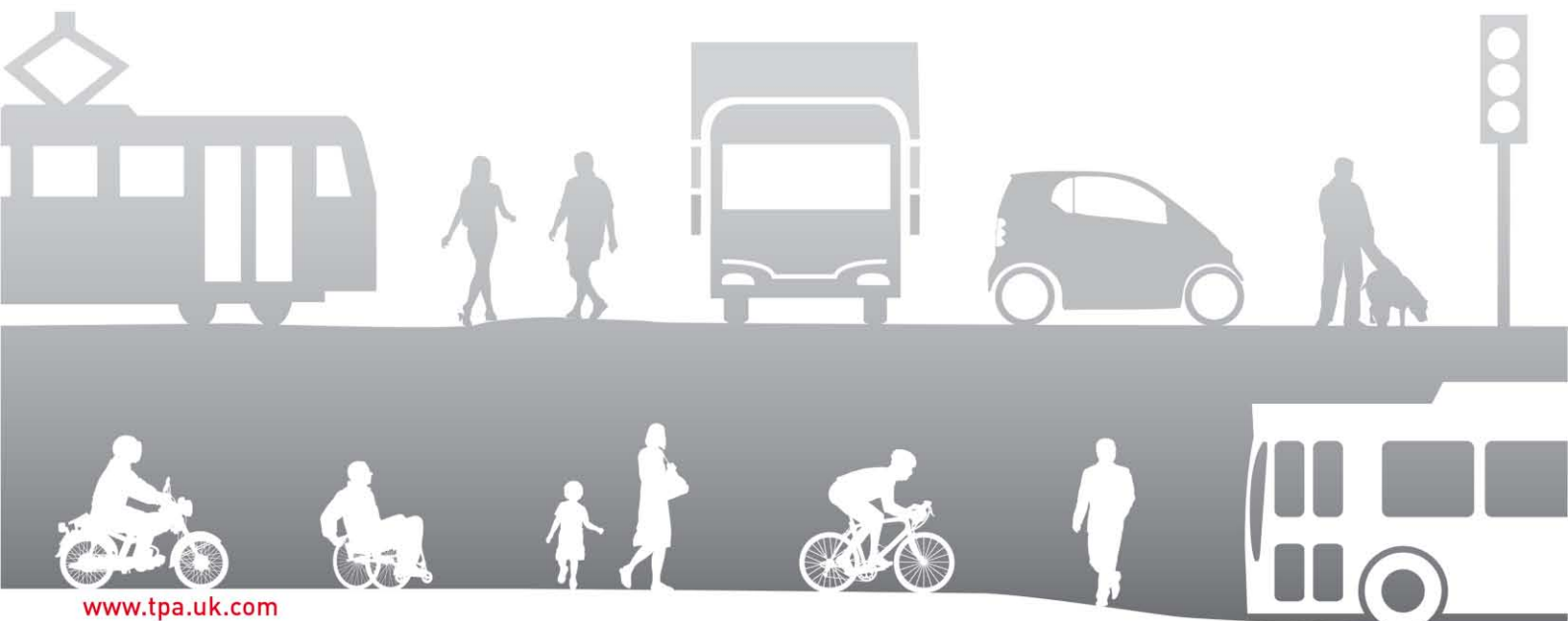


A Report for  
**PTARMIGAN WARE LTD AND LEACH HOMES**

In respect of  
**Land north and east of Ware,  
Hertfordshire**

**Strategic Accessibility Report**

July 2014



**DOCUMENT SIGNATURE AND REVIEW SHEET****Project Details**

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| <b>Project Title:</b> | Land north and east of Ware, Hertfordshire |                    |                |
| <b>Project No.:</b>   | 1404-61                                    | <b>Report No.:</b> | 1404-61/TN/01A |
| <b>Client:</b>        | Ptarmigan Ware Ltd and Leach Homes         |                    |                |

|                  |              |              |                    |
|------------------|--------------|--------------|--------------------|
|                  | Prepared By: | Checked By:  | Approved for issue |
| <b>Name</b>      | Stephen Kemp | Stuart Morse | Rupert Lyons       |
| <b>Signature</b> |              |              |                    |
| <b>Date</b>      |              |              |                    |

**Document Review**

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Issued by:

Bristol  
Cambridge  
Cardiff  
**London**  
Welwyn Garden City

**Transport Planning Associates**  
88 Kingsway  
Holborn  
London  
WC2B 6AA

020 7681 6514  
london@tpa.uk.com  
www.tpa.uk.com



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# 1 INTRODUCTION

- 1.1 Transport Planning Associates (TPA) has been commissioned by Ptarmigan Land to provide transport planning advice in respect of development proposals for land north and east of Ware in Hertfordshire.
- 1.2 The purpose of this *Strategic Accessibility Vision* report is to consider the key transport constraints and opportunities presented by the existing transport infrastructure and services in the vicinity of the development site, and to present options for access by all modes of travel which in turn will aid the development of a Masterplan.
- 1.3 This report examines in broad terms those constraints and opportunities, and considers the likely implications of the prospective development before contemplating possible forms of mitigation and improvements to the accessibility of the development site. In the absence of a defined Masterplan, this report does not determine trip attraction, modal split or trip assignment to transport infrastructure and services nor does it assess the impact of those trips in detail.

## Development proposal

- 1.4 Whilst the development of proposals are at an early stage, it is envisaged that the proposed development would comprise in the region of 3,000 new homes as part of a mixed use community likely to incorporate employment, retail and education land uses.

## Report structure

- 1.5 The remainder of this report is structured as follows:
- Chapter 2: *Planning policy*;
  - Chapter 3: *Existing site and transport infrastructure*;
  - Chapter 4: *Trip generation and attraction*;
  - Chapter 5: *Transport and access strategy*; and
  - Chapter 6: *Summary and next steps*.

## 2 PLANNING POLICY

- 2.1 A number of national and local planning policies are relevant to the development of an accessibility strategy for the development site.
- 2.2 Whilst these will ultimately be used to determine the suitability of a future planning application (or applications), the overarching principals should be considered at an early stage.

### National Planning Policy Framework (2012)

- 2.3 The National Planning Policy Framework (NPPF) sets out the Government's overarching planning policy and provides advice on how local authorities should consider planning application in the context of travel and transport.
- 2.4 Paragraph 34 of the NPPF states that ***'Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised'***.
- 2.5 At paragraph 32, it states in the context of decision making ***that 'development should only be refused on transport grounds where the residual cumulative impacts of development are severe' and goes on to further comment that developments should be located to 'give priority to pedestrian and cycle movements, and have access to high quality public transport facilities'*** (paragraph 35).

### Hertfordshire County Council Local Transport Plan (2011-2031)

- 2.6 Hertfordshire County Council's third Local Transport Plan (LTP) was published in April 2011, and covers the period 2011-2031. A number of daughter documents address specific areas of the LTP and were published following the release of the LTP documents.
- 2.7 The LTP addressed the key transport issues in Hertfordshire; peak-time congestion, maintenance, casualty reduction, continuing support for economic growth, and maintaining access to key services. However, the focus is no longer on significant levels of new infrastructure, rather on making best use of the existing networks for all users.

### East Hertfordshire District Council Adopted Local Plan (2007)

- 2.8 The East Herts District Council (EHDC) Adopted Local Plan 2007 (The Local Plan) is due to be replaced in the near future by the District Plan which is due to undergo district-wide consultation during 2013. In light of this, the saved policies of the Local Plan continue to be relevant in the context of this development.

- 2.9 The Local Plan consists of a number of saved policies under nine separate sectors, as well as six policies relating specifically to the main settlements within the district. Of particular relevance in the context of this report and the proposed development are transport policies TR1-4, TR7-8, TR11-12, TR14 and TR16, addressing access, parking and storage for cars, cyclists and powered two wheelers, as well as equestrian accessibility where appropriate.

### 3 EXISTING SITE AND TRANSPORT INFRASTRUCTURE

- 3.1 The following section of the report will look to assess the existing site and the transport conditions surrounding it.

#### Existing site

- 3.2 The existing site is primarily formed of farmland. The site is located to the north of the town of Ware in Hertfordshire. To the south the site is bound by High Oak Road, Fanhams Hall Road and the urban edge of north Ware. To the West and North of the site Woodson Park sports facilities and the A10 can be founding binding the land. While to the East the site is bound by a combination of third party land and the B1004.

- 3.3 The location of the site is presented in **Figure 3.1**.

#### Pedestrians

- 3.4 The site is currently accessible through a variety of different pedestrian footpaths and public rights of way. These are illustrated in **Figure 3.2** sets out the key pedestrian routes in relation to the site.
- 3.5 Pedestrian footpaths connect the site to the wider town along the existing highways routes, however in places these footpaths are of poor quality, narrow and poorly maintained.
- 3.6 Footpaths and bridleways found within the site are primarily country tracks which will need to be improved should development take place in order to cope with the expected increased demand.

#### Cyclists

- 3.7 Cycle infrastructure within the site bounds currently consists of a series of public bridleways and rights of way. However outside of the site there is limited cycle provision within Ware.
- 3.8 Sustrans cycle route number 61 can be found to the south of Ware linking the town with Hatfield, Welwyn Garden City and Hertford, however this is the exception with few other designated cycle routes existing within Ware.
- 3.9 Cycle infrastructure within the wider town is limited with little segregated provision with the key cycle routes presented in Figure 3.2.



**Public transport**

3.10 There are a total of 18 bus services operating within Ware at present. Of these services 5 can be considered local district buses with the remaining 13 services covering a wider scope of destinations within the county and region.

3.11 A summary of the existing bus services currently operating within the vicinity of the site together with the wider town are included within **Table 3.1**.

Table 3.1 Summary of local bus services

| <b>Route number</b> | <b>Route</b>                  | <b>Monday –Friday</b>                  | <b>Saturday</b>                         | <b>Sunday</b>                         |
|---------------------|-------------------------------|--|---|---------------------------------------|
| <b>310</b>          | Waltham – Hertford            | 4 services per hour in each direction  | 4 services per hour in each direction   | 2 services in each direction per hour |
| <b>331</b>          | Hertford – Royston            | 15 services per day in each direction  | 9/10 services per day in each direction | No Service                            |
| <b>341</b>          | Hatfield - Ware               | 8/9 services per day in each direction | 5 services per day in each direction    | No Service                            |
| <b>351</b>          | Bishop's Stortford - Hertford | 10 services per day in each direction  | 6 services per day in each direction    | No Service                            |
| <b>383</b>          | Hertford - Stevenage          | 8/9 services per day in each direction | 7 services per day in each direction    | No Service                            |
| <b>384</b>          | Hertford - Stevenage          | 9 services per day in each direction   | 7 services per day in each direction    | No Service                            |
| <b>388</b>          | Hertford – Welwyn Garden City | 6 services per day in each direction   | 5 services per day in each direction    | No Service                            |
| <b>390</b>          | Stevenage – Hertford – (Ware) | 5 services per day in each direction   | No Service                              | No Service                            |

|            |  |  |                                      |  |
|------------|--|--|--------------------------------------|--|
| <b>395</b> | Sele Farm – Fanham Common                              | 3 services per hour                    | 2 services per hour                  | No Service                                     |
| <b>524</b> | Hertford - Harlow                                      | 2 services per hour                    | No Service                           | No Service                                     |
| <b>724</b> | Harlow – Heathrow Airport                              | 1 service per hour in each direction   | 1 service per hour in each direction | 7 services 1 service per day in each direction |
| <b>725</b> | Harlow – Heathrow Airport                              | 1 service per hour in each direction   | 1 service per hour in each direction | 7 services 1 service per day in each direction |
| <b>H3</b>  | Campfield Road – Horns Mill                            | 1 service per hour in each direction   | 1 service per hour in each direction | No Service                                     |
| <b>M1</b>  | Ware : Railways station – Watton Road                  | 3/4 services per day in each direction | No Service                           | No Service                                     |
| <b>M2</b>  | Ware : Railways station – Fanham Common (circular)     | 1 service per hour in each direction   | 1 service per hour in each direction | No Service                                     |
| <b>M3</b>  | Ware: Railway station – Wareside (circular)            | 4 services per day                     | 2 services per day                   | No Service                                     |
| <b>M4</b>  | Ware: Railway station – Wareside (circular)            | 4 services per day                     | 3 services per day                   | No Service                                     |
| <b>M5</b>  | Ware: Railway station –Lower Bourne Gardens (circular) | 2 services per day                     | 2 services per day                   | No Service                                     |

3.12 The routes of local bus services is presented in **Figures 3.3, 3.4 and 3.5**.

3.13 The nearest railway station is Ware Railway Station which is a minimum of approximately 1.3km from the site. The station is part of the Greater Anglia Hertford East Branch Line which terminates at Hertford East, a plan of which is available in **Figure 3.6**.

3.14 Ware Railway Station is accessible through a variety of modes including bus services, bicycle (with sheltered cycle parking available to the front of the station) and car. Vehicle parking is available in an undercroft car park to the east.

### **Vehicular access**

- 3.15 The primary vehicular access to the site are situated to the north west and the south of the site. The northern access is situated on at junction of the A10 and the A1170 (junction number 15) and consists of an existing roundabout which is illustrated in *TPA drawing number 1404-61 EL01* which is contained in **Appendix A**.
- 3.16 The proposed southern access to the site is located on the B1004 in the vicinity of the Buxton Centre. The existing highways layout is illustrated in *TPA drawing number 1404-61 EL02* which is presented as **Appendix B**.
- 3.17 Further to the two primary accesses the site is bisected by Fanhams Hall Road which has the potential provide additional routes into the site.
- 3.18 Key and principal routes for the local highway network are presented in **Figure 3.7**.

### **Travel patterns**

- 3.19 Existing trip attractors within Ware are illustrated in **Figure 3.8**.
- 3.20 The central location of Ware railway station and the layout of the High Street, where a number of facilities and services are located, ensure it is a hub for activity. As such this area of the sphere of influence of this location will draw in a portion of proportion from the site.
- 3.21 The site is largely situated within the Hunsdon and Thundridge & Standon Wards. Each ward is large in size and mostly rural in nature. As such, existing travel data associated with these wards is not considered appropriate for use in providing a forecast of future trip classification and distribution.
- 3.22 Ware Trinity Ward lies immediately south of the site and incorporates a high number of households located on the edge of Ware itself. The location and largely residential nature of the ward makes it an ideal ward to use as a proxy for determining future travel patterns associated with the development site.
- 3.23 According to the 2011 Census, 63 percent of people living within the Ware Trinity ward travel to work as a car driver with a further 5 percent travelling as a passenger. 12 percent of people walk to work, 11 percent travel by train with two percent of people travelling by bus and two percent by bicycle.
- 3.24 Destination data from the 2011 Census is not currently available. Data for the 2001 Census for residents within the Ware Trinity Ward suggests that the majority of workplace trips are to destinations within East Hertfordshire. Further consideration of trips made within the district identifies that the majority are made within the Ware Trinity ward itself, a high proportion of trips remain within other Ware wards with wider destinations such as Hertford and Stansted forming key destinations.

- 3.25 Wider destinations outside of the district include Broxbourne, Welwyn Hatfield, Harlow and Stevenage. Central London boroughs also account for a high proportion of trips with the majority travelling by train.
- 3.26 Whilst other sources of data, such as the TRICS database and Temprow, will also be used to derive and inform trip type and modal share, the above provides a useful and locally accurate representation of existing travel characteristics.

## 4 TRIP GENERATION AND ATTRACTION

- 4.1 Many of the proposed land use, such as retail and education facilities, are unlikely to attract traffic from within the bounds of the proposed site. As such these land uses are unlikely to create additional trips exiting the site bounds and joining the existing network.
- 4.2 For the purposes of this report consideration has been focused upon the trip generation of the residential aspect of the proposed development. The scale of development is such that any jobs operating within the site could foreseeably be self-supporting limiting the need for inbound trips to places of work.
- 4.3 Trip rates have been obtained utilising the Trip Rate Information and Computer System (TRICS) version 7.1.1. The system has output trip rates as a function of the quantum of residential units allowing for potential traffic attraction to be calculated.
- 4.4 TRICS requires the input of specific parameters to narrow the search within the database to allow for the selection of suitable proxy sites found within the database. This allows for a representative selection of trip rates to be obtained. In order to form a robust approximation of trip rates it has been assumed that all of the residential units will be privately owned houses as they can be expected to have a higher level of car ownership.
- 4.5 A summary of the trip rates obtained from TRICS has been included within Table 4.1 with a copy of the associated report available within **Appendix C**.

Table 4.1 Forecast Residential Vehicular Traffic Generation Calculation

| Time period            | Trip rates |        |       | Forecast trips |        |        |
|------------------------|------------|--------|-------|----------------|--------|--------|
|                        | Arrive     | Depart | Total | Arrive         | Depart | Total  |
| AM Peak<br>08:00-09:00 | 0.134      | 0.404  | 0.538 | 402            | 1,212  | 1,614  |
| PM Peak<br>17:00-18:00 | 0.371      | 0.205  | 0.576 | 1,113          | 615    | 1,728  |
| Daily                  | 2.418      | 2.528  | 4.946 | 7,254          | 7,584  | 14,838 |

- 4.6 Based on the assumption of 3,000 dwellings, a traditional AM peak period (08:00-09:00) would be expected to generate 402 vehicle arrivals and 1,212 vehicle departures. In relation to the traditional PM peak (17:00-18:00) the expected quantum of vehicle arrivals would be 1,113 while the departures would be 615.

- 4.7 Total daily trips could reasonably be considered to expect to result in a total of 14,838 two-way trips.
- 4.8 However, the figures presented in Table 4.1 should be considered as being high end and those trips that may be generated by the full development of 3,000. They should not be considered as figure that represent trips external to the site. Factors such as internalisation, household car ownership and the proportion of affordable dwellings should all be considered when determining external trip rates.

### **Trip distribution**

- 4.9 An assessment of commutes to work has been undertaken utilising 2011 census data. The findings of this suggest that roughly 63% of the commutes in Ware are undertaken by car, with an additional 4% undertaken as a passenger. Commutes by train or foot are the joint second most common modes both accounting for 13% of commutes within the towns wards.
- 4.10 The East Herts Local Plan 2007 indicates that there are two key areas of employment found within the town. These are indicated within **Figure 3.8** of this report. It can be expected that these sites will attract a portion of the trips from the site, however most of the employment for the proposal will occur within Hertford to the west, London to the south or Cambridge to the north.
- 4.11 The primary commuter routes for the proposed development will include the A10 for trips north and south and the A414 to the west as well as the Greater Anglia Railway Line.

## 5 TRANSPORT AND ACCESS STRATEGY

- 5.1 The following chapter of this report will look to comment on and suggest a transport and access strategy for the proposed site.

### **Transport Assessment and Travel Plan**

- 5.2 A future planning application will need to be supported by a Transport Assessment and Framework Travel Plan. Each document will outline the transport strategy for the development site, explaining the sustainable travel initiatives and how they will be implemented. Opportunities for improved and new and/ or diverted bus services and facilities and improvements to pedestrian and cycle accessibility will form the basis of this strategy.
- 5.3 A development of this nature and of this scale will inevitably produce residual vehicular traffic, the impact of which will need to be mitigated insofar as it is economically viable and practical. The constrained nature of the highway network through Ware will make this a significant task. However, the Transport Assessment will be fundamental in determining the distribution of trips that may be generated by and attracted to the development and will determine the proportion of these trips that use that remain internal within the site, use the principle road network and those travel to or through the centre of Ware.

### **Pedestrian and cycle access**

- 5.4 On-site provision for pedestrians and cyclists will be incorporated within the emerging Masterplan ensuring movement between on-site land uses without the need for car use is achievable.
- 5.5 Pedestrian access to the site will be achieved through the linking of existing pedestrian footways as well as potential improvements for the existing footways within the area to increase the available capacity.
- 5.6 Suggested works the existing highways and transport infrastructure are included within Figure 5.1. The proposals indicate that there will be infrastructure improvements to the existing Public Rights of Way.
- 5.7 High quality pedestrian and cycle links within and through the site will be designed to respect existing routes through Ware. Where a need to incorporate crossing facilities, such as at key destinations along Fanhams Hall Road are identified, these will need to be designed to a sufficient standard to accommodate the nature of volume of users.

### Public transport access

- 5.8 The development site will need to be designed to ensure bus routes can be properly accommodated. Suitable width roads together with stooping and waiting infrastructure will be required whilst ensuring that all dwellings are within a 400 metre walk distance of a bus stop.
- 5.9 Discussion with relevant officer within Hertfordshire County Council and the local bus operators will be required in order to develop the most suitable bus strategy for the development. The most efficient and cost effective way of ensuring a commercially viable bus service will be to divert existing routes within the site. This report has identified that a high number of local bus services are present within Ware suggesting there is opportunity to consider the diversion of existing services.
- 5.10 Diverting existing bus services will ensure that wider destinations that have clearly been identified as being relevant to existing Ware residents can be accessed by bus. However, it is envisaged that Ware town centre and the railway station will also represent key destinations for future residents of a development. As such, the potential for a circular service within Ware that serves the development site providing links to key destinations should also be investigated.

### Vehicular access

- 5.11 Three areas where vehicular access could be achieved have been identified; from the A10 / A1170 southern roundabout, Widbury Hill and Fanham Hall Road.
- 5.12 It is likely that the development will cause an increase in the quantum of movements along the A10. However due to the location of the site and its scale it can be assumed that many trips, such as those relating to shopping and educational purposes will be made within the confines of the development, thus reducing the impact upon the existing local highway network.
- 5.13 The location of the site is such that traffic heading to destinations outside of Ware from the will be unlikely to travel through Ware town centre in order to make such journeys. As such the junction between the A10 and the A1170 will need careful assessment to determine the need for modification to increase capacity to meet the increased vehicular trips.
- 5.14 Vehicular access will be provided at the locations indicated within Figure 5.1. The suggested proposals will include work to the existing junction at the A10 to facilitate the increased demand upon the existing access. The suggested proposal is set out in *TPA drawing number 1404-61 SK01* and a swept path analysis in *drawing number 1404-61 SP01* which is contained in **Appendix D**.
- 5.15 The proposed site access to the south of the site will be facilitated through the creation of a new compact roundabout on the B1004 Widbury Hill as illustrated in *TPA drawing number 1404-61 SK03* with a swept path vehicle analysis presented in *TPA drawing number 1404-61 SP03* which is presented in **Appendix E**.



- 5.16 The junctions will be designed in accordance with the relevant design guides including both the DMRB for major accesses and the Manual for Streets and Roads in Hertfordshire: A Design Guide for interior roads.

### **Phasing**

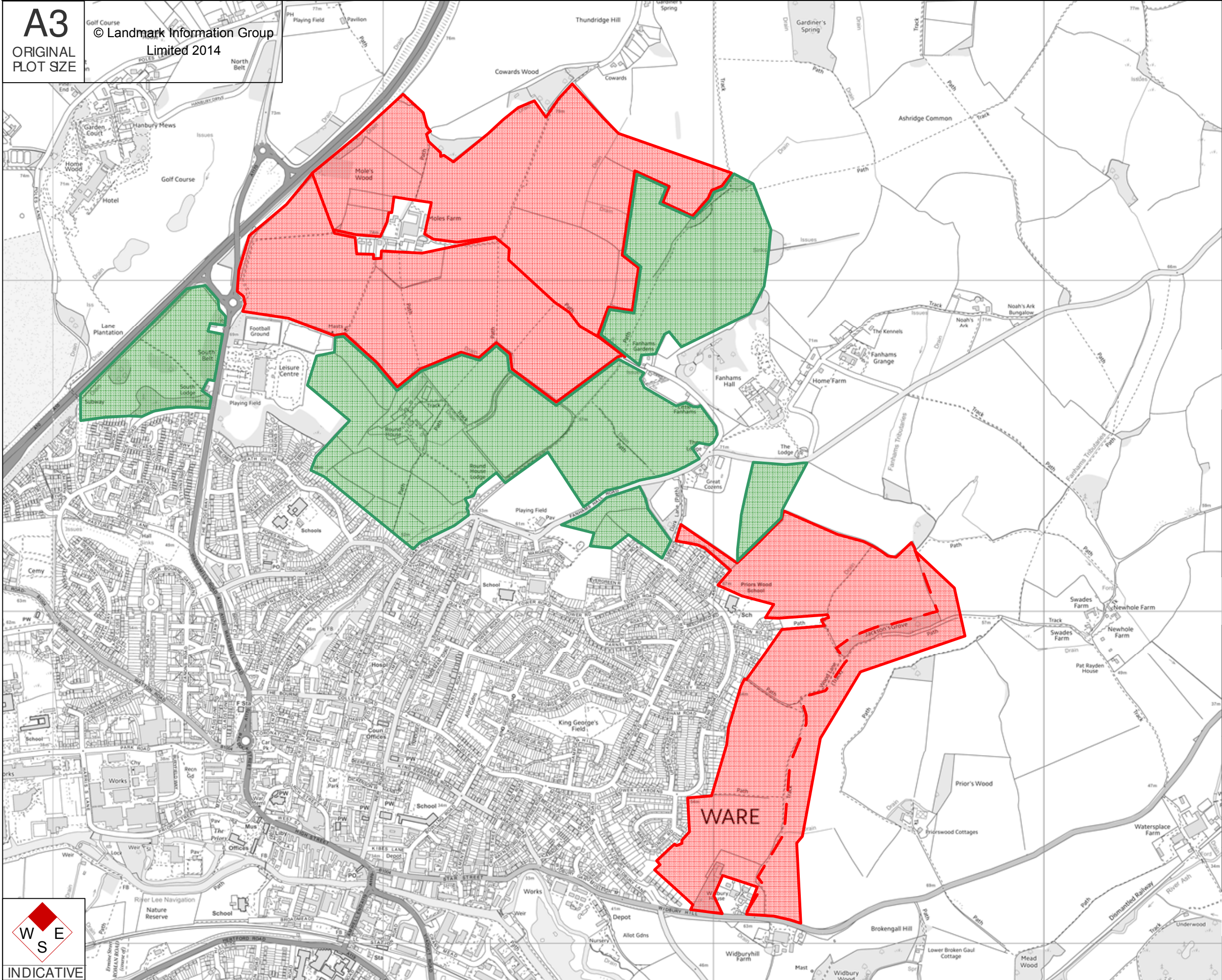
- 5.17 Where the principle points of vehicular access is likely to be taken from the A10 slip / A1170 southern roundabout and from Widbury Hill, development around these locations clearly present opportunity to form the initial phases of the development. The location of this access point affords direct access to the A10 ensuring that impact on the wider local highway network within Ware is kept to a minimum.
- 5.18 The secondary access from Widbury Hill may also facilitate early development phases, the scale of which should be determined through traffic modelling. When complete the principle and secondary access points can be linked through the development offering two route choices.
- 5.19 A full assessment of the local highway network may suggest that a smaller phase of development can be accessed from Fanhams Hall Road prior to the completion of routes through the wider development site to the A10 / A1170 southern roundabout and Widbury Hill vehicular access points.
- 5.20 In transport terms it is likely that initial phases should be considered on land associated and readily accessed from the A10 slip / A1170 southern roundabout. As the principle access road through the development is extended, later phases may follow along its route. Early phases may be brought forward on land that can be accessed from Fanhams Hall Road and Widbury Hill. However the impact of these points of access on the wider local highway network through Ware will need to be considered through traffic modelling.

## 6 SUMMARY

- 6.1 This report has reviewed the transport implications associated with a prospective development on land north and east of Ware in Hertfordshire.
- 6.2 A review of the local highway network, existing linkages and public transport has indicated that improvement works are likely to be required.
- 6.3 A sustainable travel package will need to be developed to maximise opportunities for travel by non-car means and to limit the impact upon the local highway network. Residual vehicular trips will require mitigation and it is likely that this will focus upon junctions and links forming the principle route through the centre of Ware. There is limited scope to improve the capacity of junctions along this route and equally the principle of doing so should be considered.
- 6.4 By achieving the right balance of land uses within the development site, there is also significant scope to create an interconnected environment such that the need to commute is reduced and the sustainability of the development and surrounding areas is maximised.

# FIGURES





NOTES

Plarmigan Ware Limited site boundary

Leach Homes site boundary

|     |       |                  |          |            |
|-----|-------|------------------|----------|------------|
| A   | 07/14 | Minor Amendments | SK       | SM         |
| Rev | Date  | Details          | Drawn by | Checked by |

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Transport Planning Associates

88 Kingsway  
London  
WC2B 6AA  
020 7681 6514  
[www.tpa.uk.com](http://www.tpa.uk.com)

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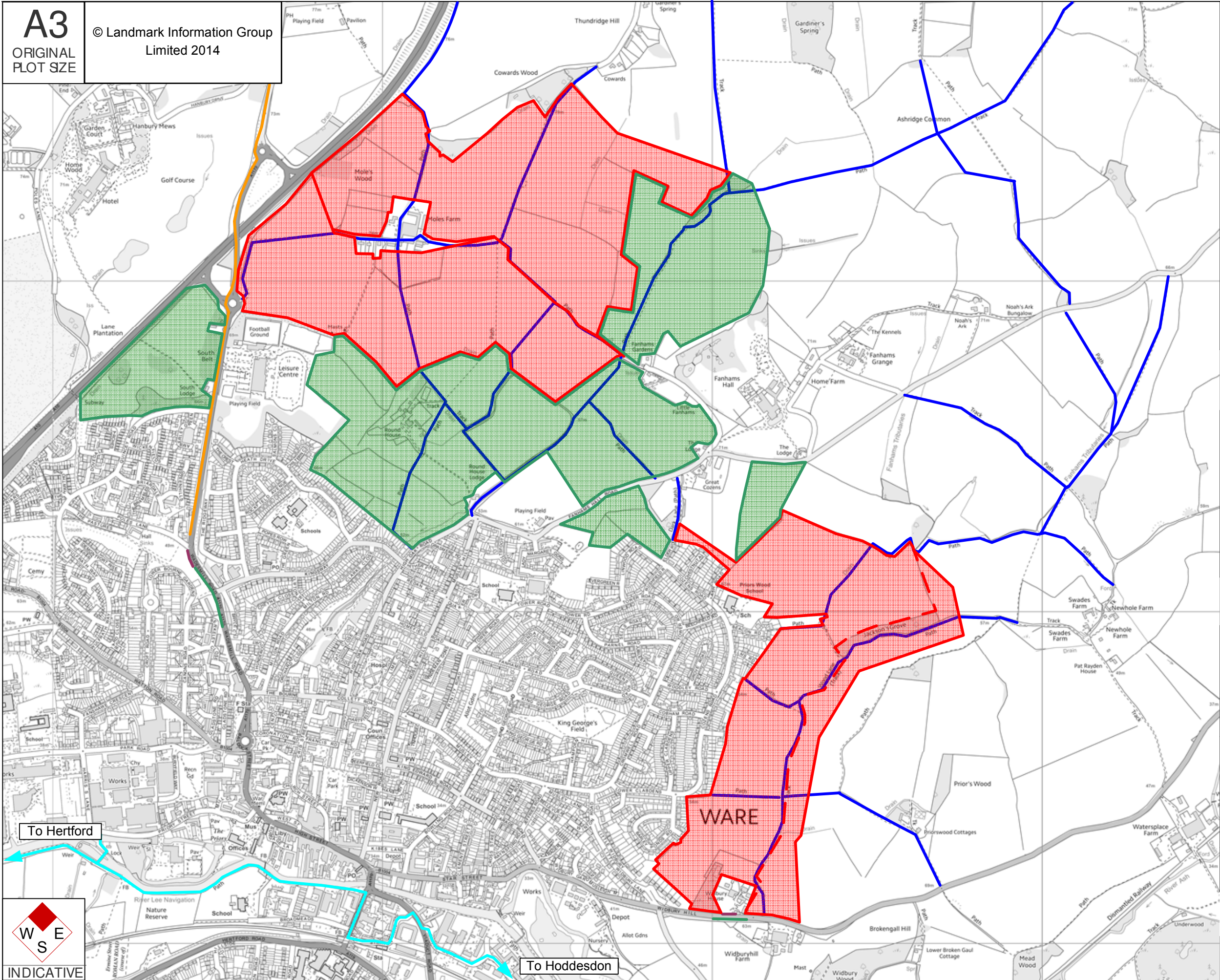
LAND NORTH AND EAST OF WARE  
HERTFORDSHIRE

SITE LOCATION PLAN

STATUS:  
FOR INFORMATION

|                    |                    |                   |                      |
|--------------------|--------------------|-------------------|----------------------|
| SCALE:<br>NTS      | PREPARED BY:<br>SK | CHECKED BY:<br>SM | APPROVED BY:<br>RTBL |
| JOB NO:<br>1404-61 | DRAWING NO:<br>3.1 | DATE:<br>05/14    |                      |





NOTES

On-street unmarked cycle route

On-street segregated cycle track

Off-street segregated cycle track

Existing public rights of way (footpaths/bridleways)

Sustrans Route 61

A

07/14

Minor Amendments

SK

SM

Rev

Date

Details

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tpa

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London

WC2B 6AA

020 7681 6514

www.tpa.uk.com

Ptarmigan Ware Ltd and Leach Homes

LAND NORTH AND EAST OF WARE

HERTFORDSHIRE

EXISTING PEDESTRIAN AND CYCLE ROUTES

STATUS:

FOR INFORMATION

SCALE:

NTS

PREPARED BY:

SK

CHECKED BY:

SM

APPROVED BY:

RTBL

JOB NO:

1404-61

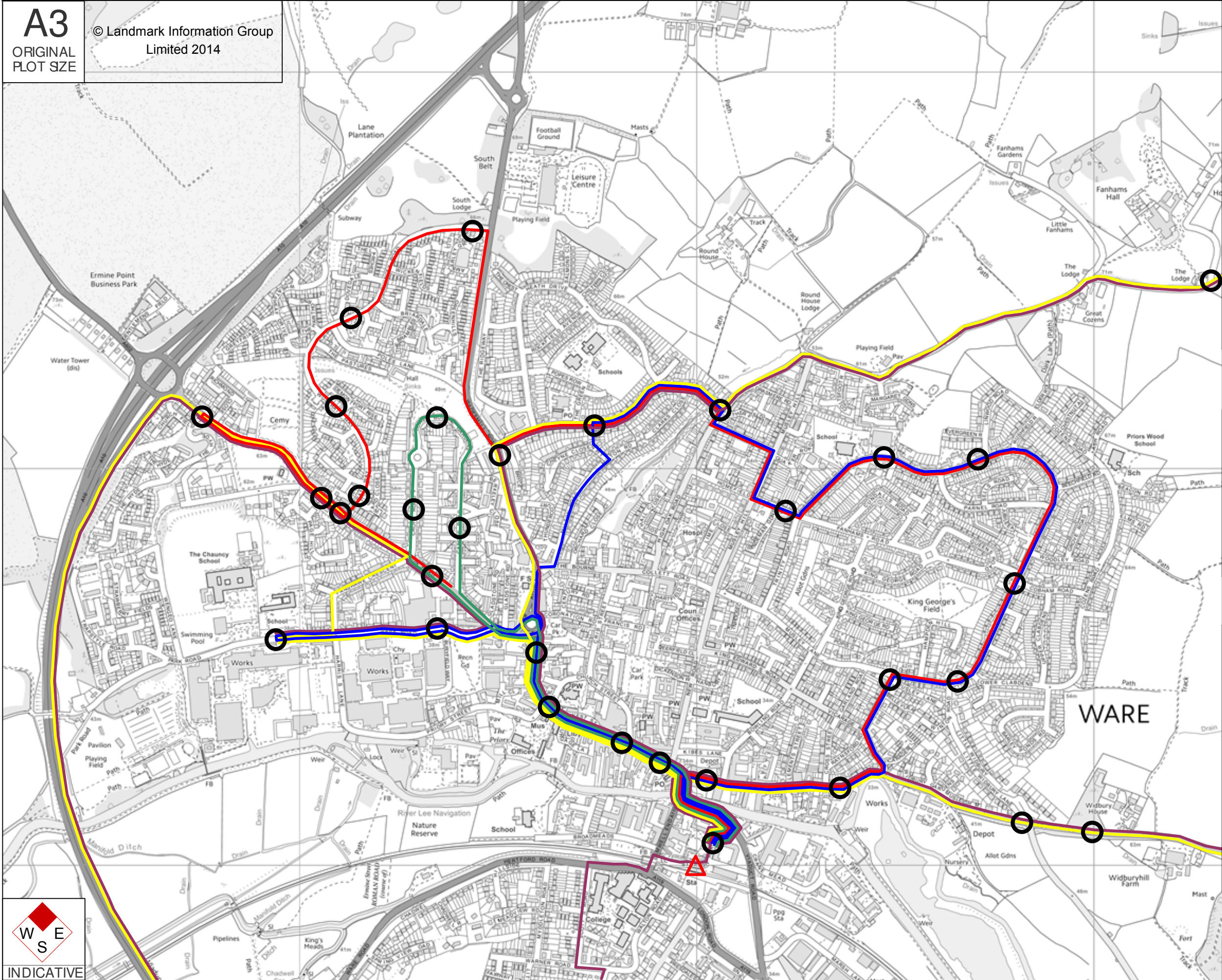
DRAWING NO:

3.2

DATE:

05/14





NOTES;

M1 = Ware Railway Station – Watton Road

M2 = Ware Railway Station – Fanham Common (Circular)

M3 = Ware Railway Station – Wareside (Circular)

M4 = Ware Railway Station – Wareside (Circular)

M5 = Ware Railway Station – Lower Bourne Gardens (circular)

Ware Railway Station =

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88 Kingsway  
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LAND NORTH AND EAST OF  
WARE  
HERTFORDSHIRE

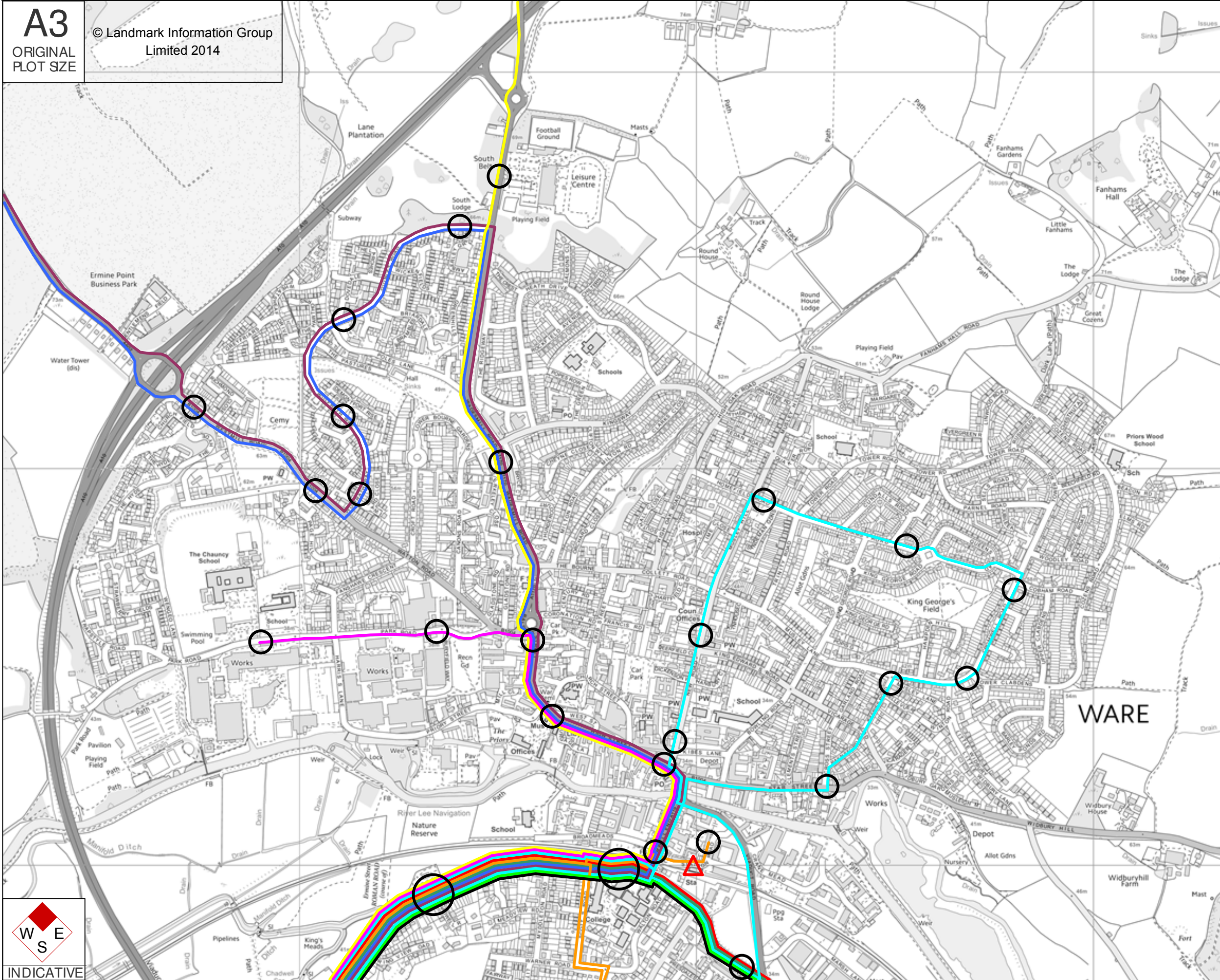
EXISTING DISTRICT BUS  
ROUTES

STATUS:  
FOR INFORMATION

| SCALE: | PREPARED BY: | CHECKED BY: | APPROVED BY: |
|--------|--------------|-------------|--------------|
| NTS    | SK           | SM          | RTBL         |

| JOB NO: | DRAWING NO: | DATE: |
|---------|-------------|-------|
| 1404-61 | 3.3         | 05/14 |





NOTES;

310 = Waltham – Hertford

331 = Hertford - Royston

341 = Hatfield – Ware

351 = Bishop's Stortford – Hertford

383 = Hertford – Stevenage

384 = Hertford – Stevenage

390 = Stevenage – Hertford – (Ware)

395 = Sele Farm – Fanham Common (Circular)

524 = Hertford – Harlow

725 = St. Albans – Harlow

Ware Railway Station =

| Rev | Date | Details | Drawn by | Checked by |
|-----|------|---------|----------|------------|
|     |      |         |          |            |

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Ptarmigan Ware Ltd and Leach Homes

LAND NORTH AND EAST OF  
WARE  
HERTFORDSHIRE

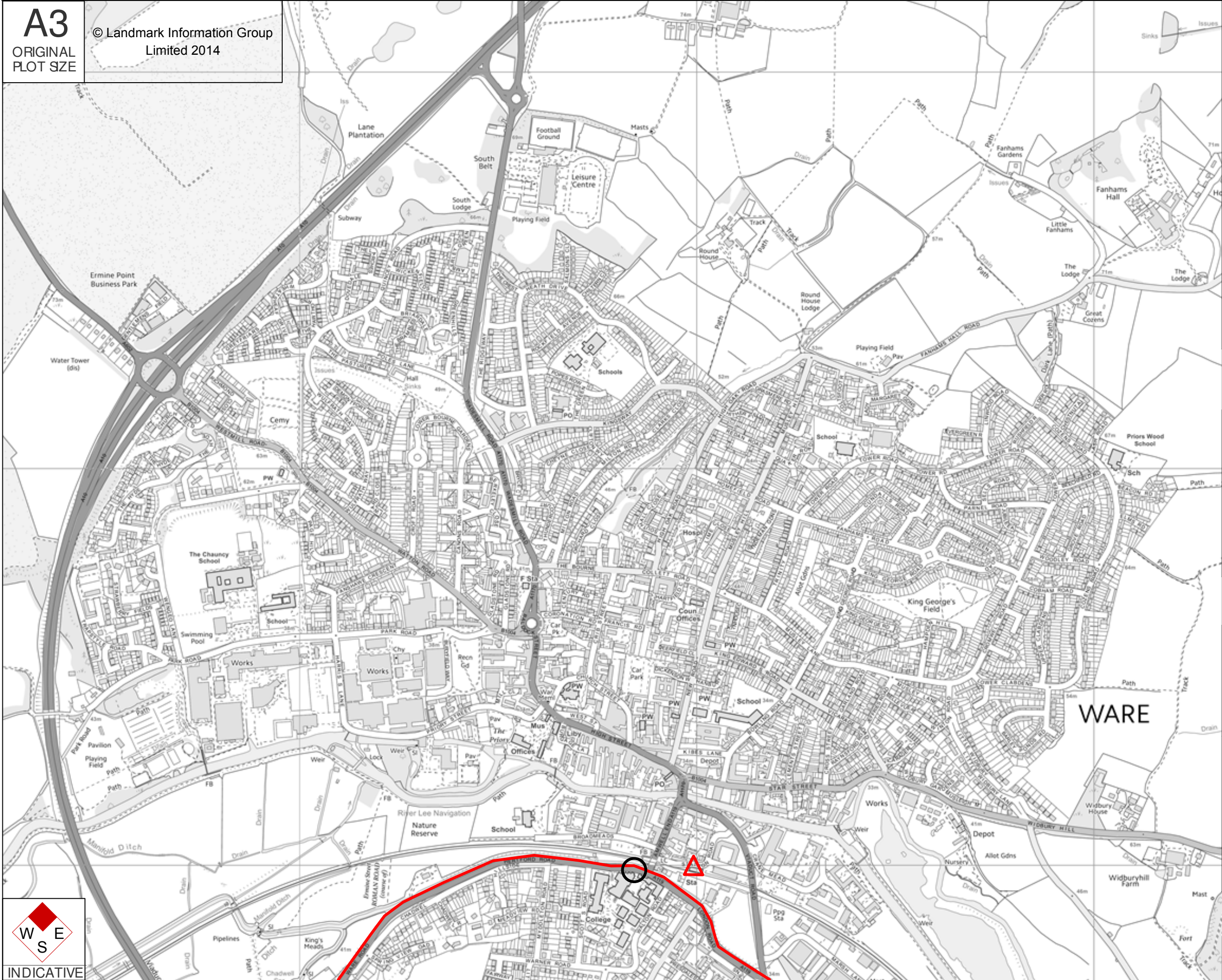
EXISTING COUNTY BUS  
ROUTES

STATUS:  
FOR INFORMATION

| SCALE: | PREPARED BY: | CHECKED BY: | APPROVED BY: |
|--------|--------------|-------------|--------------|
| NTS    | SK           | SM          | RTBL         |

| JOB NO: | DRAWING NO: | DATE: |
|---------|-------------|-------|
| 1404-61 | 3.4         | 05/14 |





NOTES;

724 = Harlow – Heathrow Airport

Ware Railway Station =

| Rev | Date | Details | Drawn by | Checked by |
|-----|------|---------|----------|------------|
|     |      |         |          |            |

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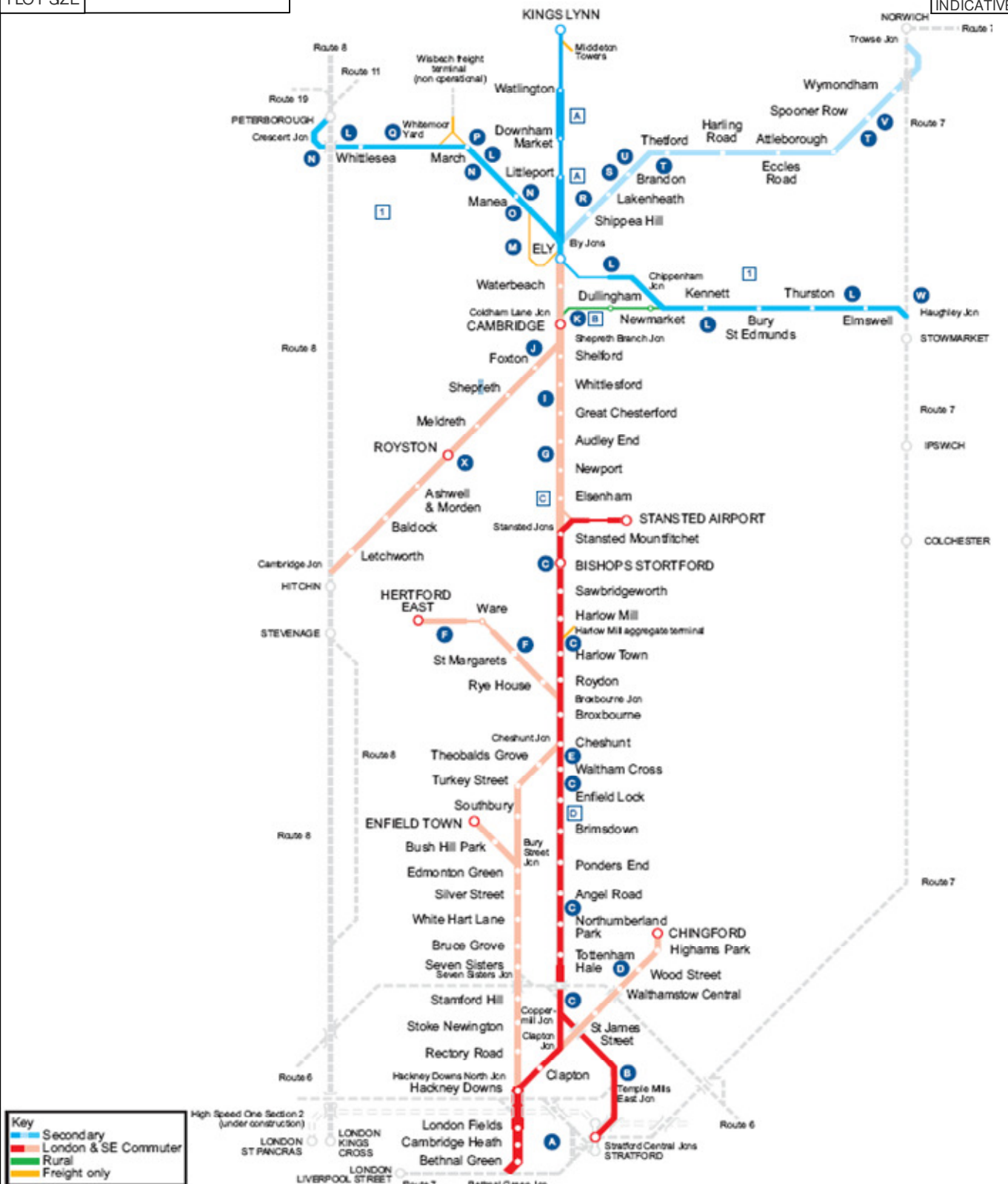
LAND NORTH AND EAST OF  
WARE  
HERTFORDSHIRE

EXISTING REGIONAL BUS  
ROUTES

STATUS:  
FOR INFORMATION

|                    |                    |                   |                      |
|--------------------|--------------------|-------------------|----------------------|
| SCALE:<br>NTS      | PREPARED BY:<br>SK | CHECKED BY:<br>SM | APPROVED BY:<br>RTBL |
| JOB NO:<br>1404-61 | DRAWING NO:<br>3.5 | DATE:<br>05/14    |                      |





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WARE, HERTFORDSHIRE

EXISTING RAIL  
ACCESSIBILITY

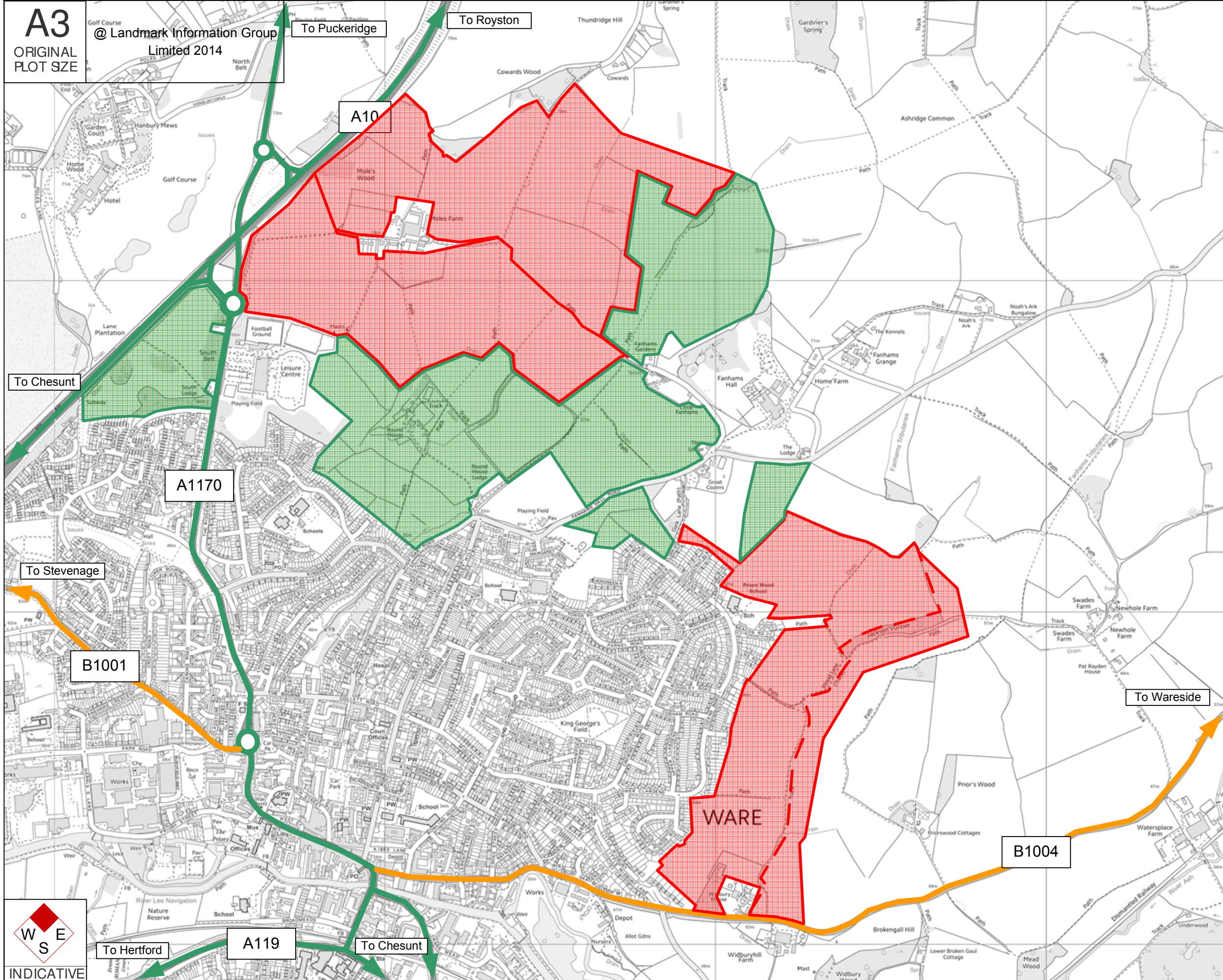
Ptarmigan Ware Ltd and Leach  
Homes

STATUS:

FOR INFORMATION

| SCALE:  | PREPARED BY: | CHECKED BY: | APPROVED BY: |
|---------|--------------|-------------|--------------|
| NTS     | SK           | SM          | RTBL         |
| JOB NO: | FIGURE NO:   | DATE:       |              |
| 1404-61 | 3.6          | 05/14       |              |





A3

ORIGINAL PLOT SIZE

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NOTES

Ptarmigan Ware Ltd land site boundary

Leach Homes site boundary

|     |       |                  |          |            |
|-----|-------|------------------|----------|------------|
| A   | 06/14 | Minor Amendments | SK       | SM         |
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LAND NORTH AND EAST OF WARE  
HERTFORDSHIRE

EXISTING LOCAL HIGHWAY NETWORK

STATUS:

FOR INFORMATION

|        |              |             |              |
|--------|--------------|-------------|--------------|
| SCALE: | PREPARED BY: | CHECKED BY: | APPROVED BY: |
| NTS    | SK           | SM          | RTBL         |

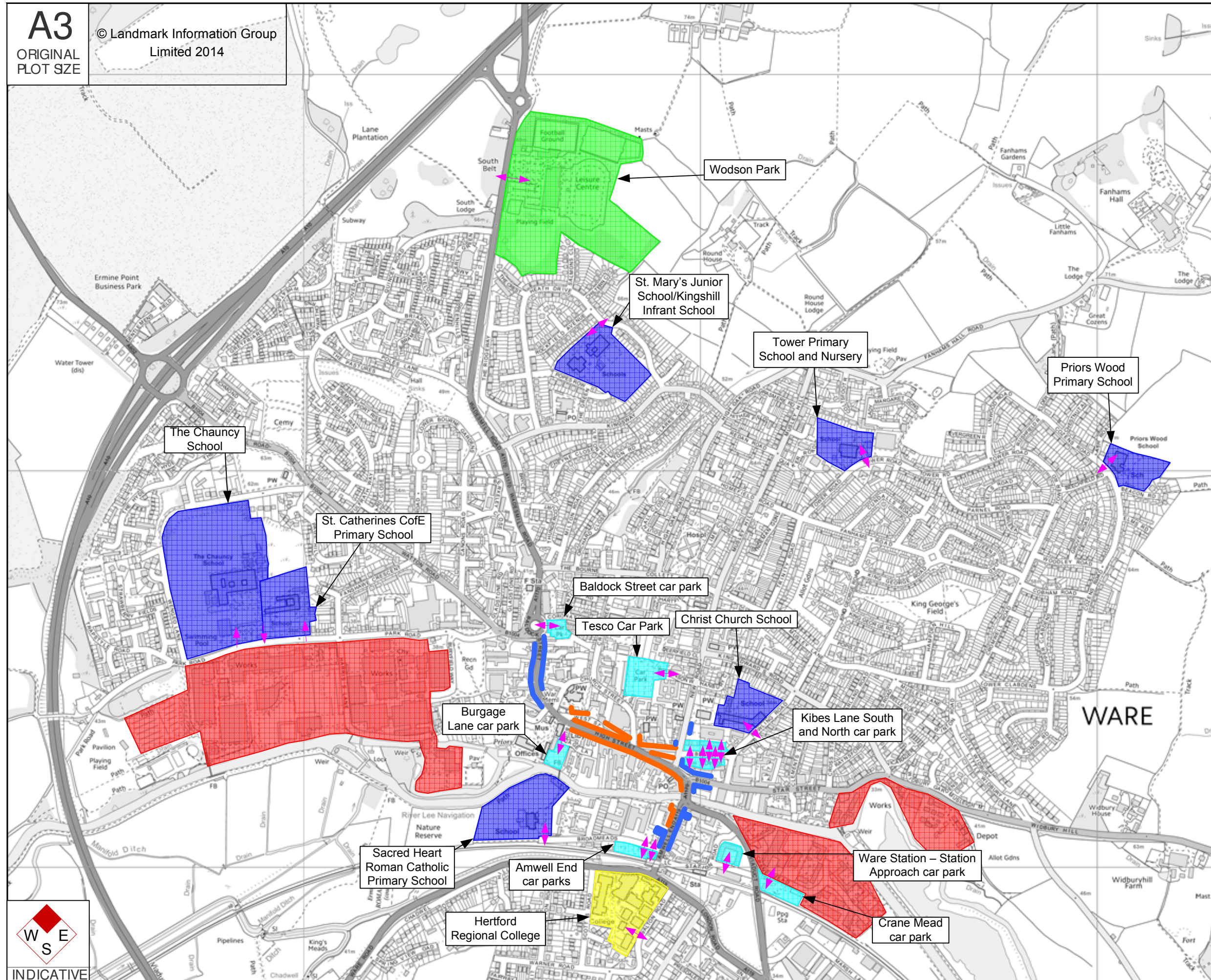
|         |             |       |
|---------|-------------|-------|
| JOB NO: | DRAWING NO: | DATE: |
| 1404-61 | 3.7         | 05/14 |



A3

ORIGINAL  
PLOT SIZE

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INDICATIVE

#### NOTES

Primary Shopping Frontages  
(East Herts Local Plan Second Review 2007)

Secondary Shopping Frontages  
(East Herts Local Plan Second Review 2007)

Existing Schools

Existing College

Areas of Employment  
(East Herts Local Plan Second Review 2007)

Public Car Parks

Existing Sports Facilities

| Rev | Date | Details | Drawn by | Checked by |
|-----|------|---------|----------|------------|
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Ptarmigan Ware Ltd and Leach  
Homes

LAND NORTH AND EAST OF  
WARE  
HERTFORDSHIRE

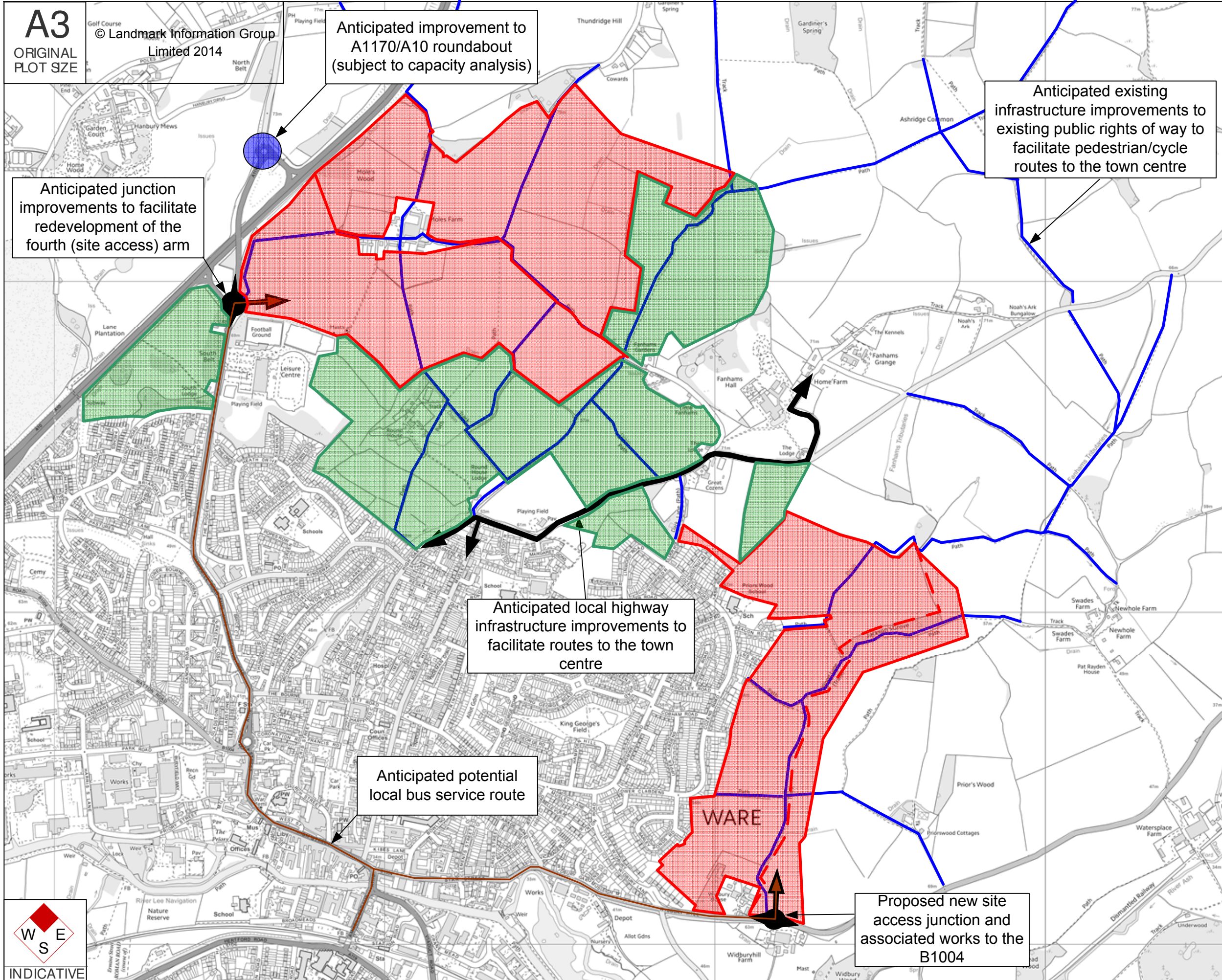
EXISTING TRIP ATTRACTORS

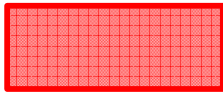
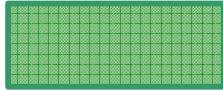

STATUS:

FOR INFORMATION

|                    |                    |                   |                      |
|--------------------|--------------------|-------------------|----------------------|
| SCALE:<br>NTS      | PREPARED BY:<br>SK | CHECKED BY:<br>SM | APPROVED BY:<br>RTBL |
| JOB NO:<br>1404-61 | DRAWING NO:<br>3.8 | DATE:<br>05/14    |                      |



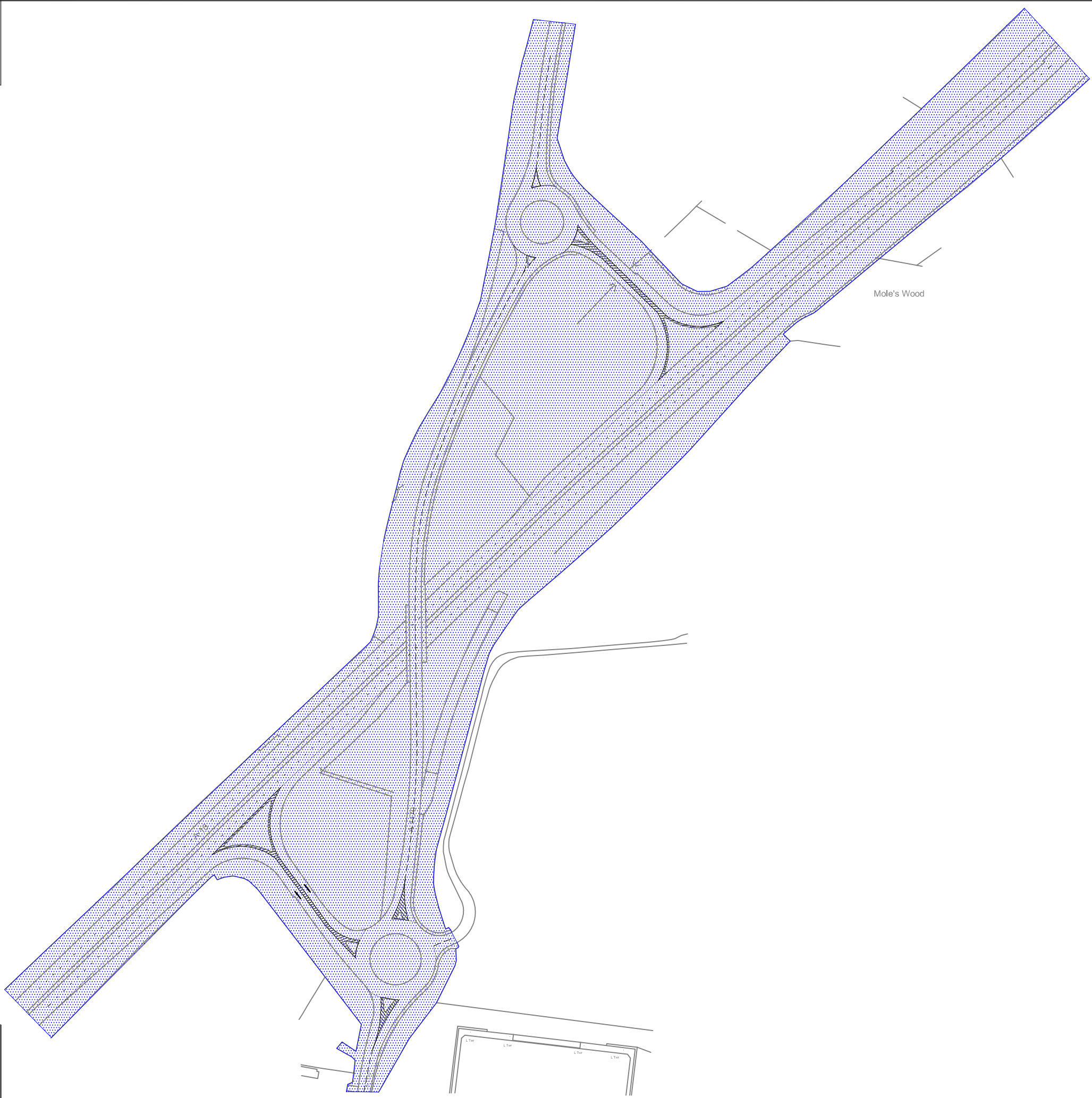


|   |                    |   |                      |            |
|---|--------------------|---|----------------------|------------|
| NOTES   |                    |   |                      |            |
| Ptamigan Ware Land site boundary  |                    |  |                      |            |
| Leach Homes site boundary   |                    |  |                      |            |
|   |                    |   |                      |            |
| A   | 07/14              | Minor Amendments  | SK                   | SM         |
| Rev   | Date               | Details   | Drawn by             | Checked by |
| <div><div><div>Bristol</div><div>Cambridge</div><div>Cardiff</div><div>London</div><div>Welwyn Garden City</div></div><div><div>Transport Planning Associates</div></div></div> <div>88 Kingsway<br/>London<br/>WC2B 6AA<br/>020 7681 6514<br/><a href="http://www.tpa.uk.com">www.tpa.uk.com</a></div> |                    |   |                      |            |
| Ptarmigan Ware ltd and Leach Homes  |                    |   |                      |            |
| LAND NORTH AND EAST OF WARE<br>HERTFORDSHIRE  |                    |   |                      |            |
| SUGGESTED SITE ACCESS STRATEGY  |                    |   |                      |            |
| STATUS:<br>FOR INFORMATION  |                    |   |                      |            |
| SCALE:<br>NTS   | PREPARED BY:<br>SK | CHECKED BY:<br>SM   | APPROVED BY:<br>RTBL |            |
| JOB NO:<br>1404-61  |                    | DRAWING NO:<br>5.1  | DATE:<br>05/14       |            |

# APPENDIX A

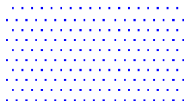


A3  
ORIGINAL  
PLOT SIZE



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NOTES:  
1) Highway Boundary (Subject to Confirmation)



|     |      |         |   |          |            |
|-----|------|---------|---|----------|------------|
|     |      |         |   |          |            |
| -   | -    | -       | - | -        | -          |
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CLIENT:  
**Ptarmigan Ware Ltd and Leach Homes**

PROJECT:  
**LAND NORTH AND EAST  
OF WARE  
HERTFORDSHIRE**

TITLE:  
**A10 / A1170  
EXISTING HIGHWAY  
ARRANGEMENT**

STATUS:  
**FOR INFORMATION**

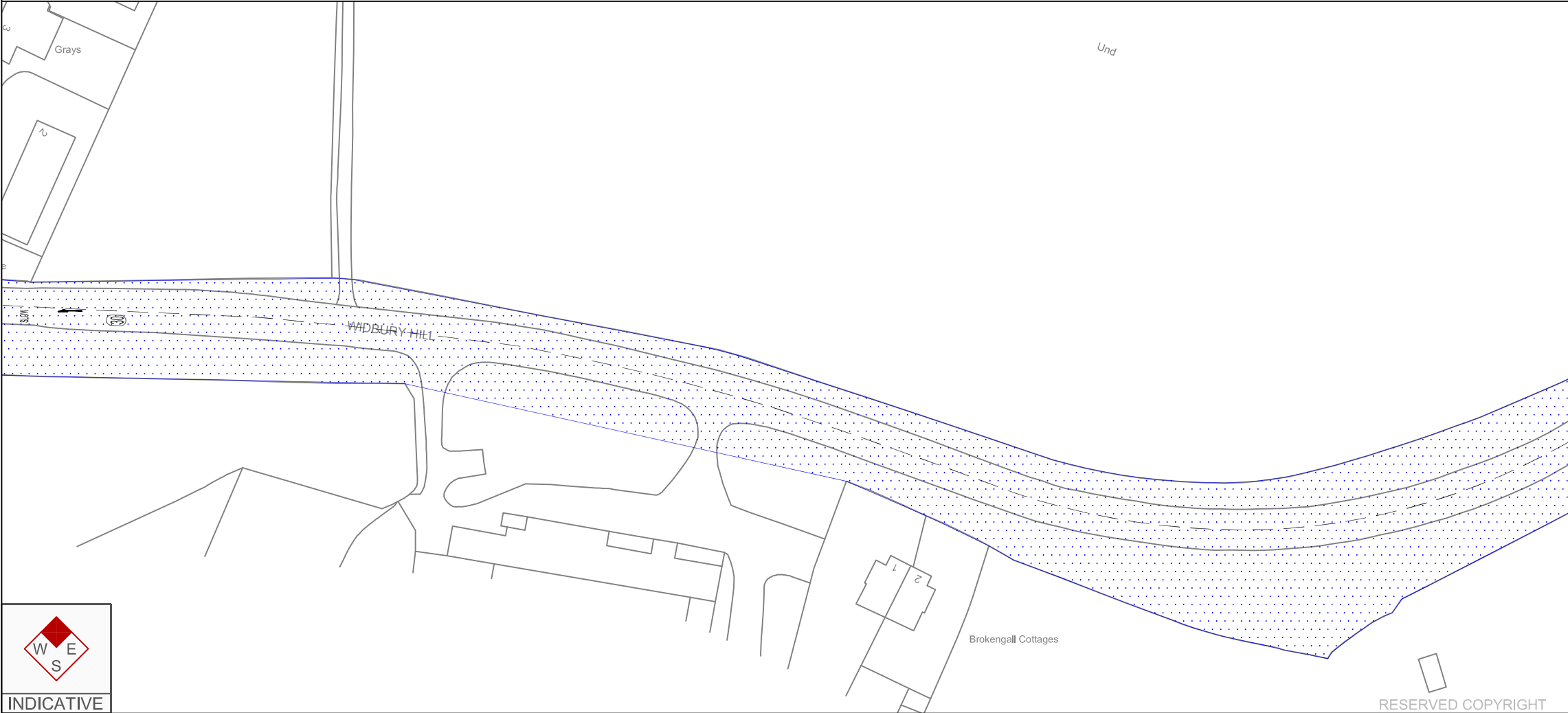
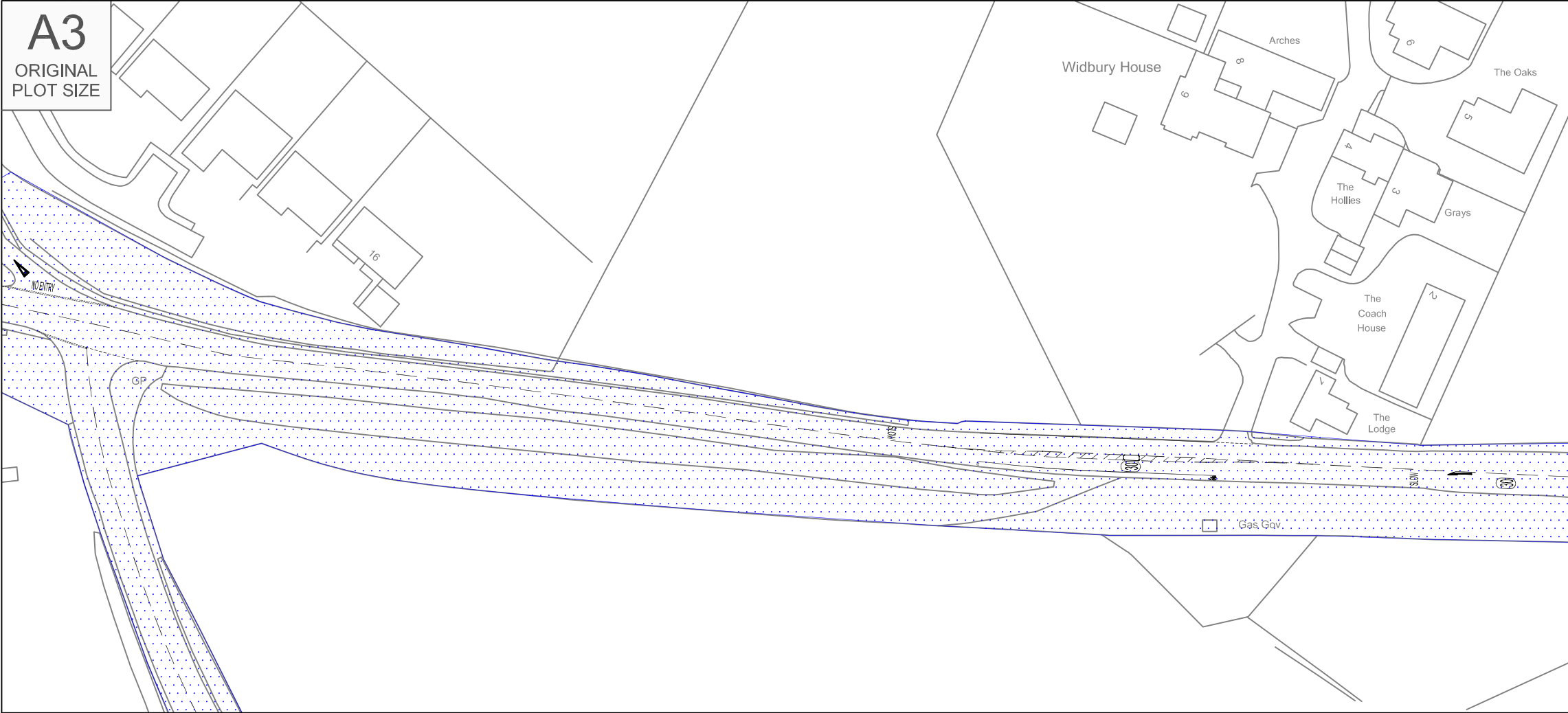
|                    |                   |                     |                |                   |
|--------------------|-------------------|---------------------|----------------|-------------------|
| SCALE:<br>1:2500   | DATE:<br>08/05/14 | DRAWN:<br>SK        | CHECKED:<br>SM | APPROVED:<br>RTBL |
| JOB NO:<br>1404-61 |                   | DRAWING NO:<br>EL01 |                | REVISION:<br>-    |



INDICATIVE

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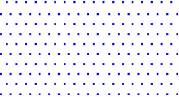
# APPENDIX B



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NOTES:

1) Highway Boundary (Subject to Confirmation)



|     |      |         |          |            |             |
|-----|------|---------|----------|------------|-------------|
|     |      |         |          |            |             |
| Rev | Date | Details | Drawn by | Checked by | Approved by |
| -   | -    | -       | -        | -          | -           |

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CLIENT:

Ptarmigan Ware Ltd and Leach Homes

PROJECT:

LAND NORTH AND EAST  
OF WARE  
HERTFORDSHIRE

TITLE:

B1004  
EXISTING HIGHWAY  
ARRANGEMENT

STATUS:

FOR INFORMATION

|                    |                     |                |                |                   |
|--------------------|---------------------|----------------|----------------|-------------------|
| SCALE:<br>1:1000   | DATE:<br>09/05/14   | DRAWN:<br>SK   | CHECKED:<br>SM | APPROVED:<br>RTBL |
| JOB NO:<br>1404-61 | DRAWING NO:<br>EL02 | REVISION:<br>- |                |                   |



# APPENDIX C

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED  
 VEHICLES

Selected regions and areas:

|    |                   |        |
|----|-------------------|--------|
| 02 | SOUTH EAST        |        |
|    | EX ESSEX          | 1 days |
| 04 | EAST ANGLIA       |        |
|    | SF SUFFOLK        | 1 days |
| 06 | WEST MIDLANDS     |        |
|    | WO WORCESTERSHIRE | 1 days |
| 08 | NORTH WEST        |        |
|    | MS MERSEYSIDE     | 1 days |
| 09 | NORTH             |        |
|    | TV TEES VALLEY    | 1 days |
| 13 | MUNSTER           |        |
|    | WA WATERFORD      | 1 days |

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

## Filtering Stage 2 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: Number of dwellings  
 Actual Range: 225 to 372 (units: )  
 Range Selected by User: 200 to 3000 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 01/05/10

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   | 1 days |
| Tuesday  | 1 days |
| Thursday | 4 days |

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

Selected survey types:

|                       |        |
|-----------------------|--------|
| Manual count          | 6 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)       | 1 |
| Edge of Town                             | 4 |
| Neighbourhood Centre (PPS6 Local Centre) | 1 |

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:

|                  |   |
|------------------|---|
| Residential Zone | 4 |
| 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.

Filtering Stage 3 selection:

Use Class:

|    |        |
|----|--------|
| C3 | 6 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®.

Population within 1 mile:

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

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 50,001 to 75,000   | 1 days |
| 75,001 to 100,000  | 2 days |
| 125,001 to 250,000 | 3 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 | 3 days |
| 1.1 to 1.5 | 3 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 | 6 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.

LIST OF SITES relevant to selection parameters

|   |  |                    |                     |
|---|--|--------------------|---------------------|
| 1 | EX-03-A-01                               | SEMI -DET.         | ESSEX               |
|   | MILTON ROAD                              |                    |                     |
|   | CORRINGHAM                               |                    |                     |
|   | STANFORD-LE-HOPE                         |                    |                     |
|   | Edge of Town                             |                    |                     |
|   | Residential Zone                         |                    |                     |
|   | Total Number of dwellings:               | 237                |                     |
|   | Survey date: TUESDAY                     | 13/05/08           | Survey Type: MANUAL |
| 2 | MS-03-A-01                               | TERRACED           | MERSEYSIDE          |
|   | PALACE FIELDS AVENUE                     |                    |                     |
|   | RUNCORN                                  |                    |                     |
|   | Neighbourhood Centre (PPS6 Local Centre) |                    |                     |
|   | Residential Zone                         |                    |                     |
|   | Total Number of dwellings:               | 372                |                     |
|   | Survey date: THURSDAY                    | 06/10/05           | Survey Type: MANUAL |
| 3 | SF-03-A-02                               | SEMI DET./TERRACED | SUFFOLK             |
|   | STOKE PARK DRIVE                         |                    |                     |
|   | MAIDENHALL                               |                    |                     |
|   | IPSWICH                                  |                    |                     |
|   | Edge of Town                             |                    |                     |
|   | Residential Zone                         |                    |                     |
|   | Total Number of dwellings:               | 230                |                     |
|   | Survey date: THURSDAY                    | 24/05/07           | Survey Type: MANUAL |
| 4 | TV-03-A-01                               | HOUSES & FLATS     | TEES VALLEY         |
|   | POWLETT ROAD                             |                    |                     |
|   | HARTLEPOOL                               |                    |                     |
|   | Suburban Area (PPS6 Out of Centre)       |                    |                     |
|   | No Sub Category                          |                    |                     |
|   | Total Number of dwellings:               | 225                |                     |
|   | Survey date: THURSDAY                    | 14/04/05           | Survey Type: MANUAL |
| 5 | WA-03-A-02                               | DETACHED           | WATERFORD           |
|   | MAYPARK LANE                             |                    |                     |
|   | WATERFORD                                |                    |                     |
|   | Edge of Town                             |                    |                     |
|   | Residential Zone                         |                    |                     |
|   | Total Number of dwellings:               | 290                |                     |
|   | Survey date: MONDAY                      | 17/11/08           | Survey Type: MANUAL |
| 6 | WO-03-A-06                               | DET./TERRACED      | WORCESTERSHIRE      |
|   | ST GODWALDS ROAD                         |                    |                     |
|   | ASTON FIELDS                             |                    |                     |
|   | BROMSGROVE                               |                    |                     |
|   | Edge of Town                             |                    |                     |
|   | No Sub Category                          |                    |                     |
|   | Total Number of dwellings:               | 232                |                     |
|   | Survey date: THURSDAY                    | 30/06/05           | 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.

MANUALLY DESELECTED SITES

| Site Ref   | Reason for Deselection |
|------------|------------------------|
| DL-03-A-02 | Not Comparable         |
| DL-03-A-03 | Not Comparable         |
| DL-03-A-05 | Not Comparable         |

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
VEHICLES  
Calculation factor: 1 DWELLS  
BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 6        | 264         | 0.073     | 6          | 264         | 0.242     | 6        | 264         | 0.315     |
| 08:00 - 09:00 | 6        | 264         | 0.134     | 6          | 264         | 0.404     | 6        | 264         | 0.538     |
| 09:00 - 10:00 | 6        | 264         | 0.161     | 6          | 264         | 0.186     | 6        | 264         | 0.347     |
| 10:00 - 11:00 | 6        | 264         | 0.136     | 6          | 264         | 0.166     | 6        | 264         | 0.302     |
| 11:00 - 12:00 | 6        | 264         | 0.176     | 6          | 264         | 0.170     | 6        | 264         | 0.346     |
| 12:00 - 13:00 | 6        | 264         | 0.158     | 6          | 264         | 0.166     | 6        | 264         | 0.324     |
| 13:00 - 14:00 | 6        | 264         | 0.173     | 6          | 264         | 0.186     | 6        | 264         | 0.359     |
| 14:00 - 15:00 | 6        | 264         | 0.181     | 6          | 264         | 0.183     | 6        | 264         | 0.364     |
| 15:00 - 16:00 | 6        | 264         | 0.288     | 6          | 264         | 0.209     | 6        | 264         | 0.497     |
| 16:00 - 17:00 | 6        | 264         | 0.292     | 6          | 264         | 0.199     | 6        | 264         | 0.491     |
| 17:00 - 18:00 | 6        | 264         | 0.371     | 6          | 264         | 0.205     | 6        | 264         | 0.576     |
| 18:00 - 19:00 | 6        | 264         | 0.275     | 6          | 264         | 0.212     | 6        | 264         | 0.487     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 2.418     |            |             | 2.528     |          |             | 4.946     |

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.

### Parameter summary

Trip rate parameter range selected:

225 - 372 (units: )

Survey date date range:

01/01/05 - 01/05/10

Number of weekdays (Monday-Friday):

6

Number of Saturdays:

0

Number of Sundays:

0

Surveys manually removed from selection:

3

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
OGVS  
Calculation factor: 1 DWELLS  
BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 6        | 264         | 0.004     | 6          | 264         | 0.004     | 6        | 264         | 0.008     |
| 08:00 - 09:00 | 6        | 264         | 0.004     | 6          | 264         | 0.003     | 6        | 264         | 0.007     |
| 09:00 - 10:00 | 6        | 264         | 0.005     | 6          | 264         | 0.008     | 6        | 264         | 0.013     |
| 10:00 - 11:00 | 6        | 264         | 0.003     | 6          | 264         | 0.002     | 6        | 264         | 0.005     |
| 11:00 - 12:00 | 6        | 264         | 0.003     | 6          | 264         | 0.006     | 6        | 264         | 0.009     |
| 12:00 - 13:00 | 6        | 264         | 0.006     | 6          | 264         | 0.006     | 6        | 264         | 0.012     |
| 13:00 - 14:00 | 6        | 264         | 0.004     | 6          | 264         | 0.008     | 6        | 264         | 0.012     |
| 14:00 - 15:00 | 6        | 264         | 0.003     | 6          | 264         | 0.004     | 6        | 264         | 0.007     |
| 15:00 - 16:00 | 6        | 264         | 0.001     | 6          | 264         | 0.002     | 6        | 264         | 0.003     |
| 16:00 - 17:00 | 6        | 264         | 0.002     | 6          | 264         | 0.003     | 6        | 264         | 0.005     |
| 17:00 - 18:00 | 6        | 264         | 0.001     | 6          | 264         | 0.003     | 6        | 264         | 0.004     |
| 18:00 - 19:00 | 6        | 264         | 0.000     | 6          | 264         | 0.001     | 6        | 264         | 0.001     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.036     |            |             | 0.050     |          |             | 0.086     |

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.

### Parameter summary

|  |                     |
|--|---------------------|
| Trip rate parameter range selected:      | 225 - 372 (units: ) |
| Survey date date range:                  | 01/01/05 - 01/05/10 |
| Number of weekdays (Monday-Friday):      | 6                   |
| Number of Saturdays:                     | 0                   |
| Number of Sundays:                       | 0                   |
| Surveys manually removed from selection: | 3                   |

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
 PSVS  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 08:00 - 09:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 09:00 - 10:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 10:00 - 11:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 11:00 - 12:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 12:00 - 13:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 13:00 - 14:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 14:00 - 15:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 15:00 - 16:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 16:00 - 17:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 17:00 - 18:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 18:00 - 19:00 | 6        | 264         | 0.000     | 6          | 264         | 0.000     | 6        | 264         | 0.000     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.000     |            |             | 0.000     |          |             | 0.000     |

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.

### Parameter summary

Trip rate parameter range selected:

225 - 372 (units: )

Survey date date range:

01/01/05 - 01/05/10

Number of weekdays (Monday-Friday):

6

Number of Saturdays:

0

Number of Sundays:

0

Surveys manually removed from selection:

3

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
**CYCLISTS**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 6        | 264         | 0.002     | 6          | 264         | 0.004     | 6        | 264         | 0.006     |
| 08:00 - 09:00 | 6        | 264         | 0.003     | 6          | 264         | 0.005     | 6        | 264         | 0.008     |
| 09:00 - 10:00 | 6        | 264         | 0.001     | 6          | 264         | 0.000     | 6        | 264         | 0.001     |
| 10:00 - 11:00 | 6        | 264         | 0.001     | 6          | 264         | 0.001     | 6        | 264         | 0.002     |
| 11:00 - 12:00 | 6        | 264         | 0.003     | 6          | 264         | 0.003     | 6        | 264         | 0.006     |
| 12:00 - 13:00 | 6        | 264         | 0.004     | 6          | 264         | 0.003     | 6        | 264         | 0.007     |
| 13:00 - 14:00 | 6        | 264         | 0.001     | 6          | 264         | 0.003     | 6        | 264         | 0.004     |
| 14:00 - 15:00 | 6        | 264         | 0.001     | 6          | 264         | 0.001     | 6        | 264         | 0.002     |
| 15:00 - 16:00 | 6        | 264         | 0.013     | 6          | 264         | 0.012     | 6        | 264         | 0.025     |
| 16:00 - 17:00 | 6        | 264         | 0.007     | 6          | 264         | 0.005     | 6        | 264         | 0.012     |
| 17:00 - 18:00 | 6        | 264         | 0.008     | 6          | 264         | 0.009     | 6        | 264         | 0.017     |
| 18:00 - 19:00 | 6        | 264         | 0.012     | 6          | 264         | 0.009     | 6        | 264         | 0.021     |
| 19:00 - 20:00 |          |             |           |            |             |           |          |             |           |
| 20:00 - 21:00 |          |             |           |            |             |           |          |             |           |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.056     |            |             | 0.055     |          |             | 0.111     |

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.

Parameter summary

Trip rate parameter range selected:

225 - 372 (units: )

Survey date date range:

01/01/05 - 01/05/10

Number of weekdays (Monday-Friday):

6

Number of Saturdays:

0

Number of Sundays:

0

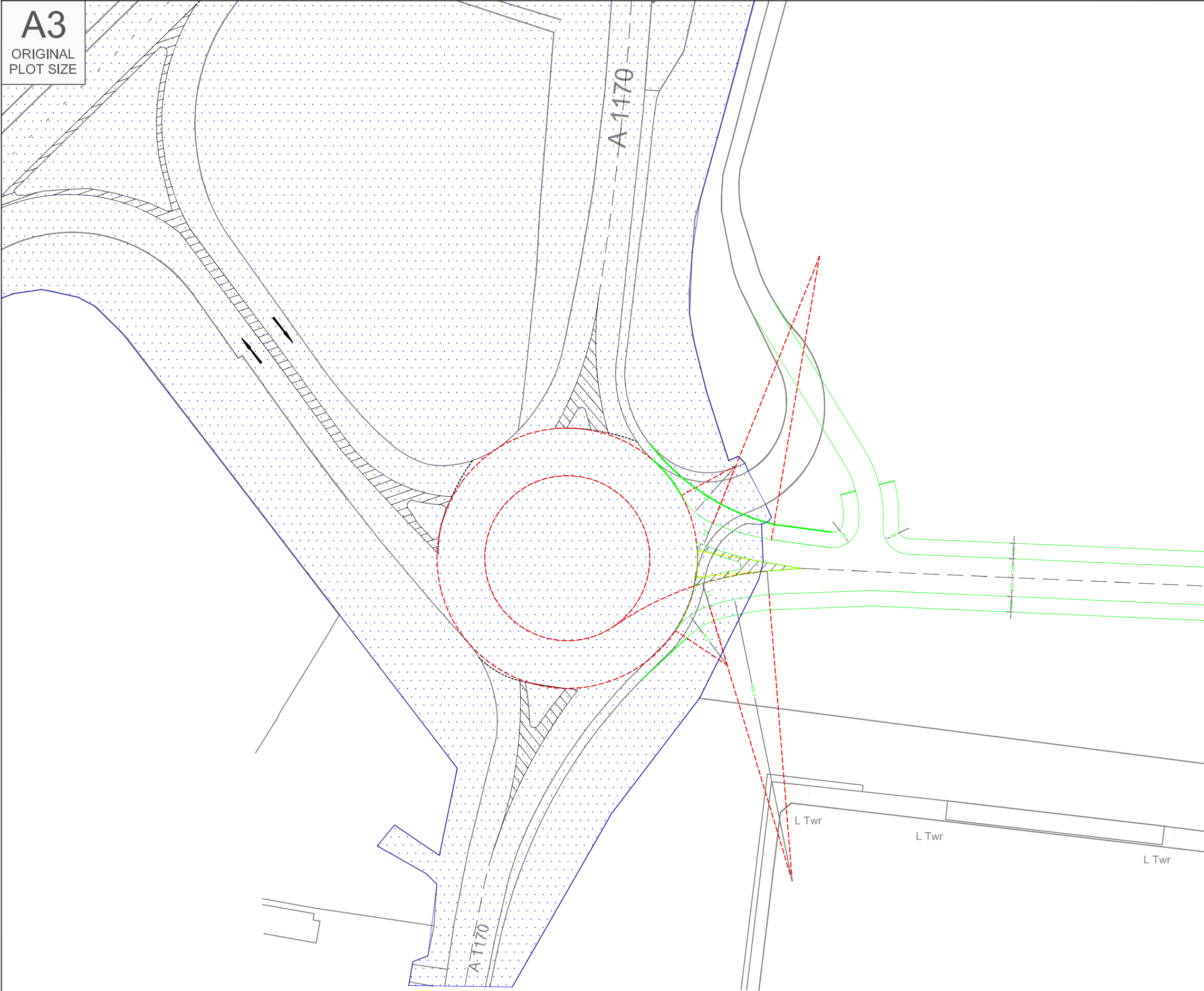
Surveys manually removed from selection:

3

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



# APPENDIX D



A3  
ORIGINAL  
PLOT SIZE

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NOTES:  
1) Highway Boundary (Subject to Confirmation)

|     |      |         |   |   |          |
|-----|------|---------|---|---|----------|
|     |      |         |   |   |          |
| -   | -    | -       | - | - | -        |
| Rev | Date | Details |   |   | Drawn by |

Bristol  
Cambridge  
Cardiff  
**London**  
Welwyn Garden City

88 Kingsway  
London  
WC2B 6AA  
020 7681 6514  
[www.tpa.uk.com](http://www.tpa.uk.com)



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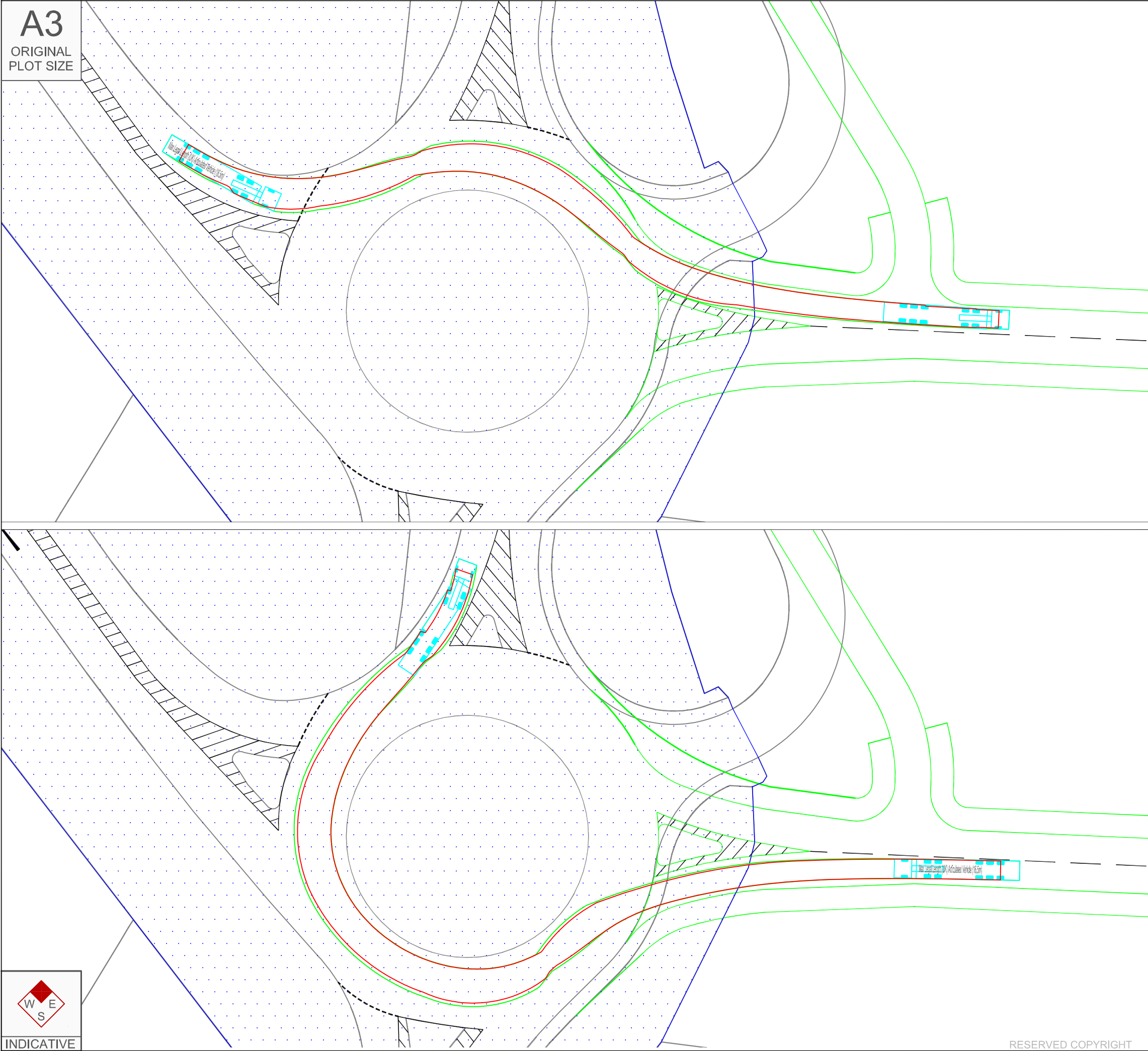
CLIENT:  
Ptarmigan Ware Ltd and Leach Homes

PROJECT:  
LAND NORTH AND EAST  
OF WARE  
HERTFORDSHIRE

TITLE:  
A10/A1170  
ANTICIPATED HIGHWAY  
ARRANGEMENT

STATUS:  
FOR INFORMATION

|                    |                   |                     |                |                   |
|--------------------|-------------------|---------------------|----------------|-------------------|
| SCALE:<br>1:750    | DATE:<br>14/05/14 | DRAWN:<br>GDG       | CHECKED:<br>SM | APPROVED:<br>RTBL |
| JOB NO:<br>1404-61 |                   | DRAWING NO:<br>SK01 |                | REVISION:<br>-    |



A3  
ORIGINAL  
PLOT SIZE



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NOTES:

1) Highway Boundary (Subject to Confirmation)

Max Legal Length (UK) Articulated Vehicle (16.5m)  
Overall Length 16.500m  
Overall Width 2.550m  
Overall Body Height 3.681m  
Min Body Ground Clearance 0.411m  
Max Track Width 2.500m  
Lock to Lock Time 6.00s  
Kerb to Kerb Turning Radius 6.530m

| Rev | Date | Details | Drawn by | Checked by | Approved by |
|-----|------|---------|----------|------------|-------------|
| -   | -    | -       | -        | -          | -           |

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Cambridge  
Cardiff  
**London**  
Welwyn Garden City

88 Kingsway  
London  
WC2B 6AA  
020 7681 6514  
[www.tpa.uk.com](http://www.tpa.uk.com)

CLIENT:  
**Ptarmigan Ware Ltd and Leach Homes**

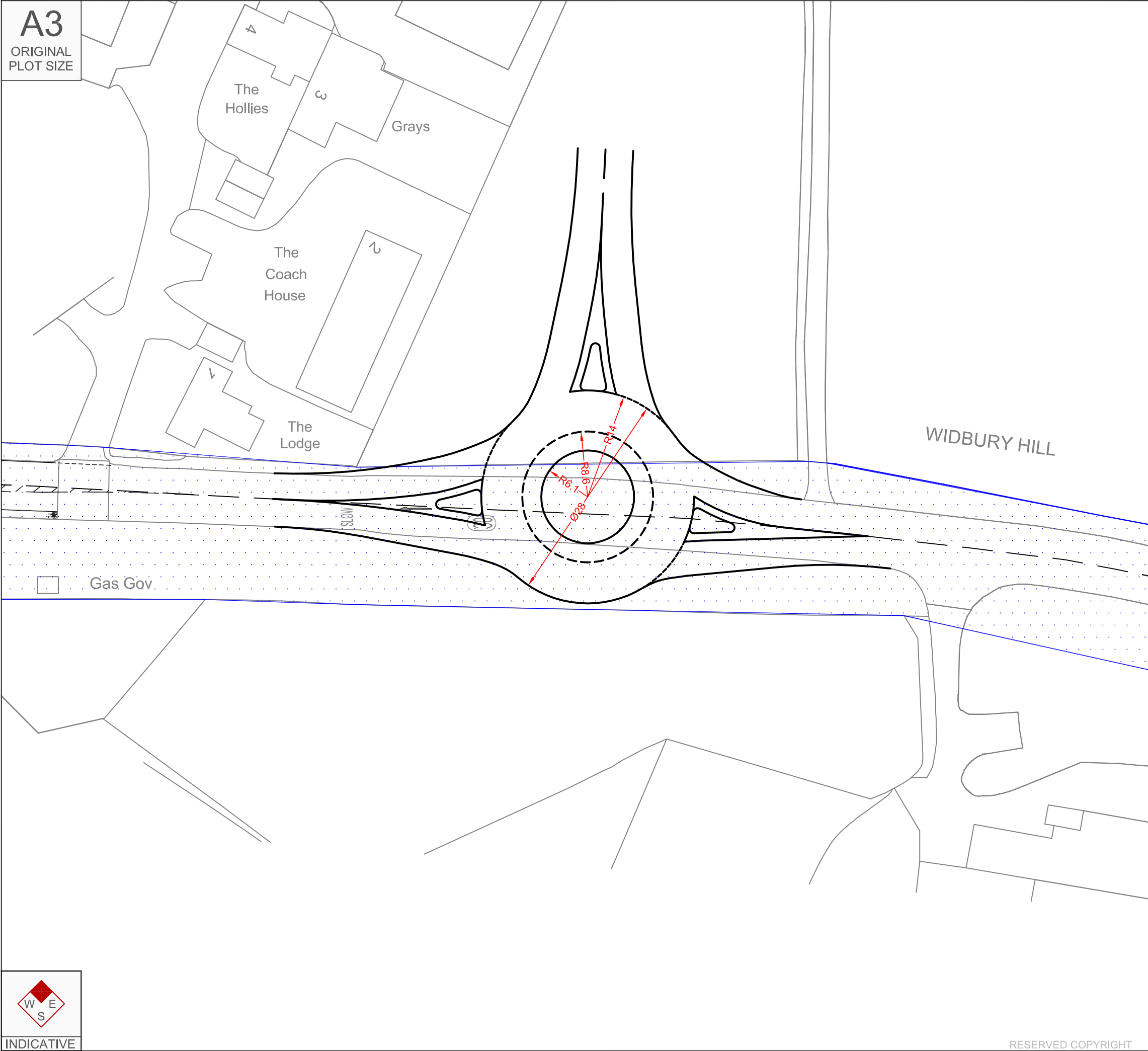
PROJECT:  
**LAND NORTH AND EAST  
OF WARE  
HERTFORDSHIRE**

TITLE:  
**A10/A1170  
SWEEP PATH ANALYSIS  
OF A MAX LEGAL**

STATUS:  
**FOR INFORMATION**

|                    |                   |                     |                |                   |
|--------------------|-------------------|---------------------|----------------|-------------------|
| SCALE:<br>1:750    | DATE:<br>14/05/14 | DRAWN:<br>GDG       | CHECKED:<br>SM | APPROVED:<br>RTBL |
| JOB NO:<br>1404-61 |                   | DRAWING NO:<br>SP01 |                | REVISION:<br>-    |

# APPENDIX E



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NOTES:  
1) Highway Boundary (Subject to Confirmation)

|     |      |         |          |            |             |
|-----|------|---------|----------|------------|-------------|
|     |      |         |          |            |             |
| Rev | Date | Details | Drawn by | Checked by | Approved by |

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Cardiff  
**London**  
Welwyn Garden City

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London  
WC2B 6AA  
020 7681 6514  
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Transport Planning Associates

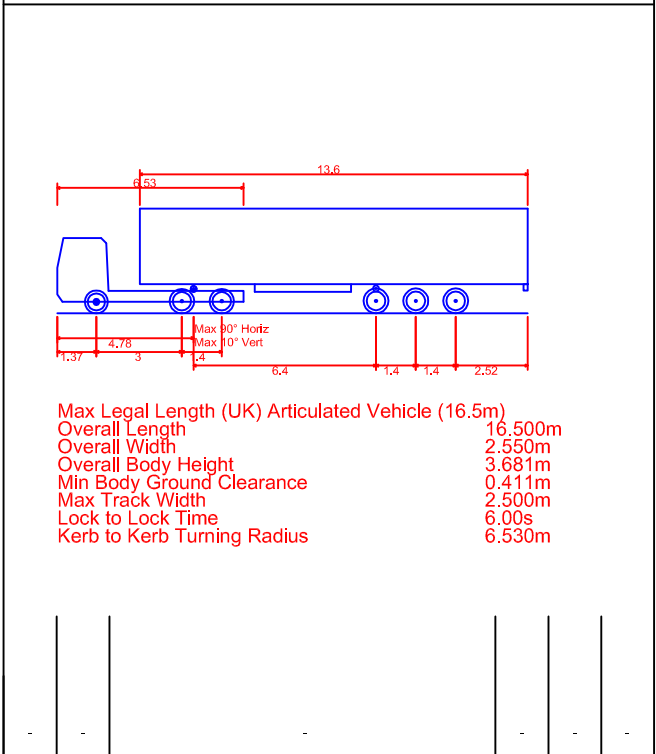
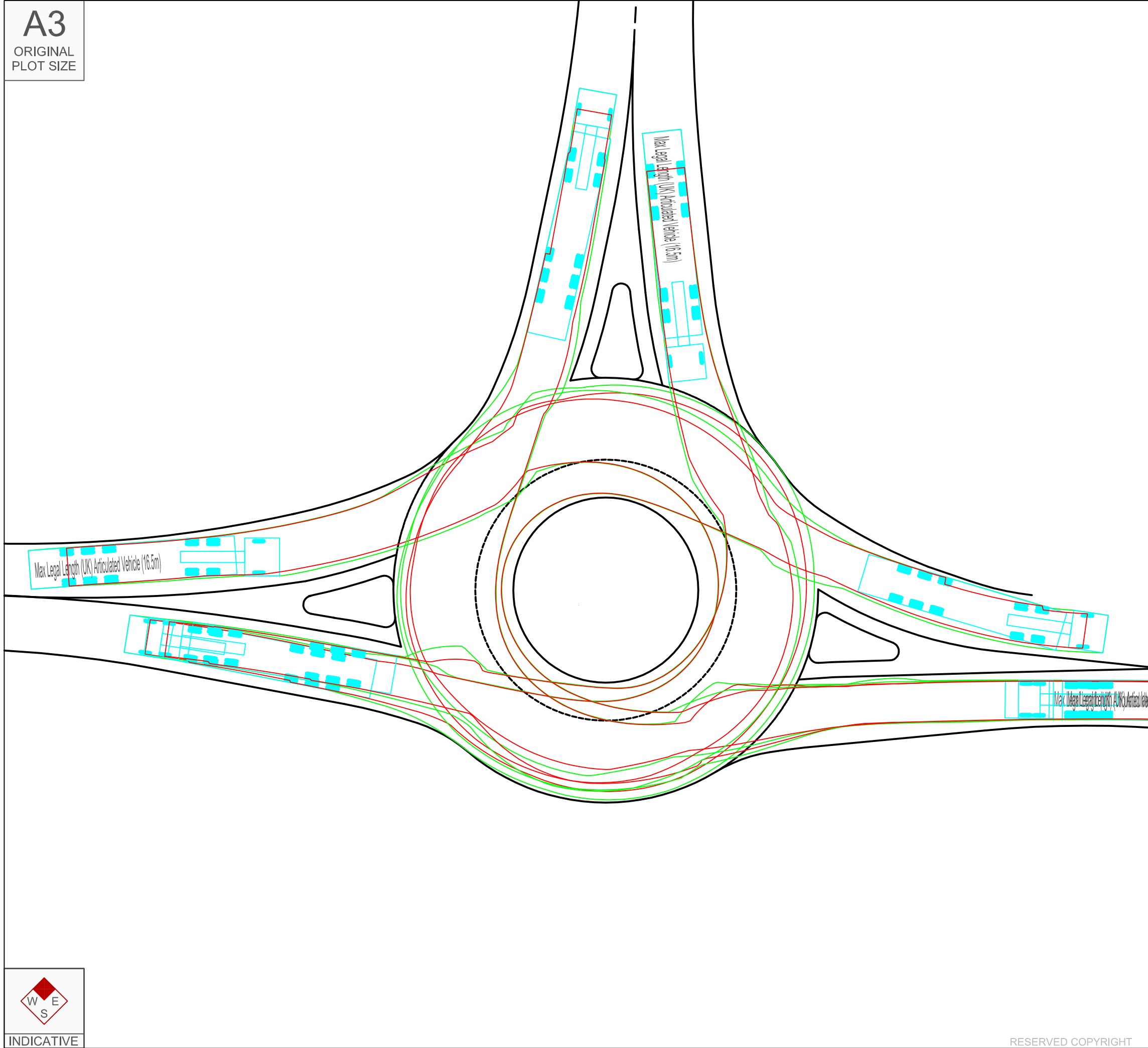
CLIENT:  
**Ptarmigan Ware Ltd and Leach Homes**

PROJECT:  
**LAND NORTH AND EAST OF WARE  
HERTFORDSHIRE**

TITLE:  
**B 1004  
ANTICIPATED HIGHWAY  
ARRANGEMENT**

STATUS:  
**FOR INFORMATION**

|                    |                     |                |                |                 |
|--------------------|---------------------|----------------|----------------|-----------------|
| SCALE:<br>1:500    | DATE:<br>30/06/14   | DRAWN:<br>GDG  | CHECKED:<br>SM | APPROVED:<br>SM |
| JOB NO:<br>1404-61 | DRAWING NO:<br>SK03 | REVISION:<br>- |                |                 |



| Rev | Date | Details | Drawn by | Checked by | Approved by |
|-----|------|---------|----------|------------|-------------|
| -   | -    | -       | -        | -          | -           |

Bristol

Cambridge

Cardiff

London

Welwyn Garden City

tpa

Transport Planning Associates

88 Kingsway

London

WC2B 6AA

020 7681 6514

www.tpa.uk.com

CLIENT:  
**Ptarmigan Ware Ltd and Leach Homes**

PROJECT:  
**LAND NORTH AND EAST  
OF WARE  
HERTFORDSHIRE**

TITLE:  
**SWEPT PATH ANALYSIS  
OF A MAX LEGAL**

STATUS:  
**FOR INFORMATION**

|                    |                     |                |                |                 |
|--------------------|---------------------|----------------|----------------|-----------------|
| SCALE:<br>1:250    | DATE:<br>23/07/14   | DRAWN:<br>GDG  | CHECKED:<br>SM | APPROVED:<br>SM |
| JOB NO:<br>1404-61 | DRAWING NO:<br>SP03 | REVISION:<br>- |                |                 |