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**Application for a Light Industrial and Storage Development  
Land at Moorlands Farm, Botley Road, West End**

**Transport Statement May 2023**

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# 1 Introduction

## 1.1 Background

- 1.1.1 This Transport Statement has been commissioned by Country Homes Limited in support of a detailed planning application submission to Eastleigh Borough Council for a Light Industrial and storage development at Moorlands Farm, Botley Road, West End. The location of the site is as shown below.



- 1.1.2 The site currently has a lawful use as a farmstead which accommodates a farmhouse, together with a number of agricultural buildings and outbuildings including barns, sheds and greenhouses. To the north of the site is open pastures that previously accommodated livestock. Access to the site is taken to the south, directly onto Botley Road which is classified as the B3035 and is subject to a 40mph speed limit. It is intended to remove all existing buildings and to replace these with light industrial and storage uses and estate office. The site layout plan is attached as [Appendix 1](#) to this report.

## 1.2 Scope and Report Structure

- 1.2.1 This Transport Statement has been prepared to consider the sustainable accessibility of the site from a transport perspective and to assess the likely traffic impact of the development on the highway network.
- 1.2.2 Following this introduction section, the report will be set out as follows:

- Planning Policy Considerations
- Existing Site Conditions and Location
- Planning History
- Development Proposals
- Sustainable Transport Accessibility
- Traffic Impact
- Car and Cycle Parking
- Access and Servicing, and
- Summary and Conclusions

## 2 Planning Policy Consideration

- 2.1 This section of the report provides an overview of strategic planning policy at national and at local level.
- 2.1.1 The National Planning Policy Framework (NPPF) was first introduced in March 2012 and has been subsequently revised in 2021. It sets out the Government's planning policy for England and sets out a framework for local authorities to produce their own local plans.
- 2.1.2 The key purpose of the NPPF is to contribute to the achievements of sustainable development. It sets out the overarching interdependent objectives as, a) an economic objective, b) a social objective and c) an environmental objective.
- 2.1.3 At its heart, the NPPF maintains its presumption in favour of sustainable development.
- 2.1.4 Chapter 9 Promoting sustainable transport sets out in paragraph 110 that:

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

*a) appropriate opportunities to promote sustainable transport modes can be, or have been taken up, given the type of development and location;*

*b) safe and suitable access to the site can be achieved for all users, and*

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

- 2.1.5 Paragraph 111 states:

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

- 2.1.6 National Planning Practice Guidance (NPPG) – March 2014

- 2.1.7 The NPPG was first published in March 2014 and remains a 'live' source of Government planning guidance. In relation to the key roles of Transport Assessments / Statements, the NPPG notes:

*"Transport Assessments and Statements are ways of assessing the potential transport impacts of developments (and they may propose mitigating measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans).*

*Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts)."*

- 2.1.8 Local Transport Policy – Hampshire Local Transport Plan (LTP) 2011 – 2031 April 2013

- 2.1.9 Hampshire County Council transport strategy up to 2031 is set out in the LTP. The document outlines how the LTP will contribute to the Council corporate priorities and includes a three-year implementation plan. The main priorities are to:

*“Support economic growth by ensuring the safety, soundness and efficiency of the transport network in Hampshire;*

*Provide a safe, well-maintained, and more resilient road network in Hampshire, as the basic transport infrastructure of the County, on which all forms of transport directly or indirectly depend, and the key to continued casualty reduction; and*

*Manage traffic to maximise the efficiency of the existing network capacity, improving journey time reliability and reducing emissions, and thereby supporting the efficiency and sustainable movements of people and goods.”*

- 2.1.10 The LTOP identifies Eastleigh as being within the South Hampshire Joint Strategy area and identifies its vision for the area to create:

*“A resilient cost effective, fully integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment”*

- 2.1.11 The LTP identifies transport policies to deliver this objective. Relevant to Eastleigh, this includes:

- To develop transport improvements that support sustainable economic growth and development within South Hampshire;
- To optimise the capacity of the highway network and improve journey time reliability for all modes;
- To achieve and sustain a high quality, resilient and well-maintained highway network for all;
- To deliver improvements in air quality;
- To improve road safety across the sub region;
- To promote active travel modes and develop supporting infrastructure;
- To encourage private investment in bus, taxi and community transport solutions, and where practical, better infrastructure and services; and
- To work with Local Planning Authorities to integrate planning and transport.

- 2.1.12 Eastleigh Borough Local Plan 2016 – 2030 Adopted April 2022

- 2.1.13 Local Policy is set out in the recently adopted Eastleigh Borough Local Plan.

- 2.1.14 In terms of transport and accessibility, the Local Plan seeks to reduce the need to travel; promote measures to increase the use of public transport and improve walking and cycling; improve highway safety; and ensure that the development is located so that it is accessible by non car modes.

- 2.1.15 Policy S11 sets out how the Council will work with the highway authorities, Solent Transport, transport operators, funding bodies and developers to minimise transport emissions, pollution and congestion by:

- Ensuring new developments encourage walking, cycling and the use of public transport; and
- Minimise congestion and support safety of the highway network as informed by appropriate transport assessments; and
- Safeguarding the routes and securing the funding to deliver new and improved transport infrastructure.

2.1.16 Policy DM13 gives advice on the transport implications of General Development Criteria. It says:

All new development must have safe and convenient access to the highway network and make provision for access to, and by, other transport modes including public transport and cycle and pedestrian routes as appropriate.

Access arrangements to the highway network must:

- meet national and local guidance and standards with all highway improvements meeting the standard required to be adopted by the Highway Authority;
- not cause or increase danger to road users or have a significant detrimental impact on the operation or safety of the highway network; and
- be provided without unacceptable environmental impact.

All new development will be assessed to establish whether it should contribute to off-site improvements to transport infrastructure in accordance with Hampshire County Council's Transport Contributions Policy, to the extent that these are necessitated by the development and proportionate to the scale of development.

Development proposals that will generate vehicle movements likely to have an adverse impact on traffic conditions beyond the immediate vicinity of the development site must be subject to Transport Assessment and will be required to incorporate and implement mitigation measures such as:

- provision of/contribution towards on and off-site highway improvements such as junction improvements and potentially new road links
- on-site pedestrian, cycle and public transport infrastructure
- contributions towards relevant off-site sustainable transport infrastructure, public rights of way and service improvements where appropriate
- on-site measures aimed at increasing uptake of non-car travel options (e.g. Travel Plans) to reduce car use.

2.1.17 The Eastleigh Borough Transport Statement (produced by HCC in consultation with EBC) was adopted in 2012 and covers the period up to 2029. The document provides a detailed statement of transport strategy for the Borough and presents a package of sustainable transport measures to improve accessibility.

2.2 Summary - Taken together, national and local transport policy requires new development to be located where there is an opportunity for a range of facilities and services to be accessed by a choice of modes of transport including walking, cycling and public transport, so to minimise the number and length of car journeys. Safe and suitable access to new developments should be achieved for all people.

- 2.3 Planning decisions should take into account of whether improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. National and emerging local policy is clear that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

## 2.4 Report Overview

- 2.4.1 The remainder of this report is divided into seven further sections, which are as follows:
- 2.4.2 Site Location and Existing Conditions – This section discusses the existing permitted use of the site and its location in the context to the surrounding highway network.
- 2.4.3 Planning History – This section sets out the previous planning history for the site.
- 2.4.4 Development Proposals – This section will discuss what the application is seeking to achieve.
- 2.4.5 Sustainable Transport Accessibility – This section will describe the accessibility of the site in relation to existing facilities and services and public transport options.
- 2.4.6 Traffic Impact – This section will utilise TRICS data to help to demonstrate the difference in traffic generation between the existing permitted use, and that not being sought.
- 2.4.7 Car and Cycle Parking – this section will discuss the car and cycle parking and demonstrate that sufficient parking will be provided.
- 2.4.8 Access and Servicing – This section will discuss the access arrangements to the site and how it is intended to be serviced.
- 2.4.9 Summary and Conclusions - A summary and the conclusions of the report are provided in this section.

## 3 Site Location and Existing Conditions

- 3.1 The site is located to the south of the B3055, Botley Road which runs east to west linking Hedge End with West End. It is a single carriageway street lit road with a variable width of between 7.5m and 9.0m and is subject to a 40mph speed limit. This is reduced to a 30 mph limit some 300m west of the site access.
- 3.2 Botley Road connects with Tollbar Way via a roundabout junction to the east. This in turn gives access to Hedge End Retail and Trade Parks and the residential areas beyond.
- 3.3 To the west, Botley Road gives access to West End village centre and the A27.
- 3.4 There is a bus stop some 300m west of the application site which serves the 8 City Red and X4 services and whilst 300m to the east on Tollbar Way is a further bus stop that also serves the 3 Blue Star service as well as the 8 City Red and X4 services.
- 3.5 The site has an existing access onto Botley Road in the form of a 24m long dropped footway crossing. This has historically been used by large agricultural vehicles associated with the sites previous use as a farmstead.
- 3.6 A review of the Hampshire Constabulary Personal Injury Accident database has been undertaken to ascertain the highway safety record of the immediate highway network.

The extent of the accident analysis and the number of injury accidents is shown below.



3.7 Based on data held by Hampshire Constabulary there have been 4 recorded accidents within the vicinity of the site, one of which occurred on Botley Road 50m north west of the application site access, whilst three occurred at the Botley Road / Tollbar Way roundabout junction. All 4 incidents result in just slight injuries with no serious or fatal injuries. A summary of the accidents is shown below whilst details are included as [Appendix 2](#) to this report.

- Accident 1 – A motorcyclist travelling on Botley Road attempted to overtake a van but collided with the rear of the vehicle which knocked the rider off causing minor injuries.
- Accident 2 – A motorcycle travelling south-east on Botley Road starts to go right at the roundabout and loses control causing the rider to fall and sustain a minor injury.
- Accident 3 – A car towing a trailer travelling north-east on Botley Road enters the roundabout intending to turn right but a second car travelling north-east collides with the first cars trailer.
- Accident 4 – A pedestrian is crossing Tollbar Way to the south-east side when she is struck by a car travelling south-west causing a minor injury to the pedestrian.

3.8 From the above it can be reasoned that there is not an overarching accident problem on Botley Road and its roundabout junction with Tollbar Way and that driver error was the prevailing factor in all four incidents.

3.9 Existing traffic flows on Botley Road in the vicinity of the site were recorded by an Automatic Traffic Count (ATC) by HCC as highway authority between the dates of 24<sup>th</sup> - 30<sup>th</sup> May 2021. A summary of the two-way traffic flows on Botley Road during the peak hours is shown below. (See [Appendix 3](#)).

| Location    | Time    | Eastbound | Westbound | Two Way |
|-------------|---------|-----------|-----------|---------|
| Botley Road | AM Peak | 677       | 638       | 1315    |
| Botley Road | PM Peak | 560       | 722       | 1282    |

## 4 Planning History

- 4.1 A previous application was submitted under reference 0/21/91192 for the demolition of all existing outbuildings and for the erection of Light Industrial Floorspace under Class E together with Warehousing under use Class B8 along with the conversion of the existing farmhouse to provide ancillary offices and an estate office.
- 4.2 The Highway Authority were consulted and had no objections to the principle of the proposals but suggested that the existing access be upgraded to a bell mouth junction. This scheme now results in a significant reduction in floor space, and hence the number and size of vehicles likely to be generated.
- 4.3 The application was subsequently withdrawn due to the request for additional information.

## 5 Proposed development

- 5.1 It proposed to demolish all of the existing buildings on the site and to erect 3 Light Industrial units with flexibility for storage uses together with an estate office and open storage yard.
- 5.2 The application is submitted in detailed form with all matters to be considered at this stage.

## 6 Sustainable Transport Accessibility

- 6.1 A key part of the national, regional, and local policy is to ensure that new developments are located in areas where sustainable travel modes are available. It is important to ensure that developments are not isolated but are sited close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.
- 6.2 The accessibility of the proposed development is considered in this context for the following modes of travel:
  - Pedestrian accessibility
  - Accessibility by Cycle; and
  - Accessibility by Public Transport
- 6.3 **Pedestrian Accessibility** – Research has shown that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities and services.
- 6.4 The Chartered Institute of Highways and Transportation (CIHT) document entitled Providing for Journeys on Foot suggests walking distances which are relevant to this proposal. These are demonstrated below.

|                   | Town Centres (m) | Commuting / School / Sightseeing (m) | Elsewhere / Local Services (m) |
|-------------------|------------------|--------------------------------------|--------------------------------|
| Desirable         | 200              | 500                                  | 400                            |
| Acceptable        | 400              | 1000                                 | 800                            |
| Preferred Maximum | 800              | 2000                                 | 1200                           |

- 6.5 The site benefits from a good local pedestrian infrastructure as West End is located just 1km (12 minute walk) to the west whilst Hedge End is located a similar level walk to the east.
- 6.6 Links to Hedge End railway station and the Ageas Bowl Cricket Ground are signposted for pedestrians and cyclists next to the site access on Botley Road. The location of these signs would suggest that the location is an acceptable distance for pedestrian and cyclists to such destinations.
- 6.7 Footpath no 10, West End, was diverted as part of the construction of the M27. A direction sign for the path is on the west side of the site's access. The Footpath continues parallel with the M27 on the west side of the site's access road, separated from the road by established planting. The Footpath then crosses the Moorlands Farm land, north of the farm buildings and the open land that are included in the application site.
- 6.8 **Cycle Accessibility** – There is a continuous shared footway / cycleway on the northern side of Botley Road immediately fronting the site which provides a link to West End Village Centre to the west and Hedge End to the east.
- 6.9 Pedestrians and cyclists are provided with dropped footway crossing points, the majority of which have tactile paving at priority junctions.
- 6.10 There are a number of controlled crossing points on Botley Road including one to the east of the site, which allows for linkage to Tollbar Way. To the west a signalised Toucan crossing allows for access to the Ageas Bowl and the David Lloyd Leisure Centre.
- 6.11 **Accessibility to Public Transport** – The nearest bus stop to the site is located some 300m to the west which is serviced by the X4 and the 8 City Red buses. A summary of the services are shown in the table below.

| Service    | Operator   | Route                                       | Frequency        |                  |                |
|------------|------------|---------------------------------------------|------------------|------------------|----------------|
|            |            |                                             | Mon - Fri        | Sat              | Sun            |
| X4         | Xelabus    | Hedge End - Eastleigh                       | Hourly Service   | Every 2 Hours    | 4 Buses        |
| X4         | Xelabus    | Eastleigh – Hedge End                       | Hourly Service   | Every 2 Hours    | 4 Buses        |
| 8 City Red | Firstgroup | Southampton City Centre – Hedge End Station | Every 30 minutes | Every 30 minutes | Hourly Service |
| 8 City Red | Firstgroup | Hedge End Station – Southampton City Centre | Every 30 minutes | Every 30 minutes | Hourly Service |

- 6.12 Additional Bus stops can be found 300m to the east on Tollbar Way which serve the X9, X15 and Bluestar 3 services. These services are summarised below.

| Service | Operator | Route                         | Frequency      |               |     |
|---------|----------|-------------------------------|----------------|---------------|-----|
|         |          |                               | Mon - Fri      | Sat           | Sun |
| X9      | Xelabus  | Southampton – Bishops Waltham | Hourly Service | Every 2 Hours | 0   |
| X9      | Xelabus  | Bishops Waltham - Southampton | Hourly Service | Every 2 Hours | 0   |
| X15     | Xelabus  | Hamble - Eastleigh            | 2 Buses        | 0             | 0   |

|            |          |                            |                |                |               |
|------------|----------|----------------------------|----------------|----------------|---------------|
| X15        | Xelabus  | Science Park - Southampton | 2 Buses        | 0              | 0             |
| Bluestar 3 | Bluestar | Southampton - Eastleigh    | Hourly Service | Hourly Service | Every 2 Hours |
| Bluestar 3 | Bluestar | Eastleigh – Southampton    | Hourly Service | Hourly Service | Every 2 Hours |

- 6.13 **Rail Services** – The nearest railway station to the site is the Hedge End Railway Station which is a 2km, 24 minute walk or 7 minute cycle ride from the site. Alternatively, the 8 City Red bus runs every 30 minutes during the week and on Saturdays which will complete the journey in 15 minutes.
- 6.14 The table below shows the available services from the Station together with their approximate journey times to each destination. There are good connections to Eastleigh, Southampton and Portsmouth as well as further afield such as Winchester and London Waterloo.

| Destination     | Typical Daytime Frequency |                  | Typical Journey Time |
|-----------------|---------------------------|------------------|----------------------|
|                 | Peak Service              | Off-peak Service |                      |
| Eastleigh       | 2 Per Hour                | 1 Per Hour       | 6 minutes            |
| Fareham         | 2 Per Hour                | 2 Per Hour       | 12 minutes           |
| Winchester      | 2 Per Hour                | 1 Per Hour       | 18 minutes           |
| Southampton     | 2 Per Hour                | 1 Per Hour       | 28 minutes           |
| Portsmouth      | 2 Per Hour                | 2 Per Hour       | 40 minutes           |
| London Waterloo | 2 Per Hour                | 1 Per Hour       | 90 minutes           |

- 6.15 From the above it can be surmised that the site is located close to residential settlements and has excellent cycle connections as well as excellent levels and frequencies of bus connectivity and train services.

## 7 Traffic Impact

- 7.1 This section looks at the likely traffic arising from the existing permitted use of the site and the uses now being applied for.
- 7.2 The site has historically been used as a farmstead which would have generated a degree of traffic including large and slow-moving agricultural vehicles. More recently the site has benefited from a use as a Dog Training Centre which was granted consent in April 2019 under reference F18/84683.
- 7.3 A supporting document which was considered by the Highway Authority suggested that such a use would have generated in to be region of 42 two-way traffic movements per day.
- 7.4 The proposed site will accommodate 3 light industrial units together with an estate office and open storage yard. The development will result in around 2284 sqm floor area.
- 7.5 In order to determine the likely traffic that could be generated by the proposed use, the TRICS database V7.9.2 has been interrogated. Industrial Estates of between 1775 and 4800 sqm were selected, located within Edge of Town and Suburban Areas. The TRICS data is shown below.

| TRICS Trip Rate Industrial Estates           |              |             |               |
|----------------------------------------------|--------------|-------------|---------------|
|                                              | Arrivals     | Departures  | Two-way Total |
| AM Peak Hour                                 | 0.818        | 0.499       | 1.317         |
| PM Peak Hour                                 | 0.395        | 0.712       | 1.107         |
| Daily Traffic                                | 6.238        | 6.185       | 12.423        |
| TRICS Vehicle Trip Generation based 2284 sqm |              |             |               |
| AM Peak Hour                                 | 18.68 (17)   | 11.39 (11)  | 28            |
| PM Peak Hour                                 | 9.02 (9)     | 16.26 (16)  | 25            |
| Daily Traffic                                | 142.48 (142) | 141.27(141) | 283           |

- 7.6 From the above it can be seen that the development is likely to generate some 24 vehicular movements in the AM peak, 25 in the PM peak and around 283 daily vehicular traffic movements.
- 7.7 The site has benitted from planning permission for a Dog Training Centre which was likely to generate 44 two- way traffic movements per day. Assuming 10% of this occurred in each of the AM and PM peak periods, the net increase in likely traffic impact from the proposed development would be as shown below.

| Likely Traffic Impact Allowing for Previous Permitted Use |          |            |               |
|-----------------------------------------------------------|----------|------------|---------------|
|                                                           | Arrivals | Departures | Two-way Total |
| Existing Use                                              | 4        | 4          | 44            |
| Proposed Use                                              | 28       | 25         | 283           |
| Net Increase                                              | 24       | 21         | 239           |

- 7.8 From the above, it can be seen that the proposed light industrial development is likely to generate a net increase of some 24 vehicular movements in the AM peak, 21 in the PM peak and 239 daily traffic movements.
- 7.9 The estate office has a floor area of some 100sqm and is not considered to be a large traffic generator. Only two staff members will be employed who will be site based, resulting in few daily traffic movements. Unit C may be let as a Builders Yard, which would also result in fewer traffic movemenst and smaller vehicles than the Light Industrial use.
- 7.10 Assuming a 50 / 50 split in traffic origin and destination, the proposed development is likely to result in just 12 additional traffic movements through the Botley Road / Tollbar Way roundabout junction in the AM peak and just 11 in the PM Peak, which is considered to be immaterial in this instance. The safe operation and capacity of the RAB junction will therefore not be affected. The TRICS data is include as [Appendix 4](#) to this report.

## 8 Car and Cycle Parking

- 8.1 The application is being made in detailed form with all matters to be considered at this time.
- 8.2 Historically car parking requirements for development of this nature were contained with the Hampshire County Council guidance document, however these have now been withdrawn, and in this case Eastleigh Borough Council are the parking authority.
- 8.3 It is understood that EBC do not have a specific standard for parking for commercial development, therefore allowance has been made at a rate of 1 space per 39sqm gfa. In addition, cycle parking is to be provided in the form of 42 secure and undercover cycle stands.

## 9 Access and Servicing

- 9.1 The site currently benefits a vehicular access onto Botley Road in the form of dropped footway crossing. This affectively gives pedestrians and cyclists priority over the adjacent combined footway / cycleway. The extent of the dropped crossing measures some 24m, which historically was used by large agricultural vehicles.
- 9.2 It is not proposed to alter the existing access arrangements that currently form a part of the public highway however the internal access road is to be widened to accommodate the turning requirements of a large articulated vehicle. This will have no effect on the public footpath 10 which runs to the south of the access.
- 9.3 Whilst the Highway Authority previously suggested that the access be upgraded to a full bell-mouth arrangement, the development now proposed has been significantly reduced from the previous proposal. This results in the number and size of vehicles generated by the proposal to also be significantly reduced. The retention of the access in its current form will therefore give priority of the footway to pedestrians and cyclists, which is in accordance with Policies S11 and DM 13 of the adopted Local Plan.
- 9.4 Drawing numbered NJC-001 is included as [Appendix 5](#) to this report which shows the swept path tracking of an articulated vehicle, whilst a large car is waiting at the junction to exit. The drawing demonstrates that such a manoeuvre can be undertaken without conflict.
- 9.5 Botley Road is at this point subject to a speed limit of 40mph, therefore based on the requirements of Manual for Streets and the Hampshire County Council Document Technical Guidance 3, visibility splays of 2.4m. by 120.0m would be required in both the easterly and westerly directions.
- 9.6 The presence of the wide footway / cycleway across the site frontage allows for adequate visibility splays to be provided in accordance with advice contained within Manual for Streets. This is demonstrated on drawing numbered NJC-002 included as [Appendix 6](#) to this report. The visibility at the access is also shown below.



Visibility to the West



Visibility to the East

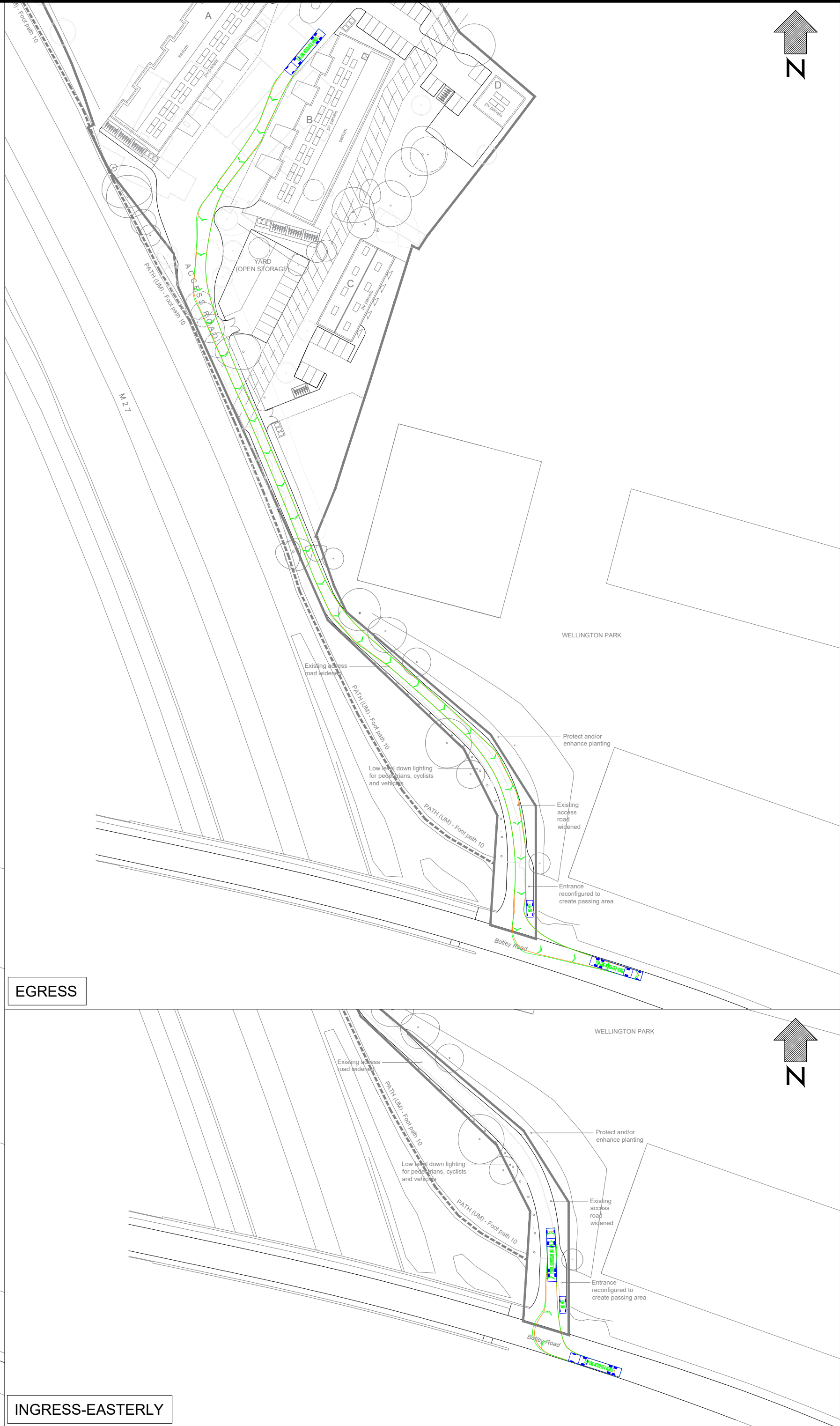
## 10 Summary and Conclusions

- 10.1 This Transport Statement has been commissioned by Country Homes Limited in support of a Light Industrial and storage development at Moorlands Farm, Botley Road, West End.

- 10.2 The site benefits from excellent short walking distances to facilities and services, cycling connections to local cycle routes and has excellent levels and frequencies of bus connectivity and train services.
- 10.3 It has been demonstrated through the use of TRICS data that the development of the site will not result in any material increase in vehicular traffic in the AM and PM peak periods.
- 10.4 The existing access to the site is to be utilised with internal improvements to accommodate the swept path turning requirements of an articulated vehicle.
- 10.5 The visibility at the existing site access junction with Botley Road is in accordance with current requirements.
- 10.6 The development is therefore considered to be fully in accordance with National, Regional and Local Planning policies and will not result in any demonstrable harm to the safe operation of the adjoining public highway.

## Appendix 1

### Site Layout Plan



VEHICLE DETAILS:

15.1M LONG ARTICULATED VEHICLE

|                             |         |
|-----------------------------|---------|
| Overall Length              | 15.100m |
| Overall Width               | 2.500m  |
| Overall Body Height         | 3.652m  |
| Min Body Ground Clearance   | 0.406m  |
| Max Track Width             | 2.377m  |
| Lock-to-lock time           | 6.00s   |
| Curb to Curb Turning Radius | 6.610m  |

Design speed 5kph for all Forward movements  
Design speed 2.5kph for all Reverse movements

Client

Project

MOORLANDS FARM

Drawing Title

SWEPT PATH TRACKING

Drawing Status

FOR INFORMATION

|                        |                |                  |                 |            |
|------------------------|----------------|------------------|-----------------|------------|
| Drawn<br>AT            | Designed<br>NC | Date<br>AUG 2022 | Scale<br>1:1000 | Size<br>A2 |
| Drawing No.<br>NJC-001 |                |                  |                 | Rev<br>1   |

## Appendix 2

### Accident Data

Accidents between dates **01/07/2017 and 30/06/2020** (36) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("KR -  
BOTLEY ROAD - BACS/SR/0319/134")

**Notes:**

44170448663 17/11/2017 Time 1900 Vehicles 2 Casualties 1 Slight  
E:448174 N:114274 First Road: B 3035 Road Type Single carriageway  
Speed limit: 50 Junction Detail: Not within 20m of junction  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                                     | Participant: | Confidence: |
|------|---------------------------------------------|--------------|-------------|
| 1st: | Exceeding speed limit                       | Vehicle 1    | Possible    |
| 2nd: | Following too close                         | Vehicle 1    | Possible    |
| 3rd: | Poor turn or manoeuvre                      | Vehicle 1    | Possible    |
| 4th: | Failed to look properly                     | Vehicle 1    | Possible    |
| 5th: | Failed to judge other persons path or speed | Vehicle 1    | Possible    |
| 6th: | Loss of control                             | Vehicle 1    | Possible    |

VEH1 (M/CYCLE) ATTEMPTED TO OVERTAKE VEH2 (VAN) BUT COLLIDED WITH THE REAR AND  
KNOCKED OFF RIDER CAUSING MINOR INJURIES.

Occurred on B3035 BOTLEY ROAD APPROX 55 METRES NW OF MOORLANDS FARM ENTRANCE, WEST END,  
HAMPSHIRE.

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Overtaking moving vehicle O/S  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 22 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 22 Male Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Going ahead other  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 30 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Accidents between dates **01/07/2017** and **30/06/2020** (36) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("KR -  
BOTLEY ROAD - BACS/SR/0319/134")

**Notes:**

44180009498 08/01/2018 Time 1451 Vehicles 1 Casualties 1 Slight  
E:448489 N: 114170 First Road: B 3035 Road Type Single carriageway  
Speed limit: 30 Junction Detail: Roundabout Give way or controlled B 3342  
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                               | Participant: | Confidence: |
|------|---------------------------------------|--------------|-------------|
| 1st: | Loss of control                       | Vehicle 1    | Very Likely |
| 2nd: | Inexperienced or learner driver/rider | Vehicle 1    | Very Likely |
| 3rd: |                                       |              |             |
| 4th: |                                       |              |             |
| 5th: |                                       |              |             |
| 6th: |                                       |              |             |

VEH1 (M/CYCLE) TRAVELLING SE ON B3035 BOTLEY ROAD STARTS TO GO RIGHT AT THE ROUNDABOUT AND LOSES CONTROL CAUSING THE RIDER TO FALL OFF AND SUSTAIN MINOR INJURY.

Occurred on B3035 AT JUNCTION WITH B3342 TOLLBAR WAY, HEDGE END, HAMPSHIRE.

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Turning right  
Vehicle movement from NW to SW No tow / articulation Leaving the main road  
On main carriageway Skidded  
Location at impact Mid Junction - on roundabout or r First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 17 Male  
Not hit and run Breath test Negative Left hand drive: No  
Casualty Reference: 1 Vehicle: 1 Age: 17 Male Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/07/2017 and 30/06/2020** (36) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("KR -  
BOTLEY ROAD - BACS/SR/0319/134")

**Notes:**

44180088818 08/03/2018 Time 1921 Vehicles 2 Casualties 1 Slight  
E:448449 N:114158 First Road: B 3035 Road Type 1  
Speed limit: 40 Junction Detail: Roundabout Give way or controlled B 3342  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

| Causation                                        |              |             |  |
|--------------------------------------------------|--------------|-------------|--|
| Factor:                                          | Participant: | Confidence: |  |
| 1st: Failed to judge other persons path or speed | Vehicle 1    | Possible    |  |
| 2nd: Failed to judge other persons path or speed | Vehicle 2    | Possible    |  |
| 3rd:                                             |              |             |  |
| 4th:                                             |              |             |  |
| 5th:                                             |              |             |  |
| 6th:                                             |              |             |  |

VEH 1 (CAR) TOWING A TRAILER TRAVELLING NE ALONG B3342 TOLLBAR WAY ENTERS RBT INTENDING TO TURN RIGHT, VEH 2 (CAR) TRAVELLING NW ALONG B3035 BOTLEY ROAD NEGOTIATING THE RBT AND COLLIDES WITH VEH 1 TRAILER.

Occurred on B3035 BOTLEY ROAD AT JUNCTION WITH B3342 TOLLBAR WAY, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Car Going ahead right bend  
Vehicle movement from SW to SE Single trailer Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 39 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Vehicle Reference 2 Car Going ahead other  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 46 Female  
Not hit and run Breath test Negative  
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 46 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/07/2017** and **30/06/2020** (36) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("KR -  
BOTLEY ROAD - BACS/SR/0319/134")

**Notes:**

44180107548    22/03/2018    Time 1640    Vehicles 1    Casualties 1    Slight  
E:448456    N: 114132    First Road: B 3342    Road Type Dual carriageway  
Speed limit: 30    Junction Detail: Roundabout    Give way or controlled    B 3035  
Crossing: Control None    Facilities: Central reservation    Road surface Dry  
Daylight    Fine without high winds  
Special Conditions at Site None    Carriageway Hazards: None  
Place accident reported: Elsewhere    DfT Special Projects:

**Causation**

|      | Factor:                      | Participant: | Confidence: |
|------|------------------------------|--------------|-------------|
| 1st: | Failed to look properly      | Vehicle 1    | Possible    |
| 2nd: | Careless/Reckless/In a hurry | Casualty 1   | Possible    |
| 3rd: |                              |              |             |
| 4th: |                              |              |             |
| 5th: |                              |              |             |
| 6th: |                              |              |             |

CAS1 (PEDESTRIAN) CROSSING TOLLBAR WAY TO THE SE IS STRUCK BY VEH1 (CAR) TRAVELLING SW.  
VEH1 STOPPED BUT NO DETAILS WERE EXCHANGED AND VEH1 COULD NOT BE TRACED. CAS1  
SUFFERED MINOR INJURY.

Occurred on B3342 TOLLBAR WAY AT JUNCTION WITH B3035 BOTLEY ROAD, HEDGE END, HAMPSHIRE.

Vehicle Reference 1    Car    Turning left  
Vehicle movement from SE to SW    No tow / articulation    Leaving the main road  
On main carriageway    No skidding, jack-knifing or overturning  
Location at impact Leaving roundabout    First impact Front    Hit vehicle:  
Hit object in road None    Off road: None  
Did not leave carr    Age of Driver    Female  
Non-stop, not hit    Breath test    Driver not contacted  
Left hand drive: No

Casualty Reference: 1    Vehicle: 1    Age: 16    Male    Pedestrian    Severity: Slight  
Not a pupil  
Seatbelt Not Applicable    Cycle helmet: Not a cyclist  
Within 50m ped crossing    SE bound  
Driver's offside

## Appendix 3

### Automatic Traffic Count Data

**Weekly Volume Report HANTS\_RTD 000047140002 2021-05-24 to 2021-05-30**

Site Name 47140002  
 Site ID 000047140002  
 Grid 447987114322  
 Description B3035 Botley Rd West End

Setup 47140002\_Pvr  
 Lanes Each Lane  
 Time Period 1 hour  
 Class Any  
 Exclude data: None

| All directions |            |            |            |            |            |            |            |          |          |        |
|----------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|--------|
|                | Mon        | Tue        | Wed        | Thu        | Fri        | Sat        | Sun        | Average  |          | Total  |
|                | 2021-05-24 | 2021-05-25 | 2021-05-26 | 2021-05-27 | 2021-05-28 | 2021-05-29 | 2021-05-30 | Workday  | 7 Day    | Count  |
| 00:00:00       | 28         | 34         | 31         | 34         | 37         | 81         | 93         | 33       | 48       | 338    |
| 01:00:00       | 11         | 13         | 14         | 29         | 15         | 36         | 45         | 16       | 23       | 163    |
| 02:00:00       | 7          | 17         | 15         | 14         | 11         | 11         | 11         | 13       | 12       | 86     |
| 03:00:00       | 19         | 15         | 20         | 14         | 17         | 19         | 12         | 17       | 17       | 116    |
| 04:00:00       | 26         | 33         | 30         | 27         | 36         | 22         | 18         | 30       | 27       | 192    |
| 05:00:00       | 129        | 141        | 131        | 131        | 108        | 58         | 28         | 128      | 104      | 726    |
| 06:00:00       | 335        | 359        | 332        | 343        | 309        | 164        | 107        | 336      | 278      | 1949   |
| 07:00:00       | 853        | 934        | 921        | 923        | 891        | 374        | 193        | 904      | 727      | 5089   |
| 08:00:00       | 1257       | 1362       | 1299       | 1304       | 1352       | 759        | 312        | 1315     | 1092     | 7645   |
| 09:00:00       | 953        | 1011       | 998        | 1052       | 1160       | 1046       | 683        | 1035     | 986      | 6903   |
| 10:00:00       | 1027       | 1038       | 978        | 1074       | 1056       | 1291       | 1086       | 1035     | 1079     | 7550   |
| 11:00:00       | 945        | 1040       | 997        | 1088       | 1190       | 1331       | 1123       | 1052     | 1102     | 7714   |
| 12:00:00       | 1019       | 1022       | 995        | 1048       | 1233       | 1206       | 1033       | 1063     | 1079     | 7556   |
| 13:00:00       | 1049       | 1007       | 971        | 1043       | 1218       | 1132       | 945        | 1058     | 1052     | 7365   |
| 14:00:00       | 1032       | 1066       | 1083       | 1121       | 1296       | 1107       | 937        | 1120     | 1092     | 7642   |
| 15:00:00       | 1179       | 1212       | 1214       | 1287       | 1419       | 998        | 839        | 1262     | 1164     | 8148   |
| 16:00:00       | 1202       | 1332       | 1213       | 1370       | 1382       | 937        | 627        | 1300     | 1152     | 8063   |
| 17:00:00       | 1246       | 1234       | 1255       | 1377       | 1298       | 1035       | 555        | 1282     | 1143     | 8000   |
| 18:00:00       | 889        | 923        | 969        | 1017       | 1016       | 885        | 486        | 963      | 884      | 6185   |
| 19:00:00       | 642        | 616        | 675        | 729        | 838        | 619        | 435        | 700      | 651      | 4554   |
| 20:00:00       | 428        | 403        | 461        | 526        | 559        | 371        | 321        | 475      | 438      | 3069   |
| 21:00:00       | 293        | 310        | 277        | 421        | 339        | 232        | 237        | 328      | 301      | 2109   |
| 22:00:00       | 162        | 183        | 168        | 208        | 230        | 267        | 202        | 190      | 203      | 1420   |
| 23:00:00       | 104        | 89         | 102        | 107        | 150        | 167        | 104        | 110      | 118      | 823    |
|                |            |            |            |            |            |            |            |          |          |        |
| 07-19          | 12651      | 13181      | 12893      | 13704      | 14511      | 12101      | 8819       | 13388    | 12551    | 87860  |
| 06-22          | 14349      | 14869      | 14638      | 15723      | 16556      | 13487      | 9919       | 15227    | 14220    | 99541  |
| 06-24          | 14615      | 15141      | 14908      | 16038      | 16936      | 13921      | 10225      | 15528    | 14541    | 101784 |
| 00-24          | 14835      | 15394      | 15149      | 16287      | 17160      | 14148      | 10432      | 15765    | 14772    | 103405 |
|                |            |            |            |            |            |            |            |          |          |        |
| am Peak        | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 11:00:00   | 11:00:00   | 08:00:00 | 11:00:00 |        |
| Peak Volume    | 1257       | 1362       | 1299       | 1304       | 1352       | 1331       | 1123       | 1315     | 1102     |        |
| pm Peak        | 17:00:00   | 16:00:00   | 17:00:00   | 17:00:00   | 15:00:00   | 12:00:00   | 12:00:00   | 16:00:00 | 15:00:00 |        |
| Peak Volume    | 1246       | 1332       | 1255       | 1377       | 1419       | 1206       | 1033       | 1300     | 1164     |        |

| Eastbound   |            |            |            |            |            |            |            |          |          |       |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|-------|
|             | Mon        | Tue        | Wed        | Thu        | Fri        | Sat        | Sun        | Average  |          | Total |
|             | 2021-05-24 | 2021-05-25 | 2021-05-26 | 2021-05-27 | 2021-05-28 | 2021-05-29 | 2021-05-30 | Workday  | 7 Day    | Count |
| 00:00:00    | 9          | 20         | 14         | 18         | 24         | 28         | 43         | 17       | 22       | 156   |
| 01:00:00    | 4          | 9          | 12         | 16         | 5          | 11         | 26         | 9        | 12       | 83    |
| 02:00:00    | 4          | 8          | 8          | 10         | 7          | 6          | 2          | 7        | 6        | 45    |
| 03:00:00    | 10         | 10         | 12         | 7          | 8          | 12         | 6          | 9        | 9        | 65    |
| 04:00:00    | 19         | 19         | 22         | 19         | 25         | 14         | 9          | 21       | 18       | 127   |
| 05:00:00    | 73         | 71         | 59         | 68         | 53         | 39         | 11         | 65       | 53       | 374   |
| 06:00:00    | 167        | 205        | 202        | 199        | 171        | 80         | 45         | 189      | 153      | 1069  |
| 07:00:00    | 506        | 509        | 540        | 512        | 504        | 192        | 89         | 514      | 407      | 2852  |
| 08:00:00    | 640        | 720        | 660        | 659        | 707        | 383        | 149        | 677      | 560      | 3918  |
| 09:00:00    | 485        | 517        | 494        | 532        | 588        | 546        | 414        | 523      | 511      | 3576  |
| 10:00:00    | 544        | 552        | 515        | 537        | 567        | 629        | 619        | 543      | 566      | 3963  |
| 11:00:00    | 465        | 533        | 566        | 584        | 616        | 710        | 592        | 553      | 581      | 4066  |
| 12:00:00    | 529        | 510        | 486        | 538        | 625        | 595        | 543        | 538      | 547      | 3826  |
| 13:00:00    | 507        | 511        | 459        | 514        | 599        | 566        | 494        | 518      | 521      | 3650  |
| 14:00:00    | 555        | 528        | 574        | 562        | 642        | 502        | 450        | 572      | 545      | 3813  |
| 15:00:00    | 577        | 592        | 583        | 623        | 673        | 473        | 374        | 610      | 556      | 3895  |
| 16:00:00    | 553        | 591        | 535        | 599        | 606        | 454        | 262        | 577      | 514      | 3600  |
| 17:00:00    | 548        | 521        | 549        | 576        | 604        | 542        | 255        | 560      | 514      | 3595  |
| 18:00:00    | 440        | 443        | 450        | 478        | 473        | 426        | 224        | 457      | 419      | 2934  |
| 19:00:00    | 314        | 292        | 340        | 358        | 406        | 282        | 213        | 342      | 315      | 2205  |
| 20:00:00    | 228        | 215        | 237        | 286        | 257        | 175        | 156        | 245      | 222      | 1554  |
| 21:00:00    | 166        | 193        | 147        | 216        | 167        | 119        | 116        | 178      | 161      | 1124  |
| 22:00:00    | 88         | 115        | 91         | 92         | 131        | 120        | 101        | 103      | 105      | 738   |
| 23:00:00    | 73         | 51         | 58         | 52         | 78         | 84         | 47         | 62       | 63       | 443   |
|             |            |            |            |            |            |            |            |          |          |       |
| 07-19       | 6349       | 6527       | 6411       | 6714       | 7204       | 6018       | 4465       | 6641     | 6241     | 43688 |
| 06-22       | 7224       | 7432       | 7337       | 7773       | 8205       | 6674       | 4995       | 7594     | 7091     | 49640 |
| 06-24       | 7385       | 7598       | 7486       | 7917       | 8414       | 6878       | 5143       | 7760     | 7260     | 50821 |
| 00-24       | 7504       | 7735       | 7613       | 8055       | 8536       | 6988       | 5240       | 7889     | 7382     | 51671 |
|             |            |            |            |            |            |            |            |          |          |       |
| am Peak     | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 11:00:00   | 10:00:00   | 08:00:00 | 11:00:00 |       |
| Peak Volume | 640        | 720        | 660        | 659        | 707        | 710        | 619        | 677      | 581      |       |
| pm Peak     | 15:00:00   | 15:00:00   | 15:00:00   | 15:00:00   | 15:00:00   | 12:00:00   | 12:00:00   | 15:00:00 | 15:00:00 |       |
| Peak Volume | 577        | 592        | 583        | 623        | 673        | 595        | 543        | 610      | 556      |       |

| Westbound   |            |            |            |            |            |            |            |          |          |       |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|-------|
|             | Mon        | Tue        | Wed        | Thu        | Fri        | Sat        | Sun        | Average  |          | Total |
|             | 2021-05-24 | 2021-05-25 | 2021-05-26 | 2021-05-27 | 2021-05-28 | 2021-05-29 | 2021-05-30 | Workday  | 7 Day    | Count |
| 00:00:00    | 19         | 14         | 17         | 16         | 13         | 53         | 50         | 16       | 26       | 182   |
| 01:00:00    | 7          | 4          | 2          | 13         | 10         | 25         | 19         | 7        | 11       | 80    |
| 02:00:00    | 3          | 9          | 7          | 4          | 4          | 5          | 9          | 5        | 6        | 41    |
| 03:00:00    | 9          | 5          | 8          | 7          | 9          | 7          | 6          | 8        | 7        | 51    |
| 04:00:00    | 7          | 14         | 8          | 8          | 11         | 8          | 9          | 10       | 9        | 65    |
| 05:00:00    | 56         | 70         | 72         | 63         | 55         | 19         | 17         | 63       | 50       | 352   |
| 06:00:00    | 168        | 154        | 130        | 144        | 138        | 84         | 62         | 147      | 126      | 880   |
| 07:00:00    | 347        | 425        | 381        | 411        | 387        | 182        | 104        | 390      | 320      | 2237  |
| 08:00:00    | 617        | 642        | 639        | 645        | 645        | 376        | 163        | 638      | 532      | 3727  |
| 09:00:00    | 468        | 494        | 504        | 520        | 572        | 500        | 269        | 512      | 475      | 3327  |
| 10:00:00    | 483        | 486        | 463        | 537        | 489        | 662        | 467        | 492      | 512      | 3587  |
| 11:00:00    | 480        | 507        | 431        | 504        | 574        | 621        | 531        | 499      | 521      | 3648  |
| 12:00:00    | 490        | 512        | 509        | 510        | 608        | 611        | 490        | 526      | 533      | 3730  |
| 13:00:00    | 542        | 496        | 512        | 529        | 619        | 566        | 451        | 540      | 531      | 3715  |
| 14:00:00    | 477        | 538        | 509        | 559        | 654        | 605        | 487        | 547      | 547      | 3829  |
| 15:00:00    | 602        | 620        | 631        | 664        | 746        | 525        | 465        | 653      | 608      | 4253  |
| 16:00:00    | 649        | 741        | 678        | 771        | 776        | 483        | 365        | 723      | 638      | 4463  |
| 17:00:00    | 698        | 713        | 706        | 801        | 694        | 493        | 300        | 722      | 629      | 4405  |
| 18:00:00    | 449        | 480        | 519        | 539        | 543        | 459        | 262        | 506      | 464      | 3251  |
| 19:00:00    | 328        | 324        | 335        | 371        | 432        | 337        | 222        | 358      | 336      | 2349  |
| 20:00:00    | 200        | 188        | 224        | 240        | 302        | 196        | 165        | 231      | 216      | 1515  |
| 21:00:00    | 127        | 117        | 130        | 205        | 172        | 113        | 121        | 150      | 141      | 985   |
| 22:00:00    | 74         | 68         | 77         | 116        | 99         | 147        | 101        | 87       | 97       | 682   |
| 23:00:00    | 31         | 38         | 44         | 55         | 72         | 83         | 57         | 48       | 54       | 380   |
| 07-19       | 6302       | 6654       | 6482       | 6990       | 7307       | 6083       | 4354       | 6747     | 6310     | 44172 |
| 06-22       | 7125       | 7437       | 7301       | 7950       | 8351       | 6813       | 4924       | 7633     | 7129     | 49901 |
| 06-24       | 7230       | 7543       | 7422       | 8121       | 8522       | 7043       | 5082       | 7768     | 7280     | 50963 |
| 00-24       | 7331       | 7659       | 7536       | 8232       | 8624       | 7160       | 5192       | 7876     | 7391     | 51734 |
| am Peak     | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 08:00:00   | 10:00:00   | 11:00:00   | 08:00:00 | 08:00:00 |       |
| Peak Volume | 617        | 642        | 639        | 645        | 645        | 662        | 531        | 638      | 532      |       |
| pm Peak     | 17:00:00   | 16:00:00   | 17:00:00   | 17:00:00   | 16:00:00   | 12:00:00   | 12:00:00   | 16:00:00 | 16:00:00 |       |
| Peak Volume | 698        | 741        | 706        | 801        | 776        | 611        | 490        | 723      | 638      |       |

Event key: QC failure Atypical (QC) Events Special Holiday Offline

Weekends and defined holidays

Notes on data:

Weekly (7-day) averages are calculated as the average of workday values and weekend values, weighted in the proportion 5:2.

Holidays & Events:

None

## Appendix 4

TRICS Data

Calculation Reference: AUDIT-405201-210607-0617

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 02 - EMPLOYMENT  
 Category : D - INDUSTRIAL ESTATE

**TOTAL VEHICLES**Selected regions and areas:

|           |                                           |        |
|-----------|-------------------------------------------|--------|
| <b>03</b> | <b>SOUTH WEST</b>                         |        |
|           | DV DEVON                                  | 1 days |
| <b>04</b> | <b>EAST ANGLIA</b>                        |        |
|           | CA CAMBRIDGESHIRE                         | 1 days |
| <b>06</b> | <b>WEST MIDLANDS</b>                      |        |
|           | WO WORCESTERSHIRE                         | 1 days |
| <b>07</b> | <b>YORKSHIRE &amp; NORTH LINCOLNSHIRE</b> |        |
|           | WY WEST YORKSHIRE                         | 3 days |
| <b>08</b> | <b>NORTH WEST</b>                         |        |
|           | GM GREATER MANCHESTER                     | 1 days |
|           | LC LANCASHIRE                             | 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: 1776 to 4700 (units: sqm)  
 Range Selected by User: 1775 to 4800 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 06/11/18

*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   | 3 days |
| Tuesday  | 3 days |
| Thursday | 1 days |
| Friday   | 2 days |

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

Selected survey types:

|                       |        |
|-----------------------|--------|
| Manual count          | 9 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:

|                                    |   |
|------------------------------------|---|
| Suburban Area (PPS6 Out of Centre) | 2 |
| Edge of Town                       | 7 |

*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:

|                  |   |
|------------------|---|
| Industrial Zone  | 4 |
| Commercial Zone  | 1 |
| Development Zone | 1 |
| Residential Zone | 1 |
| No Sub Category  | 2 |

*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:

|           |        |
|-----------|--------|
| Not Known | 9 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:

|                  |        |
|------------------|--------|
| 1,001 to 5,000   | 1 days |
| 5,001 to 10,000  | 1 days |
| 10,001 to 15,000 | 1 days |
| 15,001 to 20,000 | 2 days |
| 25,001 to 50,000 | 4 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 75,001 to 100,000  | 1 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 2 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 | 5 days |
| 1.1 to 1.5 | 2 days |
| 1.6 to 2.0 | 2 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 | 9 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 | 9 days |
|-----------------|--------|

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

LIST OF SITES relevant to selection parameters

The 'browse and select' feature in TRICS was used to choose the sites to be included in this selected set. The TRICS user browsed the full list of sites for this land use category and selected directly from this list.

|          |                                                                                                             |                                 |                           |
|----------|-------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|
| <b>1</b> | <b>CA-02-D-04</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>CAMBRIDGESHIRE</b>     |
|          | LINCOLN ROAD<br>PETERBOROUGH                                                                                |                                 |                           |
|          | Suburban Area (PPS6 Out of Centre)<br>No Sub Category<br>Total Gross floor area:                            | 4133 sqm                        |                           |
|          | Survey date: TUESDAY                                                                                        | 02/12/14                        | Survey Type: MANUAL       |
| <b>2</b> | <b>DV-02-D-07</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>DEVON</b>              |
|          | BITTERN ROAD<br>EXETER<br>SOWTON IND. ESTATE<br>Edge of Town<br>Industrial Zone<br>Total Gross floor area:  | 3600 sqm                        |                           |
|          | Survey date: MONDAY                                                                                         | 03/07/17                        | Survey Type: MANUAL       |
| <b>3</b> | <b>GM-02-D-07</b>                                                                                           | <b>BUSINESS PARK</b>            | <b>GREATER MANCHESTER</b> |
|          | VULCAN STREET<br>OLDHAM                                                                                     |                                 |                           |
|          | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total Gross floor area:                           | 4400 sqm                        |                           |
|          | Survey date: THURSDAY                                                                                       | 22/10/15                        | Survey Type: MANUAL       |
| <b>4</b> | <b>LC-02-D-07</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>LANCASHIRE</b>         |
|          | CHAIN CAUL WAY<br>PRESTON<br>ASHTON-ON-RIBBLE<br>Edge of Town<br>Industrial Zone<br>Total Gross floor area: | 4700 sqm                        |                           |
|          | Survey date: FRIDAY                                                                                         | 17/11/17                        | Survey Type: MANUAL       |
| <b>5</b> | <b>LC-02-D-08</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>LANCASHIRE</b>         |
|          | NOOK LANE<br>BAMBER BRIDGE                                                                                  |                                 |                           |
|          | Edge of Town<br>Industrial Zone<br>Total Gross floor area:                                                  | 4000 sqm                        |                           |
|          | Survey date: TUESDAY                                                                                        | 06/11/18                        | Survey Type: MANUAL       |
| <b>6</b> | <b>WO-02-D-01</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>WORCESTERSHIRE</b>     |
|          | SANDY LANE<br>STOURPORT-ON-SEVERN                                                                           |                                 |                           |
|          | Edge of Town<br>Commercial Zone<br>Total Gross floor area:                                                  | 2758 sqm                        |                           |
|          | Survey date: FRIDAY                                                                                         | 23/05/14                        | Survey Type: MANUAL       |
| <b>7</b> | <b>WY-02-D-05</b>                                                                                           | <b>INDUSTRIAL ESTATE</b>        | <b>WEST YORKSHIRE</b>     |
|          | CARR WOOD ROAD<br>CASTLEFORD                                                                                |                                 |                           |
|          | Edge of Town<br>Development Zone<br>Total Gross floor area:                                                 | 1776 sqm                        |                           |
|          | Survey date: MONDAY                                                                                         | 22/05/17                        | Survey Type: MANUAL       |
| <b>8</b> | <b>WY-02-D-06</b>                                                                                           | <b>INDUSTRIAL ESTATE (PART)</b> | <b>WEST YORKSHIRE</b>     |
|          | PIONEER WAY<br>CASTLEFORD                                                                                   |                                 |                           |
|          | Edge of Town<br>Industrial Zone<br>Total Gross floor area:                                                  | 4328 sqm                        |                           |
|          | Survey date: TUESDAY                                                                                        | 23/05/17                        | Survey Type: MANUAL       |

LIST OF SITES relevant to selection parameters (Cont.)

|          |                         |                          |                       |
|----------|-------------------------|--------------------------|-----------------------|
| <b>9</b> | <b>WY-02-D-07</b>       | <b>INDUSTRIAL ESTATE</b> | <b>WEST YORKSHIRE</b> |
|          | THUNDERHEAD RIDGE RD    |                          |                       |
|          | CASTLEFORD              |                          |                       |
|          | GLASSHOUGHTON           |                          |                       |
|          | Edge of Town            |                          |                       |
|          | No Sub Category         |                          |                       |
|          | Total Gross floor area: | 3191                     | sqm                   |
|          | Survey date: MONDAY     | 15/05/17                 | 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/D - INDUSTRIAL ESTATE

**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 - 00:30 |          |             |              |            |             |              |          |             |              |
| 00:30 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 01:30 |          |             |              |            |             |              |          |             |              |
| 01:30 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 02:30 |          |             |              |            |             |              |          |             |              |
| 02:30 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 03:30 |          |             |              |            |             |              |          |             |              |
| 03:30 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 04:30 |          |             |              |            |             |              |          |             |              |
| 04:30 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 05:30 |          |             |              |            |             |              |          |             |              |
| 05:30 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 06:30 |          |             |              |            |             |              |          |             |              |
| 06:30 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 07:30 | 9        | 3654        | 0.167        | 9          | 3654        | 0.058        | 9        | 3654        | 0.225        |
| 07:30 - 08:00 | 9        | 3654        | 0.420        | 9          | 3654        | 0.113        | 9        | 3654        | 0.533        |
| 08:00 - 08:30 | <b>9</b> | <b>3654</b> | <b>0.459</b> | 9          | 3654        | 0.265        | 9        | 3654        | 0.724        |
| 08:30 - 09:00 | 9        | 3654        | 0.359        | 9          | 3654        | 0.234        | 9        | 3654        | 0.593        |
| 09:00 - 09:30 | 9        | 3654        | 0.334        | 9          | 3654        | 0.249        | 9        | 3654        | 0.583        |
| 09:30 - 10:00 | 9        | 3654        | 0.292        | 9          | 3654        | 0.216        | 9        | 3654        | 0.508        |
| 10:00 - 10:30 | 9        | 3654        | 0.307        | 9          | 3654        | 0.286        | 9        | 3654        | 0.593        |
| 10:30 - 11:00 | 9        | 3654        | 0.268        | 9          | 3654        | 0.286        | 9        | 3654        | 0.554        |
| 11:00 - 11:30 | 9        | 3654        | 0.328        | 9          | 3654        | 0.344        | 9        | 3654        | 0.672        |
| 11:30 - 12:00 | 9        | 3654        | 0.307        | 9          | 3654        | 0.368        | 9        | 3654        | 0.675        |
| 12:00 - 12:30 | 9        | 3654        | 0.307        | 9          | 3654        | 0.341        | 9        | 3654        | 0.648        |
| 12:30 - 13:00 | 9        | 3654        | 0.374        | <b>9</b>   | <b>3654</b> | <b>0.374</b> | <b>9</b> | <b>3654</b> | <b>0.748</b> |
| 13:00 - 13:30 | 9        | 3654        | 0.322        | 9          | 3654        | 0.304        | 9        | 3654        | 0.626        |
| 13:30 - 14:00 | 9        | 3654        | 0.280        | 9          | 3654        | 0.216        | 9        | 3654        | 0.496        |
| 14:00 - 14:30 | 9        | 3654        | 0.307        | 9          | 3654        | 0.319        | 9        | 3654        | 0.626        |
| 14:30 - 15:00 | 9        | 3654        | 0.249        | 9          | 3654        | 0.295        | 9        | 3654        | 0.544        |
| 15:00 - 15:30 | 9        | 3654        | 0.252        | 9          | 3654        | 0.249        | 9        | 3654        | 0.501        |
| 15:30 - 16:00 | 9        | 3654        | 0.219        | 9          | 3654        | 0.265        | 9        | 3654        | 0.484        |
| 16:00 - 16:30 | 9        | 3654        | 0.231        | 9          | 3654        | 0.350        | 9        | 3654        | 0.581        |
| 16:30 - 17:00 | 9        | 3654        | 0.164        | 9          | 3654        | 0.362        | 9        | 3654        | 0.526        |
| 17:00 - 17:30 | 9        | 3654        | 0.128        | 9          | 3654        | 0.362        | 9        | 3654        | 0.490        |
| 17:30 - 18:00 | 9        | 3654        | 0.094        | 9          | 3654        | 0.143        | 9        | 3654        | 0.237        |
| 18:00 - 18:30 | 9        | 3654        | 0.040        | 9          | 3654        | 0.113        | 9        | 3654        | 0.153        |
| 18:30 - 19:00 | 9        | 3654        | 0.030        | 9          | 3654        | 0.073        | 9        | 3654        | 0.103        |
| 19:00 - 19:30 |          |             |              |            |             |              |          |             |              |
| 19:30 - 20:00 |          |             |              |            |             |              |          |             |              |
| 20:00 - 20:30 |          |             |              |            |             |              |          |             |              |
| 20:30 - 21:00 |          |             |              |            |             |              |          |             |              |
| 21:00 - 21:30 |          |             |              |            |             |              |          |             |              |
| 21:30 - 22:00 |          |             |              |            |             |              |          |             |              |
| 22:00 - 22:30 |          |             |              |            |             |              |          |             |              |
| 22:30 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 23:30 |          |             |              |            |             |              |          |             |              |
| 23:30 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 6.238        |            |             | 6.185        |          |             | 12.423       |

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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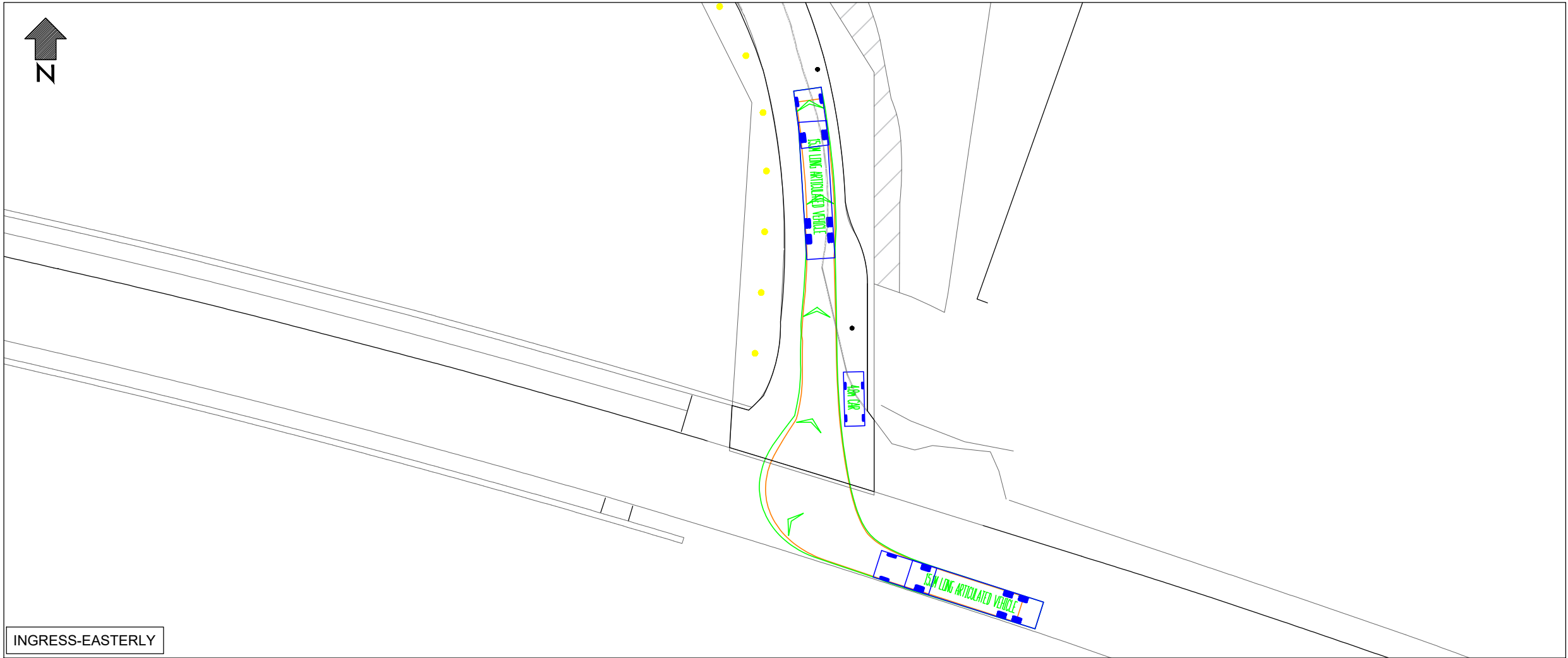
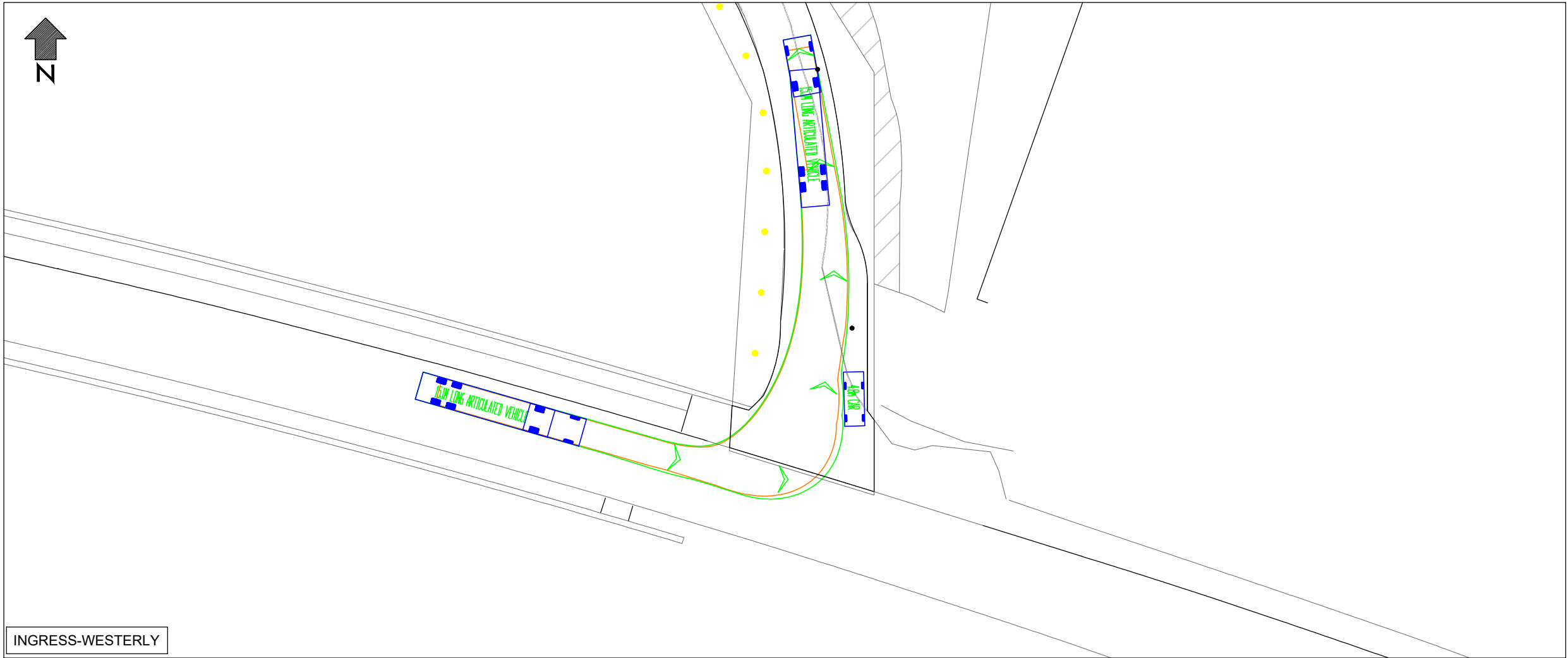
#### Parameter summary

|                                               |                          |
|-----------------------------------------------|--------------------------|
| Trip rate parameter range selected:           | 1776 - 4700 (units: sqm) |
| Survey date range:                            | 01/01/13 - 06/11/18      |
| Number of weekdays (Monday-Friday):           | 9                        |
| Number of Saturdays:                          | 0                        |
| Number of Sundays:                            | 0                        |
| Surveys automatically removed from selection: | 0                        |
| Surveys manually removed from selection:      | 0                        |

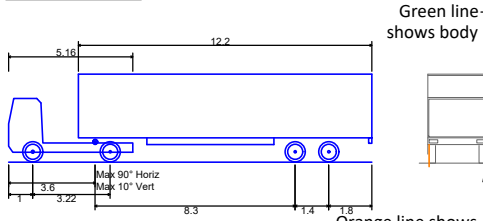
*This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.*

## Appendix 5

### Swept Path Tracking



VEHICLE DETAILS:



15.1M LONG ARTICULATED VEHICLE

|                                               |         |
|-----------------------------------------------|---------|
| Overall Length                                | 15.100m |
| Overall Width                                 | 2.500m  |
| Overall Body Height                           | 3.652m  |
| Min Body Ground Clearance                     | 0.406m  |
| Max Track Width                               | 2.377m  |
| Lock-to-lock time                             | 6.00s   |
| Curb to Curb Turning Radius                   | 6.610m  |
| Design speed 5kph for all Forward movements   |         |
| Design speed 2.5kph for all Reverse movements |         |

Client



Project

Drawing Title

SWEPT PATH ANALYSIS USING A  
15.1M LONG ARTICULATED VEHICLE

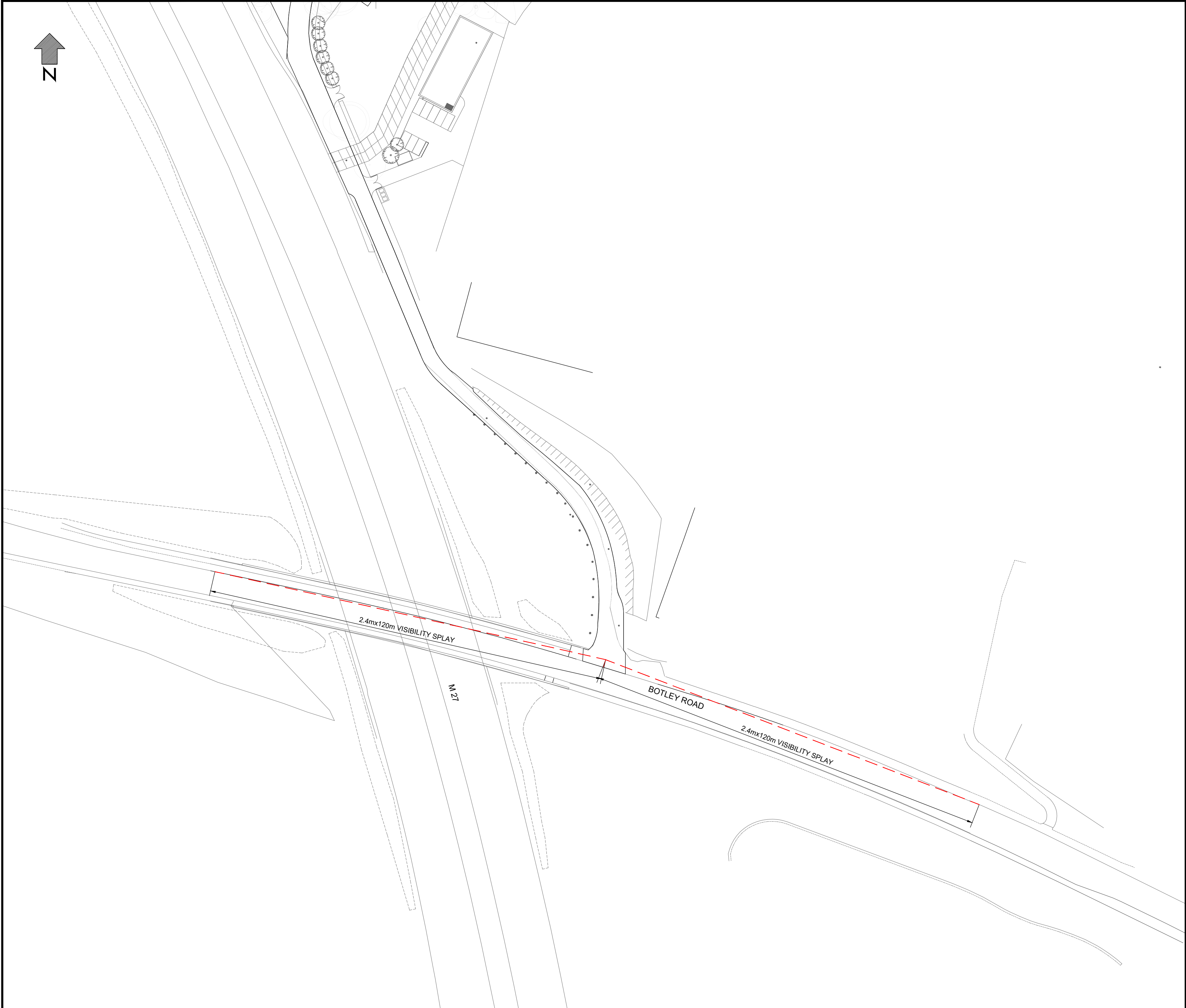
Drawing Status

FOR INFORMATION

|             |                |                  |                |            |
|-------------|----------------|------------------|----------------|------------|
| Drawn       | Designed<br>NC | Date<br>MAY 2021 | Scale<br>1:300 | Size<br>A2 |
| Drawing No. | NJC-001        |                  |                | Rev<br>-   |

## Appendix 6

### Access and Visibility



Client



**Nick Culhane**  
Highway Consultant

Project

MOORLANDS FARM,  
BOTLEY ROAD

Drawing Title

ACCESS AND VISIBILITY

Drawing Status

**FOR INFORMATION**

|       |                |                   |                |            |
|-------|----------------|-------------------|----------------|------------|
| Drawn | Designed<br>NC | Date<br>JUNE 2021 | Scale<br>1:750 | Size<br>A2 |
|-------|----------------|-------------------|----------------|------------|

|             |         |          |
|-------------|---------|----------|
| Drawing No. | NJC-002 | Rev<br>- |
|-------------|---------|----------|