the model.

Highways England has undertaken a review of the DTA Paramics modelling and can confirm that the global network parameters and network coding of model appear to be consistent with the agreed and 2021 forecast model issued by Highway England. The only changes are the inclusion of committed development traffic matching the 'tracker' and proposed development matrices.

Based on the model provided by DTA, the results for those approaches

Approach	Lane	Approx. Length (m)	Average Maximum Queue Length (m)			
			AM Peak (0800-0900)		PM Peak (1700-1800)	
			Without Dev	With Dev	Without Dev	With Dev
M5J12 NB off-slip	Lane 1	288	30	34	30	29
	Lane 2		6	10	15	7
M5J12 SB off-slip	Lane 1	363	91	84	293	340
	Lane 2		194	202	320	316
Cross Quays B4008S	Lane 1	700	147	145	214	210
	Lane 2		174	183	248	249
	Lane 3		193	189	255	260

*Lane 1 is left to right

Highways England has undertaken its own runs of the Paramics model using a random selection of 10 seeds. This was undertaken to compare the results against those presented by DTA (above). The results do slightly vary as would be expect for each seed run, but these are considered to be within similar proportions. The Highway England comparison results are presented below.

Approach	Lane	Approx. Length (m)	Average Maximum Queue Length (m)			
			AM Peak (0800-0900)		PM Peak (1700-1800)	
			Without Dev	With Dev	Without Dev	With Dev
M5J12 NB off-slip	Lane 1	288	30	30	39	29
	Lane 2		13	7	16	13
M5J12 SB off-slip	Lane 1	363	99	151	231	336
	Lane 2		198	218	280	287
Cross Keys B4008S	Lane 1	700	145	153	230	242
	Lane 2		178	169	268	276
	Lane 3		193	191	255	266

For a 2021 'opening year' scenario, the results show that the proposals would add to queues on the sensitive M5 southbound off-slip, but that these average maximum queues remain within the extent of the off-slip provided (based on the St Modwen scheme), and do not reach the M5 mainline. The proposals are therefore believed not have severe / significant impact on the junction, based on the St Modwen M5 SB off-slip scheme being in place. This forms a Grampian planning condition below.

An improvement scheme to the B4008 Cross Keys junction has recently been implemented.

Recommendation

Highways England recommends a condition be applied to any planning permission granted (Ref: S.19/2135/FUL):

Highways England Condition

No development hereby approved shall be brought into use, unless or until the improvement scheme identified for M5 Junction 12, as shown in the PJA Drawing ref: 02644-01-1 Rev B titled 'M5 Junction 12 Interim Mitigation Scheme – General Overall Layout' has been completed to the satisfaction of the Local Planning Authority (in consultation with Highways England) and is open to traffic

Reason:

To off-set development traffic impacts at M5 J12. To ensure the safe and efficient operation of the SRN.

I trust the above is clear. Please do not hesitate to contact me should you wish to discuss any further issues.

Appendix D

STONEHOUSE A419 CORRIDOR
WORKS

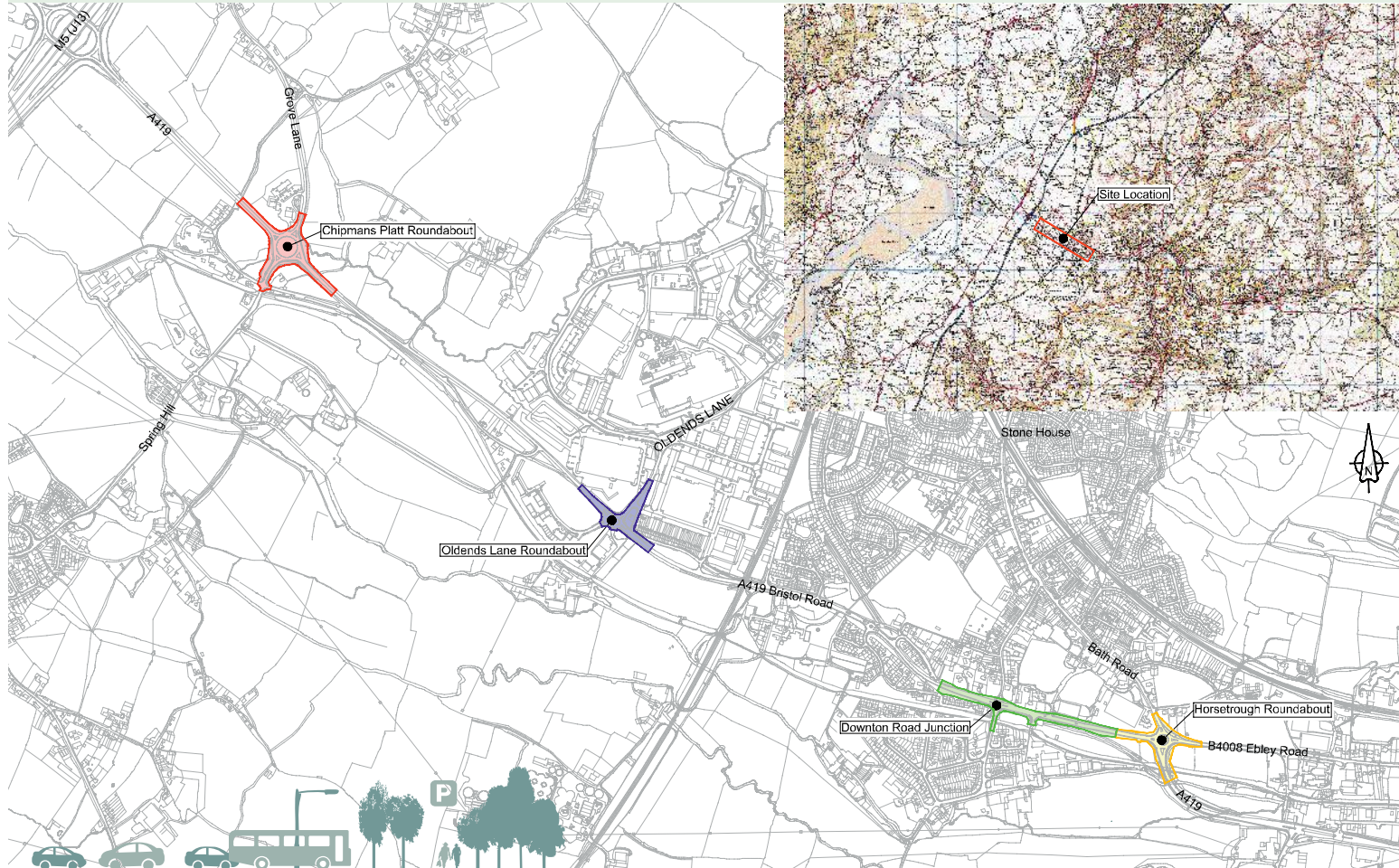


A419 Corridor Improvements

The A419 is a route of local importance connecting the Stroud Valleys with the wider strategic network, in particular to the M5 which provides connections for freight and other traffic to Bristol, Gloucester and the remainder of the UK.

The overall aim of the proposed scheme is to reduce congestion and delays on the A419, improving vehicle journey times and addressing journey reliability problems. The scheme will therefore support planned growth (including on land near to the corridor), improve access to jobs, and support the efficient movement of goods.

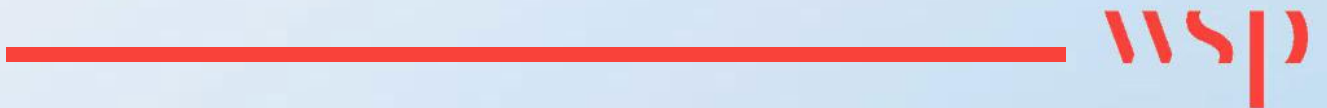
The improvement works are proposed at the four junctions highlighted below



This map is reproduced from Ordnance Survey data with the permission of Ordnance Survey and is copyright © Crown Copyright and the Controller of Her Majesty's Stationery Office 2014. Ordnance Survey is a registered trademark of Ordnance Survey Limited.

Appendix E

ST. MODWEN PARK ACCEPTED TRIP
RATES



TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : F - WAREHOUSING (COMMERCIAL)

VEHICLES

Selected regions and areas:

02 SOUTH EAST		
HF	HERTFORDSHIRE	1 days
04 EAST ANGLIA		
SF	SUFFOLK	1 days
05 EAST MIDLANDS		
LN	LINCOLNSHIRE	1 days
09 NORTH		
TV	TEES VALLEY	1 days
10 WALES		
BG	BRIDGEND	1 days
WR	WREXHAM	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
 Actual Range: 3050 to 80066 (units: sqm)
 Range Selected by User: 387 to 80066 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 18/09/15

Selected survey days:

Monday	2 days
Tuesday	2 days
Thursday	1 days
Friday	1 days

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town	5
Free Standing (PPS6 Out of Town)	1

Selected Location Sub Categories:

Industrial Zone	4
Commercial Zone	1
No Sub Category	1

Filtering Stage 3 selection:

Use Class:

B8	6 days
----	--------

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days

Filtering Stage 3 selection (Cont.):Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	5 days

Travel Plan:

Yes	1 days
No	5 days

LIST OF SITES relevant to selection parameters

<p>1 BG-02-F-01 LOGISTICS COMPANY PARC CRESCENT WATERTON IND. EST. BRIDGEND Edge of Town Industrial Zone Total Gross floor area: 3050 sqm <i>Survey date: MONDAY 13/10/14</i></p>	<p>BRIDGEND</p> <p><i>Survey Type: MANUAL</i></p>
<p>2 HF-02-F-03 DISTRIBUTION CEN. HATFIELD BUSINESS CEN. HATFIELD Edge of Town Commercial Zone Total Gross floor area: 80000 sqm <i>Survey date: THURSDAY 10/07/08</i></p>	<p>HERTFORDSHIRE</p> <p><i>Survey Type: MANUAL</i></p>
<p>3 LN-02-F-01 BOOK SERVICE TRENT ROAD GRANTHAM Edge of Town No Sub Category Total Gross floor area: 32300 sqm <i>Survey date: MONDAY 29/11/10</i></p>	<p>LINCOLNSHIRE</p> <p><i>Survey Type: MANUAL</i></p>
<p>4 SF-02-F-03 ROAD HAULAGE CENTRAL AVENUE WARREN HEATH IPSWICH Edge of Town Industrial Zone Total Gross floor area: 4700 sqm <i>Survey date: FRIDAY 18/09/15</i></p>	<p>SUFFOLK</p> <p><i>Survey Type: MANUAL</i></p>
<p>5 TV-02-F-02 ARGOS WAREHOUSE ROUNDHOUSE ROAD FAVERDALE DARLINGTON Edge of Town Industrial Zone Total Gross floor area: 80066 sqm <i>Survey date: TUESDAY 07/10/08</i></p>	<p>TEES VALLEY</p> <p><i>Survey Type: MANUAL</i></p>
<p>6 WR-02-F-01 WAREHOUSE UNIT 1-2 PACIFIC PARK WREXHAM IND. ESTATE NEAR WREXHAM Free Standing (PPS6 Out of Town) Industrial Zone Total Gross floor area: 9000 sqm <i>Survey date: TUESDAY 18/10/11</i></p>	<p>WREXHAM</p> <p><i>Survey Type: MANUAL</i></p>

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CB-02-F-01	Predominantly B1(c)

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	34853	0.077	6	34853	0.058	6	34853	0.135
08:00 - 09:00	6	34853	0.066	6	34853	0.040	6	34853	0.106
09:00 - 10:00	6	34853	0.064	6	34853	0.041	6	34853	0.105
10:00 - 11:00	6	34853	0.048	6	34853	0.048	6	34853	0.096
11:00 - 12:00	6	34853	0.046	6	34853	0.050	6	34853	0.096
12:00 - 13:00	6	34853	0.054	6	34853	0.053	6	34853	0.107
13:00 - 14:00	6	34853	0.103	6	34853	0.081	6	34853	0.184
14:00 - 15:00	6	34853	0.078	6	34853	0.099	6	34853	0.177
15:00 - 16:00	6	34853	0.077	6	34853	0.101	6	34853	0.178
16:00 - 17:00	6	34853	0.064	6	34853	0.094	6	34853	0.158
17:00 - 18:00	6	34853	0.029	6	34853	0.076	6	34853	0.105
18:00 - 19:00	6	34853	0.018	6	34853	0.045	6	34853	0.063
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.724			0.786			1.510

Parameter summary

Trip rate parameter range selected: 3050 - 80066 (units: sqm)
 Survey date range: 01/01/08 - 18/09/15
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TAXIS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
08:00 - 09:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
09:00 - 10:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
10:00 - 11:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
11:00 - 12:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
12:00 - 13:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
13:00 - 14:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
14:00 - 15:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
15:00 - 16:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
16:00 - 17:00	6	34853	0.001	6	34853	0.001	6	34853	0.002
17:00 - 18:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
18:00 - 19:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.002

Parameter summary

Trip rate parameter range selected: 3050 - 80066 (units: sqm)
 Survey date range: 01/01/08 - 18/09/15
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

OGVS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	34853	0.012	6	34853	0.015	6	34853	0.027
08:00 - 09:00	6	34853	0.011	6	34853	0.012	6	34853	0.023
09:00 - 10:00	6	34853	0.014	6	34853	0.015	6	34853	0.029
10:00 - 11:00	6	34853	0.018	6	34853	0.018	6	34853	0.036
11:00 - 12:00	6	34853	0.017	6	34853	0.024	6	34853	0.041
12:00 - 13:00	6	34853	0.016	6	34853	0.013	6	34853	0.029
13:00 - 14:00	6	34853	0.019	6	34853	0.012	6	34853	0.031
14:00 - 15:00	6	34853	0.022	6	34853	0.012	6	34853	0.034
15:00 - 16:00	6	34853	0.021	6	34853	0.017	6	34853	0.038
16:00 - 17:00	6	34853	0.022	6	34853	0.010	6	34853	0.032
17:00 - 18:00	6	34853	0.007	6	34853	0.012	6	34853	0.019
18:00 - 19:00	6	34853	0.004	6	34853	0.011	6	34853	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.183			0.171			0.354

Parameter summary

Trip rate parameter range selected: 3050 - 80066 (units: sqm)
 Survey date range: 01/01/08 - 18/09/15
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

PSVS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
08:00 - 09:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
09:00 - 10:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
10:00 - 11:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
11:00 - 12:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
12:00 - 13:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
13:00 - 14:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
14:00 - 15:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
15:00 - 16:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
16:00 - 17:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
17:00 - 18:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
18:00 - 19:00	6	34853	0.000	6	34853	0.000	6	34853	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

Parameter summary

Trip rate parameter range selected: 3050 - 80066 (units: sqm)
 Survey date date range: 01/01/08 - 18/09/15
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

CYCLISTS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	34853	0.004	6	34853	0.000	6	34853	0.004
08:00 - 09:00	6	34853	0.001	6	34853	0.000	6	34853	0.001
09:00 - 10:00	6	34853	0.001	6	34853	0.000	6	34853	0.001
10:00 - 11:00	6	34853	0.000	6	34853	0.002	6	34853	0.002
11:00 - 12:00	6	34853	0.000	6	34853	0.002	6	34853	0.002
12:00 - 13:00	6	34853	0.001	6	34853	0.002	6	34853	0.003
13:00 - 14:00	6	34853	0.009	6	34853	0.011	6	34853	0.020
14:00 - 15:00	6	34853	0.001	6	34853	0.008	6	34853	0.009
15:00 - 16:00	6	34853	0.003	6	34853	0.004	6	34853	0.007
16:00 - 17:00	6	34853	0.000	6	34853	0.003	6	34853	0.003
17:00 - 18:00	6	34853	0.000	6	34853	0.003	6	34853	0.003
18:00 - 19:00	6	34853	0.001	6	34853	0.003	6	34853	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.038			0.059

Parameter summary

Trip rate parameter range selected: 3050 - 80066 (units: sqm)
 Survey date range: 01/01/08 - 18/09/15
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1



Three White Rose Office Park
Millshaw Park Lane
Leeds
LS11 0DL

wsp.com