

TRANSPORT & INFRASTRUCTURE PLANNING

Trammell Crow Company Logistics (Heywood) Ltd
Heywood Stores
Manchester Road, Heywood
Revised Transport Assessment

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1. INTRODUCTION

- 1.1 BWB Consulting Limited (BWB) has been appointed by Trammell Crow Company Logistics (Heywood) Limited ("the Applicant") to produce this Transport Assessment (TA) report to support a full planning application for the proposed redevelopment of the Heywood Stores site located to the north of Manchester Road in Heywood ("the Site").
- 1.2 The proposals consist of the redevelopment of the site comprising the demolition of all existing units and erection of new storage and distribution units (Use Class B8) with ancillary office space, vehicular, pedestrian and cycle access, external yards, parking, landscaping and associated works.
- 1.3 AshtonSmith Drawing Ref. '21157-ASA-00-ZZ.ZZ-D-A-0003_(S3-P12)' shows the Proposed Site Plan and a copy of this is included in **Appendix 1**.
- 1.4 The local planning and highway authority is Rochdale Borough Council (RBC), a unitary authority. Transport for Greater Manchester (TfGM) is responsible for the TfGM key route network, which runs close to the Site. National Highways (NH) is responsible for the Strategic Road Network (SRN), which includes the M62 to the south and M66 to the west of the Site.
- 1.5 The original TA report (October 2022) included a total floor area of 45,755 sq.m. In January 2023 a revised version of the TA (MRR-BWB-GEN-XX-RP-TR-003_P03) was issued reflecting an increase in the total proposed total floor area to 46,027 sq.m. Furthermore, in March 2023, another revised version of the TA (MRR-BWB-GEN-XX-RP-TR-003_P04) was issued reflecting a decrease in the total proposed total floor area to 45,437 sq.m
- 1.6 This TA (MRR-BWB-GEN-XX-RP-TR-003_P05) is a further revision reflecting further changes to the proposed floor area, which has now reduced to 45,393 sq.m. As such, the total floor area has decreased by 44 sq.m since the previous version of the TA.

Background

- 1.7 The Site has a Lawful Development Certificate which was granted on 14th December 2021 (ref: 21/01298/CPE) which confirms that the site has existing lawful use as Use Class B8 (storage and distribution).

Scoping Discussions

- 1.8 BWB has engaged in pre-application scoping discussions with RBC Highways, TfGM and NH. Their comments have been addressed in this report.
- 1.9 The access is proposed to be maintained from the existing site location onto the A6045 Manchester Road. The geometry of the junction will be improved to accommodate two-way HGV movements and pedestrian footways on both sides of the access road. The access layout has been reviewed and agreed with RBC in principle with a more detailed review during the planning consultation period. RBC also advised that a Road Safety Audit and a Section 278 will have to be conditioned and TfGM will be consulted as it is on a key road network.

Report Structure

1.10 Following this introductory section, the TA is structured as follows:

- **Section 2:** Policy Context – summarises the key national and local planning policies relating to transport within the context of the scale and location of the proposed development;
- **Section 3:** Existing Conditions – describes the local highway network, sustainable infrastructure and review of existing road safety and traffic conditions;
- **Section 4:** Sustainable Travel Accessibility – details the existing walking, cycling and public transport infrastructure;
- **Section 5:** Operation of Existing Highway Network – described the operation of the existing highway network;
- **Section 6:** Development Proposals – provides details of the proposed development and access arrangements, including review of parking provision and site servicing;
- **Section 7:** Traffic Impact of the Development – determines the traffic impact of the proposals;
- **Section 8:** Summary and Conclusions – provides a summary and sets out the conclusions.

2. TRANSPORT POLICY & GUIDANCE

Introduction

2.1 This section details the current transport planning policy context within which the development proposal has been considered. It highlights integrated transport planning policies at the national and local level, including:

- National Planning Policy Framework (March 2012, Revised July 2021)
- Rochdale Adopted Core Strategy (October 2016)

National Planning Policy

National Planning Policy Framework (March 2012, Revised July 2021)

2.2 The Government's National Planning Policy Framework (NPPF) replaced the majority of previous Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) documents on 27 March 2012 and was updated in July 2021. It sets out the Government's expectations and requirements from the planning system. It provides guidance for local councils to use when defining their own personal local and neighbourhood plans. This approach allows the planning system to be customised to reflect the needs and priorities of individual communities.

2.3 The NPPF defines the delivery of sustainable development through three roles:

- an economic objective;
- a social objective; and
- an environmental objective.

2.4 These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area.

2.5 The NPPF states that Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- The potential impacts of development on transport networks can be addressed;
- Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;

- Opportunities to promote walking, cycling and public transport use are identified and pursued;
 - The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
 - Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.
- 2.6 Paragraph 105 states that, “Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”
- 2.7 The NPPF requires planning policies to:
- Support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;
 - Be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;
 - Identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;
 - Provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans); and
 - Provide for any large-scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy.
- 2.8 In assessing sites that may be allocated for development in plans, or specific applications for development, NPPF paragraph 110 states that it should be ensured that:
- Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
 - Safe and suitable access to the site can be achieved for all users; and
 - 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.

- 2.9 Paragraph 111 of the NPPF goes on to state that Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.
- 2.10 Within the context of the NPPF, paragraph 112 sets out that development should:
- 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;
 - Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
 - 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;
 - Allow for the efficient delivery of goods, and access by service and emergency vehicles; and
 - Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
- 2.11 Paragraph 113 seeks to ensure that, “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.”

Local Planning Policy

Rochdale Adopted Core Strategy (October 2016)

- 2.12 The current statutory development plans for determining planning applications within Rochdale is the Rochdale Core Strategy, which was adopted in October 2016. The Local Plan runs from the period of 2016 to 2031. Section 11 of the Rochdale Core Strategy refers to Improving accessibility and delivering sustainable transport.
1. *Improving access to the public transport network and interchange / hub facilities including:*
- e. *Enhancing facilities at Heywood Station and provide a new station at Broadfield (to access new and existing development south of Heywood) on East Lancashire Railway;*
- 2.13 Within Section 11, Policy T1 – Delivering Sustainable Transport refers to Sustainable Travel and is worded as follows:

- *In all circumstances, the safety, accessibility and amenity of those who live or have business in the area will have priority, while providing reliable journey times for those travelling through. A home zone approach, with 20mph zones installed where feasible, around schools, colleges, local community facilities and in residential areas to provide safer routes and access for vulnerable road users, improving safety in residential communities. Initiatives will incorporate "smarter choice" measures to provide incentives to change travel behaviour, through reallocation of road space, parking policies / control and fiscal measures in favour of sustainable travel.*
 - a. *We will require Transport Assessments (TA) and Travel Plans (TP) for;*
 - i. *Residential developments of 80 units or more;*
 - ii. *All schools and Further Education Institutions (including extensions);*
 - iii. *Developments located in, or having an impact on, Air Quality Management Areas (AQMA);*
 - iv. *Areas where the Council has defined initiatives or targets to reduce traffic, restrict development growth, promote public transport, walking and cycling or measures to promote low emissions and tackle poor air quality;*
 - v. *Areas where the local transport infrastructure is inadequate e.g. sub-standard roads, poor pedestrian / cycle access or public transport provision; and*
 - vi. *Areas where additional development traffic is likely to increase accidents or conflicts between motorised and non-motorised users, particularly children, the elderly or people with impaired mobility.*
 - b. *We will also expect developments to be supported by a Transport Assessment (TA) and Travel Plan (TP) if forecast trips exceed the indicative thresholds set out in DfT Guidance on Transport Assessments or any of the following thresholds:*
 - i. *100 or more vehicle movements per day (24 hours);*
 - ii. *60 or more person trips in any peak hour (between 07-00 & 10-00 and / or 16-00 & 19-00);*
 - iii. *30 or more vehicle movements in any hour;*
 - iv. *More than 20 Heavy Goods Vehicles (over 7.5 tonnes) movements per day;*
 - v. *Any goods vehicle movement between midnight and 6am;*
 - vi. *Any significant abnormal loads; and*
 - vii. *50 or more car parking spaces are proposed.*
 - c. *We will ensure that development allocations and submitted proposals are as far as possible accessible for all (including people with impaired mobility), applying the accessibility criteria set out in Appendix 4 or any*

future thresholds agreed for Greater Manchester. Developers should work in partnership with the Council from initial conception to completion and monitoring. To achieve this, developers should ensure access between communities and jobs, shops, schools and colleges, leisure and health facilities are convenient;

- d. *We will require developments to provide parking in compliance with the Council's Car Parking Standards (see Appendix 5); and*
- e. *We will expect development proposals to financially contribute to transport improvements where additional traffic movements cannot be accommodated on the existing network. Such contributions will support:*
 - i. *Measures to secure modal shift and sustainable travel / behavioural change initiatives;*
 - ii. *Improvements to public transport and related infrastructure;*
 - iii. *Other traffic management and local safety measures and/or removal or restriction of parking provision; and*
 - iv. *Improvements to the highway infrastructure, in combination with (i), (ii) and (iii) when those have been demonstrated to be insufficient;*
- *Developers will contribute to essential transport infrastructure to service their proposals and to measures to alleviate any additional congestion resulting from their proposals on existing bottlenecks.*

Summary

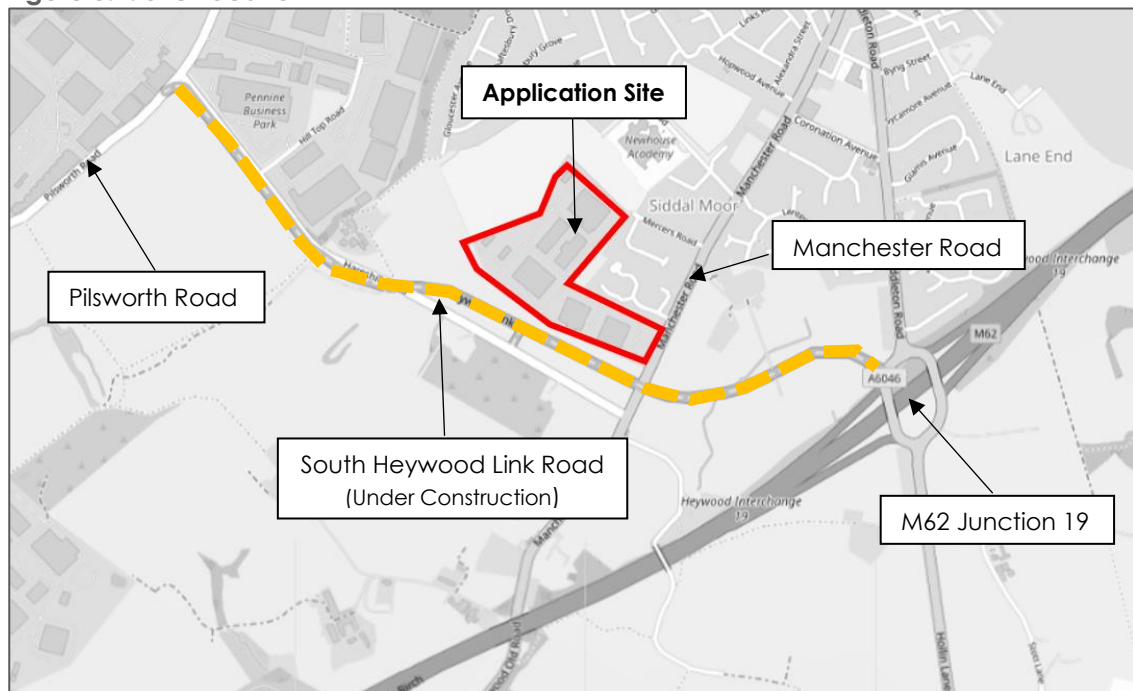
- 2.14 The contents of this report aim to demonstrate that the above criteria relating to access and highway safety have been considered to ensure that the development is acceptable in highways terms.
- 2.15 The parking provision, sustainable accessibility and highway capacity have also been assessed in line with these policies, where the masterplan has been designed to support sustainable accessibility for the development, including provision for pedestrians, cyclists and public transport users.

3. EXISTING CONDITIONS

Site Location

- 3.1 The Site is located to the west of A6045 Manchester Road in Heywood. It is currently located approximately 1.5km west of M62 Junction 19 and 1.6km east of Pilsworth Road. The Site location in relation to the wider area of Heywood and local highway network is shown in **Figure 3.1**.

Figure 3.1. Site Location



Existing Site

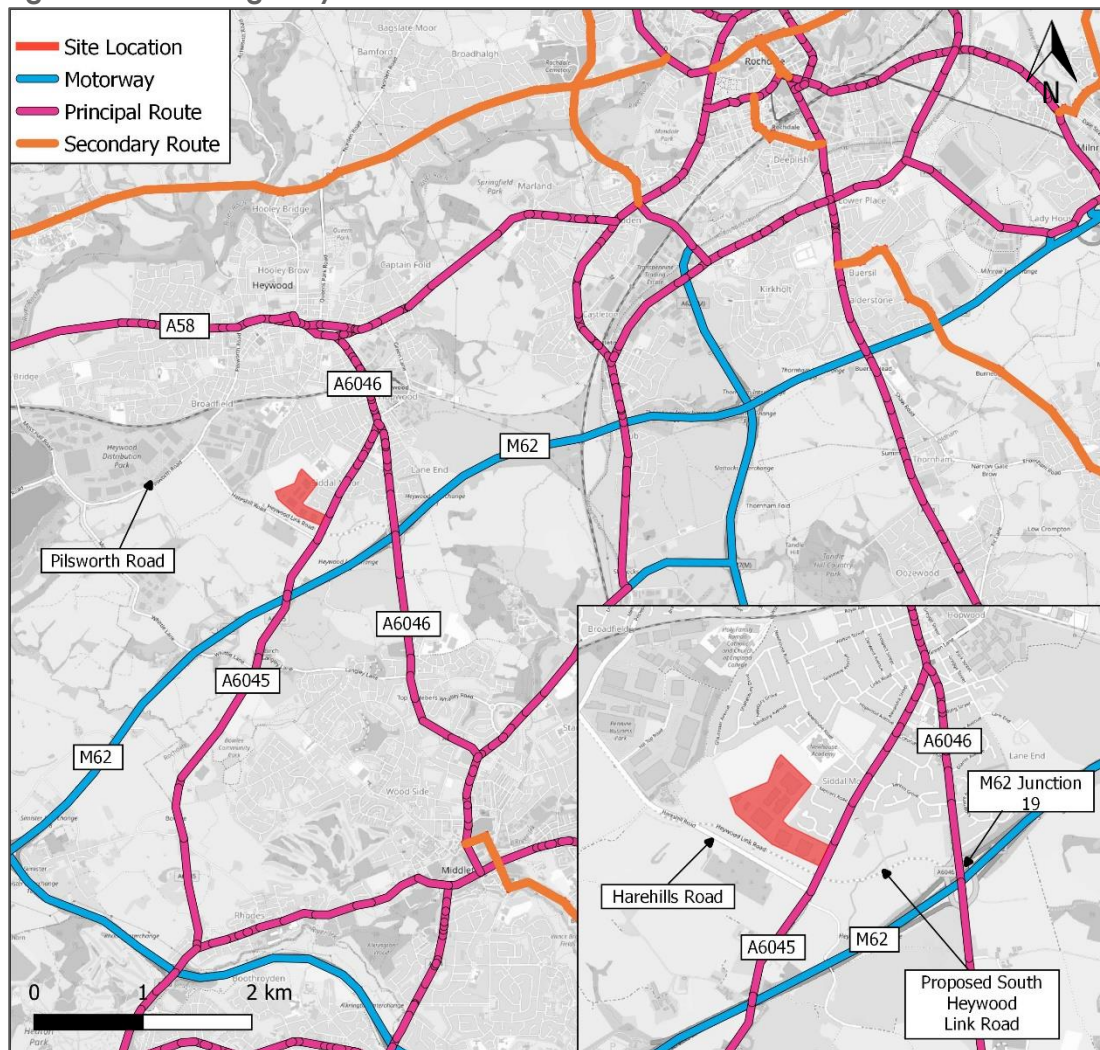
- 3.2 The Site currently comprises nine sheds with a total building floor area of 42,304 sq.m with vehicle access from the A6045 Manchester Road. The existing floor area stated has changed since the original version of the TA as a result of a building survey. The Site has a certificate of lawful use for B8 Use Class (Planning Ref. 21/01298/CPE).
- 3.3 A copy of the Existing Site Plan is provided in **Appendix 2**.

Local Highway Network

- 3.4 The A6045 Manchester Road is a single carriageway road which runs from the staggered crossroads of Sefton Street and Ormerod Street to the north and to Manchester Old Road (A576) to the south. In vicinity of the Site, the A6045 is a two-way single carriageway road that is subject to a 30mph speed limit and an approximate width of 10 metres. The A6045 will continue to provide access to the Site and has approximately two-metre-wide footways at the Site access.

- 3.5 Approximately 1km to the north of the Site, the A6045 connects with A6046 (Middleton Road), via a simple priority T-junction. A6046 is a single carriageway road which runs southwards from A58 (Market Place) to the Heywood Interchange. A6046 is subject to a 30mph speed limit and varies in width between 6m to 12m. On approach to the Heywood Interchange from the north, the speed limit changes to 40mph. There are 2.0-metre-wide footways provided on both sides of Heywood Interchange which provide pedestrian access from the settlements of Heywood to Middleton. Middleton Road continues southwards of Heywood interchange connecting to Hollin Lane, providing access to Middleton.
- 3.6 To the south of the Site, The South Heywood Link Road is currently under construction and will provide access from the Pilsworth Road and Harehill Road junction. The link road will run eastwards towards Heywood Interchange and become an additional arm of Heywood Interchange at Junction 19 of the M62. The M62 forms part of the strategic road network (SRN) and routes east from Hull and Goole and continues west towards Leeds, Bradford and Wakefield, and subsequently to Liverpool.
- 3.7 A detailed plan of the local highway network is shown in **Figure 3.2** below.

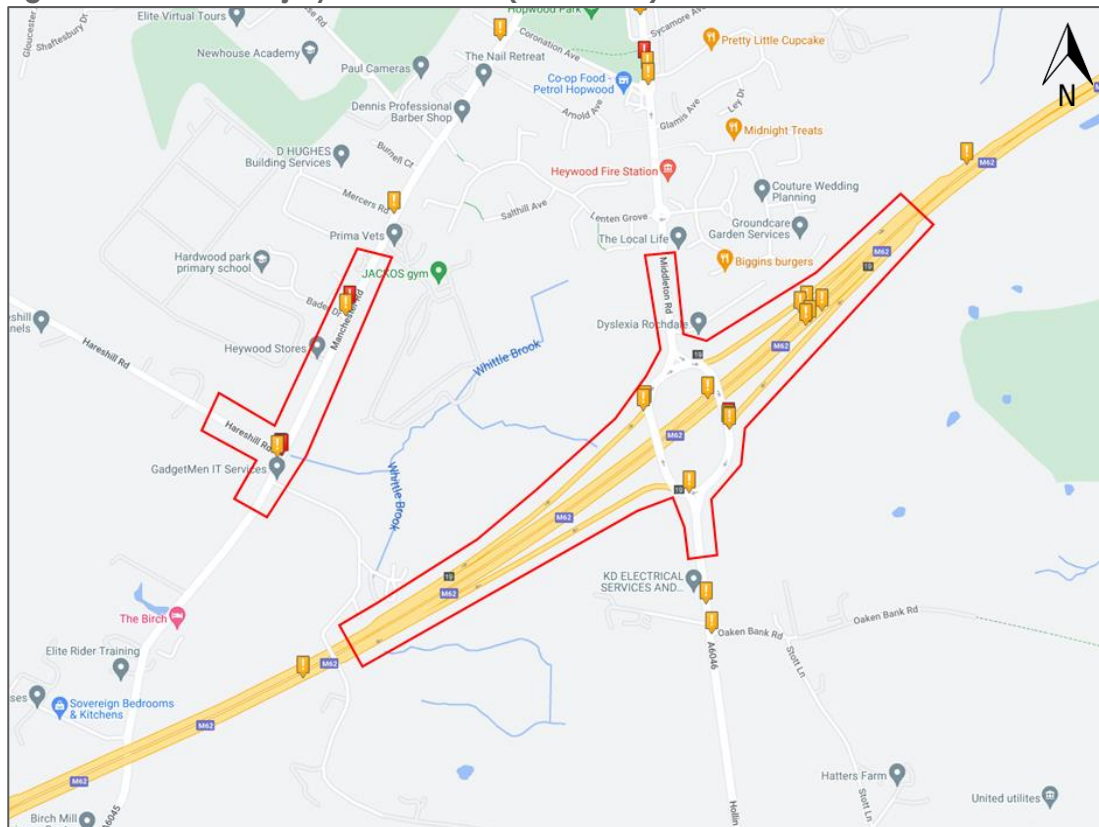
Figure 3.2. Local Highway Network



Road Safety

- 3.8 Personal Injury Collision (PIC) records for the local highway network have been obtained from Crashmap.co.uk for the latest available five-year period, which is 2017 to 2021 inclusive.
- 3.9 The study area considered includes the A6045 Manchester Road along the Site frontage and at the request of National Highways, the M62 Junction 19, the PIC study areas are illustrated in **Figure 3.3**.

Figure 3.3. Personal Injury Collision Plot (2017-2021)



- 3.10 As shown, a total of 19 PICs occurred within the five-year period of which six were of 'slight' severity and four were 'serious' severity. No fatal PICs have been reported in the study area during this period.
- 3.11 The first serious PIC took place at the A6045 Manchester Road/Hareshill junction, approximately 200 metres to the south of the Site. It involved a motorcyclist and car both turning right, and the motorcyclist being struck on its offside, resulting in a serious injury to the motorcyclist. Conditions were fine/dry and the collision occurred at 08:00 during daylight hours.
- 3.12 The second serious PIC took place at the A6045 Manchester Road/Bader Drive junction, approximately 75 metres to the north of the Site access. It involved a vehicle proceeding normally along the carriageway striking a vehicle parked in the carriageway in the back. This resulted in a serious injury for the parked vehicle. Conditions were fine/dry and the collision occurred at 15:40 during daylight hours.

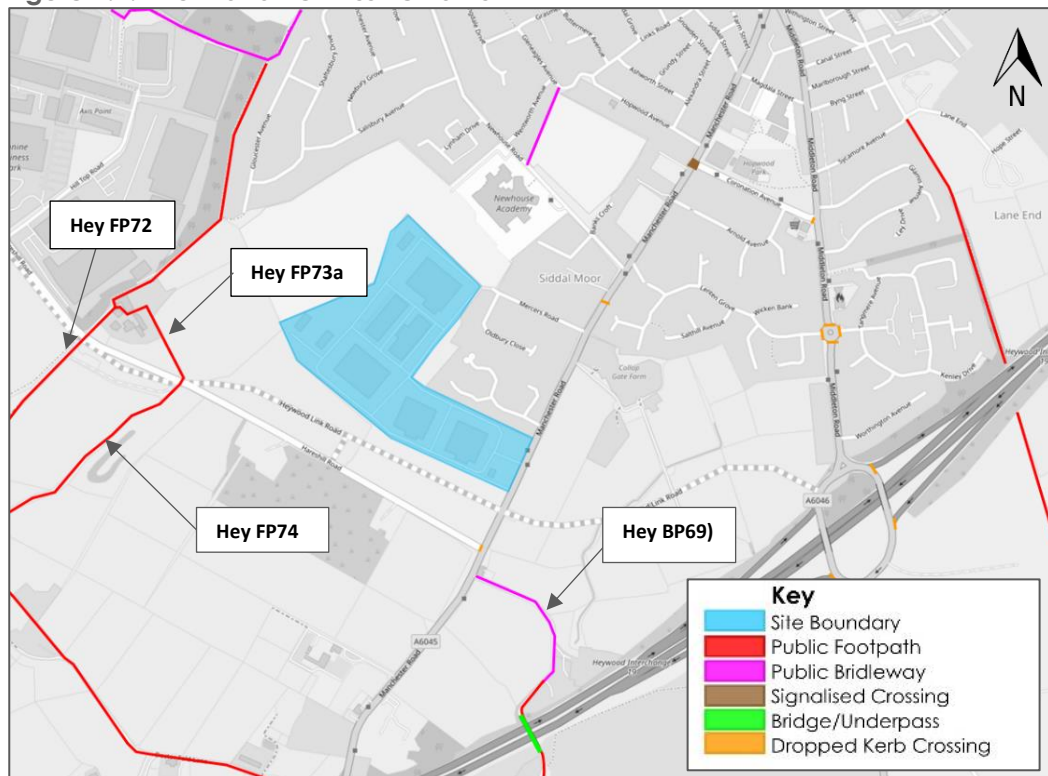
- 3.13 The third serious PIC took place on Heywood Interchange adjacent to the M62 exit arm, approximately 1.2km to the east of the Site. The PIC involved a car which struck another car in the back, resulting a serious injury to a car passenger. Conditions were fine/dry and the collision occurred at 01:05 during darkness with streetlights present.
- 3.14 The fourth serious PIC also took place on the Heywood Interchange adjacent to the M62 exit arm, approximately 1.2km to the east of the Site. The PIC involved a car which struck a pedal cyclist in the back, resulting a serious injury to a cyclist. Conditions were fine/dry and the collision occurred at 18:45 during darkness with streetlights present.
- 3.15 The above review suggests that the recorded PICs occurred due to driver/road user error, such as failing to look properly. It is therefore concluded that the PICs that occurred within the study area did not take place due to issues associated with the highway network or layout. Furthermore, it should be noted that the local highway network is undergoing major changes associated with the new South Heywood Link Road, which is currently under construction and will be opened in advance of the proposed development. As such, it is expected that any existing road safety issues will have been addressed as part of the road safety auditing process associated with the scheme.

4. SUSTAINABLE TRAVEL ACCESSIBILITY

Pedestrian Accessibility

- 4.1 The Chartered Institution of Highways and Transportation (CIHT) publication 'Guidelines for Providing for Journeys on Foot' (2000) describes what are considered acceptable walking distances for pedestrians without mobility impairment.
- 4.2 The guidance suggests that for commuting, school, and sight-seeing, up to 500m is the 'desirable' walking distance, up to 1,000m is an 'acceptable' walking distance, and 2,000m is the 'preferred maximum' walking distance.
- 4.3 The existing pedestrian infrastructure within the vicinity of the Site is well developed, with 2.0-metre-wide footways provided on both sides of A6045.
- 4.4 There are a number of Public Rights of Way (PRoW) located close to the Site which enable pedestrian access to the wider area, which are illustrated in **Figure 4.1**. These include:
 - A public bridleway route ((Hey BP69) from Manchester Road eastwards and connects to a public footpath that runs across the across over the M62 via a footbridge.
 - Public Footpaths Ref. 'Hey FP72', 'Hey FP73a' and 'Hey FP74' can be accessed via Harehills Road to the south of the Site.

Figure 4.1. PRoW and Permissive Paths

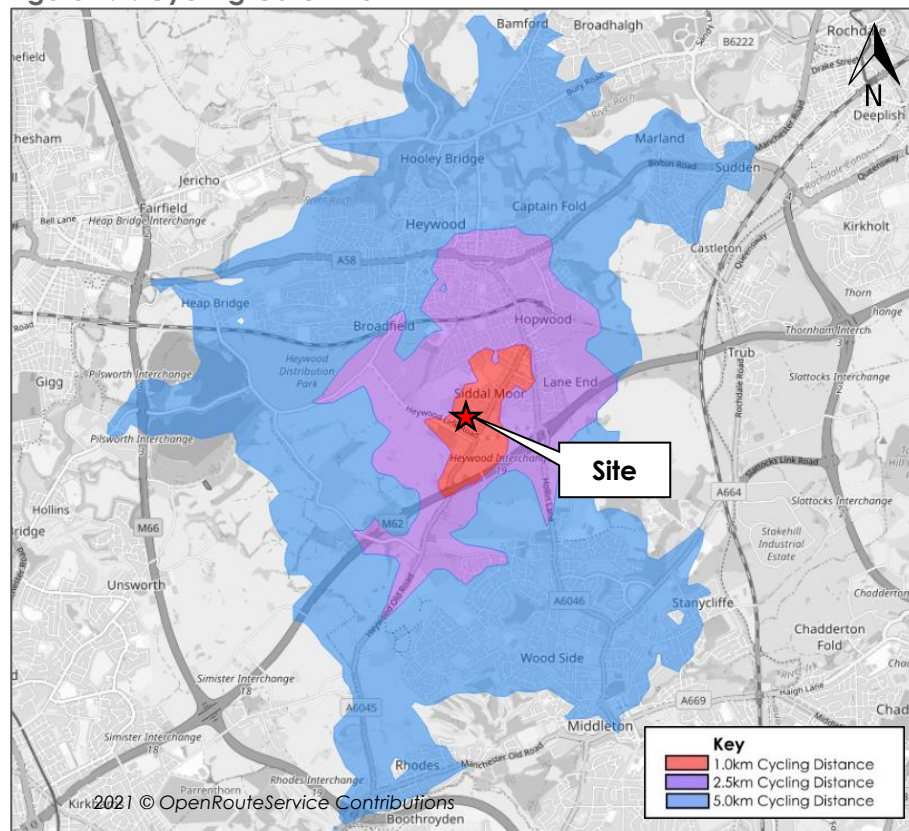


- 4.5 On this basis, the existing Hey FP72, Hey FP73 and Hey FP74 footpaths allow access to further footpaths that allow access the whole of the Heywood (and the subsequent local services) within the preferred maximum walking distance of the Site.
- 4.6 As part of the South Heywood Link Road scheme there will be a new traffic signal-controlled cross-roads junction at A6045 Manchester Road/Heywood Old Road. A segregated foot/cycleway is also set to be implemented as part of the proposals, which will run from the new signal-controlled cross-roads junction at the A6045/Harehills Road junction to Heywood Interchange. This will connect with the existing infrastructure in place at Heywood Interchange, increasing the pedestrian connectivity to the Site.
- 4.7 Furthermore, there are various uncontrolled pedestrian crossing points planned across South Heywood Link Road on Harehills Road to the south of the Site. These strategic walking improvements are shown on the plan in **Appendix 3**.

Cycling Accessibility

- 4.8 In relation to cycling, it is generally accepted that cycling has the potential to substitute short car trips, particularly those under 5km, and to form part of a longer journey by public transport.
- 4.9 **Figure 4.2** illustrates a 5km cycling catchment from the Site, which shows that a sizeable residential catchment area is within acceptable cycling distance.

Figure 4.2. Cycling Catchment



- 4.10 As shown, the entirety of Heywood is within cycling distance of the Site. In addition to Heywood, the settlements of Siddal Moor, Hopwood, Wood Side and Broadfield are also within cycling distance. The cycle catchment shown above may slightly alter, due to the proposed South Heywood Link Road.
- 4.11 As previously mentioned in Section 4.6, a segregated foot/cycleway shall be implemented as part of the proposals, providing access from Heywood Distribution Park to Heywood Interchange. This route shall be accessible to the Site and will provide access to the existing on-street cycle lane provided on Heywood Interchange and A6046, approximately 950m to the west of the site. These strategic cycling improvements are also shown on the plan in **Appendix 3**.

Bus Accessibility

- 4.12 In relation to bus accessibility, the Chartered Institute of Highways and Transportation's (CIHT) 'Buses in Urban Developments, January 2018' publication, recommends that the maximum walking distance to 'single high-frequency routes (every 12 minutes or better)' should be 400m. For less frequent bus routes, the maximum recommended walking distance is 300m.
- 4.13 The nearest bus stops to the Site are currently located along Manchester Road, adjacent to the site access and provides access to the 125 and 781 services. **Table 4.1** below shows the frequency of these services.

Table 4.1: Summary of Weekday Bus Services

Service	Route	Time of Operation & Frequency		
		Weekdays	Saturdays	Sundays
125	Rhodes – Middleton – Siddal Moor - Heywood	07:15, 08:40, 09:40, 10:40, 11:40, 12:40, 13:40, 14:42, 16:40, 17:40, 18:40	08:40, 09:40, 10:40, 11:40, 12:40, 13:40, 14:40, 15:40, 16:40, 17:40, 18:40	No Service
781	Heywood – Langley - Stancliffe	15:02	No Service	No Service

Source: <https://www.traveline.info/>, <http://www.bustimes.org/>

- 4.14 The table above shows there are currently hourly services available within close vicinity of the Site, of which the 125 service provides possible commuting options for future employees of the Site.
- 4.15 As part of the South Heywood Link Road proposals, improvements to the local public transport accessibility are to be made. The 163 service will potentially be diverted to provide access from A6045 to the proposed traffic signal-controlled cross-roads junction at A6045 Manchester Road/Heywood Old Road. The 163 service provides weekday services every 15 minutes to Manchester Piccadilly and Bury Interchange.
- 4.16 To the north of the Site, the bus stop adjacent to Bader Drive is being upgraded to accommodate the changes as part of the South Heywood Link Road proposals. Furthermore, a peak hour express service to Manchester from Heywood Town Centre will run adjacent to the Site, further improving its accessibility. These nearby

improvements and enhanced routes to the Site are expected to be operational by the time the proposed development is operational. A copy of the Public Transport Strategy Plan associated with the Heywood scheme is provided in **Appendix 4**.

- 4.17 An additional bus service is currently provided on Newhouse Road, approximately 500m to the north of the Site, with B4 Bury Bolts providing hourly access to Heywood Market and Bury Interchange. Further bus stops are located on Coronation Avenue, which provides the additional 162 and 768 service. The 162 service currently provides access to Norden and Manchester Piccadilly, with three services within the peak morning time and four services within the peak evening time. The 768 service can be accessed from Coronation Avenue and currently provides a school service for Newhouse Academy, before and after the school day.
- 4.18 Whilst it is acknowledged these stops are located approximately 500m and 750m in walking distance from the Site, the service provided above may still be attractive options for employees given the key destinations it provides access to. Overall, many areas will be accessible from the Site using the current and proposed bus services.

Train Accessibility

- 4.19 Castleton Station is accessible by cycle from the Site. It is situated on the East Lancashire Railway Line and provides services southwards to Manchester Victoria and northwards to Rochdale. Off peak weekday service frequencies are generally hourly to Manchester Victoria and 1 per two hours to Rochdale.
- 4.20 Castleton Station has 10 cycle storage spaces located within the station forecourt.

5. OPERATION OF EXISTING HIGHWAY NETWORK

Existing Site

- 5.1 The Site is located to the north of the A6045 Manchester Road in Heywood.
- 5.2 A building survey has confirmed that the existing Site comprises of nine sheds with a total floor area of 42,304 sq.m, which includes: -
- Total ground floor space of 27,559 sq.m;
 - Total mezzanine floor space of 14,550 sq.m; and
 - Total plant floor space of 195 sq.m.
- 5.3 Vehicle access from the A6045 Manchester Road. The existing site has a certificate of lawful use for Use Class B8 Storage and Distribution (Planning Ref. 21/01298/CPE).

Existing Trip Generation of the Site

- 5.4 The Site is currently not fully occupied. Therefore, it was considered that a traffic survey of the existing Site access would not provide a true representation of the potential vehicle trip generation associated with the existing use. This has been agreed with RBC Planning and Transport for Greater Manchester HFAS.
- 5.5 Instead, the industry standard TRICS database has been used to estimate the potential vehicle trip generation of the Site. The peak period vehicle trip rates have been applied to the existing ground floor area only to provide a more realistic measurement of extant trip generation. The TRICS assessment is set out in **Section 7** of this report and the weekday peak hour trip rates are set out in **Table 5.1** below.

Table 5.1: B8 Weekday Trip Rates

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	0.091	0.034	0.125	0.036	0.049	0.085	0.127	0.083	0.210
17:00-18:00	0.039	0.119	0.158	0.054	0.041	0.095	0.093	0.160	0.253

Note: Trip Rates are per 100sq.m

- 5.6 The above B8 trip rates have been applied to the existing ground floor area only for robustness i.e. excludes mezzanine and plant floor area, which equates to 27,559 sq.m. The potential traffic generation associated with the existing use of the Site is presented in **Table 5.2**.

Table 5.2: Existing Site Vehicle Trip Generation (27,559 sq.m B8)

Weekday Peak	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	25	9	34	10	14	24	35	23	58
17:00-18:00	11	33	44	15	11	26	26	44	70

- 5.7 As shown, the existing B8 use of the Site has the potential to generate 58 and 70 two-way vehicle movements during the weekday morning and evening peak hours respectively.

South Heywood Link Road

- 5.8 Construction of the 2.2km link road started in Spring 2021 and officially opened to the public on 3rd November 2023. It connects the M62 Junction 19 (at Heywood and Middleton) to the South Heywood employment area (Hareshill Road and Pilsworth Road).
- 5.9 This link road passes the southern boundary of the Site and forms a signalised crossroads junction with the A6045 Manchester Road.

Traffic Flows

- 5.10 The documents associated with Planning Application Ref. 16-01399-HYBR South Heywood have been reviewed and traffic data obtained, to consider the impact of the new link road on traffic flows along Manchester Road in the vicinity of the Site.
- 5.11 **Table 5.3** below sets out the 2020 weekday morning and evening peak hour flows for both the 'without' and 'with' Link Road scenarios. The data has been extracted from the South Heywood Transport Assessment and the source of the data is presented in **Appendix 5**.

Table 5.3: A6045 Manchester Road 2020 Traffic Flows (PCUs)

A6045 Manchester Rd	AM Peak Hour	PM Peak Hour	Total
Northbound No LR	291	523	814
Southbound No LR	562	361	923
Total No LR	853	884	1,737
Northbound With LR	281	486	767
Southbound With LR	494	308	802
Total With LR	775	794	1,569

- 5.12 **Table 5.3** shows that as a result of the Link Road, there will be **39 fewer** PCUs along the A6045 Manchester Road in the AM Peak period and in PM Peak hour period there would be **129 fewer** PCUs along the A6045 Manchester Road.
- 5.13 BWB has also extracted the Annual Average Daily Traffic (AADT) flows from the South Heywood Transport Assessment, this data is presented in **Appendix 6**.
- 5.14 The AADT flows show that in 2020 the traffic flows along the A6045 Manchester Road will be **10,627 vehicles** without the link road and with the link Road in place there would be **8,406 vehicles**, a **reduction of 2,221 vehicles**.
- 5.15 As for HGV traffic, the same data shows that in 2020 the AADT flows along Manchester Road are **188 HGVs** without the link road and with the link Road in place there would be **23 HGVs**, a **reduction of 165 HGVs**.

6. PROPOSED DEVELOPMENT

Overview

- 6.1 The application proposes to redevelop the Site to provide 3 no. B8 Storage and Distribution units with ancillary office space.
- 6.2 The proposed schedule of development is presented in **Table 6.1**.

Table 6.1: Proposed Schedule of Development

Ref.	Floor Area (sq.m)
Unit 1	4,923
Unit 2	4,533
Unit 3	35,937
Total	45,393
Source: AshtonSmith Drawing '21157-ASA-00-ZZ.ZZ-D-A-0003_{S3-P12}_PROPOSED SITE LAYOUT'	

- 6.3 The existing units on the Site total 42,304 sq.m floor area and therefore the residual increase in B8 floor space as a result of the proposals is 3,089 sq.m.
- 6.4 The Proposed Site Plan is included within **Appendix 1**.

Vehicular Access

- 6.5 The existing access location from the Site onto the A6045 Manchester Road will be retained. However, changes are proposed to the geometry of the junction to accommodate two-way HGV movements and pedestrian footways on both sides of the access road. The proposed geometry for the Site access junction are: -
- Carriageway width of 12.3m.
 - Left junction radii 13m with a 3m wide footway.
 - Right junction radii 13m with a 2m wide footway.
- 6.6 The visibility splays have been measured in accordance with Design Manual for Roads and Bridges (DMRB). The speed limit along the A6045 Manchester Road is 30mph, this has a Design Speed of 60kph and a Safe Stopping Distance of 90m, therefore visibility splays of 2.4m x 90m are required in both directions to accommodate vehicle speeds of up to 30mph.
- 6.7 The attached drawing **MRR-BWB-GEN-XX-DR-TR-101** demonstrates the following visibility splays: -
- To the Left: A visibility splay in excess of 2.4m x 90m can be achieved for vehicles travelling southwards along the A6045 Manchester Road north.
 - To the Right: A visibility splay in excess of 2.4m x 90m can be achieved for vehicles travelling northwards along the A6045 Manchester Road south.

- To the Right: The available visibility splay for approaching vehicles turning left from the Link Rd western arm to the A6045 Manchester Road north is 2.4m x 63.2m.
 - To the Right: the available visibility splay for approaching vehicles turning right from the Link Rd eastern arm to the A6045 Manchester Road north is 2.4m x 96.4m.
- 6.8 The site access design has been subject to an independent Stage 1 and 2 combined Road Safety Audit (RSA) and a Designer's Response has been prepared and includes changes to white lining.

Internal Layout and Swept Path Analysis

- 6.9 Drawing **MRR-BWB-GEN-XX-DR-TR-102** shows the swept path assessment of a 16.5m max. legal articulated HGV for the access junction onto A6045 Manchester Road.
- 6.10 Drawing **MRR-BWB-GEN-XX-DR-TR-103** shows the swept path assessment of a 16.5m max. legal articulated HGV for the individual unit access junctions along the spine road.
- 6.11 Drawings **MRR-BWB-GEN-XX-DR-TR-104 to 107** show the swept path assessment of a 16.5m max. legal articulated HGV for the service yards and access to the docking stations of the individual units. It demonstrates that this type of vehicle can access and egress the service yards in forward gear.

Parking Provision

- 6.12 In terms of standards for regular vehicle parking provision, reference is made to RBC's 'Rochdale Core Strategy Parking Standards' (October 2016). The relevant parking guidance is summarised in **Table 6.2**.

Table 6.2: Parking Guidance (Rochdale Core Strategy Parking Standards, 2016)

Land Use	Maximum Standard for Car Parking Provision	Minimum Standard for Cycle Parking Provision	Motorcycle	Disabled
B8	1 space per 100 sqm	1 space per 850 sqm (min 2 spaces)	1 space per 4,000 sq.m (min 2 spaces)	Below 12: 10% of total capacity Between 12 to 200 spaces: 3 bays or 6% of total capacity (whichever is the greater) Over 200: 4 bays plus 4% of total capacity

- 6.13 **Table 6.3** below sets out the required parking levels in accordance with the parking standards set out in **Table 6.2** above and compares with the proposed parking provision.

Table 6.3: Required Parking compared to Proposed Parking Provision

Unit	Requirement/ Proposed Provision	Maximum Standard for Car Parking Provision	Minimum Standard for Cycle Parking Provision	Motorcycle	Disabled
1	Requirement	49	6	2	3 (Based on 40 CP spaces)
	Proposed Provision	40	20	2	4
2	Requirement	45	5	2	3 (Based on 40 CP spaces)
	Proposed Provision	40	20	2	4
3	Requirement	359	42	9	17 (Based on 319 CP spaces)
	Proposed Provision	319	80	9	18

6.14 **Table 6.3** above shows that the proposed parking provision generally accords with the guidelines set out in the Rochdale Core Strategy Parking Standards.

6.15 In terms of Electric Vehicle Charge Point (EVCP) parking, Unit 1 has two EVCP bays and one disabled EVCP bay, Unit 2 has two EVCP bays and one disabled EVCP bay and Unit 3 has 14 EVCP bays with one disabled EVCP bay.

Construction Impact

6.16 Details of construction of the proposed development are yet to be finalised. Notwithstanding this, it is likely that construction works associated with the proposed development will be undertaken between 07:00-20:00 during weekdays and 07:00-13:00 on Saturdays. However, the hours of construction operation will be determined in the planning permission.

6.17 The number of HGV construction vehicle movements and the access routes to be used can be agreed with the local highway authority prior to construction works commencing on Site.

6.18 In order to encourage efficient use of HGVs associated with the construction phase of the development, backloading of waste materials onto delivery vehicles leaving the construction site and re-use of onsite aggregates will be encouraged.

6.19 As part of any conditional approval, a Construction Environmental Management Plan (CEMP) can be conditioned (if required) and produced for the Site. It would detail how construction traffic will access the development ensuring any impacts associated with construction traffic such as, noise, dirt and congestion will be minimised. Once appointed, the Contractor will be responsible for the CEMP. The CEMP will be submitted to the local highway authority for approval prior to construction.

6.20 The CEMP will cover the following:

- Construction Times – would be agreed to ensure there is minimal impact to the surrounding areas. For example, construction activity limited to Monday to Friday between the hours of 07:00- 20:00 and 07:00-13:00 on Saturdays;

- Vehicle Cleaning – wheel washing would be implemented to ensure dirt and dust from the Site is contained within it and not distributed on surrounding roads;
- Vehicle Size – maximum size of vehicles accessing the Site would be agreed.
- Vehicle Routing – a routing strategy for construction vehicles will be provided.
- Parking – details of parking provision for contractors would be identified and agreed; and
- Number of Vehicles – an agreement may be in place to limit the number of vehicles travelling to Site per day, to ensure limited impact of the surrounding areas.

Pedestrian & Cycle Access

- 6.21 As previously mentioned in Section 4, significant improvements are being made to local walking and cycling infrastructure in the vicinity of the Site as part of the South Heywood Link Road. This includes a new traffic signal-controlled junction at A6045 Manchester Road/Heywood Old Road and various uncontrolled pedestrian crossing points located along the link road.
- 6.22 A segregated foot/cycleway is also set to be implemented as part of the proposals; this will run between the new Link Road/Manchester Road junction to Heywood Interchange. Improvements are also being made to pedestrian and cyclist provision at M62 Junction 19 Heywood Interchange.
- 6.23 Further to discussions with TfGM, an uncontrolled pedestrian crossing point in the form of dropped kerbs, a pedestrian refuge and tactile paving is proposed adjacent to the site access to provide a direct route between the development and southbound bus stop on Manchester Road. BWB Drawing **MRR-BWB-GEN-XX-DR-TR-101 P5** is appended to this TA and shows how the crossing can be accommodated. This proposed pedestrian infrastructure can be delivered as part of the site access S278 works or secured via a S106 financial contribution to be confirmed by the RBC.

7. TRAFFIC IMPACT OF THE DEVELOPMENT

Introduction

- 7.1 The Transport Scoping Note (**Appendix 7**) has been agreed with RBC and NH and sets out the approach to trip generation to be used in the traffic impact assessment.
- 7.2 This section quantifies the level of trip generation associated with the existing and proposed land uses at the Site during the weekday morning and evening peak hours of the road network.

Trip Rates - TRICS Approach

- 7.3 TRICS has been interrogated to identify sites of a similar nature to the proposed redevelopment and the following criteria was applied to the TRICS category "Warehousing (Commercial)":
- Sites in London, Republic of Ireland, Northern Ireland were excluded;
 - Edge of Town Centre, Suburban Area and Edge of Town sites were included; and
 - Only weekday surveys were included.
- 7.4 Following the application of the above filtering criteria there were found to be 15 suitable survey sites, details of these are presented in the full TRICS printout provided in **Appendix 8**.
- 7.5 **Table 7.1** presents the average weekday peak hour vehicle trips rates taken from the 15 sites. This includes total vehicle and HGV ('OGV') trip rates extracted directly from the TRICS printouts. The 'lights' trip rates have been calculated by subtracting the HGV trip rates from the total vehicle trip rates.

Table 7.1: B8 Development Vehicle Trip Generation

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
05:00-06:00	0.125	0.032	0.157	0.017	0.016	0.033	0.142	0.048	0.190
06:00-07:00	0.089	0.094	0.183	0.015	0.022	0.037	0.104	0.116	0.220
07:00-08:00	0.107	0.035	0.142	0.03	0.045	0.075	0.137	0.080	0.217
08:00-09:00	0.091	0.034	0.125	0.036	0.049	0.085	0.127	0.083	0.210
09:00-10:00	0.074	0.044	0.118	0.041	0.044	0.085	0.115	0.088	0.203
10:00-11:00	0.064	0.057	0.121	0.052	0.053	0.105	0.116	0.110	0.226
11:00-12:00	0.067	0.068	0.135	0.047	0.039	0.086	0.114	0.107	0.221
12:00-13:00	0.061	0.077	0.138	0.046	0.037	0.083	0.107	0.114	0.221
13:00-14:00	0.085	0.071	0.156	0.04	0.042	0.082	0.125	0.113	0.238
14:00-15:00	0.058	0.100	0.158	0.044	0.037	0.081	0.102	0.137	0.239
15:00-16:00	0.055	0.081	0.136	0.055	0.044	0.099	0.11	0.125	0.235
16:00-17:00	0.045	0.091	0.136	0.054	0.036	0.09	0.099	0.127	0.226
17:00-18:00	0.039	0.119	0.158	0.054	0.041	0.095	0.093	0.160	0.253

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
18:00-19:00	0.021	0.078	0.099	0.034	0.032	0.066	0.055	0.11	0.165
19:00-20:00	0.024	0.032	0.056	0.012	0.026	0.038	0.036	0.058	0.094
20:00-21:00	0.024	0.018	0.042	0.017	0.029	0.046	0.041	0.047	0.088
21:00-22:00	0.017	0.000	0.017	0.017	0.017	0.034	0.034	0.017	0.051
Note: Trip Rates are per 100sq.m									

7.6 **Table 7.1** shows that the weekday peak hour total two-way trip rate would be 0.239 and occurs between 14:00 and 15:00.

7.7 The weekday network peak is assumed to be 08:00 to 09:00 in the morning and 17:00 to 18:00 in the evening. Therefore, the total weekday morning two-way trip rate would be 0.210 and the total weekday evening two-way trip rate would be 0.253.

Extant Use Trip Generation

7.8 The Site currently comprises of nine sheds with a ground floor area of 27,559 sq.m (excluding mezzanines and plant) with vehicle access from the A6045 Manchester Road. The site has a certificate of lawful use for B8 Use Class (Planning Ref. 21/01298/CPE).

7.9 TRICS has been used to estimate the peak period vehicle trip generation associated with the existing use of the Site. The average weekday B8 vehicle trip rates split into 'lights' and 'HGVs' are presented in **Table 7.2** below.

Table 7.2: B8 Weekday Trip Rates

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	0.091	0.034	0.125	0.036	0.049	0.085	0.127	0.083	0.210
17:00-18:00	0.039	0.119	0.158	0.054	0.041	0.095	0.093	0.160	0.253
Note: Trip Rates are per 100sq.m									

7.10 The above B8 trip rates have been applied to the ground floor area only (27,559 sq.m) for robustness and the potential traffic generation associated with the existing use of the Site is presented in **Table 7.3**.

Table 7.3: Existing Site Weekday Trip Generation (27,559 sq.m)

Weekday Peak	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	25	9	34	10	14	24	35	23	58
17:00-18:00	11	33	44	15	11	26	26	44	70

7.11 The existing B8 units have the potential to generate 58 and 70 two-way vehicle trips during the weekday morning and evening peak hours respectively. Of these, 24 and 26 would be HGV trips respectively.

7.12 This is considered a robust assessment as it excludes mezzanine and plant floor area, whilst TRICS includes such floor area in the Gross Floor Areas used in their calculations.

Proposed Redevelopment Trip Generation

- 7.13 The proposed land use class will not change as a result of the redevelopment proposal, therefore the same B8 vehicle trip rates (presented in **Table 7.2**) have been used. BWB has calculated the traffic generation associated with the total proposed floor area (45,393sq.m), this is presented in **Table 7.4**.

Table 7.4: Proposed Site Trip Generation (45,393 sq.m)

Weekday Peak	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	41	15	56	16	22	38	57	37	94
17:00-18:00	18	54	72	25	19	44	43	73	116

- 7.14 The proposed development is expected to generate 94 and 116 two-way vehicle trips during the weekday morning and evening peak hours respectively. Of these, 38 and 44 would be HGV trips respectively.

Residual Trip Generation of Proposals

- 7.15 The existing Site trip generation has been deducted from the proposed development trip generation to calculate the residual vehicle trip generation of the proposals during the weekday peak hours of the local highway network, this is summarised in **Table 7.5**.

Table 7.5. Residual Vehicle Trip Generation

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
AM Peak Hour 08:00-09:00	+16	+6	+22	+6	+8	+14	+22	+14	+36
PM Peak Hour 17:00-18:00	+7	+21	+28	+10	+8	+18	+17	+29	+46

- 7.16 As shown, it is expected that the proposed redevelopment would generate 36 and 46 residual two-way vehicle movements during the morning and evening weekday peak hours respectively compared to the extant B8 units. Of these residual trips, 14 and 18 would be HGV trips respectively.
- 7.17 As noted previously in this report, the new Link Road will result in 39 fewer PCUs along the A6045 Manchester Road in the weekday morning peak hour and 129 fewer PCUs in the weekday evening peak hour.
- 7.18 Therefore, it is anticipated that with the new Link Road in place the residual increase in vehicle trips as a result of the redevelopment proposal can be accommodated with negligible change to the operation of the local road network.
- 7.19 At the request of RBC Highways, the proposed Site access onto the A6045 Manchester Road has been assessed based on the total development traffic i.e. traffic movements associated with the total floor space, rather than just the residual increase.

- 7.20 The weekday 2020 and 2038 flows with the Link Road in place along the A6045 Manchester Road have been extracted from the South Heywood development Transport Assessment and are summarised in **Table 7.6** below.

Table 7.6: A6045 Manchester Road 2020 & 2038 Traffic Flows (PCUs)

A6045 Manchester Rd	AM		PM		Total	
	2020	2038	2020	2038	2020	2038
Northbound With LR	281	500	486	582	767	1,082
Southbound With LR	494	578	308	366	802	944
Total With LR	775	1,078	794	948	1,569	2,026

Distribution Pattern

- 7.21 To forecast the distribution of total development traffic, the following two travel patterns have been identified: -

- **Journey to Work Distribution** – which are related to employee's journeys to work; and
- **Commercial Distribution** – these are HGV movements relating to the commercial use.

- 7.22 The journey to work distribution pattern has been applied to the proposed development light vehicle movements and the commercial distribution has been applied to the forecast HGV movements.

Journey to Work Distribution Pattern (Light Vehicle Trips)

- 7.23 Light vehicle trips have been distributed onto the road network using 2020 flows with the Link Road in place along the A6045 Manchester Road.
- 7.24 **Table 7.7** below shows a breakdown of the Journey To Work distribution proportions for each route, and the name of each route.

Table 7.7: Journey To Work Distribution Proportions

A6045 Manchester Rd	AM		PM	
	2020	Proportion	2020	Proportion
Northbound With LR	281	36.6%	486	61.6%
Southbound With LR	494	63.4%	308	38.4%
Total With LR	775	100.0%	794	100.0%

Commercial Distribution Pattern (HGV trips)

- 7.25 The development is speculative and therefore details of future end occupiers are unknown, therefore it has not been possible to quantify the distribution of HGV movements on a first principles basis. However, it is anticipated that all HGV trips would travel to and from the Site via the Link Road. The proposed HGV trip distribution proportions are presented in **Table 7.8** below, with all traffic travelling to/from the Link Road.

Table 7.8: Commercial HGV Trip Distribution Proportions

Road Network	Distribution Pattern
Link Road	100.0%

- 7.26 The distribution and assignment patterns and distributed development trips for 'lights' and HGV is presented on **Diagrams 1 – 3** at the end of this report.

2020 Flows + Development Traffic (with Link Road)

- 7.27 The 2020 flows have been extracted from the South Heywood Transport Assessment and the Proposed Development flows added to these as set out in **Table 7.4**. The resultant 2020 Base + Development flows are shown on traffic flow **Diagram 4** at the end of this report.

2038 Flows + Development Traffic (with Link Road)

- 7.28 The 2038 flows have also been extracted from the South Heywood Transport Assessment and the Proposed Development flows added to these. The resultant 2038 Based + Development flows are shown on the traffic flow **Diagram 5** at the end of this report.
- 7.29 It is worth noting that the 2020 and 2038 flows along the A6045 Manchester Road include the existing development flows and there is considered as a robust assessment, due to the element of double counting of the development flows.
- 7.30 The main site access will serve both HGVs and cars accessing and egressing the Site, the car parks and the wider development site. The geometry of the main site access is shown below in **Table 7.9**.

Table 7.9: Proposed Junction Access Geometry

Access	Geometry	
Main Access	Access Road Width	12.30m
	Left Junction Radius	13.00m
	Right Junction Radius	13.00m
	Left Visibility Splay	2.4m x 90m
	Right Visibility Splay	2.4m x 90m

- 7.31 **Table 7.10** shows the geometry for the major and minor arms relating to the Junctions10 model.

Table 7.10: Proposed Junction Access Junctions10 Geometry

	Geometry	
Major Arm (Manchester Road)	Width of Carriageway	7.74m
	Visibility along A from C-B Traffic	180.00m
	C-B Traffic block C-A Traffic	1.00pcu
Main Access (Minor Arm)	Visibility from Arm B - Left	32.00m
	Visibility from Arm B - Right	28.00m
	Lane Width – at Give-Way	10.00m
	Lane Width – at 5m	9.17m
	Lane Width – at 10m	6.47m
	Lane Width – at 15m	6.10m
	Lane Width – at 20m	6.10m

Geometry		
	Resultant Flare	3.00pcu

- 7.32 The results of the 2020 and 2038 with development traffic analysis for the Site access junction are summarised in **Table 7.11**.

Table 7.11: 2020 & 2038 With Development Modelling Results

Movement		AM Weekday Peak Hour		PM Weekday Peak Hour	
		2020	2038	2020	2038
Site Access to A6045 Manchester Road (N)	RFC	0.02	0.02	0.05	0.05
	Queue	0.0	0.0	0.1	0.1
	Av Delay	7sec	8sec	8sec	9sec
Site Access to A6045 Manchester Road (S)	RFC	0.15	0.18	0.21	0.23
	Queue	0.2	0.2	0.3	0.3
	Av Delay	10sec	13sec	12sec	13sec
A6045 Manchester Road (N) to Site Access/A6045 Manchester Road (S)	RFC	0.05	0.05	0.01	0.02
	Queue	0.1	0.1	0.0	0.0
	Av Delay	6sec	7sec	7sec	7sec

- 7.33 **Table 7.11** demonstrates that the improved priority junction can accommodate the flows associated with the development with the Link Road in place in 2020 and 2038 scenarios with no queuing occurring.
- 7.34 In addition, it is also considered that the 2020 and 2038 flows along the A6045 Manchester Road includes the existing development flows and therefore is considered as a robust assessment, due to the element of double counting of the development flows.
- 7.35 The junction assessment PICADY output files are included in **Appendix 9**.
- 7.36 During scoping discussions, RBC requested that the interaction between the Site access junction and the proposed Link Road / Manchester Road junction was assessed.
- 7.37 BWB has approached TFGM to request a copy of the LinSig traffic model for the Link Road/Manchester Rd signalised junction. However, TFGM has responded confirming that the traffic signal-controlled junction configuration is yet to be finalised and therefore would not be appropriate to use in this assessment.
- 7.38 In lieu of the above technical information, the forecast future capacity of the proposed Link Road / Manchester Road signalised junction has been extracted from the South Heywood Transport Assessment. It is assumed that these flows include the trip generation associated with the extant B8 use of the Site (31,900sqm).
- 7.39 **Appendix 10** presents the 2020 'Do Something' (DS) and 2038 DS LinSig modelling results for the proposed Link Road / Manchester Road signalised junction as set in out in the South Heywood Transport Assessment. These results are summarised in **Table 7.12** below.

Table 7.12: 2020/2038 Modelling Results – Link Road/Manchester Road Signal Junction

Lane Description			AM Weekday Peak Hour		PM Weekday Peak Hour	
			2020	2038	2020	2038
1/1+1/2	Link Rd (w)	DoS	30.10%	60.80%	35.30%	54.30%
	Ahead Left	Queue	4.5	11	5.1	9.6

Lane Description			AM Weekday Peak Hour		PM Weekday Peak Hour	
			2020	2038	2020	2038
		Flow	477	1,018	511	932
1/3	Link Rd (w) Right	DoS Queue Flow	26.90% 1.7 67	26.10% 1.6 65	34.50% 2.2 86	39.70% 2.6 99
2/2+2/1	Link Rd (e) Ahead Left	DoS Queue Flow	47.70% 6.6 327	76.30% 13.6 555	62.50% 8.8 386	76.30% 13.8 572
2/3+2/4	Link Rd (e) Ahead Right	DoS Queue Flow	53.50% 7.5 415	80.10% 15.2 665	67.70% 10.2 478	80.70% 15.7 696
3/1+3/2	Manchester Rd (n) Ahead Left Right	DoS Queue Flow	50.70% 5.7 486	74.90% 8 582	32.70% 3.3 308	62.70% 4.9 366
4/1+4/2	Heywood Old Rd (s) Head Left right	DoS Queue Flow	50.20% 6.1 318	65.90% 8.2 395	66.30% 9.4 446	81.90% 11.5 467
Junction PRC			68.4%	12.3%	32.9%	9.8%

- 7.40 The results show that the longest queue along link 3/1+3/2 Manchester Road north approach arm would form during the 2038 morning peak hour at 8 PCUs, which is the equivalent to 46 metres (5.75m x 8 PCUs).
- 7.41 The distance between the stop line at the Manchester Road north approach arm to the centreline of the proposed Site access is approximately 70 metres.
- 7.42 In **Table 7.5**, it is estimated that the residual trip generation associated with the development will be 36 and 46 two-way vehicle movements during the morning and evening peak hours respectively, and of these 14 and 18 two-way movements will be HGVs.
- 7.43 Of the additional 14 and 18 two-way HGV movements, 8 and 8 will be departing the Site in the morning and evening peak hours respectively, i.e. turning right-out of the Site.
- 7.44 **Table 7.5**, also estimates the lights residual trip generation associated with the development which are 22 and 28.
- 7.45 Of the additional 22 and 28 two-way light movements, 6 and 21 will be departing the Site in the morning and evening peak hours respectively, and 36.6% and 61.6% will be turning right in the morning and evening peak hours respectively.
- 7.46 This equates to 2 and 13 lights movements turning right in the morning and evening peak hours respectively.
- 7.47 Therefore, there will be a total of 10 and 21 vehicles turning right out in the morning and evening peak hours respectively.
- 7.48 This would equate to 1 vehicle movement every 5 minutes in the morning peak hour and 1 vehicle movement every 3 minutes in the evening peak hour.
- 7.49 Based on the South Heywood LinSig modelling results, it is anticipated that the levels of traffic movements generated by the proposed development would not have a material

impact on the interaction between the site access and the proposed Link Road with Manchester Road.

8. SUMMARY AND CONCLUSIONS

- 8.1 This Transport Assessment considers the highway and traffic issues raised by a proposed redevelopment of the Heywood Stores site located to the north of Manchester Road in Heywood.
- 8.2 The Site currently comprises of nine sheds with a total building floor area 42,304 sq.m which includes the ground floor space (27,559 sq.m), mezzanine (14,550 sq.m), plant (195 sq.m) with vehicle access from the A6045 Manchester Road. The site has a certificate of lawful use for B8 Use Class (Planning Ref. 21/01298/CPE).
- 8.3 Peak period trip generation has been calculated using the TRICS database based on the lawful B8 use. This approach has been agreed with RBC Planning and TfGM as a result of the existing operations not being representative due to operations winding down. This is supported by an email on behalf of the existing tenant. For robustness, the TRICS trip rates have only been applied to existing ground floor space (excluding mezzanine and plant areas). This analysis suggests that the existing Site could generate 58 and 70 two-way vehicle movements during the weekday morning and evening peak hours respectively.
- 8.4 The proposals consist of the redevelopment of the site comprising the demolition of all existing units and erection of new storage and distribution units (Use Class B8) with ancillary office space, vehicular, pedestrian and cycle access, external yards, parking, landscaping and associated works.
- 8.5 The combined floor area of the proposed buildings is 45,393 sq.m and will result a net increase of 3,089 sq.m floorspace compared to the existing site. TRICS B8 trip rates have been applied to the total proposed floor space and estimate that the development would generate 94 and 116 two-way vehicle trips during the respective peak hours.
- 8.6 Vehicular access to the Site will be retained at its existing location from the A6045 Manchester Road, albeit improvements made to accommodate two-way HGV movements. The access design has been subject to an independent review Stage 1 and 2 combined RSA and amendments to white lining made as a result.
- 8.7 The content of this TA is based on scoping discussions with RBC Highways, TfGM and National Highways.
- 8.8 The highway network in the vicinity of the Site has been described in detail and it has been demonstrated that the site is accessible to a choice of means of travel. This includes consideration of significant improvements to walking, cycling and public transport infrastructure as part of the South Heywood Link Road.
- 8.9 A detailed review of the internal layout has been undertaken, including swept path analysis of the access roads and service yards.
- 8.10 The type and level of parking provision for each of the units has been planned in accordance with RBC's parking standards and includes disabled parking, electric vehicle charge points, cycle and motorcycle parking.

- 8.11 The interaction between the Site access and the new Link Road with Manchester Road junction has been assessed and it is considered that the additional trips associated with the redevelopment can be accommodated.
- 8.12 In conclusion, this Transport Assessment report has demonstrated that the proposed development will not have a detrimental impact on the capacity of the highway network. BWB therefore considers that the proposals are consistent with the statutory development plan and the National Planning Policy Framework.

TRAFFIC FLOWS DIAGRAMS

Vehicle Trip Rates			
	Arr	Dep	TOT
AM	0.127	0.083	0.210
PM	0.093	0.160	0.253

HGV Trip Rates			
	Arr	Dep	TOT
AM	0.036	0.049	0.085
PM	0.054	0.041	0.095

Car Trip Rates			
	Arr	Dep	TOT
AM	0.091	0.034	0.125
PM	0.039	0.119	0.158

GFA 45,393.00 sqm

Vehicle Trips			
	Arr	Dep	TOT
AM	58	38	95
PM	42	73	115

HGVs Trips			
	Arr	Dep	TOT
AM	16	22	39
PM	25	19	43

Car Trips			
	Arr	Dep	TOT
AM	41	15	57
PM	18	54	72

- NOTES:**
1. DS 2020 has been used as the distribution Pattern for Cars
 2. It has been assumed that all HGV Trips will arrived/depert via the Link Rd
 3. HGV Conversion factor to PCU is 2.3

Cars Trips

21		10
33		6

b

Site Access

	15	
	11	

a

DS 2020

36.6%	281
71.7%	535
61.6%	494

57	40	34
454	393	443
86	63	67

Harehill Rd/Link Rd W

98	170	50
33	474	21
45	351	50

c

7	
26	

A6045 Manchester Rd N

486	63.4%	100.0%
211	28.3%	100.0%
308	38.4%	100.0%

27	164	117
41	141	29
54	299	133

A6045 Manchester Rd S

77	21	86
598	474	726
67	33	52

Link Rd E



KEY:	
98	AM Peak Hour
33	InterPeak Hour
45	PM Peak Hour



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Manchester
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T: 0161 233 4260

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

Project

Heywood Store Site

Drawn

AB

Approved

MA

Checked

MA

Date

14.10.2022

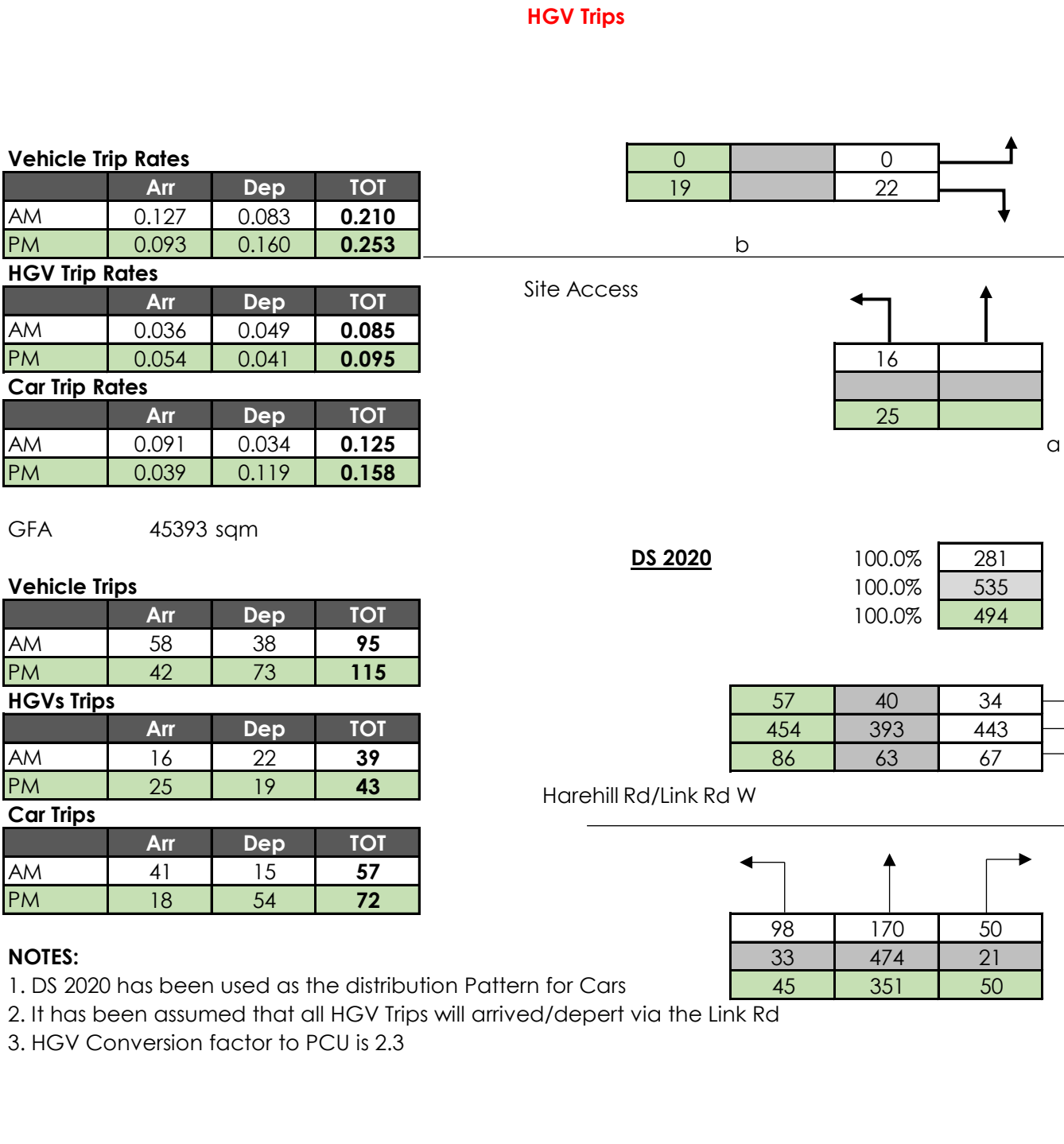
Drawing Title

Diagram 1

AM/PM Peak Hour Distribution Pattern and
Development JTW Trips

Project Number

220785.00



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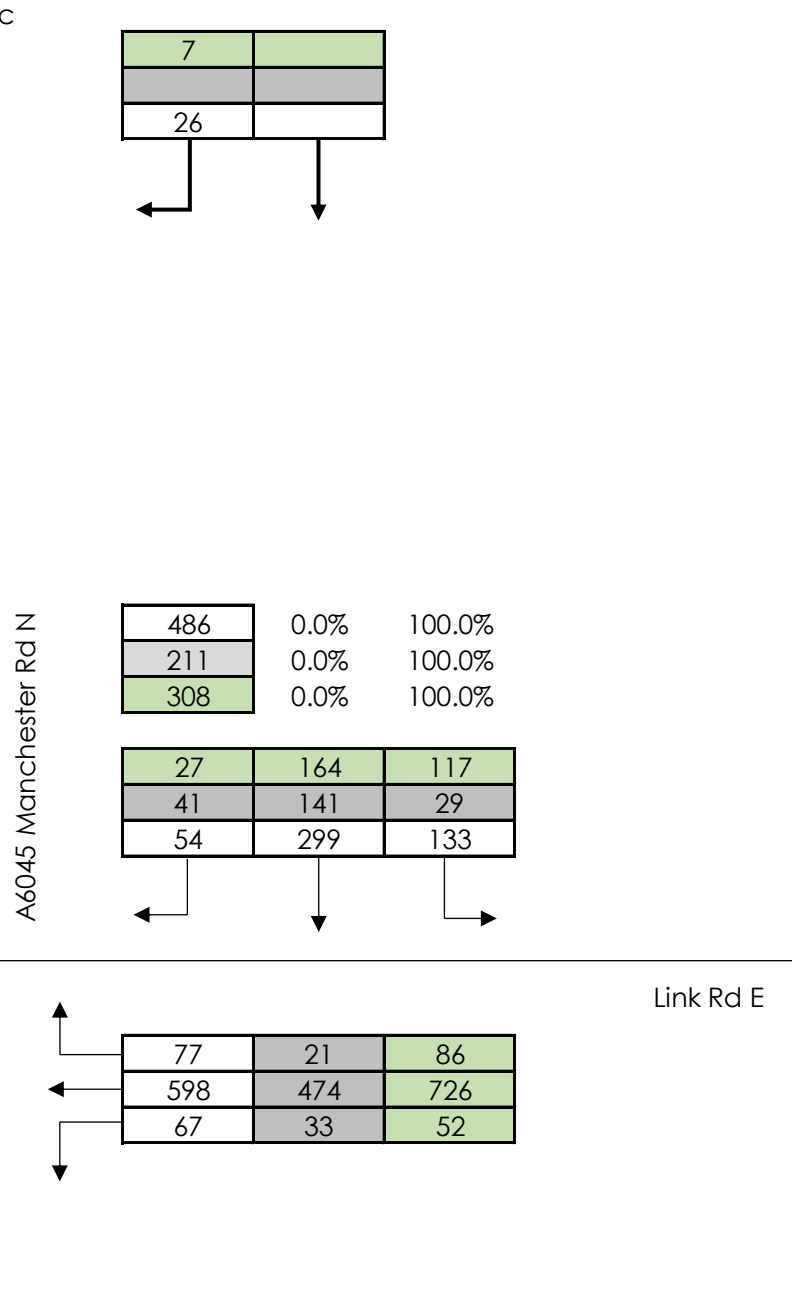
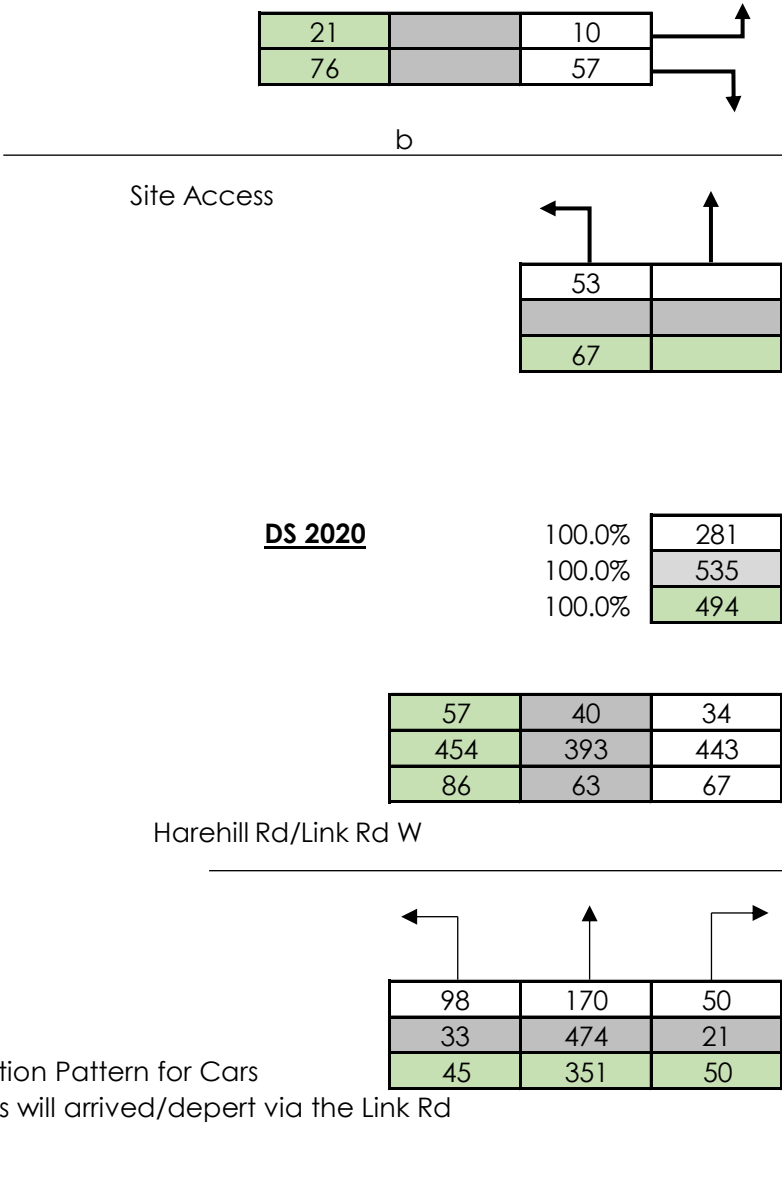
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Heywood Store Site			
Drawn	AB	Approved	MA
Checked	MA	Date	14.10.2022

Drawing Title
Diagram 2
AM/PM Peak Hour Distribution Pattern and Development HGV Trips
Project Number
220785.00

NOTES:
1. DS 2020 has been used as the distribution Pattern for Cars
2. It has been assumed that all HGV Trips will arrived/depert via the Link Rd
3. HGV Conversion factor to PCU is 2.3

Total Development Trips Plus 2020 Background Flows



KEY:

98	AM Peak Hour
33	InterPeak Hour
45	PM Peak Hour



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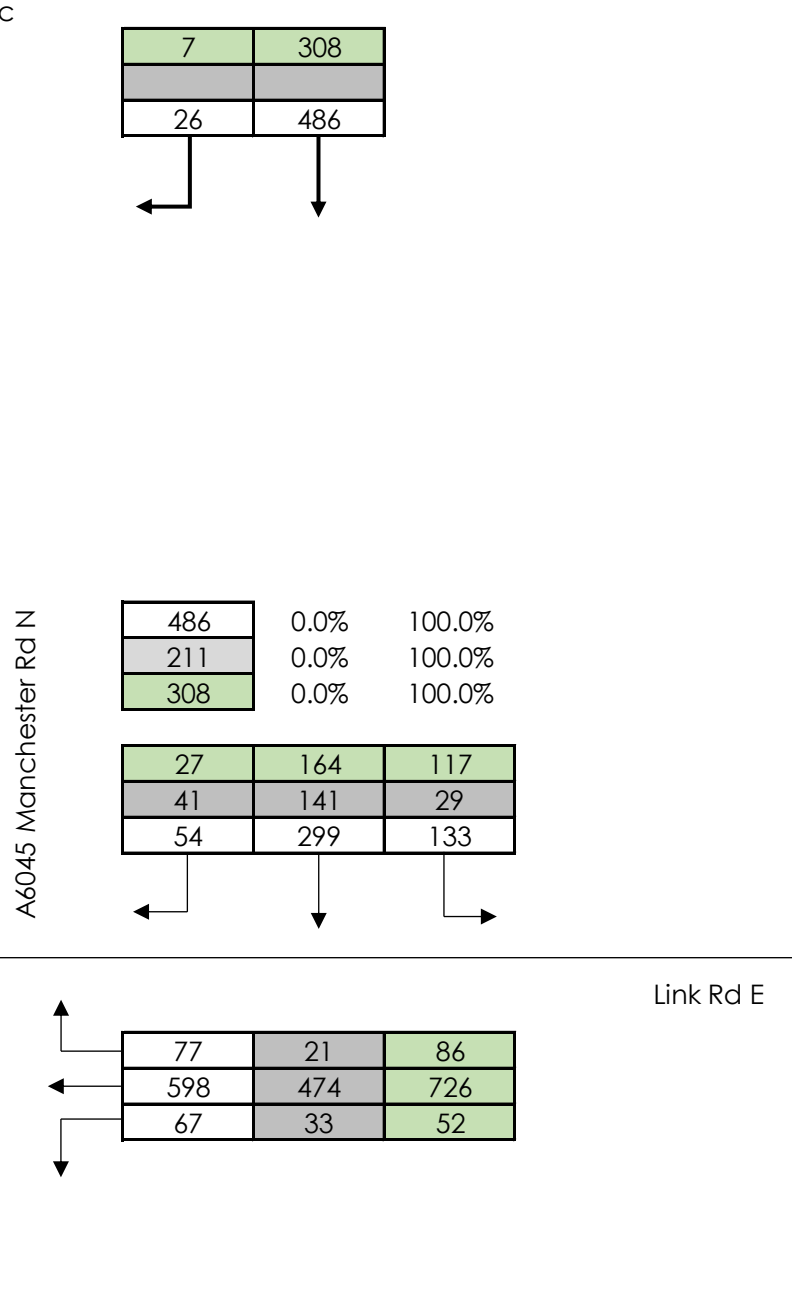
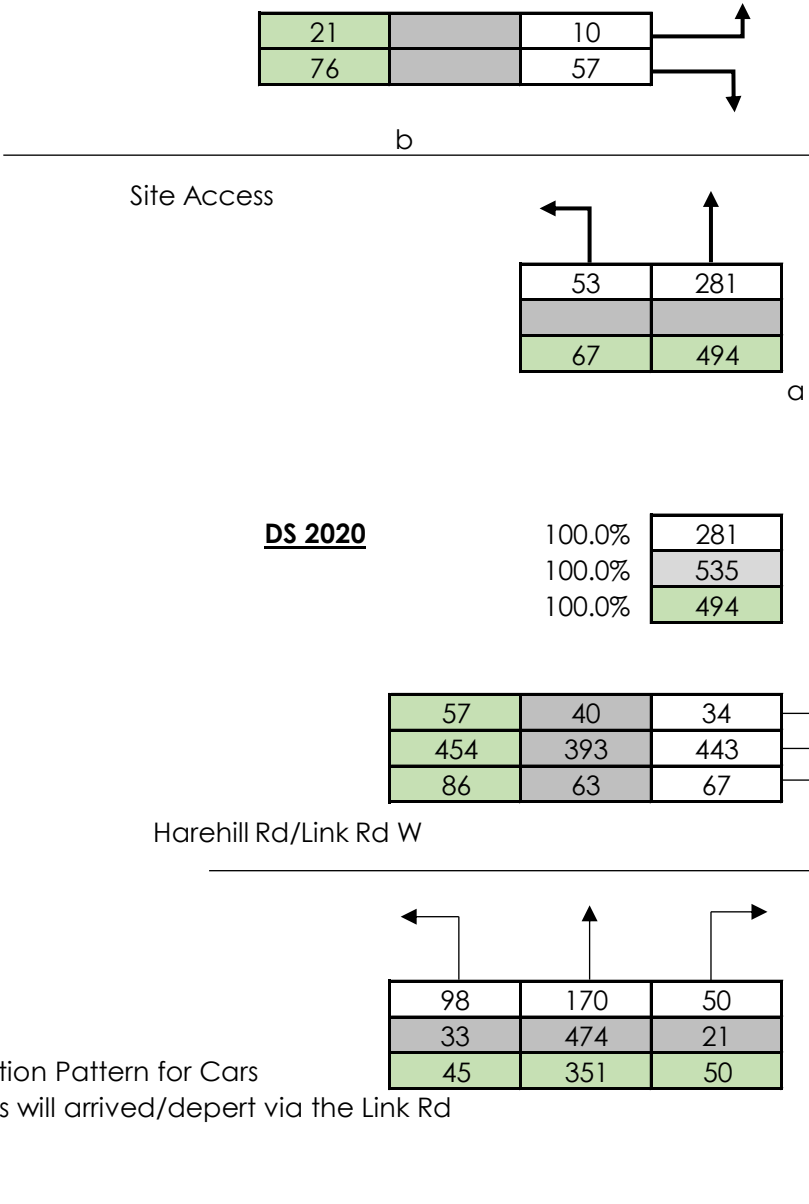
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Nottingham
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Project				Drawing Title Diagram 3 AM/PM Peak Hour Total Development Trips
Heywood Store Site				
Drawn	AB	Approved	MA	
Checked	MA	Date	18.07.2022	Project Number 220785.00

NOTES:
1. DS 2020 has been used as the distribution Pattern for Cars
2. It has been assumed that all HGV Trips will arrived/depert via the Link Rd
3. HGV Conversion factor to PCU is 2.3

2020 Plus Development



KEY:

98	AM Peak Hour
33	InterPeak Hour
45	PM Peak Hour



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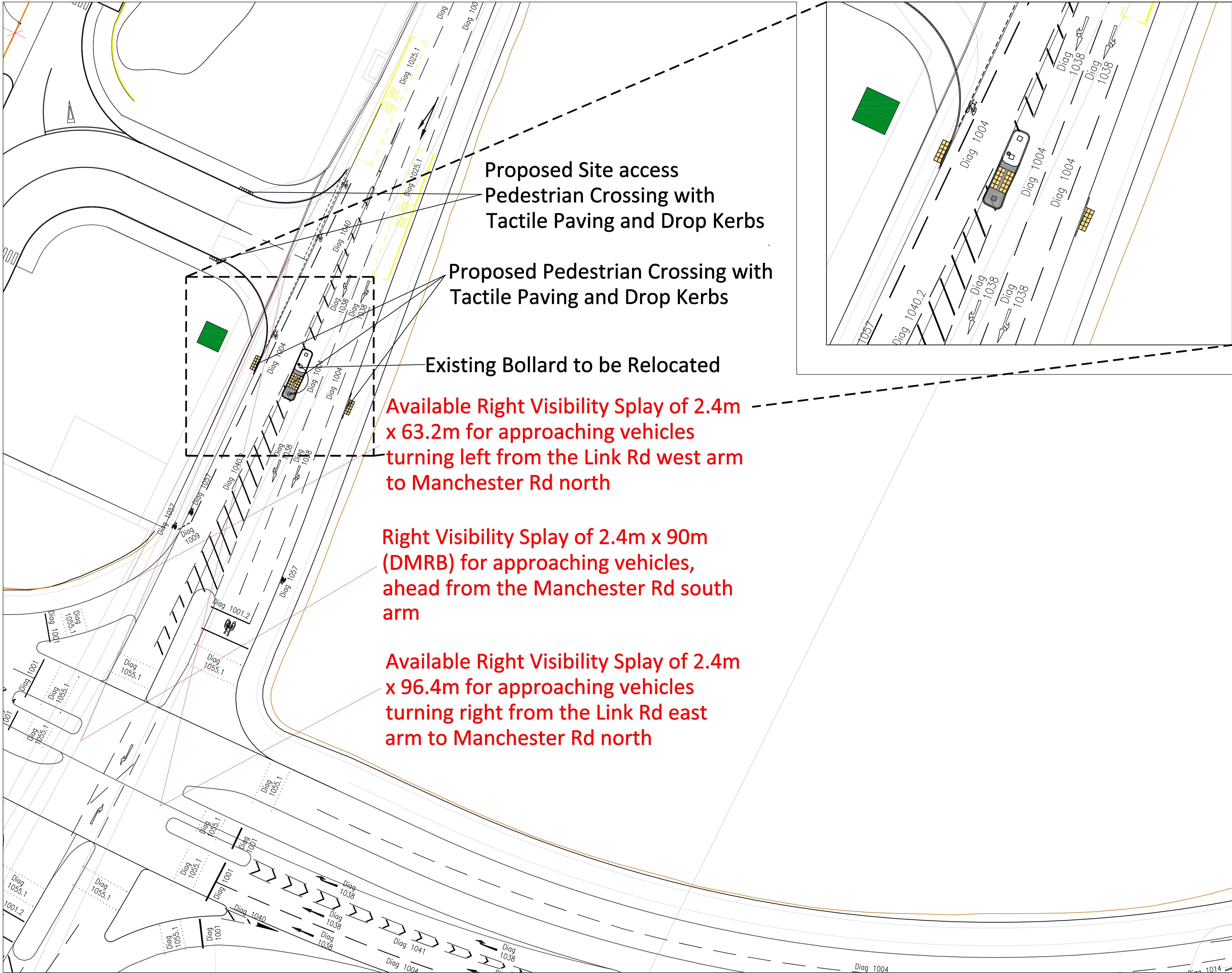
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Project			
Heywood Store Site			
Drawn	AB	Approved	MA
Checked	MA	Date	18.07.2022

Drawing Title
Diagram 4
2020 AM/PM Peak Hour Flows with Development Trips in PCU
Project Number
220785.00

DRAWINGS

MRR-BWB-GEN-XX-DR-TR-101
Junction Visibility Splays



Notes

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Key Plan

Legend

P6	13.03.23	Layout Amended	RW	AB
P5	01.03.23	Layout Amended	RW	AB
P4	09.02.23	Pedestrian Crossing Added	AB	MA
P3	19.01.23	Layout Amended	RW	AB
P2	25.10.22	Layout Amended in accordance with Stage 1/2 RSA	AB	MA
P1	21.10.22	Preliminary Issue	RW	AB
Rev	Date	Details of issue / revision	Drw	Rev

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Trammell Crow Company

Logistics (Heywood) Ltd

Project Title

Heywood Stores Site

Manchester Road,

Heywood

Drawing Title

Site Access - Junction

Visibility Splays

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BWB Ref:	220785.00	Date:	14.07.22
Scale:	A1:	1:500	

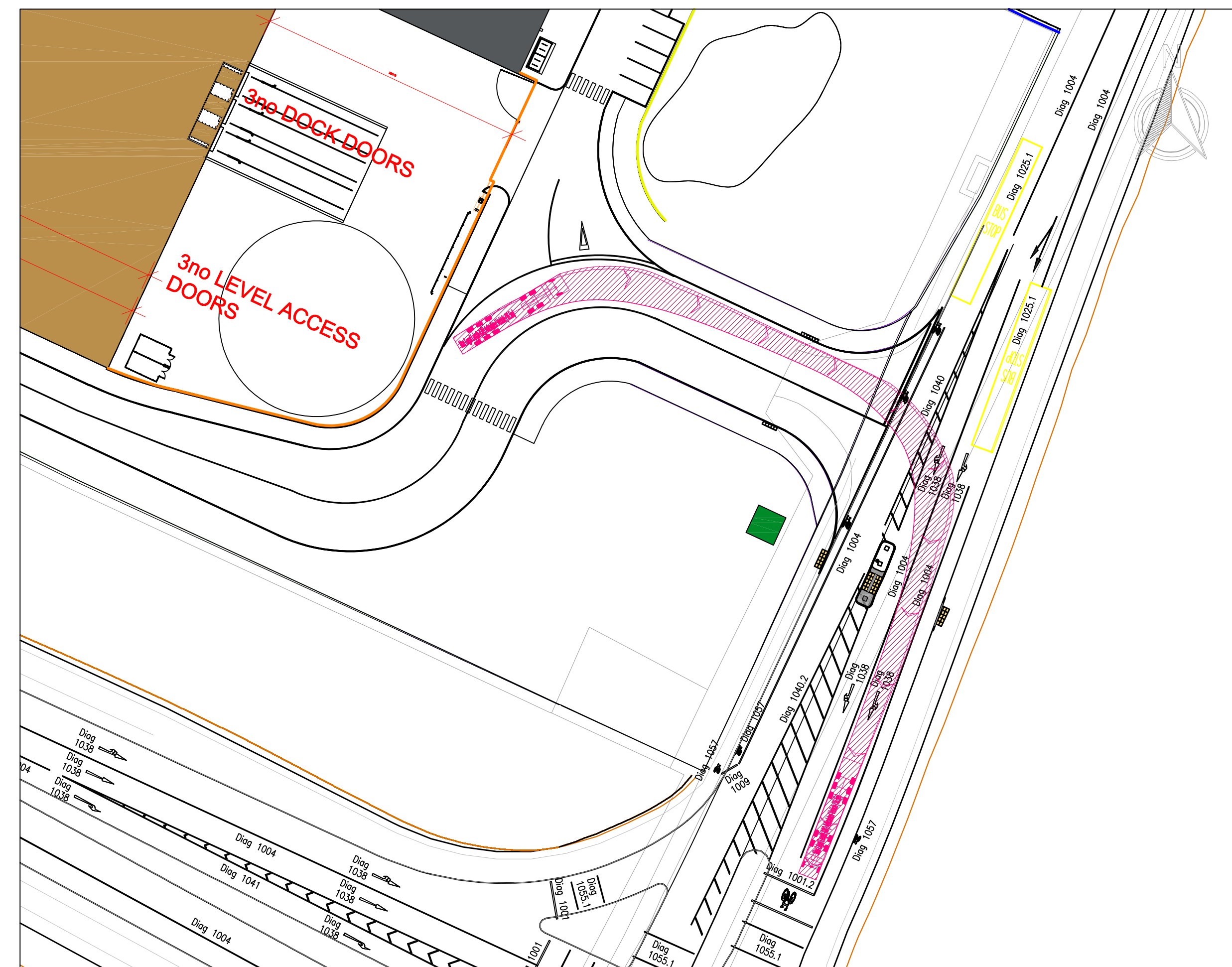
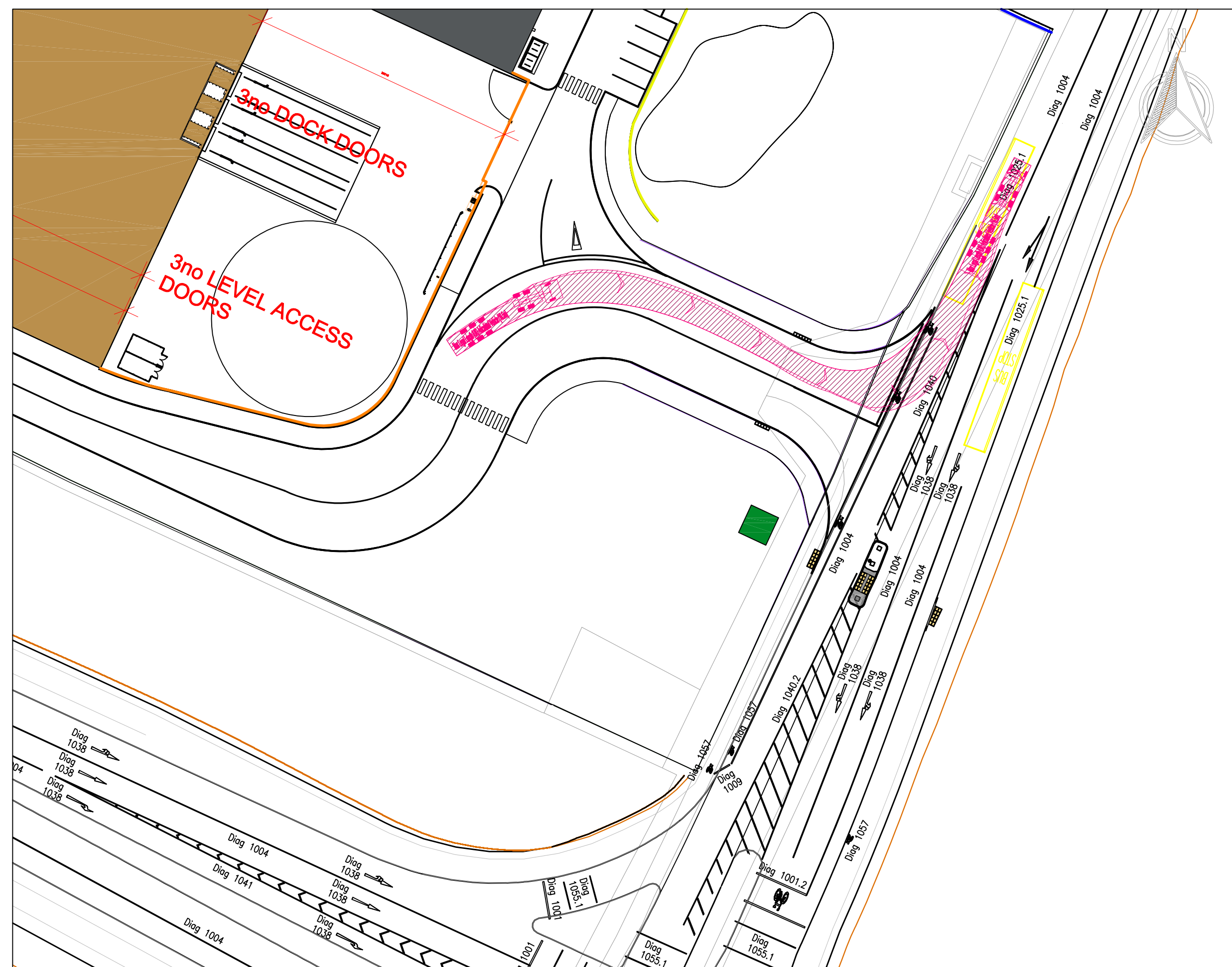
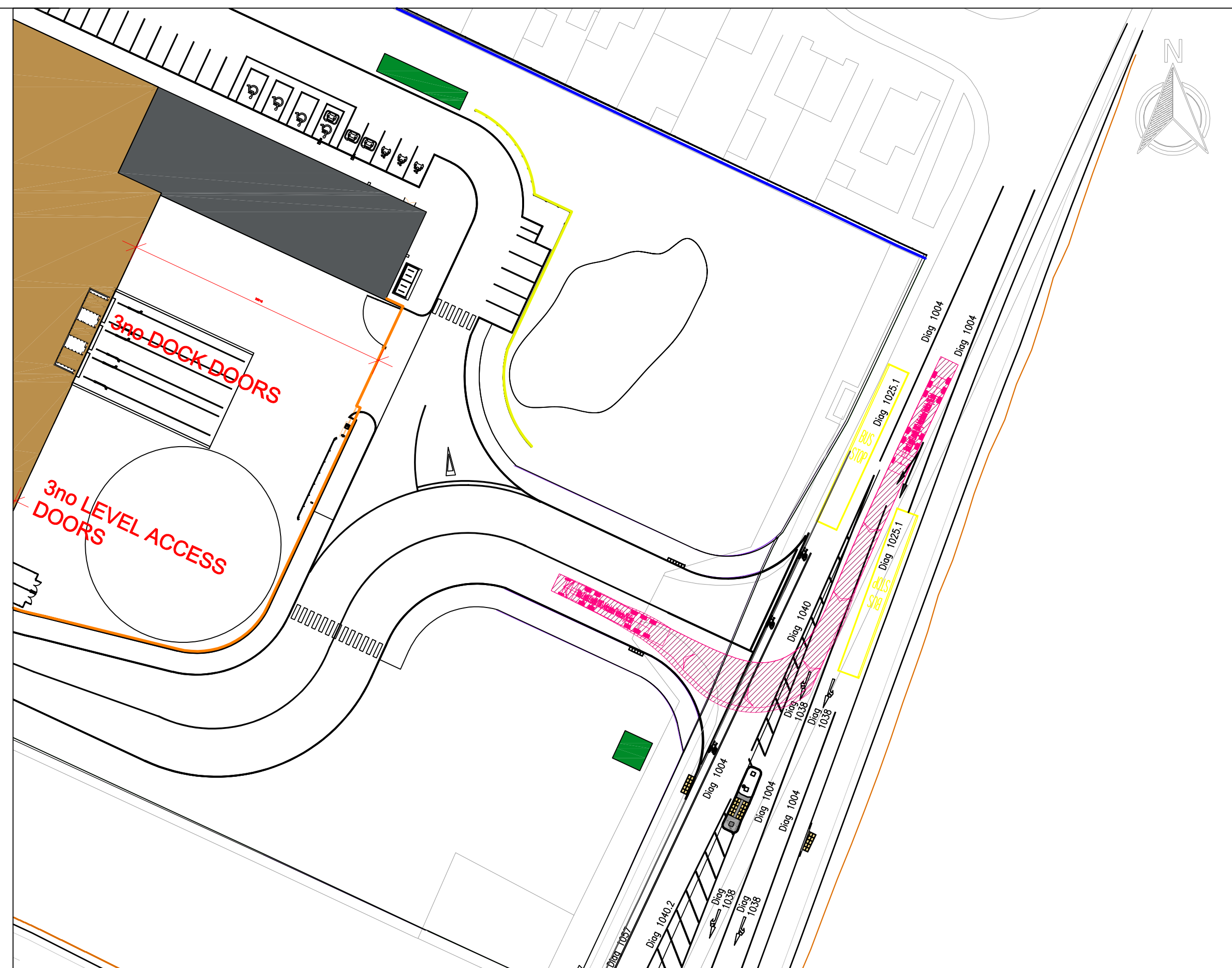
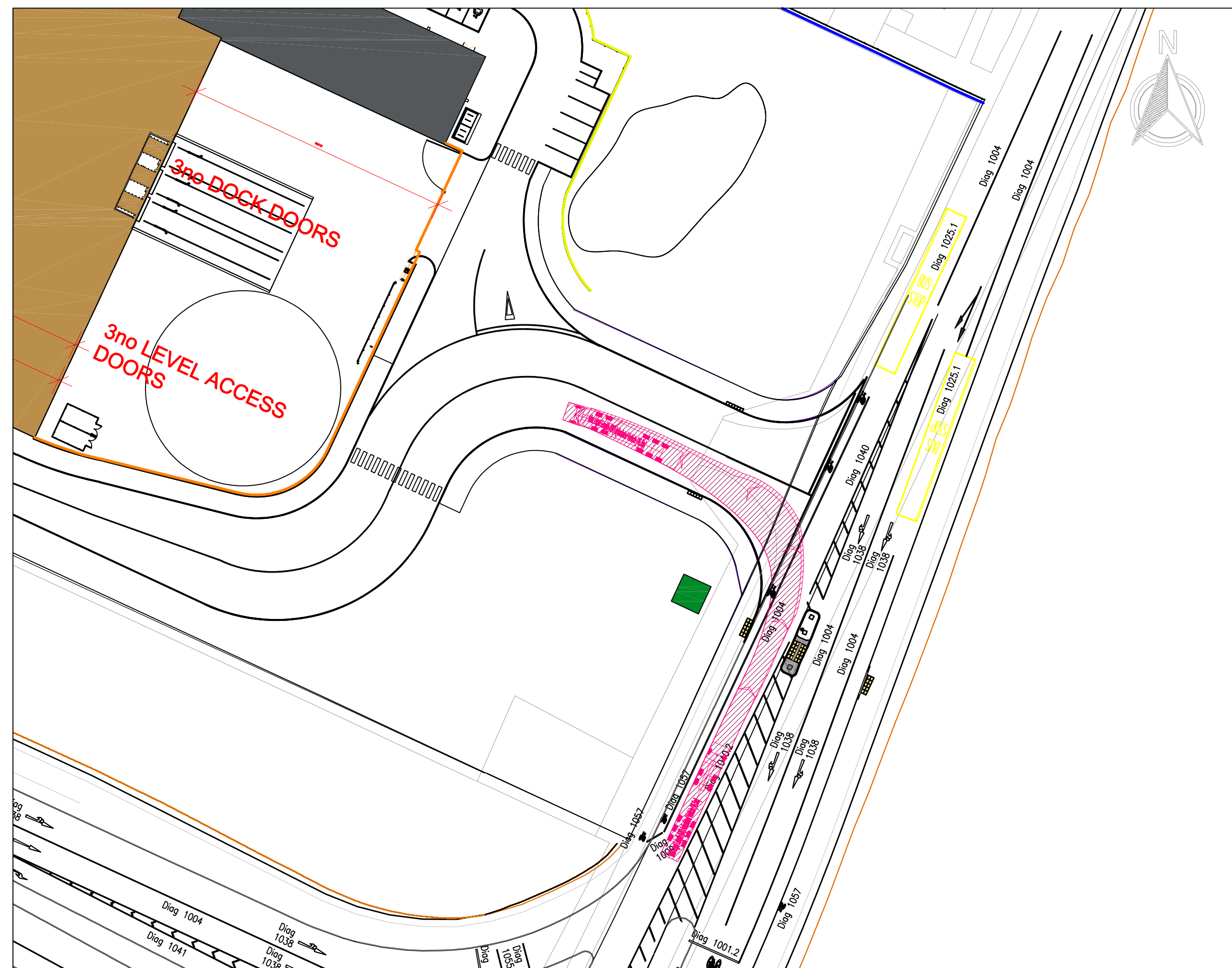
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Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
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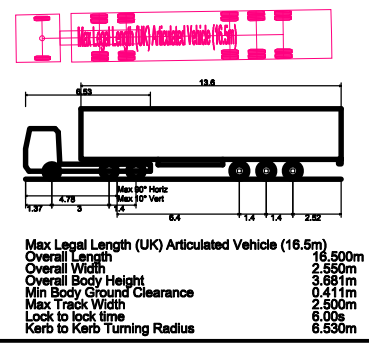
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MRR-BWB-GEN-XX-DR-TR-102
Site Access Swept Path Assessment



- | |
|-------|
| Notes |
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- | | |
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Legend

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P3	01.03.23	Layout Amended	RW	AB
P2	19.01.23	Layout Amended	RW	AB
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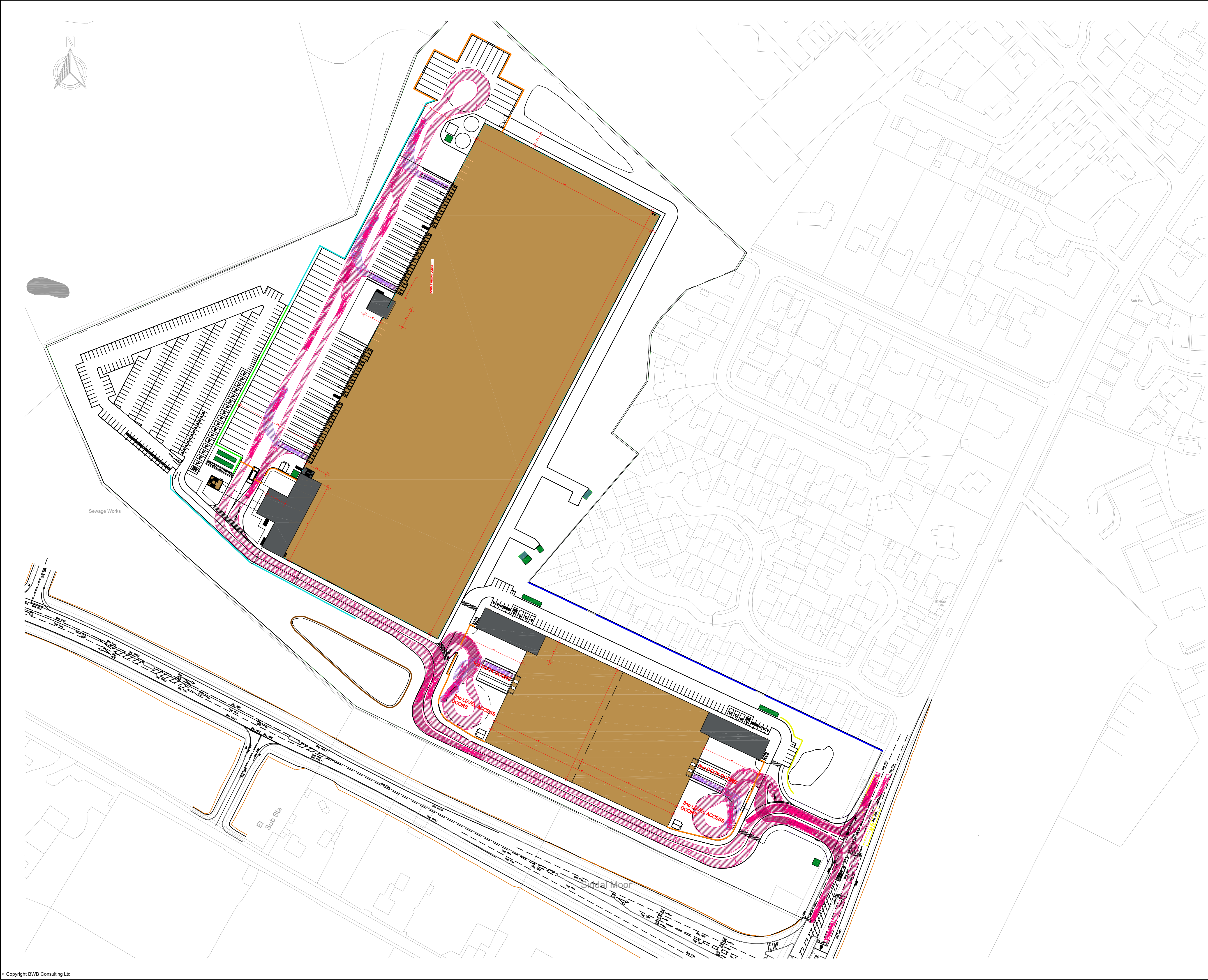
**Heywood Stores Site
Manchester Road,
Heywood**

Drawing Title

Swept Path Analysis Site Access

Drawn:	R.Wickenden	Reviewed:	A.Bilku	
BWB Ref:	220785.00	Date:	14.07.22	Scale@A1: 1:500
Drawing Status				
PRELIMINARY				
Project - Originator - Zone - Level - Type - Role - Number				Status Rev
MRR-BWB-GEN-XX-RP-TR-102				S2 P4

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Internal Spine Road Swept Path Assessment



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Key Plan

Max Legal Length (UK) Articulated Vehicle (18.5m)

Overall Width

Overall Body Height

Min. Road Width Clearance

Lock to Dock Time

Lock to Dock Turn Radius

18.500m

2.550m

3.000m

3.000m

3.000m

3.000m

Legend

P5

13.03.23

Layout Amended

RW

AB

P4

01.03.23

Layout Amended

RW

AB

P3

28.02.23

Layout Amended

RW

AB

P2

19.01.23

Layout Amended

RW

AB

P1

21.10.22

Preliminary Issue

RW

AB

Rev

Date

Details of issue / revision

Drw

Rev

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Heywood Stores Site

Manchester Road,

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Drawing Title

Swept Path Analysis

Site-Wide

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Reviewed:

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Status

S2

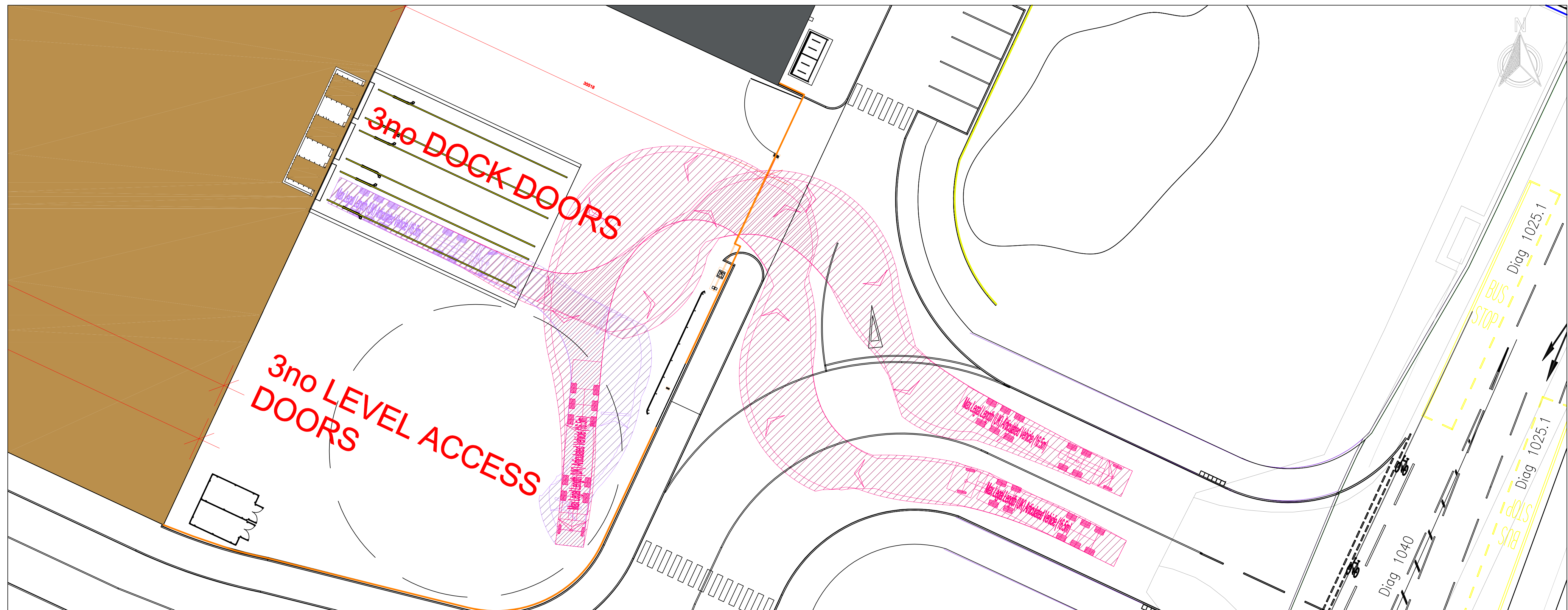
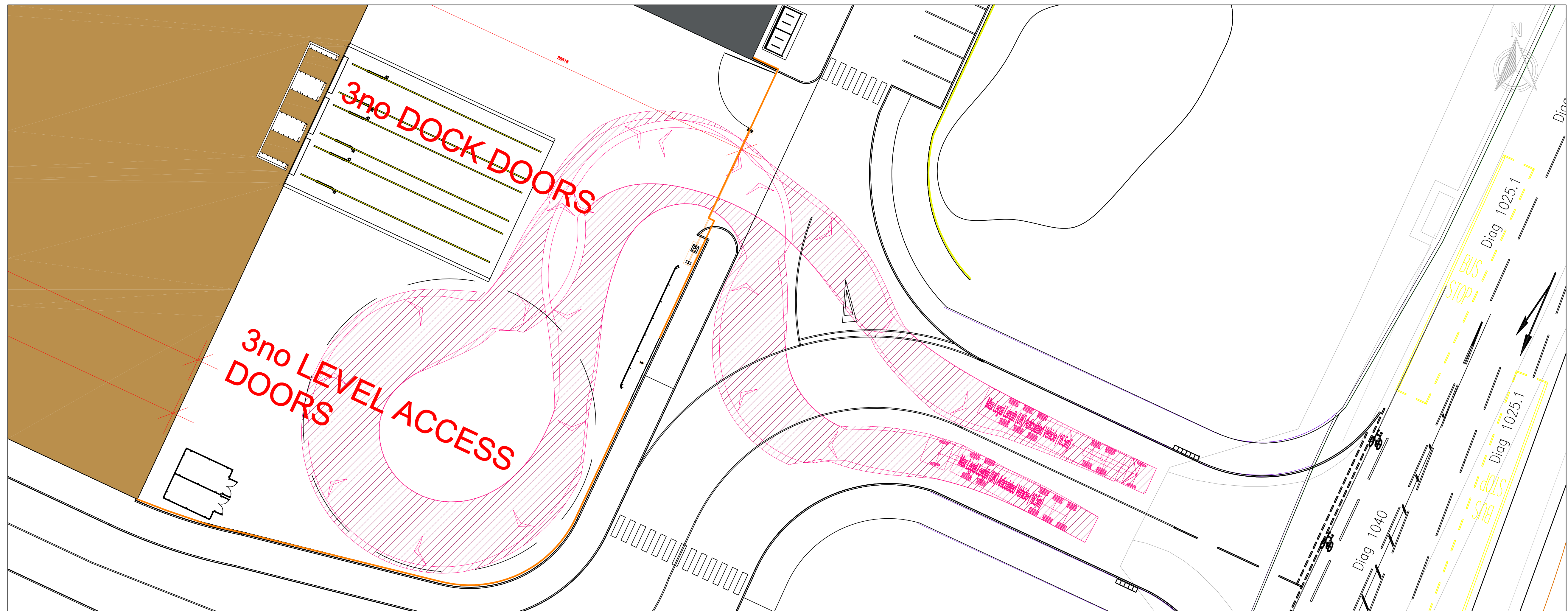
Rev

P5

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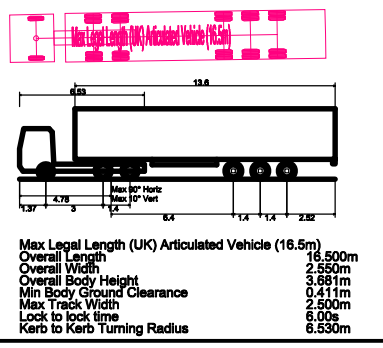
Service Yards and Access to the docking stations SPA



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Key Plan



Legend

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P3	01.03.23	Layout Amended	RW	AB
P2	19.01.23	Layout Amended	RW	AB
P1	21.10.22	Preliminary Issue	RW	AB
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Client

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Project Title

**Heywood Stores Site
Manchester Road,
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Drawing Title

Swept Path Analysis

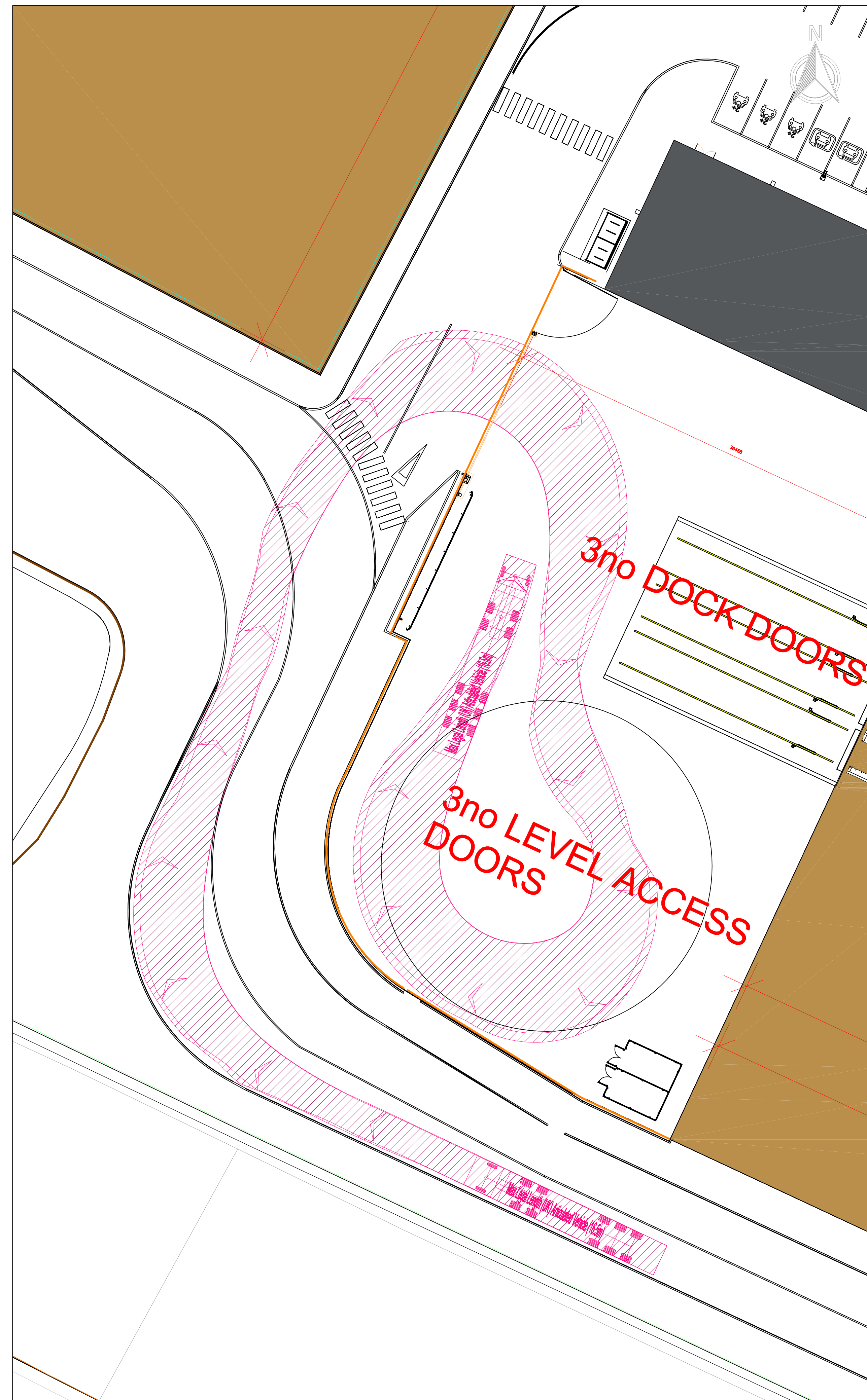
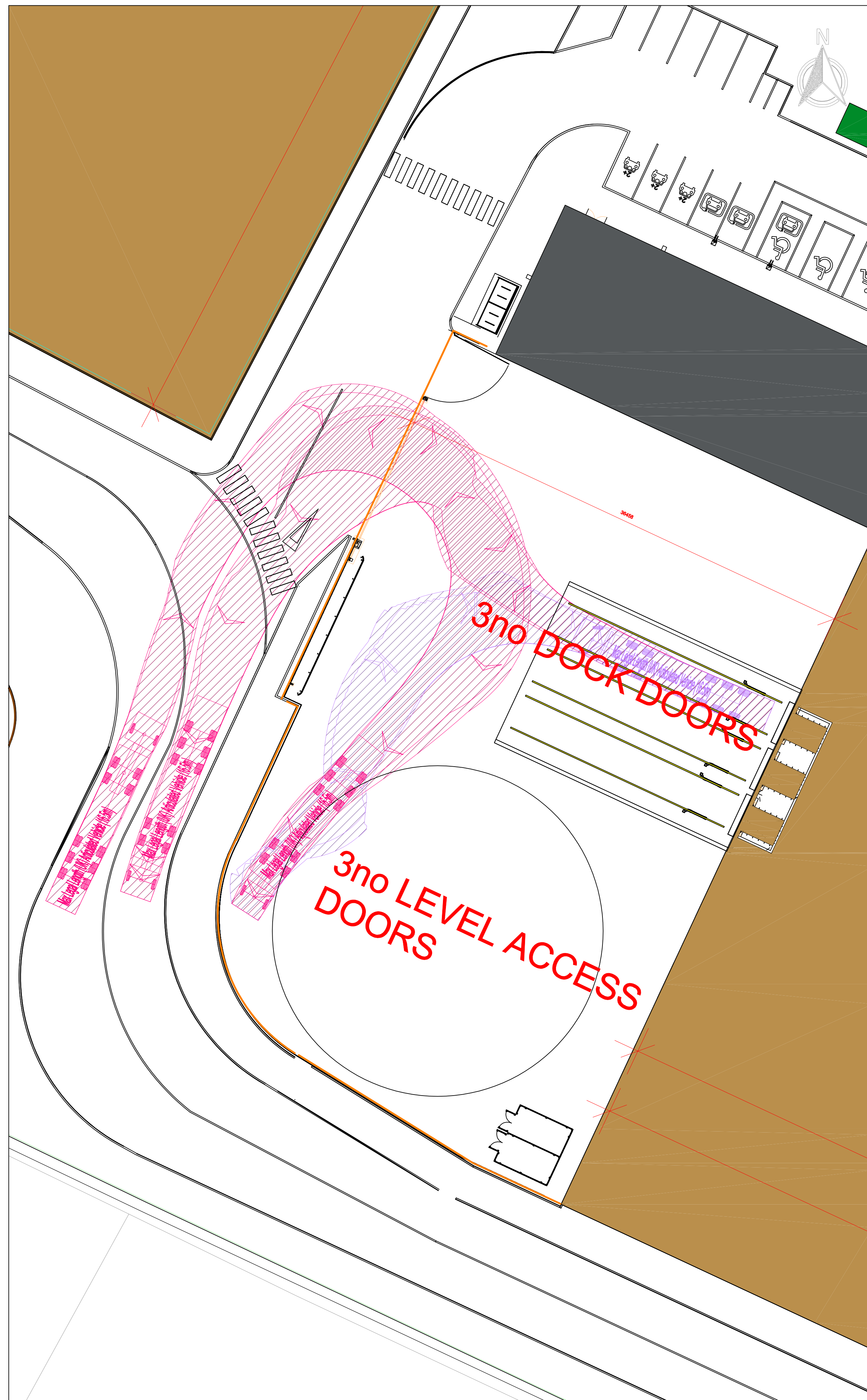
Unit 1

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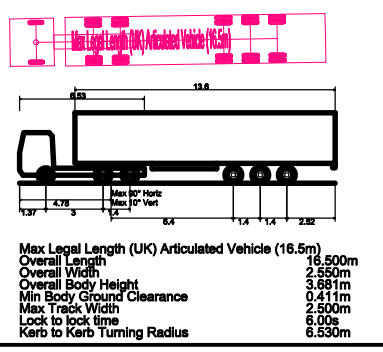
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Key Plan



Legend

P4	13.03.23	Layout Amended	RW	AB
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P1	21.10.22	Preliminary Issue	RW	AB
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Project Title

Heywood Stores Site Manchester Road, Heywood

Drawing Title

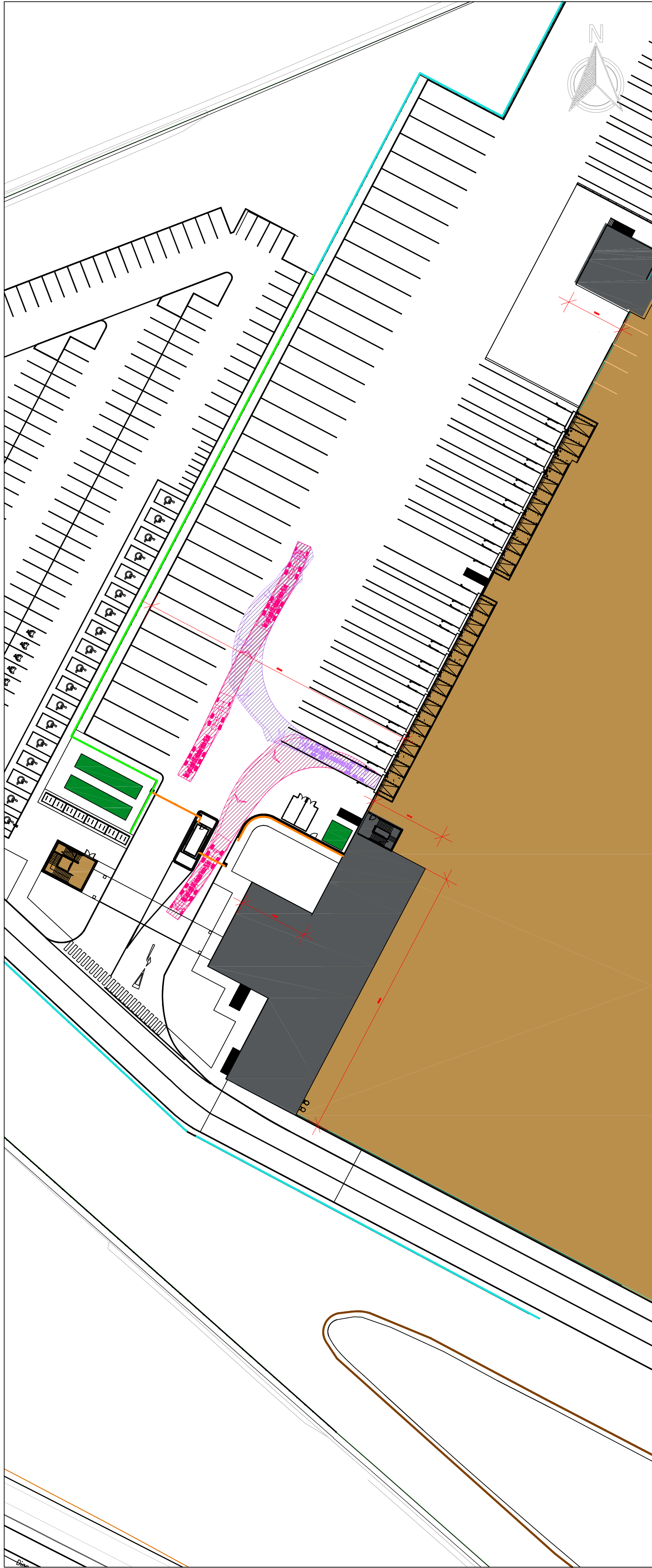
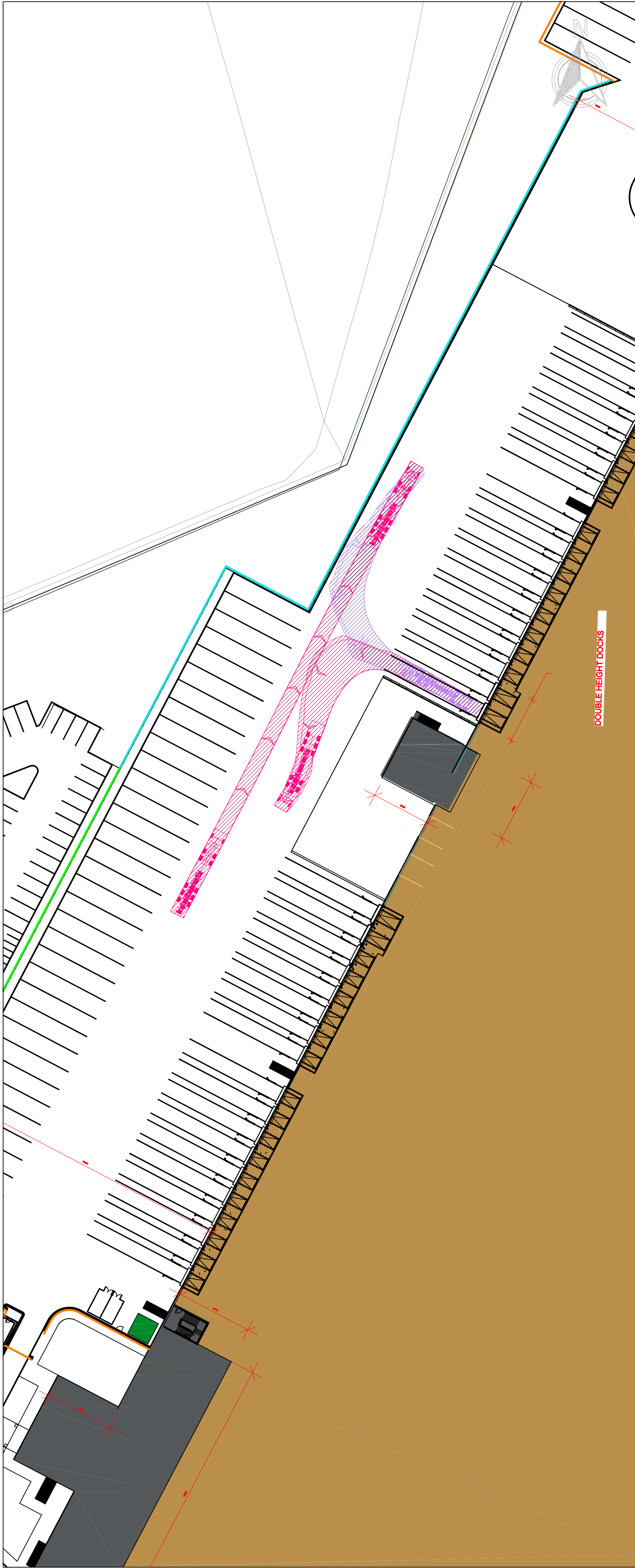
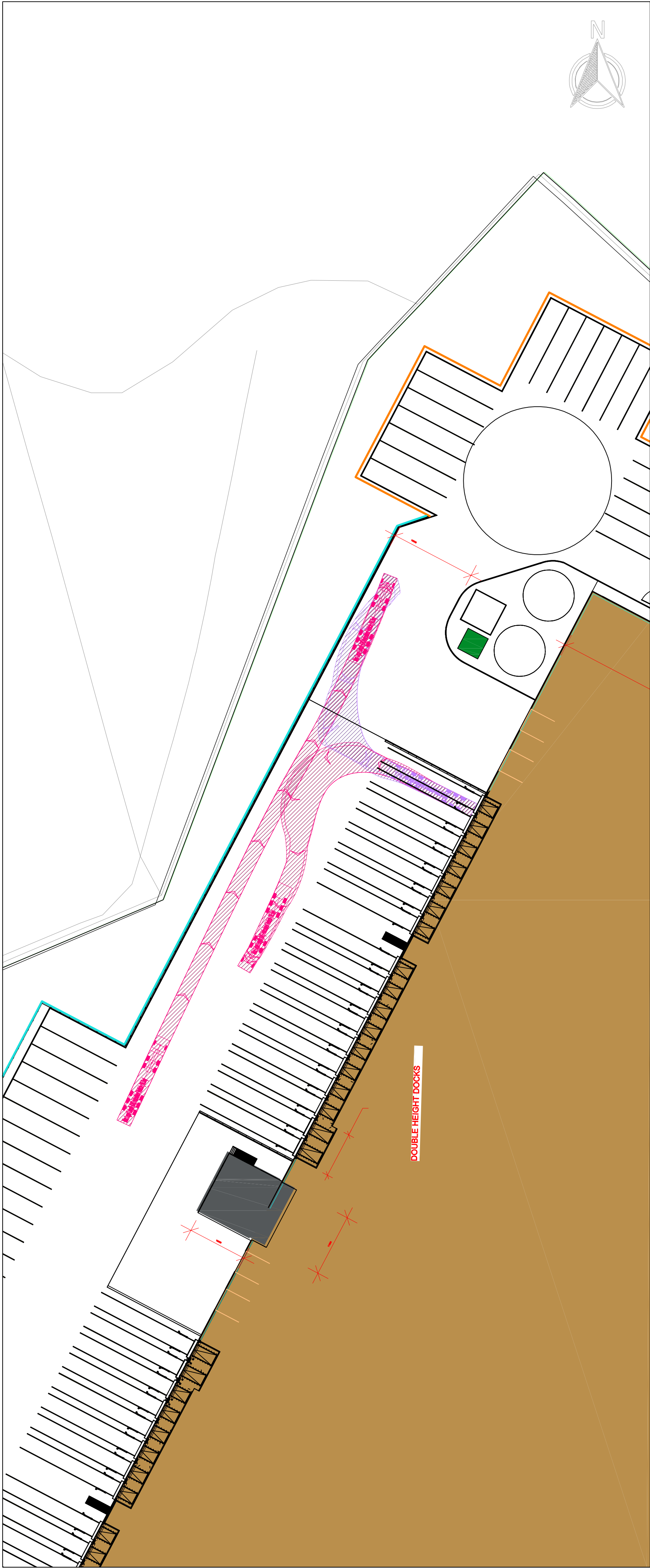
Swept Path Analysis Unit 2

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BWB Ref:	220785.00	Date:	14.07.22	Scale@A1:	1:250

Drawing Status	

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Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
MRR-BWB-GEN-XX-RP-TR-105	S2	P4



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3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.

4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan

Max Legal Length (UK) Articulated Vehicle (18.5m)

Overall Width 2.55m

Overall Height 4.00m

Overall Body Height 3.00m

Min. Road Clearance 2.20m

Lock to Lock Time 2.00m

Lock to Lock Turning Radius 9.00m

Legend

P4	13.03.23	Layout Amended	RW	AB
P3	01.03.23	Layout Amended	RW	AB
P2	10.01.23	Layout Amended	RW	AB
P1	21.10.22	Preliminary Issue	RW	AB
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Drawing Title

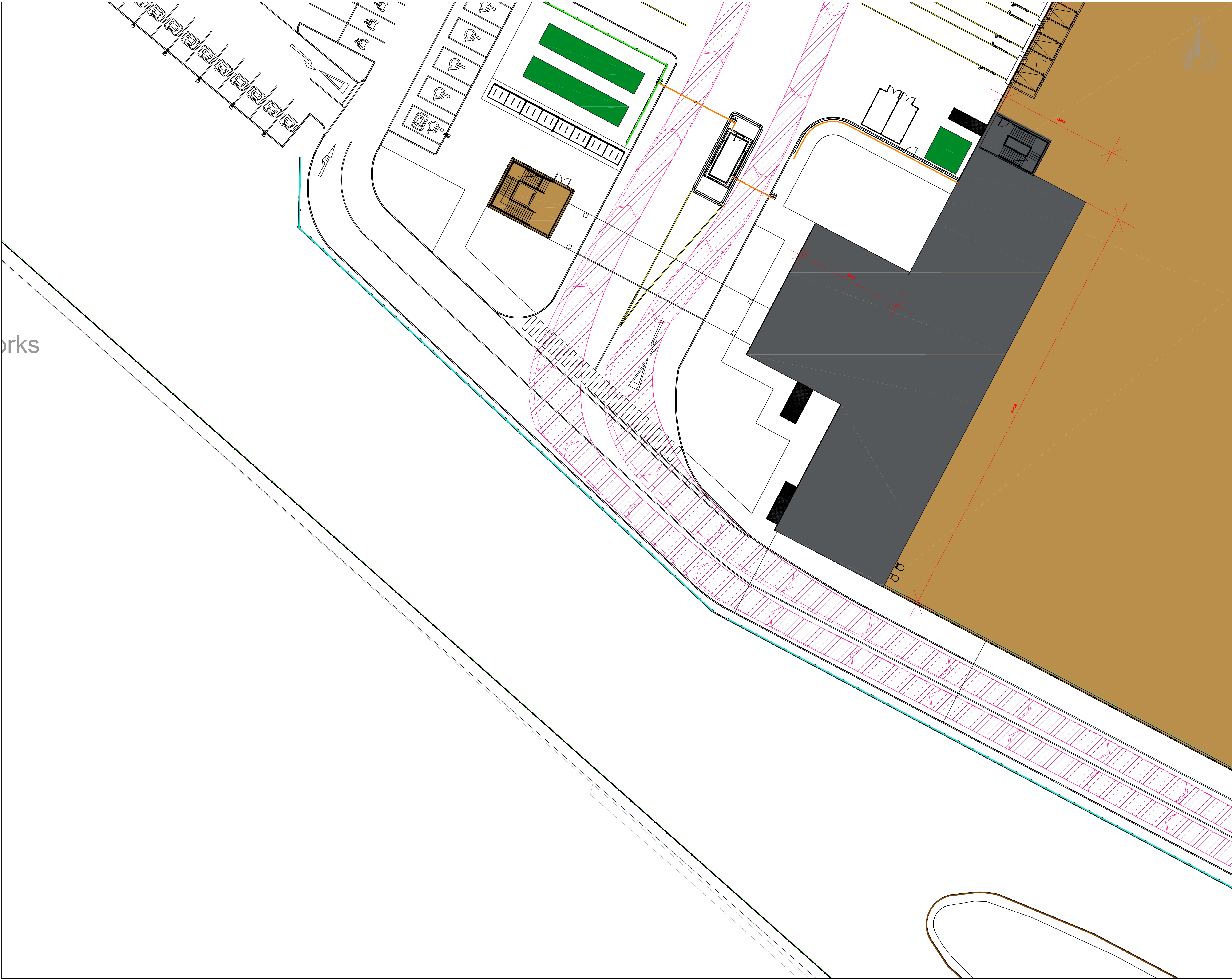
**Swept Path Analysis
Unit 3**

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BWB Ref:	220785.00	Date:	14.07.22
Scale@A1:		1:500	

Drawing Status

PRELIMINARY

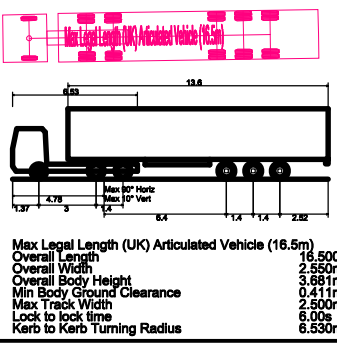
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
MRR-BWB-GEN-XX-RP-TR-106	S2	P4



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan



Legend

Rev	Date	Details of issue / revision	Drw	Rev
P4	12.03.23	Layout Amended	RW	AB
P3	01.03.23	Layout Amended	RW	AB
P2	10.01.23	Layout Amended	RW	AB
P1	21.10.22	Preliminary Issue	RW	AB

Issues & Revisions



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Client

**Trammell Crow Company
Logistics (Heywood) Ltd**

Project Title

**Heywood Stores Site
Manchester Road,
Heywood**

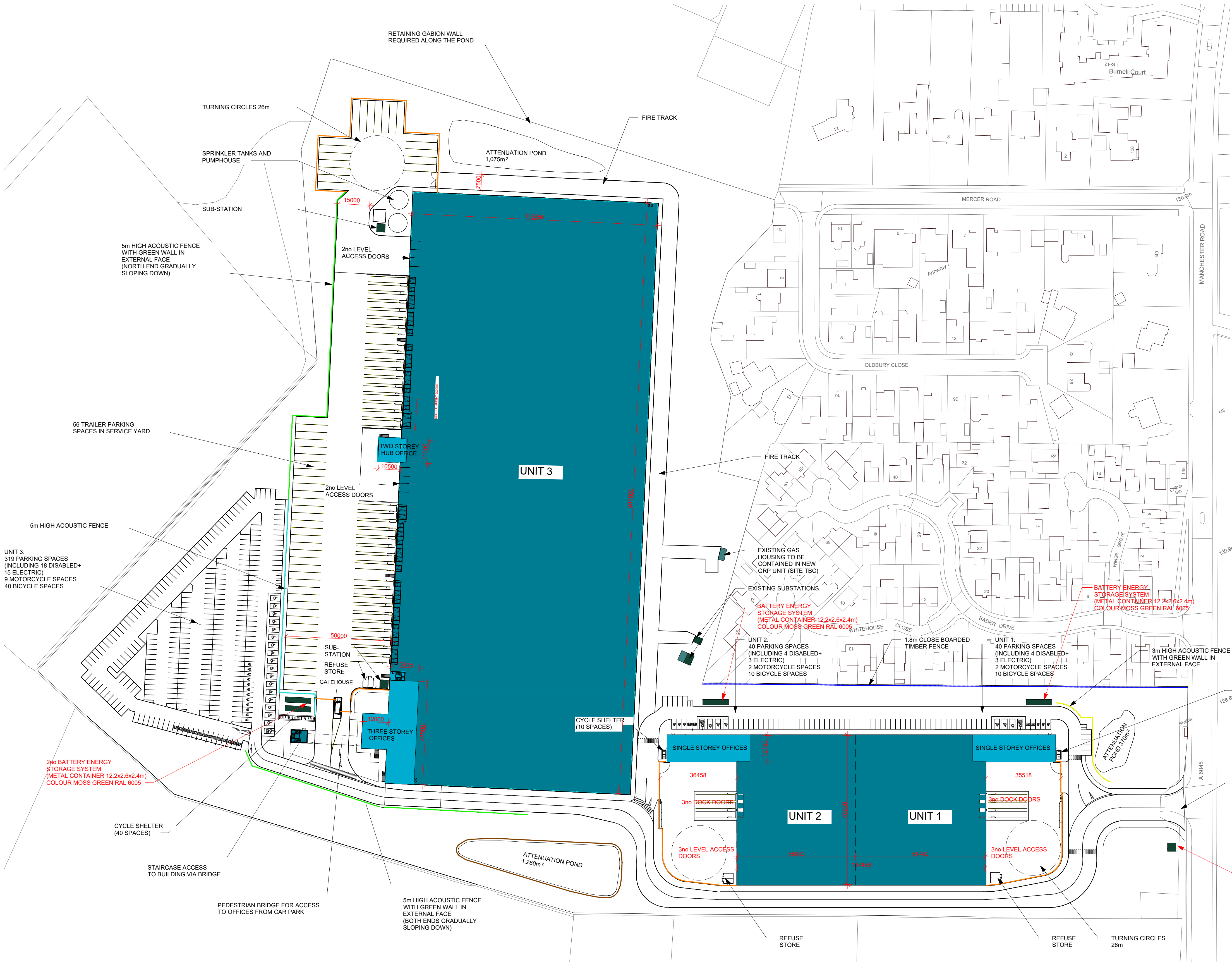
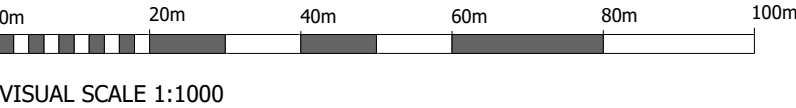
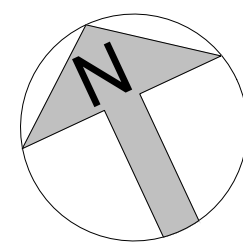
Drawing Title

**Swept Path Analysis
Access to Unit 3**

Drawn:	R.Wickenden	Reviewed:	A.Bilku
BWB Ref:	220785.00	Date:	14.07.22
Drawing Status		Scale@A1:	1:250
PRELIMINARY			
Project - Originator - Zone - Level - Type - Role - Number		Status	Rev
MRR-BWB-GEN-XX-RP-TR-107		S2	P4

APPENDICES

APPENDIX 1: Site Layout



SCHEDULE OF AREAS - GROSS EXTERNAL AREA		
UNIT 1 GEA		
WAREHOUSE	4,378 m ²	/ 47,124 sqft
OFFICES+STAIRS	489 m ²	/ 5,263 sqft
PLANT DECK	56 m ²	/ 602 sqft
TOTAL UNIT 1	4,923 m ²	/ 52,989 sqft
UNIT 2 GEA		
WAREHOUSE	3,988 m ²	/ 42,926 sqft
OFFICES+STAIRS	489 m ²	/ 5,263 sqft
PLANT DECK	56 m ²	/ 602 sqft
TOTAL UNIT 2	4,533 m ²	/ 48,791 sqft
UNIT 3 GEA		
WAREHOUSE	32,831 m ²	/ 353,392 sqft
OFFICES	2,198 m ²	/ 23,659 sqft
PLANT DECK+stairs	708 m ²	/ 7,621 sqft
STAIR TOWER/BRIDGE	218 m ²	/ 2,346 sqft
GATEHOUSE	18 m ²	/ 193 sqft
TOTAL UNIT 3	35,937 m ²	/ 387,211 sqft
TOTAL GEA	45,393 m ²	/ 488,991 sqft

SCHEDULE OF AREAS - GROSS INTERNAL AREA		
UNIT 1 GIA		
WAREHOUSE	4,305 m ²	/ 46,339 sqft
OFFICES+STAIRS	438 m ²	/ 4,714 sqft
PLANT DECK	53 m ²	/ 570 sqft
TOTAL UNIT 1	4,796 m ²	/ 51,623 sqft
UNIT 2 GIA		
WAREHOUSE	3,919 m ²	/ 42,184 sqft
OFFICES+STAIRS	438 m ²	/ 4,714 sqft
PLANT DECK	53 m ²	/ 570 sqft
TOTAL UNIT 2	4,410 m ²	/ 47,468 sqft
UNIT 3 GIA		
WAREHOUSE	32,537 m ²	/ 350,228 sqft
OFFICES	2,009 m ²	/ 21,625 sqft
PLANT DECK+stairs	681 m ²	/ 7,330 sqft
STAIR TOWER/BRIDGE	193 m ²	/ 2,077 sqft
GATEHOUSE	11 m ²	/ 118 sqft
TOTAL UNIT 3	35,431 m ²	/ 381,378 sqft
TOTAL GIA	44,637 m ²	/ 480,469 sqft

FINISHES LEGEND

- LANDSCAPING
- CONCRETE
- GRAVEL
- BLOCK PAVIORS
- ASPHALT
- GRASSCRETE
- BUILDINGS (WAREHOUSE+ANCILLARY)
- OFFICES
- 2.4m HIGH PALADIN FENCE
- 3m HIGH ACOUSTIC FENCE + GREEN WALL EXTERNALLY
- 5m HIGH ACOUSTIC FENCE + GREEN WALL EXTERNALLY
- 5m HIGH ACOUSTIC FENCE
- 1m HIGH KNEE RAIL TIMBER FENCE
- 1.8m VERTICAL CLOSE BOARDED TIMBER FENCE

1 PROPOSED SITE LAYOUT

1 : 1000

LOCATION PLAN:

NOTES:

SITE BOUNDARY: 11.152 Ha / 27.46 Acres

PROJECT TITLE
MANCHESTER ROAD, HEYWOOD

DRAWING TITLE
PROPOSED SITE PLAN

RIBA STAGE	STATUS	PLANNING	DRAWN BY	CHECKED BY
3			JA	RR
SHEET	SCALE	DATE	SUITABILITY	REVISION
A1	As indicated	04/11/22	S3	P12

DRAWING NO.
21157 - ASA - 00 - ZZ.ZZ - D - A - 0003 _ (S3 - P12)

BIM MODEL NUMBER:
21157-ASA-ZZ-ZZ-ZZ-M3-A-0001_(S3-P3)

CLIENT

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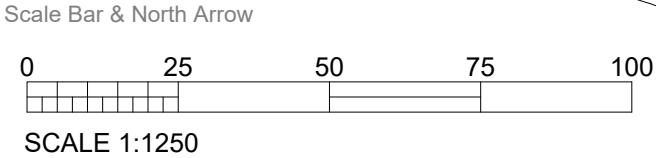
AshtonSmith
Beyond Design

Ashton Smith, Belvedere House, 2 Victoria Avenue, Harrogate, North Yorkshire, HG1 3EL
Tel: 01423 522882 Fax: 01423 565104
www.ashtonsmith.co.uk

21157

JOB NO.

APPENDIX 2: Existing Site Plan



LOCATION PLAN:

NOTES:

— Site Boundary - 11.1152 hec / 27.46 acres

P1	25.07.22	Initial drawing issue
REV	DATE	DESCRIPTION
REVISIONS		

J A R R

PROJECT TITLE			
MANCHESTER ROAD, HEYWOOD			
DRAWING TITLE			
SITE LOCATION PLAN			
RIBA STAGE	STATUS		DRAWN BY
N/A	PLANNING		DH
CHECKED BY	RR	REVISION	
SHEET	SCALE	DATE	SUITABILITY
A1	1 : 1250	25/07/2022	S3
DRAWING NO.			
21157 - ASA - 00 - ZZ.ZZ - D - A - 0001_ (S3 - P1)			

CLIENT

Trammell Crow Company

AshtonSmith
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APPENDIX 3: Strategic Site Walking & Cycling Strategy

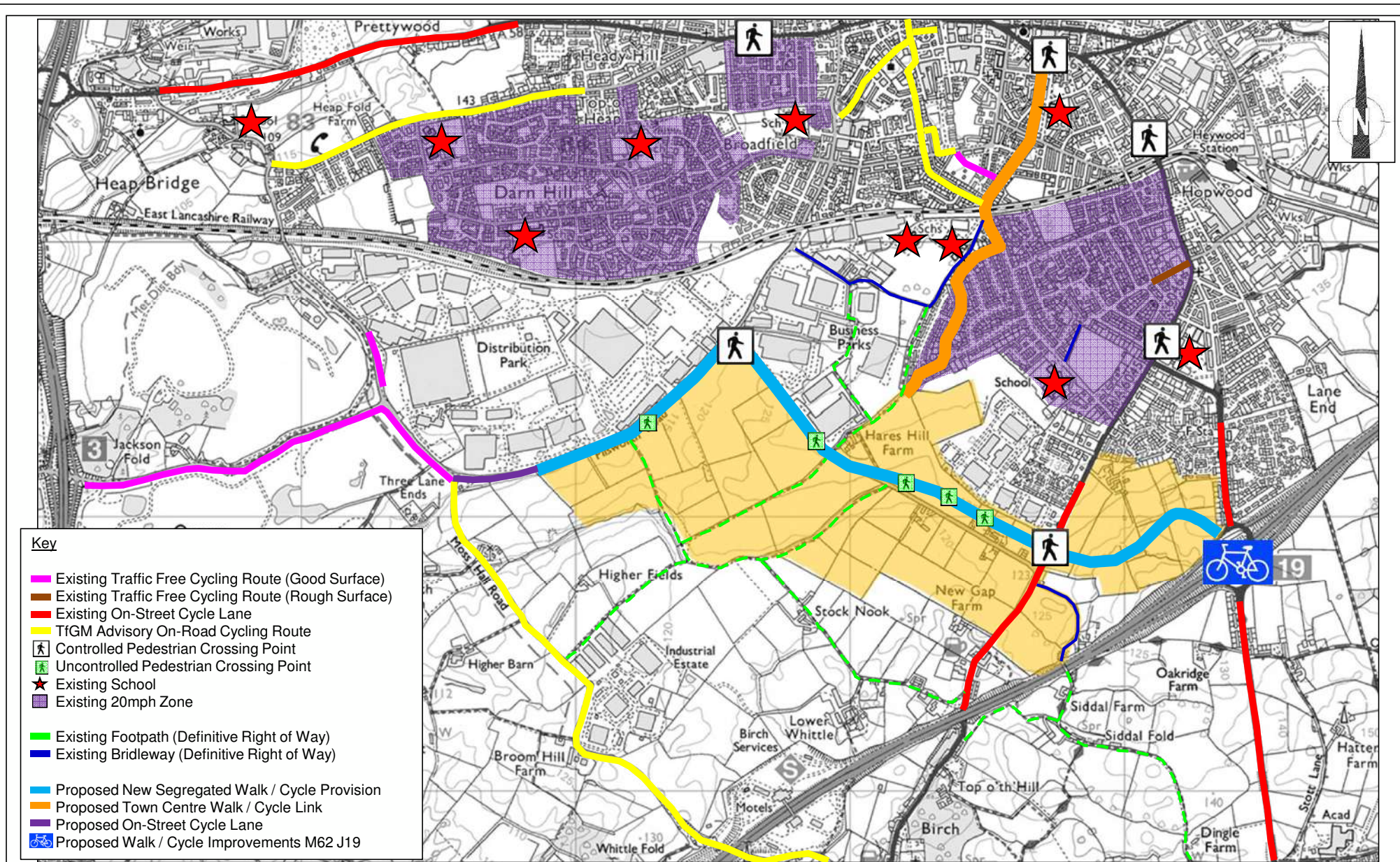


Figure 13.3

South Heywood Strategic Site Walking & Cycling Strategy

1962-01

South Heywood Strategic Site

October 2016



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

APPENDIX 4: Strategic Site Public Transport Strategy

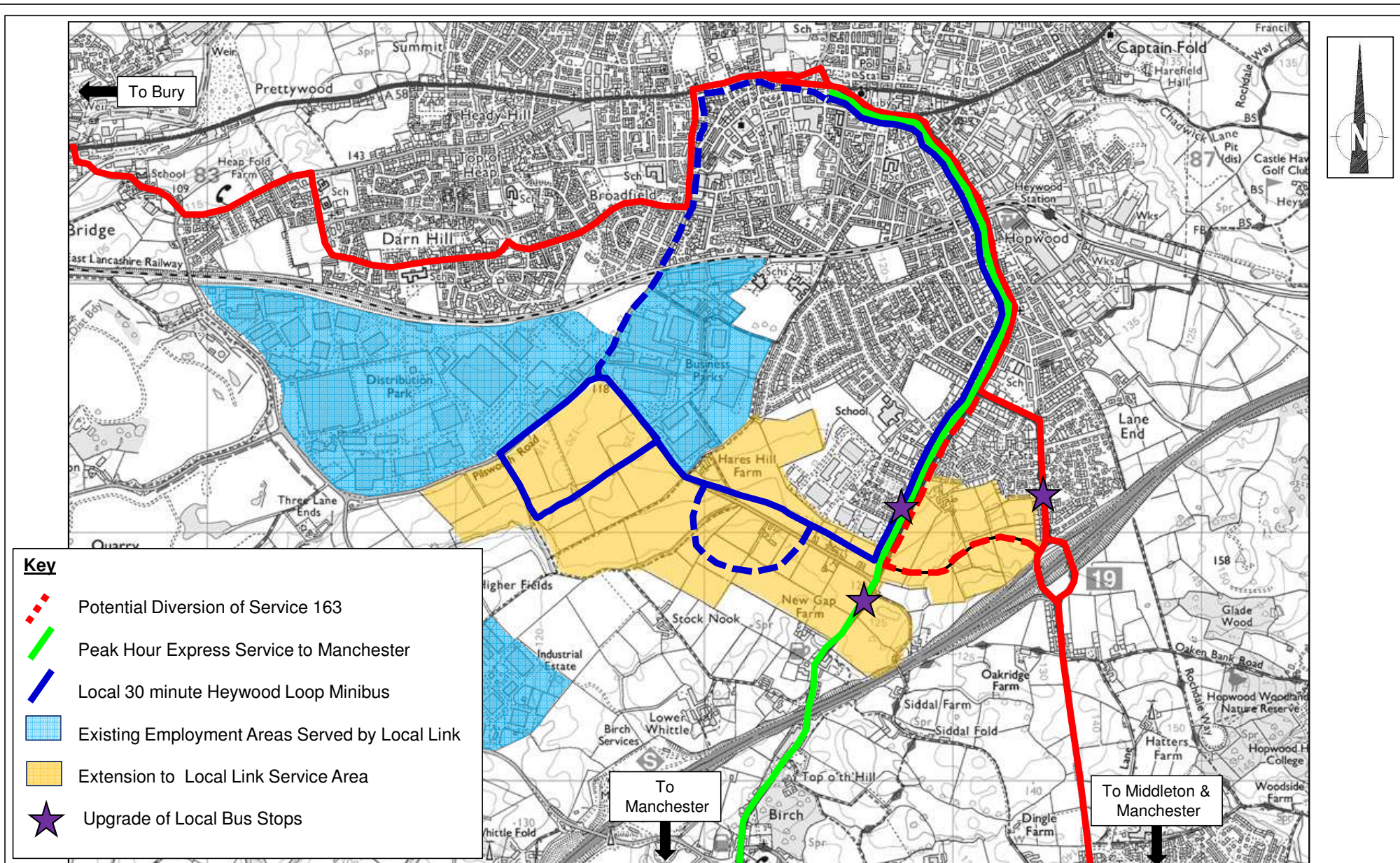


Figure 13.4

Options Under Consideration for Inclusion in South Heywood Strategic Site Public Transport Strategy

1962-01

South Heywood Strategic Site

October 2016



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

APPENDIX 5: 2020 No Link Rd/With Link Rd Flows

APPENDIX TA14 - Link Road Opening Year 2020: Junction Turning Data (All data in PCU's)

M62 J19 Roundabout

		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Middleton Road N	M62 EB	349	180	149	64	308	179
Middleton Road N	Middleton Road S	225	211	163	157	184	180
Middleton Road N	M62 WB	356	384	205	216	258	253
Middleton Road N	Link Road	N/A	9	N/A	2	N/A	21
M62 WB	Middleton Road S	174	124	135	105	125	103
M62 WB	M62 WB	0	0	0	0	0	0
M62 WB	Link Road	N/A	379	N/A	328	N/A	408
M62 WB	Middleton Road N	240	75	135	53	368	178
Middleton Road S	M62 WB	121	107	78	80	145	115
Middleton Road S	Link Road	N/A	233	N/A	117	N/A	300
Middleton Road S	Middleton Road N	296	181	224	136	404	316
Middleton Road S	M62 EB	94	52	94	66	139	88
M62 EB	Link Road	N/A	121	N/A	82	N/A	135
M62 EB	Middleton Road N	239	266	217	230	339	272
M62 EB	M62 EB	0	0	0	0	0	0
M62 EB	Middleton Road S	153	142	85	72	248	198
Link Road	Middleton Road N	N/A	28	N/A	14	N/A	72
Link Road	M62 EB	N/A	415	N/A	363	N/A	299
Link Road	Middleton Road S	N/A	142	N/A	69	N/A	140
Link Road	M62 WB	N/A	41	N/A	34	N/A	111

Link Road / A6045 Manchester Road

		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Manchester Rd N	Link Road E	N/A	133	N/A	29	N/A	117
Manchester Rd N	Manchester Rd S	391	299	177	141	214	164
Manchester Rd N	Hareshill Road (Link Road W)	132	54	59	41	147	27
Link Road E	Manchester Rd S	N/A	67	N/A	33	N/A	52
Link Road E	Hareshill Road (Link Road W)	N/A	598	N/A	474	N/A	726
Link Road E	Manchester Rd N	N/A	77	N/A	21	N/A	86
Manchester Rd S	Hareshill Road (Link Road W)	193	98	76	85	238	45
Manchester Rd S	Manchester Rd N	252	170	193	122	444	351
Manchester Rd S	Link Road E	N/A	50	N/A	57	N/A	50
Hareshill Road (Link Road W)	Manchester Rd N	39	34	61	40	118	57
Hareshill Road (Link Road W)	Link Road E	N/A	443	N/A	393	N/A	454
Hareshill Road (Link Road W)	Manchester Rd S	139	67	113	63	186	86

Link Road (Hareshill Road) / Pilsworth Road

		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Pilsworth Rd NE	Hareshill Road (Link Road W)	155	309	99	168	149	249
Pilsworth Rd NE	Pilsworth Rd W	285	215	99	28	90	22
Hareshill Road (Link Road W)	Pilsworth Rd W	239	329	148	290	303	359
Hareshill Road (Link Road W)	Pilsworth Rd NE	105	319	55	232	240	483
Pilsworth Rd W	Pilsworth Rd NE	115	73	150	96	355	256
Pilsworth Rd W	Hareshill Road (Link Road W)	188	279	230	335	168	244

Pilsworth Road / Heywood Distribution Park

		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Heywood Industrial Estate	Pilsworth Road E	38	68	72	107	149	160
Heywood Industrial Estate	Pilsworth Road W	211	181	278	243	250	239
Pilsworth Road E	Pilsworth Road W	258	258	180	229	304	230
Pilsworth Road E	Heywood Industrial Estate	266	285	67	88	89	151
Pilsworth Road W	Heywood Industrial Estate	269	249	199	177	206	144
Pilsworth Road W	Pilsworth Road E	265	284	308	324	374	341

Moss Hall Lane / Pilsworth Road

		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Moss Hall Road	Pilsworth Road S	175	228	241	224	143	176
Moss Hall Road	Pilsworth Road W	9	10	0	0	15	42
Pilsworth Road S	Pilsworth Road W	451	450	477	488	430	377
Pilsworth Road S	Moss Hall Road	111	119	173	131	184	224
Pilsworth Road W	Moss Hall Road	66	93	45	58	97	162
Pilsworth Road W	Pilsworth Road S	487	449	374	364	543	451

A6045 Heywood Old Rd / Development Access B		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Manchester Rd N	Access B	0	3	0	3	0	7
Manchester Rd N	Manchester Rd S	530	431	290	230	400	287
Access B	Manchester Rd S	0	5	0	1	0	3
Access B	Manchester Rd N	0	7	0	4	0	5
Manchester Rd S	Manchester Rd N	445	305	269	258	681	438
Manchester Rd S	Access B	0	2	0	2	0	5

A6045 Heywood Old Rd / Development Access C		AM		IP		PM	
From	To	DM	DS	DM	DS	DM	DS
Manchester Rd N	Manchester Rd S	530	429	290	232	400	292
Manchester Rd N	Access C	0	4	0	4	0	10
Manchester Rd S	Access C	0	1	0	1	0	2
Manchester Rd S	Manchester Rd N	445	311	269	261	681	440
Access C	Manchester Rd N	0	7	0	4	0	7
Access C	Manchester Rd S	0	5	0	1	0	1

APPENDIX 6: 2020 AADT No Link Rd/With Link Rd Flows

2020		ALL VEHICLES			HGVs		
Ref		Do Minimum	With Development	Change	Do Minimum	With Development	Change
Motorway Network							
M1	M62 J19 EB Entry Slip	4,570	6,725	47.1%	101	649	545.0%
M2	M62 J19 WB Entry Slip	4,517	5,065	12.1%	356	527	48.2%
M3	M62 J19 EB Exit Slip	4,763	5,485	15.2%	322	568	76.6%
M4	M62 J19 WB Exit Slip	4,913	6,915	40.8%	49	644	1217.8%
M5	M62 J18-J19	140,421	139,469	-0.7%	20588	20005	-2.8%
M6	M62 J19-J20	140,599	142,546	1.4%	20081	20214	0.7%
M7	M66 J3 - M62 J18	106,311	103,671	-2.5%	9757	8449	-13.4%
M8	M66 J3 - M66 J2	102,434	102,177	-0.3%	7532	7925	5.2%
Local Road Network							
LR1a	South Heywood Link Road (A6045 to M62 J19)	0	14,604	N/A	0	1551	N/A
LR1b	South Heywood Link Road (Immediate SE of Pilsworth Rd)*	7,993	14,431	80.5%	768	1,071	39.5%
LR2	A6045 Manchester Road East of Dev Access Point A	8,957	6,903	-22.9%	248	74	-70.3%
LR3	A6045 Heywood Old Road West Dev Access Point C	10,627	8,406	-20.9%	188	23	-87.8%
LR4	A6045 Heywood Old Road South of Whittle Lane	10,331	9,354	-9.5%	218	0	-100.0%
LR5	Langley Lane, Langley (E of Jnt with Heywood Old Road)	6,672	4,370	-34.5%	33	23	-29.4%
LR6	A6046 Hollin Lane (S of M62 J19)	13,321	14,494	8.8%	260	326	25.4%
LR7	A6046 Hollin Lane (N of A664 Rochdale Rd), Middleton	5,704	6,054	6.1%	39	131	237.9%
LR8	A6046 Coronation Avenue, Hopwood	17,110	12,677	-25.9%	647	832	28.5%
LR9	A6046 Middleton Road (S of Coronation Avenue)	18,100	13,661	-24.5%	647	832	28.5%
LR10	Green Lane (N of A6045 Manchester Road())	2,804	2,873	2.5%	371	403	8.7%
LR11	A6046 Manchester Street (N of Walton Street)	18,900	15,626	-17.3%	406	470	15.7%
LR12	Pilsworth Road (S of A58 Bury New Road)	6,835	8,047	17.7%	5	0	-100.0%
LR13	Egerton Street (East of Pilsworth Road)	3,564	2,158	-39.4%	19	34	80.9%
LR14	Argyle Street (West of Pilsworth Road)	6,727	6,594	-2.0%	24	34	45.5%
LR15	A58 Bridge Street (East of Pilsworth Road)	18,635	17,678	-5.1%	270	153	-43.3%
LR16	A58 Bury New Road (West of Pilsworth Road)	16,175	17,516	8.3%	271	153	-43.5%
LR17	Pilsworth Road to M66 J3 (East of M66)	10,595	10,625	0.3%	2081	1975	-5.1%
LR18	Heap Brow (N of Bury Old Road)	7,792	7,776	-0.2%	376	0	-100.0%
LR19	Bury Old Road (East of Moss Hall Road)	4,314	4,502	4.4%	162	0	-100.0%
LR20	Market Street (One Way Link)	8,318	7,800	-6.2%	136	79	-42.1%
LR21	Dawson Street (One Way Link)	8,685	8,243	-5.1%	136	77	-43.2%
LR22	Bamford Road	18,266	16,423	-10.1%	280	256	-8.7%
LR23	Market Place	22,725	20,434	-10.1%	416	334	-19.5%
LR24	York Street	14,199	12,658	-10.9%	271	173	-36.2%

*Hareshill Road in Do-Minimum Scenario

Appendix 13.2

FLOW COMPARISON TABLE (ALL VEHICLES & HGVS) 24hr AADT DO-MINIMUM V DO-SOMETHING 2020

1962-01

South Heywood Strategic Site

October 2016



Camellia House
76 Water Lane,
Wilmslow
Cheshire, SK9 5BB

APPENDIX 7: Scoping Note

TRANSPORT SCOPING NOTE

Heywood Stores, Rochdale



Project Name	Heywood Stores, Rochdale		
Document Number	MRR-BWB-GEN-XX-RP-TR-0001-Transport Scoping Note	Job Number	220785.00
Author	A. Bilkhu – Associate	Status	S2
Checked	M. Addison – Associate Director	Revision	P1
Approved	M. Addison – Associate Director	Date	20.05.2022

1. INTRODUCTION

Overview

- 1.1 BWB Consulting Ltd (BWB) has been appointed by Trammell Crow Company (Logistics) Limited ("the Applicant") to prepare this Transport Scoping Note (TSN) to agree the methodology for Transport Statement/Assessment with Rochdale Borough Council (RBC), Transport for Greater Manchester (TfGM) and National Highways (NH) concerning the proposed redevelopment of the Heywood Stores site located off Manchester Road in Heywood (the 'Site'). The Site Location is shown in **Figure 1.1**.

Figure 1.1: Site Location



- 1.2 The purpose of this Scoping Note is to agree the methodology for the Transport Statement/Assessment prior to proceeding so that the traffic and transport implications of the proposed development can be assessed to the satisfaction of RBC Highways, TfGM and NH given the proximity of the Site to the Strategic Road Network (SRN).

Pre-Application RBC Highways Discussions

- 1.3 A meeting between BWB and RBC Highways was held on 25th April 2022, and it was confirmed that the new signalised crossroad junction with the A6045 Manchester Road would need to be modelled as part of the Transport Statement/Assessment scope of work.
- 1.4 RBC Highways mentioned that the position of the site access would need to be determined from the outcome of the capacity assessment and a tracking assessment.
- 1.5 RBC Highways mentioned that the right-out movements from the access junction, would need to be tracked and a junction capacity assessment of the new signalised crossroads junction carried out, to ensure that this movement can be accommodated, BWB confirmed that this will be include in the Transport Statement/Assessment.
- 1.6 RBC Highways confirmed that the site is located on the TfGM Key Route Network and therefore TfGM Development Control and UTC Teams should be consulted.

2. EXISTING SITE AND TRIP GENERATON

Existing Site

- 2.1 The Site is located along the A6045 Manchester Road in Heywood.
- 2.2 The Site currently comprises of nine sheds with a total building floor area of 31,900 sq.m with vehicle access from the A6045 Manchester Road. The site has a certificate of lawful use for B8 Use Class (Planning Ref. 21/01298/CPE).
- 2.3 A copy of the Existing Site Plan is provided in **Appendix 1**.

South Heywood Link Road

- 2.4 Construction of the 2.2km link road started in Spring 2021. Once complete, it will connect M62 Junction 19 (at Heywood and Middleton) to the South Heywood employment area (Hareshill Road and Pilsworth Road).
- 2.5 The first section of new road, linking the M62 to Manchester Road, is now almost fully constructed.
- 2.6 This link road passes the southern boundary of the Site and forms a signalised crossroads junction with the A6045 Manchester Road.

Walking and Cycling Accessibility

- 2.7 The immediate local road network in the vicinity of the site provides footway provision and street lighting along both sides of the carriageway.
- 2.8 The A6045 Manchester Road has a dedicated footway separated from the main carriageway by a grass verge along most sections. The road is an on-road cycle route.

TRANSPORT SCOPING NOTE

Heywood Stores, Rochdale



- 2.9 Hareshill Road has a 2.0m wide footway on one side of the carriageway and is well-lit by street lighting.
- 2.10 The nearest pedestrian crossing point in the vicinity of the Site is located approximately 135 metres to the north to the Site on the A6045 Manchester Road, as shown in **Figure 2.1**.

Figure 2.1: Existing Pedestrian Crossing Points in the vicinity of the Site



- 2.11 As shown, the existing pedestrian crossings near the Site are uncontrolled crossing points with refuge islands.

Public Transport Accessibility

- 2.12 The nearest bus stops to the Site are located on the A6045 Manchester Road and within 20 metres walking distance of the Site access. Two bus stops are served by school bus services 764 and 781. Currently two bus stops are closed due to the road works on Manchester Road.
- 2.13 There are additional bus stops on Newhouse Road, which is to the north-east of the Site and with 490 metres walking distance of the Site access, which are only served by one bus service on weekdays as shown in **Table 2.1**. There is no service on Saturdays and Sundays.

Table 2.1: Summary of Weekday Bus Services

Service number and route	First Service		Last Service		Daytime Frequency
	'NW-bound' Route	'SE-bound' Route	'NW-bound'	'NW-bound'	
B8	8.35am	-	5.35pm	-	1 per hour

TRANSPORT SCOPING NOTE

Heywood Stores, Rochdale



Heywood - Hopwood - Fairfield General Hospital - Bury					
---	--	--	--	--	--

- 2.14 There are more bus stops located further north along Manchester Road (circa 775m walking distance) and on Coronation Ave (circa 785m walking distance). Those bus stops are served by services 162 and 163 connecting the Site to Bury and Piccadilly Garden with a frequency of 3 buses per hour during the weekdays and at weekends.
- 2.15 **Figure 2.2** shows the bus stop locations and the associated bus services in the vicinity of the Site.

Figure 2.2: Bus Stops Location and Bus Services Near the Site



TRICS Approach

- 2.16 TRICS has been interrogated to identify sites of a similar nature to the existing development and the following criteria was applied to the TRICS category "Warehousing (Commercial)":
- Sites in London, Republic of Ireland, Northern Ireland were excluded;
 - Edge of Town Centre, Suburban Rea and Edge of Town sites were included; and

TRANSPORT SCOPING NOTE

Heywood Stores, Rochdale



- Only weekday surveys were included.

2.17 Following the application of the above filtering criteria there were found to be 15 suitable survey sites, details of these are presented in the full TRICS printout provided in **Appendix 2**.

2.18 **Table 0.1** presents the average weekday peak hour vehicle trips rates taken from the 15 sites. This includes total vehicle and HGV ('OGV') trip rates extracted directly from the TRICS printouts. The 'lights' trip rates have been calculated by subtracting the HGV trip rates from the total vehicle trip rates.

Table 0.1: Existing B8 Development Vehicle Trip Generation

Time Period	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
05:00-06:00	0.125	0.032	0.157	0.017	0.016	0.033	0.142	0.048	0.190
06:00-07:00	0.089	0.094	0.183	0.015	0.022	0.037	0.104	0.116	0.220
07:00-08:00	0.107	0.035	0.142	0.03	0.045	0.075	0.137	0.080	0.217
08:00-09:00	0.091	0.034	0.125	0.036	0.049	0.085	0.127	0.083	0.210
09:00-10:00	0.074	0.044	0.118	0.041	0.044	0.085	0.115	0.088	0.203
10:00-11:00	0.064	0.057	0.121	0.052	0.053	0.105	0.116	0.110	0.226
11:00-12:00	0.067	0.068	0.135	0.047	0.039	0.086	0.114	0.107	0.221
12:00-13:00	0.061	0.077	0.138	0.046	0.037	0.083	0.107	0.114	0.221
13:00-14:00	0.085	0.071	0.156	0.04	0.042	0.082	0.125	0.113	0.238
14:00-15:00	0.058	0.100	0.158	0.044	0.037	0.081	0.102	0.137	0.239
15:00-16:00	0.055	0.081	0.136	0.055	0.044	0.099	0.11	0.125	0.235
16:00-17:00	0.045	0.091	0.136	0.054	0.036	0.09	0.099	0.127	0.226
17:00-18:00	0.039	0.119	0.158	0.054	0.041	0.095	0.093	0.160	0.253
18:00-19:00	0.021	0.078	0.099	0.034	0.032	0.066	0.055	0.11	0.165
19:00-20:00	0.024	0.032	0.056	0.012	0.026	0.038	0.036	0.058	0.094
20:00-21:00	0.024	0.018	0.042	0.017	0.029	0.046	0.041	0.047	0.088
21:00-22:00	0.017	0.000	0.017	0.017	0.017	0.034	0.034	0.017	0.051

Note: Trip Rates are per 100sq.m

2.19 **Table 0.1** shows that the weekday peak hour total two-way trip rate would be 0.239 which occurs between 14:00 and 15:00.

2.20 The weekday network peak is assumed to be 08:00 to 09:00 in the morning and 17:00 to 18:00 in the evening. Therefore, the total weekday morning two-way trip rate would be 0.210 and the total weekday evening two-way trip rate would be 0.253.

2.21 The above B8 vehicle trip rates have been applied to the extant floor area (31,900 sq.m) and the potential existing traffic generation of the Site is shown in **Table 0.2**.

Table 0.2: Existing B8 Development Vehicle Trip Generation

Weekday Park	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	29	11	40	11	16	27	40	27	67
17:00-18:00	12	38	50	17	13	30	29	51	80

TRANSPORT SCOPING NOTE

Heywood Stores, Rochdale



- 2.22 As shown, the existing B8 use of the Site has the potential to generate 67 and 80 two-way vehicle movements during the weekday morning and evening peak hours respectively.

3. PROPOSED DEVELOPMENT AND TRIP GENERATION

Introduction

- 3.1 This section introduces the proposed scheme and clarifies the proposed methodology used to estimate the vehicle trip generation associated with it.

Development Overview

- 3.2 The proposal is to redevelop the Site, albeit maintaining its current lawful land use for B8 Storage and Distribution uses. The proposal includes the demolition of all existing buildings, to provide 3 no. B8 Storage and Distribution units with associated access, parking, servicing, and landscaping.
- 3.3 The total gross floor area of the existing buildings is 31,900 sq.m and the combined floor area of the proposed buildings is 44,310 sq.m. Vehicular access is proposed to be retained at the existing junction location off the A6045 Manchester Road, albeit this is proposed to be widened to accommodate two-way HGV movements.
- 3.4 A comparison of the existing and proposed B8 Use Class floor areas is presented in **Table 3.1**.

Table 3.1: Floorspace Changes (Proposed minus Existing)

Scenario	Land Use	Floor Space (sq.m)
Existing Heywood Stores Floorspace	B8	31,900
Proposed Development	B8	44,310
Net Change following Proposal		+ 12,410

- 3.5 Therefore, the proposals will increase the B8 use floor area at the Site by 12,410 sq.m.

Site Access Arrangements

- 3.6 It is intended to utilise the existing site access onto A6045 Manchester Road. This existing junction will be widened to accommodate two-way HGV movements and footways either side of the carriageway.
- 3.7 An initial copy of the Proposed Site Layout is provided in **Appendix 3**.

Proposed Development Trip Generation

- 3.8 Again, like the existing B8 use, the average percentile vehicle trip rates used to support the approved South Heywood hybrid planning application (ref: 16/01399/HYBR) have been used to estimate the trip generation associated with the proposed development. These trip rates are presented in **Table 2.1** of this TN.
- 3.9 The peak hour vehicle trip rates (per 100 sq.m) have been applied to the proposed B8 floor area (44,310 sq.m) and the potential trip generation is presented in **Table 3.2**.

Table 3.2: Proposed B8 Development Vehicle Trip Generation

Weekday Park	Lights			HGVs			Total Vehicles		
	Arr.	Dep.	2-way	Arr.	Dep.	2-way	Arr.	Dep.	2-way
08:00-09:00	40	15	55	16	22	38	56	37	93
17:00-18:00	17	53	70	24	18	42	41	71	112

- 3.10 As shown, the proposed development has the potential to generate 93 two-way vehicle movements during the weekday morning peak hour and 112 in the evening peak hour.

4. RESIDUAL TRIP GENERATION

Introduction

- 4.1 This section identifies the likely residual trip generation associated with the redevelopment proposals during the weekday peak hours of the local highway network.

Residual Trip Generation

- 4.2 As noted previously, the Site benefits from an extant lawful B8 use for 31,900 sq.m of floor space.
- 4.3 **Table 4.1** provides a comparison of the trips generated by the extant B8 use with the trips generated by the proposed development.

Table 4.1: Proposed and Consented Vehicle Trip Comparison

Weekday Peak	Existing Site Trip Generation (31,900sqm Floor space)	Proposed Development Trip Generation (44,310sqm Floor space)	Net Difference
AM Arrivals	40	56	+16
AM Departures	27	37	+10
AM Totals	67	93	+26
PM Arrivals	29	41	+12
PM Departures	51	71	+20
PM Totals	80	112	+32

- 4.4 **Table 4.1** identifies the impact of the increase in B8 floor space of 12,410sq.m (44,410sqm minus 31,900sq.m = 12,410sq.m) as a result of the proposed development.
- 4.5 During the AM Peak hour, the additional B8 floor space will generate 16 additional arrival trips and 10 additional departure trips and overall, it would generate 26 additional two-way total vehicle movements.
- 4.6 In the PM Peak hour, the additional proposed B8 floor space will generate 12 additional arrival trips and 20 additional departure trips and overall, it will generate 32 additional two-way total vehicle movements.

- 4.7 In light of this projected low level of residual vehicle trip generation during the peak hours, it is considered that a Transport Statement (rather than a Transport Assessment assessing off-site junctions) would be sufficient to support the planning application for the proposed development.
- 4.8 Given that the gross B8 floor area proposed is above the TA threshold and the proposal includes multiple units, it is expected that a Framework Travel Plan would be sufficient to support the planning application alongside the Transport Statement.
- 4.9 However, as part of the M62 link road it may be appropriate to assess the proposed signalised crossroad junction with the A6045 Manchester Road to ensure that the additional residual trips associated with the proposals can be accommodated.

5. DISTRIBUTION OF RESIDUAL PROPOSED DEVELOPMENT TRAFFIC

Distribution Pattern

- 5.1 It is considered that the journey to work distribution pattern will relate to lights movements, and HGV movements will relate to the commercial movements in this case storage and distribution.
- 5.2 Therefore, two distribution patterns have been used: -
- **Journey To Work Distribution** – which are related to employees journey to work; and
 - **Commercial Distribution** – these are HGV movements relating to the commercial use.

Journey To Work Distribution Pattern (Light Vehicle trips)

- 5.3 Light vehicle trips will be distributed onto the road network using an assignment based on Journey to Work data for car-based trips among residents of Rochdale 020 Middle Layer Super Output Area (MSOA), Google Maps Directions has been utilised to determine the best route.

Commercial Distribution Pattern (HGV trips)

- 5.4 At the time of assessment, details of future end occupiers are unknown and therefore we are unable to quantify the distribution of HGV movements on first principles information. However, it is anticipated that all HGV trips would travel to and from the units via the South Heywood Link Road.
- 5.5 The South Heywood Link Road will provide easy access to the M62 via Junction 19 and the M66 via Junction 3.

6. FURTHER INFORMATION

Parking Guidelines

- 6.1 The level of parking at the proposed development will be considered in accordance with RBC's adopted parking standards, which are set out in Table 10 in Appendix 5 of

their 'Adopted Core Strategy' (October 2016). The car, cycle and powered two wheeled vehicle parking provision is set out in **Table 6.1** below: -

Table 6.1: Car, Cycle and Power Two Wheelers Parking Standards

Development Type	Maximum Standards for Car Parking Provision	Minimum Standard for Cycle Space Provision	Minimum Standard for Powered Two Wheeled Vehicle Parking Provision
B8 Storage / Distribution Warehousing	1 space per 100 sq.m	1 space per 850sq.m (min 2 spaces)	1 space per 4,000 sq.m (min 2 spaces)

- 6.2 Disabled parking standards are set in Table 11 also in Appendix 5 in Rochdale's 'Adopted Core Strategy' and are set out in **Table 6.2** below.

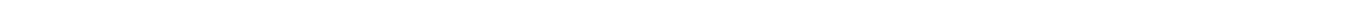
Table 6.2: Disabled Parking Standards

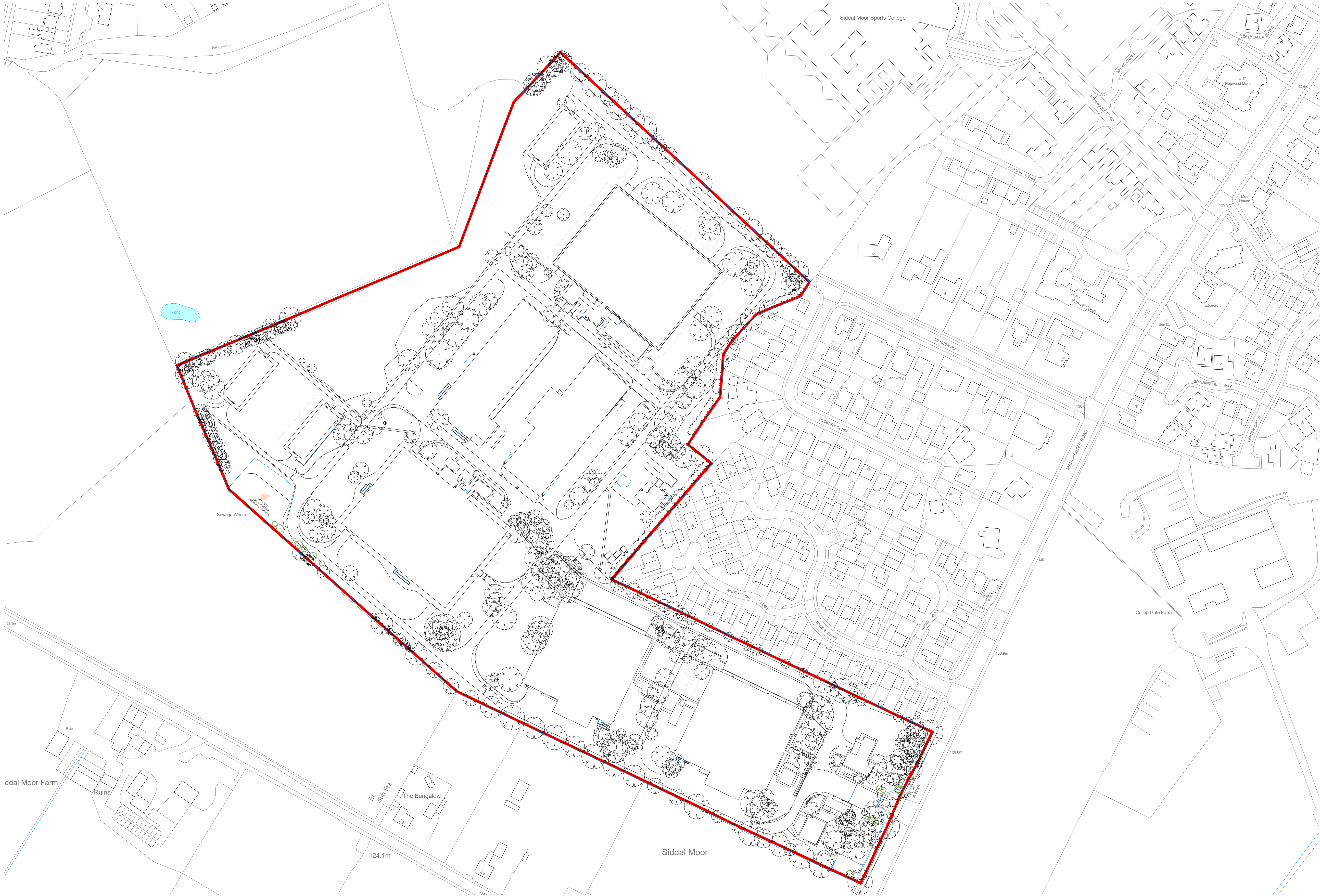
Total Number of General Parking Spaces Provided	Minimum Standard of Disabled Car Parking Provision to be Provided. (in addition to the general car parking provision)
Below 12 spaces	10% of the total capacity
12 to 200 spaces	3 bays or 6% of the total capacity (whichever is greater)
Over 200 spaces	4 bays plus 4% of the total capacity

- 6.3 There are no standards in the RBC guidelines for electric vehicle charge points (EVCP) and therefore clarification is sought from RBC on what they would consider an appropriate level of 'active' and 'passive' EVCP provision.
- 6.4 The proposals include 3 EVCP spaces and 2 accessible EVCP spaces.

APPENDICES

APPENDIX 1: Existing Site Plan





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This drawing is copyright and is for use on this site only
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LOCATION PLAN:

NOTES:

Site Boundary - 11.1152 hec / 27.46 acres

REV	DATE	DESCRIPTION	DRAWN BY	CHECK BY
REVISIONS				

PROJECT TITLE			
Trammell Crow Manchester Road, Heywood			
DRAWING TITLE			
Existing Site Plan			
RIBA STAGE	STATUS	DRAWN BY	CHECKED BY
N/A	Preliminary	DH	RR
SHEET	SCALE	DATE	SUITABILITY
A1	1 : 1250	28/03/2022	SO
DRAWING NO.	REVISION		P1
21157-ASA-XX-XX-D-A-0018_(S0-P1)			

CLIENT

AshtonSmith
Beyond Design

Ashton Smith, Belvedere House, 2 Victoria Avenue, Harrogate, North Yorkshire, HG1 1EL
Tel: 01423 532882 Fax: 01423 565104
www.ashtonsmith.co.uk

APPENDIX 2: TRICS Data

Calculation Reference: AUDIT-714101-220513-0532

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	EX ESSEX	1 days
	HC HAMPSHIRE	2 days
	KC KENT	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	2 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	BG BRIDGEND	1 days
11	SCOTLAND	
	LO WEST LOTHIAN	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 190 to 80100 (units: sqm)
 Range Selected by User: 190 to 80100 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 22/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	2 days
Thursday	4 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	11

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

n/a	2 days
B8	13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	7 days
250,001 to 500,000	2 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	11 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	15 days
----	---------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	15 days
-----------------	---------

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	BD-02-F-02 CAMBRIDGE ROAD BEDFORD	DRINKS WHOLESALER	BEDFORDSHIRE
	Edge of Town Industrial Zone Total Gross floor area: 3500 sqm Survey date: THURSDAY 15/10/20		Survey Type: MANUAL
2	BG-02-F-01 PARC CRESCENT BRIDGEND WATERTON IND. EST.	LOGISTICS COMPANY	BRIDGEND
	Edge of Town Industrial Zone Total Gross floor area: 3050 sqm Survey date: MONDAY 13/10/14		Survey Type: MANUAL
3	DV-02-F-01 ALDERS WAY PAIGNTON	OPTICS WAREHOUSE	DEVON
	Edge of Town Industrial Zone Total Gross floor area: 190 sqm Survey date: FRIDAY 29/03/19		Survey Type: MANUAL
4	EX-02-F-01 BRUNEL WAY COLCHESTER SEVERALLS INDUSTRIAL PK	SPORTS SUPPLEMENTS	ESSEX
	Edge of Town Industrial Zone Total Gross floor area: 6560 sqm Survey date: FRIDAY 18/05/18		Survey Type: MANUAL
5	HC-02-F-02 RUTHERFORD ROAD BASINGSTOKE	LOGISTICS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Commercial Zone Total Gross floor area: 13200 sqm Survey date: THURSDAY 16/06/16		Survey Type: MANUAL
6	HC-02-F-03 WARSASH ROAD PARK GATE	PPE DISTRIBUTION	HAMPSHIRE
	Edge of Town Industrial Zone Total Gross floor area: 3665 sqm Survey date: MONDAY 27/09/21		Survey Type: MANUAL
7	KC-02-F-02 MILLS ROAD AYLESFORD QUARRY WOOD	COMMERCIAL WAREHOUSING	KENT
	Edge of Town Industrial Zone Total Gross floor area: 11200 sqm Survey date: FRIDAY 22/09/17		Survey Type: MANUAL
8	LO-02-F-01 BATHGATE ROAD ARMADALE	LOGISTICS SERVICE	WEST LOTHIAN
	Edge of Town Residential Zone Total Gross floor area: 5855 sqm Survey date: TUESDAY 08/06/21		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	LO-02-F-02	HAULAGE COMPANY	WEST LOTHIAN
	INCHMUIR ROAD		
	BATHGATE		
	WHITEHILL IND. ESTATE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	17626 sqm	
	Survey date: THURSDAY	11/11/21	Survey Type: MANUAL
10	SF-02-F-03	ROAD HAULAGE	SUFFOLK
	CENTRAL AVENUE		
	IPSWICH		
	WARREN HEATH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
11	SY-02-F-01	TESCO DISTRIBUTION CENTRE	SOUTH YORKSHIRE
	MIDDLE BANK		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	80100 sqm	
	Survey date: TUESDAY	21/09/21	Survey Type: MANUAL
12	TW-02-F-01	ASDA DISTRIBUTION CENTRE	TYNE & WEAR
	MANDARIN WAY		
	WASHINGTON		
	PATTISON IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	31000 sqm	
	Survey date: FRIDAY	13/11/15	Survey Type: MANUAL
13	WM-02-F-02	LOGISTICS FIRM	WEST MIDLANDS
	SOVEREIGN ROAD		
	BIRMINGHAM		
	KINGS NORTON		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	3625 sqm	
	Survey date: MONDAY	09/11/15	Survey Type: MANUAL
14	WY-02-F-01	ELECTRONICS DISTRIBUTION	WEST YORKSHIRE
	MORTIMER STREET		
	CLECKHEATON		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	1507 sqm	
	Survey date: MONDAY	19/09/16	Survey Type: MANUAL
15	WY-02-F-02	DISTRIBUTION COMPANY	WEST YORKSHIRE
	STAITHGATE LANE		
	BRADFORD		
	NEWHALL		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	10446 sqm	
	Survey date: THURSDAY	14/03/19	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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

TOTAL 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	6	19620	0.142	6	19620	0.048	6	19620	0.190
06:00 - 07:00	6	19620	0.104	6	19620	0.116	6	19620	0.220
07:00 - 08:00	15	13082	0.137	15	13082	0.080	15	13082	0.217
08:00 - 09:00	15	13082	0.127	15	13082	0.083	15	13082	0.210
09:00 - 10:00	15	13082	0.115	15	13082	0.088	15	13082	0.203
10:00 - 11:00	15	13082	0.116	15	13082	0.110	15	13082	0.226
11:00 - 12:00	15	13082	0.114	15	13082	0.107	15	13082	0.221
12:00 - 13:00	15	13082	0.107	15	13082	0.114	15	13082	0.221
13:00 - 14:00	15	13082	0.125	15	13082	0.113	15	13082	0.238
14:00 - 15:00	15	13082	0.102	15	13082	0.137	15	13082	0.239
15:00 - 16:00	15	13082	0.110	15	13082	0.125	15	13082	0.235
16:00 - 17:00	15	13082	0.099	15	13082	0.127	15	13082	0.226
17:00 - 18:00	15	13082	0.093	15	13082	0.160	15	13082	0.253
18:00 - 19:00	14	13908	0.055	14	13908	0.110	14	13908	0.165
19:00 - 20:00	6	19620	0.036	6	19620	0.058	6	19620	0.094
20:00 - 21:00	5	20018	0.041	5	20018	0.047	5	20018	0.088
21:00 - 22:00	1	5855	0.034	1	5855	0.017	1	5855	0.051
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			1.657			1.640			3.297

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	190 - 80100 (units: sqm)
Survey date range:	01/01/14 - 22/11/21
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

BWB CONSULTING STATION STREET NOTTINGHAM

Licence No: 714101

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	6	19620	0.001	6	19620	0.001	6	19620	0.002
06:00 - 07:00	6	19620	0.002	6	19620	0.002	6	19620	0.004
07:00 - 08:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
08:00 - 09:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
09:00 - 10:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
10:00 - 11:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
13:00 - 14:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
14:00 - 15:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
15:00 - 16:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
16:00 - 17:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
17:00 - 18:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
18:00 - 19:00	14	13908	0.000	14	13908	0.000	14	13908	0.000
19:00 - 20:00	6	19620	0.001	6	19620	0.001	6	19620	0.002
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.014			0.014			0.028

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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	6	19620	0.017	6	19620	0.016	6	19620	0.033
06:00 - 07:00	6	19620	0.015	6	19620	0.022	6	19620	0.037
07:00 - 08:00	15	13082	0.030	15	13082	0.045	15	13082	0.075
08:00 - 09:00	15	13082	0.036	15	13082	0.049	15	13082	0.085
09:00 - 10:00	15	13082	0.041	15	13082	0.044	15	13082	0.085
10:00 - 11:00	15	13082	0.052	15	13082	0.053	15	13082	0.105
11:00 - 12:00	15	13082	0.047	15	13082	0.039	15	13082	0.086
12:00 - 13:00	15	13082	0.046	15	13082	0.037	15	13082	0.083
13:00 - 14:00	15	13082	0.040	15	13082	0.042	15	13082	0.082
14:00 - 15:00	15	13082	0.044	15	13082	0.037	15	13082	0.081
15:00 - 16:00	15	13082	0.055	15	13082	0.044	15	13082	0.099
16:00 - 17:00	15	13082	0.054	15	13082	0.036	15	13082	0.090
17:00 - 18:00	15	13082	0.054	15	13082	0.041	15	13082	0.095
18:00 - 19:00	14	13908	0.034	14	13908	0.032	14	13908	0.066
19:00 - 20:00	6	19620	0.012	6	19620	0.026	6	19620	0.038
20:00 - 21:00	5	20018	0.017	5	20018	0.029	5	20018	0.046
21:00 - 22:00	1	5855	0.017	1	5855	0.017	1	5855	0.034
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.611			0.609			1.220

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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	6	19620	0.003	6	19620	0.000	6	19620	0.003
06:00 - 07:00	6	19620	0.002	6	19620	0.000	6	19620	0.002
07:00 - 08:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
08:00 - 09:00	15	13082	0.005	15	13082	0.000	15	13082	0.005
09:00 - 10:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
10:00 - 11:00	15	13082	0.002	15	13082	0.001	15	13082	0.003
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
13:00 - 14:00	15	13082	0.002	15	13082	0.000	15	13082	0.002
14:00 - 15:00	15	13082	0.001	15	13082	0.003	15	13082	0.004
15:00 - 16:00	15	13082	0.003	15	13082	0.005	15	13082	0.008
16:00 - 17:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
17:00 - 18:00	15	13082	0.001	15	13082	0.003	15	13082	0.004
18:00 - 19:00	14	13908	0.001	14	13908	0.002	14	13908	0.003
19:00 - 20:00	6	19620	0.000	6	19620	0.007	6	19620	0.007
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.024			0.024			0.048

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

CARS

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	6	19620	0.122	6	19620	0.030	6	19620	0.152
06:00 - 07:00	6	19620	0.080	6	19620	0.088	6	19620	0.168
07:00 - 08:00	15	13082	0.087	15	13082	0.021	15	13082	0.108
08:00 - 09:00	15	13082	0.075	15	13082	0.016	15	13082	0.091
09:00 - 10:00	15	13082	0.050	15	13082	0.027	15	13082	0.077
10:00 - 11:00	15	13082	0.041	15	13082	0.037	15	13082	0.078
11:00 - 12:00	15	13082	0.044	15	13082	0.043	15	13082	0.087
12:00 - 13:00	15	13082	0.043	15	13082	0.061	15	13082	0.104
13:00 - 14:00	15	13082	0.067	15	13082	0.055	15	13082	0.122
14:00 - 15:00	15	13082	0.045	15	13082	0.087	15	13082	0.132
15:00 - 16:00	15	13082	0.037	15	13082	0.064	15	13082	0.101
16:00 - 17:00	15	13082	0.033	15	13082	0.075	15	13082	0.108
17:00 - 18:00	15	13082	0.031	15	13082	0.105	15	13082	0.136
18:00 - 19:00	14	13908	0.018	14	13908	0.070	14	13908	0.088
19:00 - 20:00	6	19620	0.020	6	19620	0.028	6	19620	0.048
20:00 - 21:00	5	20018	0.021	5	20018	0.017	5	20018	0.038
21:00 - 22:00	1	5855	0.017	1	5855	0.000	1	5855	0.017
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.831			0.824			1.655

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

LGVS

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	6	19620	0.001	6	19620	0.002	6	19620	0.003
06:00 - 07:00	6	19620	0.008	6	19620	0.004	6	19620	0.012
07:00 - 08:00	15	13082	0.017	15	13082	0.011	15	13082	0.028
08:00 - 09:00	15	13082	0.014	15	13082	0.016	15	13082	0.030
09:00 - 10:00	15	13082	0.023	15	13082	0.016	15	13082	0.039
10:00 - 11:00	15	13082	0.020	15	13082	0.020	15	13082	0.040
11:00 - 12:00	15	13082	0.022	15	13082	0.023	15	13082	0.045
12:00 - 13:00	15	13082	0.016	15	13082	0.016	15	13082	0.032
13:00 - 14:00	15	13082	0.017	15	13082	0.016	15	13082	0.033
14:00 - 15:00	15	13082	0.013	15	13082	0.011	15	13082	0.024
15:00 - 16:00	15	13082	0.017	15	13082	0.016	15	13082	0.033
16:00 - 17:00	15	13082	0.010	15	13082	0.014	15	13082	0.024
17:00 - 18:00	15	13082	0.008	15	13082	0.012	15	13082	0.020
18:00 - 19:00	14	13908	0.003	14	13908	0.008	14	13908	0.011
19:00 - 20:00	6	19620	0.003	6	19620	0.003	6	19620	0.006
20:00 - 21:00	5	20018	0.003	5	20018	0.001	5	20018	0.004
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.195			0.189			0.384

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

MOTOR CYCLES

Calculation factor: 100 sqm

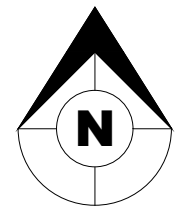
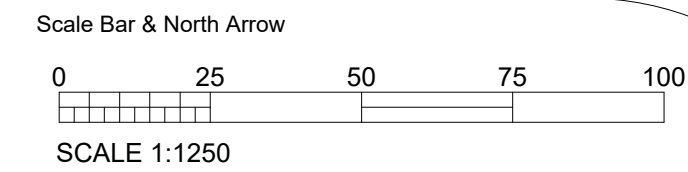
BOLD print indicates peak (busiest) period

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	6	19620	0.001	6	19620	0.000	6	19620	0.001
06:00 - 07:00	6	19620	0.000	6	19620	0.000	6	19620	0.000
07:00 - 08:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
08:00 - 09:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
09:00 - 10:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
10:00 - 11:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.002	15	13082	0.000	15	13082	0.002
13:00 - 14:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
14:00 - 15:00	15	13082	0.000	15	13082	0.002	15	13082	0.002
15:00 - 16:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
16:00 - 17:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
17:00 - 18:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
18:00 - 19:00	14	13908	0.000	14	13908	0.000	14	13908	0.000
19:00 - 20:00	6	19620	0.000	6	19620	0.000	6	19620	0.000
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.009				0.006	0.015	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

APPENDIX 3: Proposed Site Plan

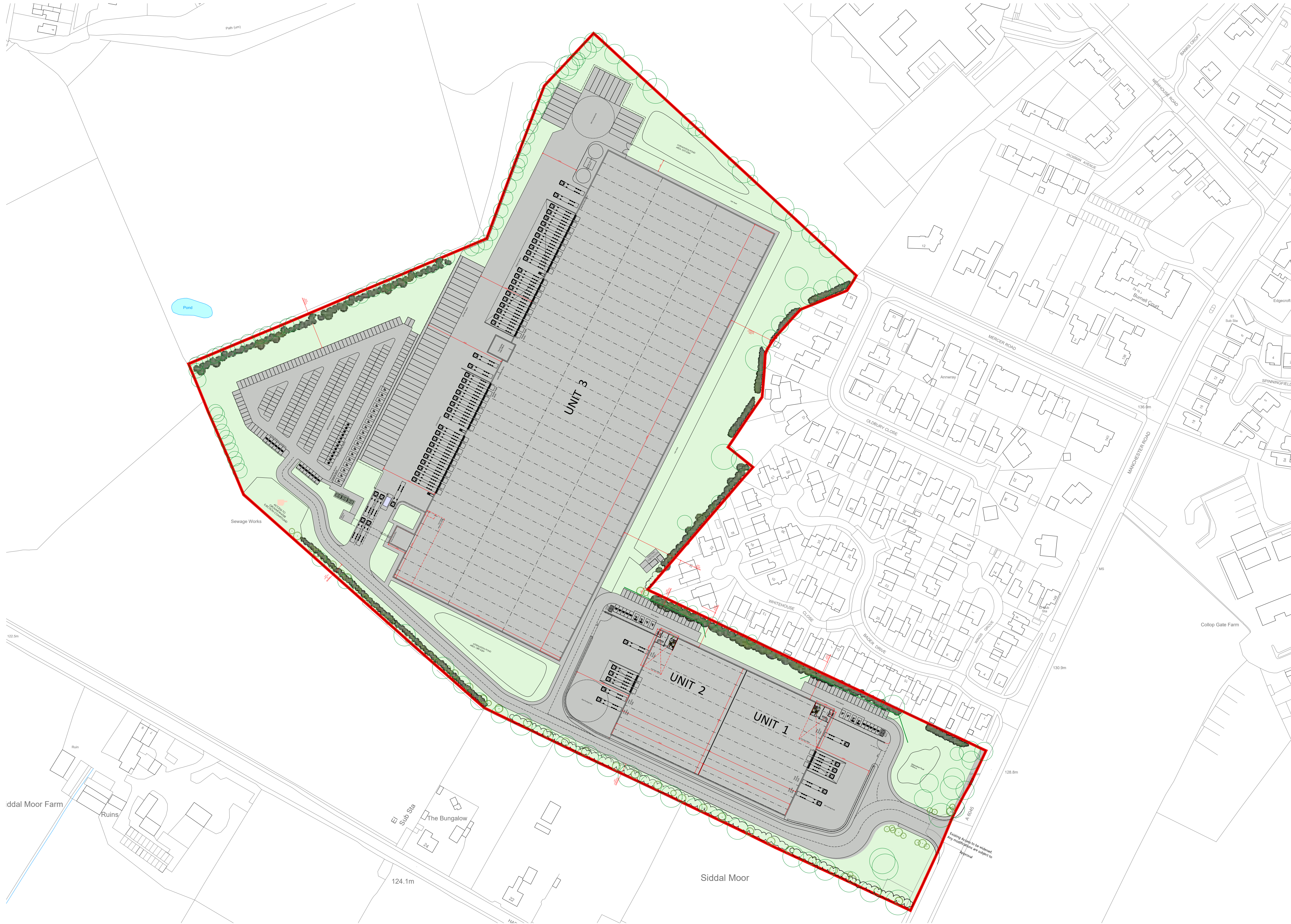


UNIT 1	
Warehouse	- 4,137m ² / 44,530ft ²
10% office	- 460m ² / 4,951ft ²
Total Building Area	- 4,597m ² / 49,481ft ²
HAUNCH	- 12.5m

UNIT 2	
Warehouse	- 4,137m ² / 44,530ft ²
10% office	- 460m ² / 4,951ft ²
Total Building Area	- 4,597m ² / 49,481ft ²
HAUNCH	- 12.5m

UNIT 3	
Warehouse	- 33,361m ² / 359,094ft ²
5% office (Incl. Hub Office)	- 1,755m ² / 18,890ft ²
Total Building Area	- 35,116m ² / 377,985ft ²
HAUNCH HEIGHT	- 18m

Total Floor Area	- 44,310m ² / 476,949ft ²
------------------	---



Do not scale this drawing
ashton smith to be notified of discrepancies in figured dimensions
Contractors must check all dimensions from site
This drawing is copyright and is for use on this site only
This drawing is to be used solely for information as entitled
For other information refer to the latest revision of any cross referenced drawing



LOCATION PLAN:

NOTES:

- Site Boundary - 11.1152 hec / 27.46 acres
- CATEGORY A & B TREES TO BE RETAINED

REV	DATE	DESCRIPTION	DRAWN BY	CHECK BY
REVISIONS				

PROJECT TITLE Trammell Crow Manchester Road, Heywood				
DRAWING TITLE Proposed Site Layout Option 17				
RIBA STAGE N/A	STATUS Preliminary		DRAWN BY DH	CHECKED BY RR
SHEET A1	SCALE 1 : 1250	DATE 28/03/2022	SUITABILITY S0	REVISION P1
DRAWING NO. 21157-ASA-XX-XX-D-A-0017_(S0-P1)				

CLIENT	
 Beyond Design	
Ashton Smith, Belvedere House, 2 Victoria Avenue, Harrogate, North Yorkshire, HG1 1EL Tel: 01423 522882 Fax: 01423 565104 www.ashtonsmith.co.uk	

JOB NO.
21157

APPENDIX 8: TRICS Output

Calculation Reference: AUDIT-714101-220513-0532

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	EX ESSEX	1 days
	HC HAMPSHIRE	2 days
	KC KENT	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	2 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	BG BRIDGEND	1 days
11	SCOTLAND	
	LO WEST LOTHIAN	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 190 to 80100 (units: sqm)
 Range Selected by User: 190 to 80100 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 22/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	2 days
Thursday	4 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	11

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

n/a	2 days
B8	13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	7 days
250,001 to 500,000	2 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	11 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	15 days
----	---------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	15 days
-----------------	---------

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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LIST OF SITES relevant to selection parameters

1	BD-02-F-02 CAMBRIDGE ROAD BEDFORD	DRINKS WHOLESALER	BEDFORDSHIRE
	Edge of Town Industrial Zone Total Gross floor area: 3500 sqm Survey date: THURSDAY 15/10/20		Survey Type: MANUAL
2	BG-02-F-01 PARC CRESCENT BRIDGEND WATERTON IND. EST.	LOGISTICS COMPANY	BRIDGEND
	Edge of Town Industrial Zone Total Gross floor area: 3050 sqm Survey date: MONDAY 13/10/14		Survey Type: MANUAL
3	DV-02-F-01 ALDERS WAY PAIGNTON	OPTICS WAREHOUSE	DEVON
	Edge of Town Industrial Zone Total Gross floor area: 190 sqm Survey date: FRIDAY 29/03/19		Survey Type: MANUAL
4	EX-02-F-01 BRUNEL WAY COLCHESTER SEVERALLS INDUSTRIAL PK	SPORTS SUPPLEMENTS	ESSEX
	Edge of Town Industrial Zone Total Gross floor area: 6560 sqm Survey date: FRIDAY 18/05/18		Survey Type: MANUAL
5	HC-02-F-02 RUTHERFORD ROAD BASINGSTOKE	LOGISTICS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Commercial Zone Total Gross floor area: 13200 sqm Survey date: THURSDAY 16/06/16		Survey Type: MANUAL
6	HC-02-F-03 WARSASH ROAD PARK GATE	PPE DISTRIBUTION	HAMPSHIRE
	Edge of Town Industrial Zone Total Gross floor area: 3665 sqm Survey date: MONDAY 27/09/21		Survey Type: MANUAL
7	KC-02-F-02 MILLS ROAD AYLESFORD QUARRY WOOD	COMMERCIAL WAREHOUSING	KENT
	Edge of Town Industrial Zone Total Gross floor area: 11200 sqm Survey date: FRIDAY 22/09/17		Survey Type: MANUAL
8	LO-02-F-01 BATHGATE ROAD ARMADALE	LOGISTICS SERVICE	WEST LOTHIAN
	Edge of Town Residential Zone Total Gross floor area: 5855 sqm Survey date: TUESDAY 08/06/21		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	LO-02-F-02	HAULAGE COMPANY	WEST LoTHIAN
	INCHMUIR ROAD		
	BATHGATE		
	WHITEHILL IND. ESTATE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	17626 sqm	
	Survey date: THURSDAY	11/11/21	Survey Type: MANUAL
10	SF-02-F-03	ROAD HAULAGE	SUFFOLK
	CENTRAL AVENUE		
	IPSWICH		
	WARREN HEATH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
11	SY-02-F-01	TESCO DISTRIBUTION CENTRE	SOUTH YORKSHIRE
	MIDDLE BANK		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	80100 sqm	
	Survey date: TUESDAY	21/09/21	Survey Type: MANUAL
12	TW-02-F-01	ASDA DISTRIBUTION CENTRE	TYNE & WEAR
	MANDARIN WAY		
	WASHINGTON		
	PATTISON IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	31000 sqm	
	Survey date: FRIDAY	13/11/15	Survey Type: MANUAL
13	WM-02-F-02	LOGISTICS FIRM	WEST MIDLANDS
	SOVEREIGN ROAD		
	BIRMINGHAM		
	KINGS NORTON		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	3625 sqm	
	Survey date: MONDAY	09/11/15	Survey Type: MANUAL
14	WY-02-F-01	ELECTRONICS DISTRIBUTION	WEST YORKSHIRE
	MORTIMER STREET		
	CLECKHEATON		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	1507 sqm	
	Survey date: MONDAY	19/09/16	Survey Type: MANUAL
15	WY-02-F-02	DISTRIBUTION COMPANY	WEST YORKSHIRE
	STAITHGATE LANE		
	BRADFORD		
	NEWHALL		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	10446 sqm	
	Survey date: THURSDAY	14/03/19	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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

TOTAL 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	6	19620	0.142	6	19620	0.048	6	19620	0.190
06:00 - 07:00	6	19620	0.104	6	19620	0.116	6	19620	0.220
07:00 - 08:00	15	13082	0.137	15	13082	0.080	15	13082	0.217
08:00 - 09:00	15	13082	0.127	15	13082	0.083	15	13082	0.210
09:00 - 10:00	15	13082	0.115	15	13082	0.088	15	13082	0.203
10:00 - 11:00	15	13082	0.116	15	13082	0.110	15	13082	0.226
11:00 - 12:00	15	13082	0.114	15	13082	0.107	15	13082	0.221
12:00 - 13:00	15	13082	0.107	15	13082	0.114	15	13082	0.221
13:00 - 14:00	15	13082	0.125	15	13082	0.113	15	13082	0.238
14:00 - 15:00	15	13082	0.102	15	13082	0.137	15	13082	0.239
15:00 - 16:00	15	13082	0.110	15	13082	0.125	15	13082	0.235
16:00 - 17:00	15	13082	0.099	15	13082	0.127	15	13082	0.226
17:00 - 18:00	15	13082	0.093	15	13082	0.160	15	13082	0.253
18:00 - 19:00	14	13908	0.055	14	13908	0.110	14	13908	0.165
19:00 - 20:00	6	19620	0.036	6	19620	0.058	6	19620	0.094
20:00 - 21:00	5	20018	0.041	5	20018	0.047	5	20018	0.088
21:00 - 22:00	1	5855	0.034	1	5855	0.017	1	5855	0.051
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			1.657			1.640			3.297

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	190 - 80100 (units: sqm)
Survey date range:	01/01/14 - 22/11/21
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

BWB CONSULTING STATION STREET NOTTINGHAM

Licence No: 714101

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	6	19620	0.001	6	19620	0.001	6	19620	0.002
06:00 - 07:00	6	19620	0.002	6	19620	0.002	6	19620	0.004
07:00 - 08:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
08:00 - 09:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
09:00 - 10:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
10:00 - 11:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
13:00 - 14:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
14:00 - 15:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
15:00 - 16:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
16:00 - 17:00	15	13082	0.002	15	13082	0.002	15	13082	0.004
17:00 - 18:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
18:00 - 19:00	14	13908	0.000	14	13908	0.000	14	13908	0.000
19:00 - 20:00	6	19620	0.001	6	19620	0.001	6	19620	0.002
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.014			0.014			0.028

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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	6	19620	0.017	6	19620	0.016	6	19620	0.033
06:00 - 07:00	6	19620	0.015	6	19620	0.022	6	19620	0.037
07:00 - 08:00	15	13082	0.030	15	13082	0.045	15	13082	0.075
08:00 - 09:00	15	13082	0.036	15	13082	0.049	15	13082	0.085
09:00 - 10:00	15	13082	0.041	15	13082	0.044	15	13082	0.085
10:00 - 11:00	15	13082	0.052	15	13082	0.053	15	13082	0.105
11:00 - 12:00	15	13082	0.047	15	13082	0.039	15	13082	0.086
12:00 - 13:00	15	13082	0.046	15	13082	0.037	15	13082	0.083
13:00 - 14:00	15	13082	0.040	15	13082	0.042	15	13082	0.082
14:00 - 15:00	15	13082	0.044	15	13082	0.037	15	13082	0.081
15:00 - 16:00	15	13082	0.055	15	13082	0.044	15	13082	0.099
16:00 - 17:00	15	13082	0.054	15	13082	0.036	15	13082	0.090
17:00 - 18:00	15	13082	0.054	15	13082	0.041	15	13082	0.095
18:00 - 19:00	14	13908	0.034	14	13908	0.032	14	13908	0.066
19:00 - 20:00	6	19620	0.012	6	19620	0.026	6	19620	0.038
20:00 - 21:00	5	20018	0.017	5	20018	0.029	5	20018	0.046
21:00 - 22:00	1	5855	0.017	1	5855	0.017	1	5855	0.034
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.611			0.609			1.220

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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	6	19620	0.003	6	19620	0.000	6	19620	0.003
06:00 - 07:00	6	19620	0.002	6	19620	0.000	6	19620	0.002
07:00 - 08:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
08:00 - 09:00	15	13082	0.005	15	13082	0.000	15	13082	0.005
09:00 - 10:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
10:00 - 11:00	15	13082	0.002	15	13082	0.001	15	13082	0.003
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
13:00 - 14:00	15	13082	0.002	15	13082	0.000	15	13082	0.002
14:00 - 15:00	15	13082	0.001	15	13082	0.003	15	13082	0.004
15:00 - 16:00	15	13082	0.003	15	13082	0.005	15	13082	0.008
16:00 - 17:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
17:00 - 18:00	15	13082	0.001	15	13082	0.003	15	13082	0.004
18:00 - 19:00	14	13908	0.001	14	13908	0.002	14	13908	0.003
19:00 - 20:00	6	19620	0.000	6	19620	0.007	6	19620	0.007
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.024				0.024	0.048	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

CARS

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	6	19620	0.122	6	19620	0.030	6	19620	0.152
06:00 - 07:00	6	19620	0.080	6	19620	0.088	6	19620	0.168
07:00 - 08:00	15	13082	0.087	15	13082	0.021	15	13082	0.108
08:00 - 09:00	15	13082	0.075	15	13082	0.016	15	13082	0.091
09:00 - 10:00	15	13082	0.050	15	13082	0.027	15	13082	0.077
10:00 - 11:00	15	13082	0.041	15	13082	0.037	15	13082	0.078
11:00 - 12:00	15	13082	0.044	15	13082	0.043	15	13082	0.087
12:00 - 13:00	15	13082	0.043	15	13082	0.061	15	13082	0.104
13:00 - 14:00	15	13082	0.067	15	13082	0.055	15	13082	0.122
14:00 - 15:00	15	13082	0.045	15	13082	0.087	15	13082	0.132
15:00 - 16:00	15	13082	0.037	15	13082	0.064	15	13082	0.101
16:00 - 17:00	15	13082	0.033	15	13082	0.075	15	13082	0.108
17:00 - 18:00	15	13082	0.031	15	13082	0.105	15	13082	0.136
18:00 - 19:00	14	13908	0.018	14	13908	0.070	14	13908	0.088
19:00 - 20:00	6	19620	0.020	6	19620	0.028	6	19620	0.048
20:00 - 21:00	5	20018	0.021	5	20018	0.017	5	20018	0.038
21:00 - 22:00	1	5855	0.017	1	5855	0.000	1	5855	0.017
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.831				0.824	1.655	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

LGVS

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	6	19620	0.001	6	19620	0.002	6	19620	0.003
06:00 - 07:00	6	19620	0.008	6	19620	0.004	6	19620	0.012
07:00 - 08:00	15	13082	0.017	15	13082	0.011	15	13082	0.028
08:00 - 09:00	15	13082	0.014	15	13082	0.016	15	13082	0.030
09:00 - 10:00	15	13082	0.023	15	13082	0.016	15	13082	0.039
10:00 - 11:00	15	13082	0.020	15	13082	0.020	15	13082	0.040
11:00 - 12:00	15	13082	0.022	15	13082	0.023	15	13082	0.045
12:00 - 13:00	15	13082	0.016	15	13082	0.016	15	13082	0.032
13:00 - 14:00	15	13082	0.017	15	13082	0.016	15	13082	0.033
14:00 - 15:00	15	13082	0.013	15	13082	0.011	15	13082	0.024
15:00 - 16:00	15	13082	0.017	15	13082	0.016	15	13082	0.033
16:00 - 17:00	15	13082	0.010	15	13082	0.014	15	13082	0.024
17:00 - 18:00	15	13082	0.008	15	13082	0.012	15	13082	0.020
18:00 - 19:00	14	13908	0.003	14	13908	0.008	14	13908	0.011
19:00 - 20:00	6	19620	0.003	6	19620	0.003	6	19620	0.006
20:00 - 21:00	5	20018	0.003	5	20018	0.001	5	20018	0.004
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.195			0.189			0.384

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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

MOTOR CYCLES

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	6	19620	0.001	6	19620	0.000	6	19620	0.001
06:00 - 07:00	6	19620	0.000	6	19620	0.000	6	19620	0.000
07:00 - 08:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
08:00 - 09:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
09:00 - 10:00	15	13082	0.000	15	13082	0.000	15	13082	0.000
10:00 - 11:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
11:00 - 12:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
12:00 - 13:00	15	13082	0.002	15	13082	0.000	15	13082	0.002
13:00 - 14:00	15	13082	0.001	15	13082	0.000	15	13082	0.001
14:00 - 15:00	15	13082	0.000	15	13082	0.002	15	13082	0.002
15:00 - 16:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
16:00 - 17:00	15	13082	0.001	15	13082	0.001	15	13082	0.002
17:00 - 18:00	15	13082	0.000	15	13082	0.001	15	13082	0.001
18:00 - 19:00	14	13908	0.000	14	13908	0.000	14	13908	0.000
19:00 - 20:00	6	19620	0.000	6	19620	0.000	6	19620	0.000
20:00 - 21:00	5	20018	0.000	5	20018	0.000	5	20018	0.000
21:00 - 22:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
22:00 - 23:00	1	5855	0.000	1	5855	0.000	1	5855	0.000
23:00 - 24:00									
Total Rates:			0.009			0.006			0.015

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

APPENDIX 9: PICADY Output Files

Junctions 10									
PICADY 10 - Priority Intersection Module									
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021									
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com									
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution									

Filename: Heywood Junction Model 2023.03.10 P05.j10

Path: \\bwbdeltetkfil\JOB FOLDERS\2022\220785-B8 Redevelopment, Rochdale\ProjectDelivery\01-WIP\DesignAndCalculations\Transport\Model\Junctions 10

Report generation date: 10/03/2023 11:36:22

»2020+Dev, AM

»2020+Dev, PM

»2038+Dev, AM

»2038+Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2020+Dev									
Stream B-C	D1	0.0	7.07	0.02	A	D2	0.1	8.13	0.05	A
Stream B-A		0.2	10.07	0.15	B		0.3	11.57	0.21	B
Stream C-AB		0.1	6.16	0.05	A		0.0	6.85	0.01	A
	2038+Dev									
Stream B-C	D3	0.0	7.93	0.02	A	D4	0.1	8.56	0.05	A
Stream B-A		0.2	12.92	0.18	B		0.3	12.97	0.23	B
Stream C-AB		0.1	6.74	0.05	A		0.0	7.14	0.02	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	08/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	BWB\Robert.Wickenden
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)

		0.85	36.00	20.00
--	--	------	-------	-------

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2020+Dev	AM	ONE HOUR	08:00	09:30	15
D2	2020+Dev	PM	ONE HOUR	17:00	18:30	15
D3	2038+Dev	AM	ONE HOUR	08:00	09:30	15
D4	2038+Dev	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2020+Dev	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A6045 Manchester Road (S)		✓	334	100.000
B - Site Access		✓	67	100.000
C - A6045 Manchester Road (N)		✓	512	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	53	281
	B - Site Access	57	0	10
	C - A6045 Manchester Road (N)	486	26	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	0	0
	B - Site Access	0	0	0
	C - A6045 Manchester Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	7.07	0.0	A
B-A	0.15	10.07	0.2	B
C-AB	0.05	6.16	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	551	0.014	7	0.0	6.621	A
B-A	43	478	0.090	43	0.1	8.263	A
C-AB	20	629	0.032	20	0.0	5.910	A
C-A	366			366			
A-B	40			40			
A-C	212			212			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	538	0.017	9	0.0	6.799	A
B-A	51	454	0.113	51	0.1	8.944	A
C-AB	24	622	0.039	24	0.0	6.018	A
C-A	436			436			
A-B	48			48			
A-C	253			253			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	520	0.021	11	0.0	7.067	A
B-A	63	420	0.149	63	0.2	10.062	B
C-AB	30	615	0.049	30	0.1	6.153	A
C-A	534			534			
A-B	58			58			
A-C	309			309			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	520	0.021	11	0.0	7.068	A
B-A	63	420	0.149	63	0.2	10.072	B
C-AB	30	615	0.049	30	0.1	6.155	A
C-A	534			534			
A-B	58			58			
A-C	309			309			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	538	0.017	9	0.0	6.804	A
B-A	51	454	0.113	51	0.1	8.958	A
C-AB	24	622	0.039	24	0.0	6.021	A
C-A	436			436			
A-B	48			48			
A-C	253			253			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	551	0.014	8	0.0	6.625	A
B-A	43	478	0.090	43	0.1	8.285	A
C-AB	20	629	0.032	20	0.0	5.913	A
C-A	366			366			
A-B	40			40			
A-C	212			212			

2020+Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.13	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.13	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2020+Dev	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A6045 Manchester Road (S)		✓	561	100.000
B - Site Access		✓	97	100.000
C - A6045 Manchester Road (N)		✓	315	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	67	494
	B - Site Access	76	0	21
	C - A6045 Manchester Road (N)	308	7	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	0	0
	B - Site Access	0	0	0
	C - A6045 Manchester Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	8.13	0.1	A
B-A	0.21	11.57	0.3	B
C-AB	0.01	6.85	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	516	0.031	16	0.0	7.194	A
B-A	57	459	0.125	57	0.1	8.934	A
C-AB	5	578	0.009	5	0.0	6.288	A
C-A	232			232			
A-B	50			50			
A-C	372			372			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	495	0.038	19	0.0	7.559	A
B-A	68	432	0.158	68	0.2	9.885	A
C-AB	6	559	0.011	6	0.0	6.515	A
C-A	277			277			
A-B	60			60			
A-C	444			444			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	466	0.050	23	0.1	8.130	A
B-A	84	395	0.212	83	0.3	11.544	B
C-AB	8	533	0.015	8	0.0	6.852	A
C-A	339			339			
A-B	74			74			
A-C	544			544			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	466	0.050	23	0.1	8.134	A
B-A	84	395	0.212	84	0.3	11.566	B
C-AB	8	533	0.015	8	0.0	6.852	A
C-A	339			339			
A-B	74			74			
A-C	544			544			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	19	495	0.038	19	0.0	7.567	A
B-A	68	432	0.158	69	0.2	9.913	A
C-AB	6	559	0.011	6	0.0	6.518	A
C-A	277			277			
A-B	60			60			
A-C	444			444			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	516	0.031	16	0.0	7.202	A
B-A	57	459	0.125	57	0.1	8.968	A
C-AB	5	578	0.009	5	0.0	6.288	A
C-A	232			232			
A-B	50			50			
A-C	372			372			

2038+Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.81	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.81	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2038+Dev	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A6045 Manchester Road (S)		✓	553	100.000
B - Site Access		✓	67	100.000
C - A6045 Manchester Road (N)		✓	608	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	53	500
	B - Site Access	57	0	10
	C - A6045 Manchester Road (N)	582	26	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
From	A - A6045 Manchester Road (S)	0	0	0
	B - Site Access	0	0	0
	C - A6045 Manchester Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	7.93	0.0	A
B-A	0.18	12.92	0.2	B
C-AB	0.05	6.74	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	514	0.015	7	0.0	7.103	A
B-A	43	424	0.101	42	0.1	9.429	A
C-AB	20	592	0.034	20	0.0	6.292	A
C-A	438			438			
A-B	40			40			
A-C	376			376			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	494	0.018	9	0.0	7.423	A
B-A	51	389	0.132	51	0.1	10.643	B
C-AB	24	579	0.042	24	0.0	6.484	A
C-A	522			522			
A-B	48			48			
A-C	449			449			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	465	0.024	11	0.0	7.929	A
B-A	63	341	0.184	62	0.2	12.898	B
C-AB	30	565	0.054	30	0.1	6.735	A
C-A	639			639			
A-B	58			58			
A-C	551			551			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	465	0.024	11	0.0	7.931	A
B-A	63	341	0.184	63	0.2	12.924	B
C-AB	30	565	0.054	30	0.1	6.738	A
C-A	639			639			
A-B	58			58			
A-C	551			551			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	9	494	0.018	9	0.0	7.426	A
B-A	51	389	0.132	52	0.2	10.670	B
C-AB	24	579	0.042	24	0.0	6.486	A
C-A	522			522			
A-B	48			48			
A-C	449			449			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	514	0.015	8	0.0	7.107	A
B-A	43	424	0.101	43	0.1	9.461	A
C-AB	20	592	0.034	20	0.0	6.295	A
C-A	438			438			
A-B	40			40			
A-C	376			376			

2038+Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.09	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2038+Dev	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A6045 Manchester Road (S)		✓	645	100.000
B - Site Access		✓	97	100.000
C - A6045 Manchester Road (N)		✓	373	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
	A - A6045 Manchester Road (S)	0	67	578
	B - Site Access	76	0	21
	C - A6045 Manchester Road (N)	366	7	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - A6045 Manchester Road (S)	B - Site Access	C - A6045 Manchester Road (N)
	A - A6045 Manchester Road (S)	0	0	0
	B - Site Access	0	0	0
	C - A6045 Manchester Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	8.56	0.1	A
B-A	0.23	12.97	0.3	B
C-AB	0.02	7.14	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	501	0.032	16	0.0	7.408	A
B-A	57	436	0.131	57	0.1	9.477	A
C-AB	5	563	0.009	5	0.0	6.456	A
C-A	276			276			
A-B	50			50			
A-C	435			435			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	478	0.040	19	0.0	7.848	A
B-A	68	405	0.169	68	0.2	10.693	B
C-AB	6	541	0.012	6	0.0	6.730	A
C-A	329			329			
A-B	60			60			
A-C	520			520			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	444	0.052	23	0.1	8.553	A
B-A	84	361	0.232	83	0.3	12.938	B
C-AB	8	512	0.015	8	0.0	7.141	A
C-A	403			403			
A-B	74			74			
A-C	636			636			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	444	0.052	23	0.1	8.558	A
B-A	84	361	0.232	84	0.3	12.973	B
C-AB	8	512	0.015	8	0.0	7.141	A
C-A	403			403			
A-B	74			74			
A-C	636			636			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	19	477	0.040	19	0.0	7.856	A
B-A	68	405	0.169	69	0.2	10.728	B
C-AB	6	541	0.012	6	0.0	6.733	A
C-A	329			329			
A-B	60			60			
A-C	520			520			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	501	0.032	16	0.0	7.417	A
B-A	57	436	0.131	57	0.2	9.516	A
C-AB	5	563	0.009	5	0.0	6.456	A
C-A	276			276			
A-B	50			50			
A-C	435			435			

APPENDIX 10: 2020 'Do Something' (DS) and 2038 DS LinSig Modelling Results



APPENDIX TA15

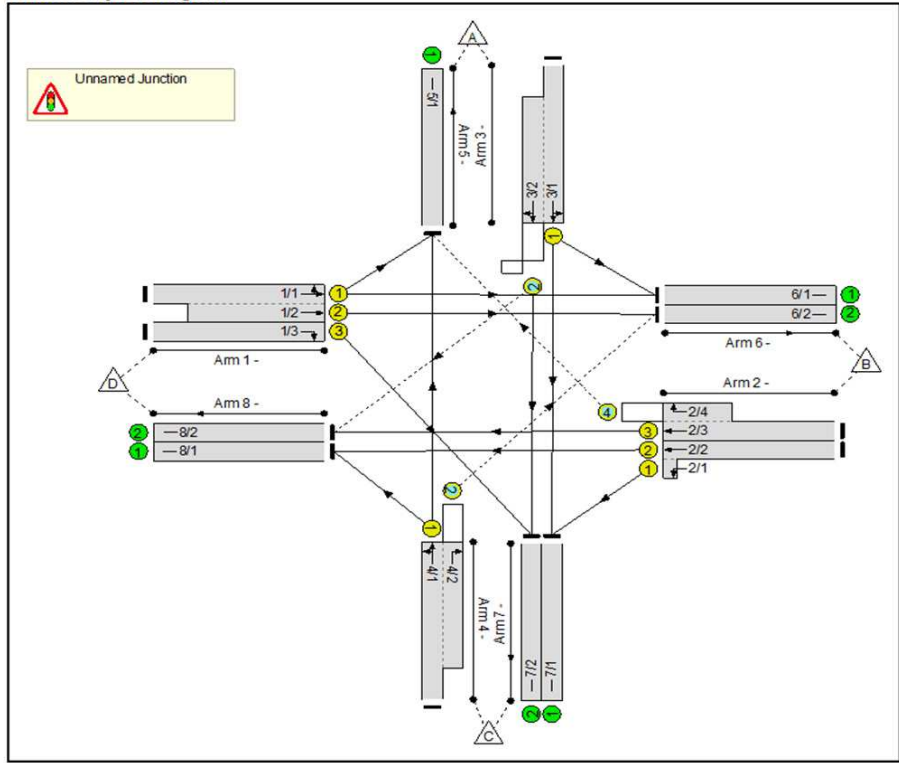
Appendix TA15(b) - Proposed New Link Road / Manchester Road LINSIG Assessment Results - 2020

Key

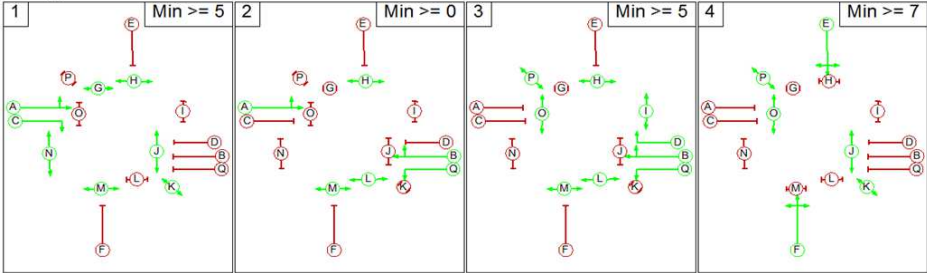
	0-89% DoS (within capacity conditions)
	90-99% DoS (variable operating conditions)
	100%+ DoS (over capacity conditions)

Proposed New Link Road / Manchester Road Junction		AM Peak			Inter Peak			PM Peak		
		2020 DS			2020 DS			2020 DS		
	Lane Description	Flow	Deg of Sat	MMQ	Flow	Deg of Sat	MMQ	Flow	Deg of Sat	MMQ
		-	53.50%	-	-	45.80%	-	-	67.70%	-
1/1+1/2	Link Road (w) Ahead Left	477	30.10%	4.5	433	30.60%	3.5	511	35.30%	5.1
1/3	Link Road (w) Right	67	26.90%	1.7	63	20.20%	1.2	86	34.50%	2.2
2/2+2/1	Link Road (e) Ahead Left	327	47.70%	6.6	238	41.10%	4	386	62.50%	8.8
2/3+2/4	Link Road (e) Ahead Right	415	53.50%	7.5	290	44.60%	4.7	478	67.70%	10.2
3/1+3/2	Manchester Road (n) Ahead Left Right	486	50.70%	5.7	211	27.60%	1.9	308	32.70%	3.3
4/1+4/2	Heywood Old Road (s) Ahead Left Right	318	50.20%	6.1	264	45.80%	3.9	446	66.30%	9.4
Junction PRC		68.4%			96.5%			32.9%		

Network Layout Diagram



Stage Diagram
Stage Stream: 1





APPENDIX TA21

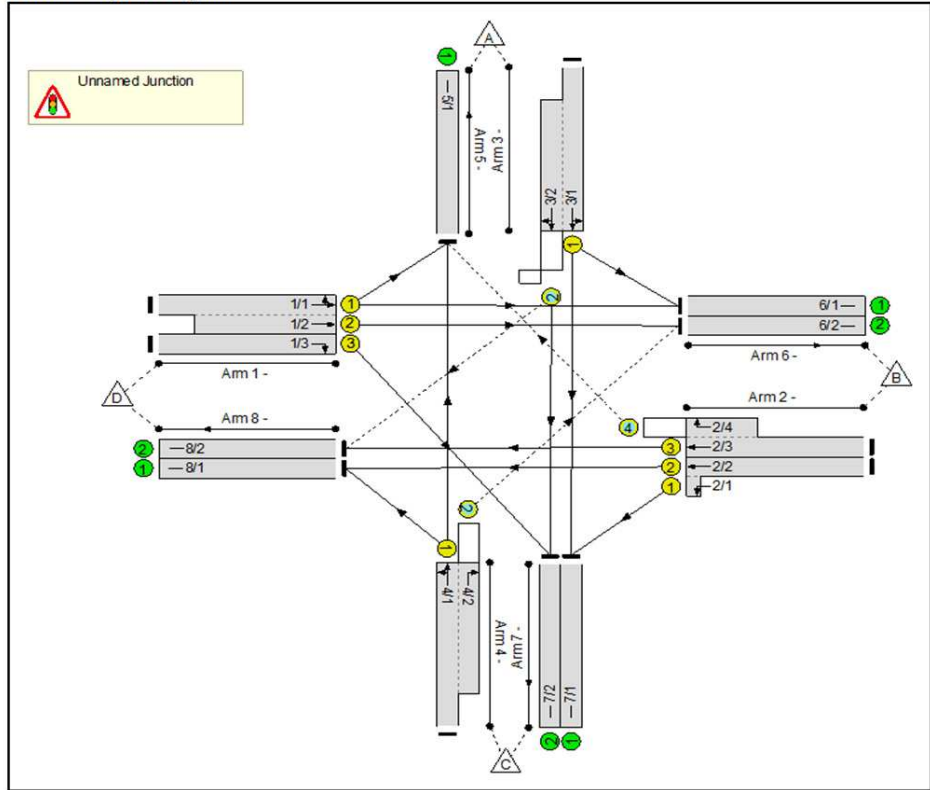
Appendix TA21(b) - Proposed New Link Road / Manchester Road LINSIG Assessment Results - 2038

Key

	0-89% DoS (within capacity conditions)
	90-99% DoS (variable operating conditions)
	100%+ DoS (over capacity conditions)

Proposed New Link Road / Manchester Road Junction		AM Peak			Inter Peak			PM Peak		
		2038 DS			2038 DS			2038 DS		
		Flow	Deg of Sat	MMQ	Flow	Deg of Sat	MMQ	Flow	Deg of Sat	MMQ
1/1+1/2	Link Road (w) Ahead Left	1018	80.80%	11	827	54.10%	7.3	932	54.30%	9.6
1/3	Link Road (w) Right	65	26.10%	1.6	104	33.40%	2.1	99	39.70%	2.6
2/2+2/1	Link Road (e) Ahead Left	555	76.30%	13.6	389	61.40%	7.1	572	76.30%	13.8
2/3+2/4	Link Road (e) Ahead Right	665	80.10%	15.2	497	67.30%	8.3	696	80.70%	15.7
3/1+3/2	Manchester Road (n) Ahead Left Right	582	74.90%	8	320	55.00%	3.3	366	62.70%	4.9
4/1+4/2	Heywood Old Road (s) Ahead Left Right	395	65.90%	8.2	328	65.10%	5.6	467	81.90%	11.5
Junction PRC		12.3%			33.7%			9.8%		

Network Layout Diagram



Stage Diagram
Stage Stream: 1

