

Hammond Rutts Investments Limited

Iceni Way, Haverhill
Suffolk

Transport Assessment

November 2015

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1 INTRODUCTION

- 1.1 Vectos has been appointed by Hammond Rutts Investments Limited to advise on the transport aspects of a planning application for the proposed development of a site located off Icen Way and Phoenix Road in Haverhill, Suffolk.
- 1.2 This Transport Assessment (TA) has been prepared in support of outline planning permission for the erection of up to 46,000 sq m of floorspace for uses within B1, B2 and B8 of the Use Classes Order, road side uses (petrol filling station and restaurant/s Use Class A3/A5), car dealerships (sui generis), ancillary lorry park for Business Park occupiers, together with landscaping, car and HGV parking and associated works and facilities including access. Access is to be determined.
- 1.3 In preparing this TA, discussions have been held with Suffolk County Council (SCC), as the local highway authority.
- 1.4 This TA has been produced to investigate the transport issues that are relevant to the proposed development of the Application Site and is structured as follows:
- Section 2 - provides a description of the existing situation and transport networks;
 - Section 3 - considers the proposals in the context of National and Local Policy;
 - Section 4 - describes the development proposals;
 - Section 5 - presents an assessment of the likely trip generation of the scheme and details of trip distribution on the highway network;
 - Section 6 - Sets out the site cumulative transport influence; and
 - Section 7 - Provides a summary and conclusion to the report.

2 EXISTING CONDITIONS

Site Location

- 2.1 A plan showing the location of the site can be viewed in **Figure 1**.
- 2.2 The site is located off Icen Way and Phoenix Road, approximately 2km to the south-east of the town of Haverhill in Suffolk. Icen Way is used primarily as an access road to an existing industrial unit at its eastern end with parking for HGVs provided in an ad-hoc parking area.

Existing / Consented Development

- 2.3 The site currently comprises of a number of undeveloped plots within Haverhill Business Park. The site has consented planning permission for a mix of land uses of B1/B2/B8/PFS/hotel and restaurant uses which has been partially implemented. The total floorspace allowed under the extant consent that is unimplemented is taken to be in the order of 37, 161 sq m (400,000 sq ft) based on calculations of development capacity of the site at that time.
- 2.4 The transport infrastructure associated with the extant consent has been implemented and the resulting road network was designed to have sufficient capacity to accommodate the full proposed development of the site.

Site Access

- 2.5 The plots of land that make up the Application Site are bound by Helions Bumpstead Road, Phoenix Road, Bumpstead Road (B1057), A1017 and Icen Way.
- 2.6 At present there are no dedicated site access junctions to the undeveloped plots. Access to the plots is obtained via Phoenix Road, Bumpstead Road and Icen Way.

Local Highway Network

- 2.7 The location of the site, with respect to the highway network, is shown in **Figure 2**.

Iceni Way

- 2.8 Iceni Way is accessed from the Bumpstead Road/Phoenix Road/Iceni Way roundabout. The road operates with one lane in each direction and provides a footpath on the southern side of the carriageway.
- 2.9 At the eastern end of the road, there is an industrial unit and a separate, informal HGV parking area.

Phoenix Road

- 2.10 Phoenix Road forms the western arm of the Bumpstead Road/Phoenix Road/Iceni Way roundabout and caters primarily for commercial and industrial traffic travelling between Helions Bumpstead Road to the west and Bumpstead Road to the east.
- 2.11 Phoenix Road provides a single lane in each direction and has a shared foot/cycle way on its northern edge.
- 2.12 Phoenix Road caters for commercial traffic and has a hotel located at its eastern end, near the roundabout with Bumpstead Road.

Bumpstead Road

- 2.13 Bumpstead Road is aligned in a north-south direction and connects Haverhill with Bumpstead. Bumpstead Road divides the two plots of land associated with the development and forms part of two roundabout junctions in proximity of each other with Iceni Way/Phoenix Road and the A1017.
- 2.14 Along Bumpstead Road in the vicinity of the site there are shared foot/cycleways on both sides of the carriageway, leading towards Haverhill.

A1017

- 2.15 The A1017 connects the roundabout with the A1307 to the north-west of Haverhill and continues south-east towards Braintree where it joins the A131 at High Garrett.
- 2.16 In the vicinity of the site, the A1017 provides a single lane in each direction with a posted speed limit of 60mph

Traffic Accident Data

- 2.17 Traffic Accident data has been obtained for the area surrounding the site for the previous 5 year period using the Crashmap.co.uk accident reporting tool. In the immediate vicinity of the site a total of three accidents have occurred, all of which have been reported as Slight in severity.
- 2.18 One accident involving three vehicles occurred at the Phoenix Road/IceniWay/Bumpstead Road roundabout. The accident was recorded as having taken place on the roundabout just north of the exit arm from Phoenix Road.
- 2.19 The other two accidents occurred at the roundabout of the A1017 and Bumpstead Road. One accident involved a collision between two vehicles and the other accident involved just one vehicle.
- 2.20 Outside of this immediate vicinity, there have been three accidents classified as Serious. One of these occurred on the A1017 approximately 700m to the east of the roundabout junction with Bumpstead Road. Another Serious accident occurred on the roundabout at the A1017/Moon Hall Lane junction. The third serious accident occurred on Helions Bumpstead Road at the junction with Phoenix Road involving two vehicles.

Accessibility by Non-car Modes

Walking

- 2.21 A person's willingness to walk is dependent on many factors including access to a car, safety, road congestion, weather, gradients, parking, health, direction of route and purpose of journey. Previous Government policy refers to a distance of two kilometres as the maximum over which walking might replace car trips. **Figure 3** shows a 2 km walking isochrone around the site.
- 2.22 Footways are provided along the extents of Iceni Way, Phoenix Road and sections of Bumpstead Road within the vicinity of the site. Informal pedestrian crossing facilities are provided at both the roundabouts at Iceni Way/Bumpstead Road and the A1017/Bumpstead Road which provide dropped kerbs and tactile paving.

- 2.23 There public rights of way in the vicinity of the site including footpath FT13 which runs along the eastern boundary of the site.

Cycling

- 2.24 Department for Transport (DfT) guidance highlights that there is a “*substantial potential for substituting driving for cycling*” for distances of up to 5 km. **Figure 4** shows a 5 km cycling isochrone around the site.
- 2.25 A review of national cycle routes indicates that there are no cycle routes in the vicinity of the site. However, the surrounding roads provide a shared foot/cycleway on at least one side of the carriageway.

Bus Services

- 2.26 A set of bus stops are provided on Phoenix Road, which are associated with the 347 bus service. The 347 bus serves a circular route around Haverhill, which includes the site (opposite the H.I.D Building). The bus route operates twice daily, once at 07:51 and then at 16:10.

Summary

- 2.27 A review of accessibility indicates that the site is located in an area that is accessible primarily by car, with limited scope for public transport use. In the vicinity of the site there is a good provision of facilities for pedestrians and cyclists with shared foot/cycleways on Phoenix Road, Icen Way and Bumpstead Road.

3 PLANNING POLICY

3.1 This section of the report provides a summary of relevant policy guidance, both at a national and local level.

National Policy

National Planning Policy Framework (NPPF)

3.2 The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied.

3.3 One of the 12 core land-use principles within the NPPF includes:

"[to] actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable."

3.4 Section 4 of the NPPF deals with 'Promoting sustainable transport.' Paragraph 29 states that:

"the transport systems needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel."

3.5 Paragraph 32 sets out the transport issues which should be addressed within Development Plans and decisions. These are:

- *"the opportunities for sustainable transport modes have been taken up depending on the nature and location of the Site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the Site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

National Planning Practice Guidance (NPPG), 2014

3.6 On 6 March 2014, the Department for Communities and Local Government (DCLG) launched the National Planning Practice Guidance web-based resource. One section relates specifically

to Transport and is titled 'Travel Plans, Transport Assessments and Statements in decision-taking' and this provides the overarching principles of Travel Plans, Transport Assessments and Statements.

3.7 The guidance explains the role of Transport Assessments and Statements as: “ways of assessing the potential transport impacts of developments (and they may propose mitigation 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)”. The guidance also states that Travel Plans are “long term management strategies for integrating proposals for sustainable travel into the planning process”. They should be brought forward in parallel with development proposals and should be integrated in to the design of developments.

3.8 The guidance explains that when preparing Transport Assessments and Travel Plans the following key principles should be taken into account:

- *“proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;*
- *established at the earliest practicable possible stage of a development proposal;*
- *be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);*
- *be brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, transport operators, Rail Network Operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies. Engaging communities and local businesses in Travel Plans, Transport Assessments and Statements can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities).”*

3.9 The guidance demonstrates that Transport Assessments and Statements and Travel Plans can positively contribute in the following ways:

- *“encouraging sustainable travel;*
- *lessening traffic generation and its detrimental impacts;*

- *reducing carbon emissions and climate impacts;*
- *creating accessible, connected, inclusive communities;*
- *improving health outcomes and quality of life;*
- *improving road safety; and*
- *reducing the need for new development to increase existing road capacity or provide new roads.”*

Local Policy

Suffolk Local Transport Plan 3 (2011 – 2031)

- 3.10 Local transport policy is contained in the Suffolk Local Transport Plan adopted in April 2011, with policies and targets set out until 2031.
- 3.11 The Suffolk Local Transport Plan 3 is set out in two sections, split between the strategy and the implementation plan.
- 3.12 The key challenge identified by Suffolk County Council states:
- “where congestion is likely to increase, is to use more effective traffic management measures to get more out of the existing system and to reduce peak time traffic by encouraging greater use of sustainable forms of transport...to ensure that people are able to access jobs, education and services; that the highway network is maintained in a good condition, and that the negative environmental impacts of transport are minimised.”*
- 3.13 The report continues by saying that *“the level of growth within Haverhill will also impact upon the road network within both the town and the wider area if measures are not put in place to address increased levels of car use associated from extra car trips from them... issues to more remote employment locations will also need to be addressed, including links towards Cambridge and Stansted.”*

St Edmunds, Haverhill and Rural Area Vision 2031

- 3.14 The St Edmundsbury Borough Council formally adopted Bury St Edmunds, Haverhill and Rural Area Vision 2031 site allocations documents in September 2014. Vision 2031 identifies where growth will be allowed and what local everyday services people will need to enjoy a good quality of life.

3.15 Policy HV1: Presumption in Favour of Sustainable Development states the following;

“When considering development proposals the council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework.”

The policy goes on to say that the Core Strategy has determined that the town will grow by at least 4260 new homes between 2009 and 2031. Paragraph 1.36 mentions that *“Haverhill will diversify its employment base, building on the bio-chemical industry and capitalising on the strong links it has with Cambridge and Stansted”*.

3.16 Objective 2 (page 23) of the Vision 2031 document for Haverhill seeks *“to maintain, develop and diversify the economic base through the provision of employment sites to meet the needs of existing and future businesses.”*

3.17 The above points highlight the impending need to supply the area with diverse employment opportunities to cater for the projected increase in housing supply.

Summary

3.18 The above policies identify the need for diverse employment opportunities in the Haverhill area to meet the future housing supply. Whilst the area surrounding the site currently does not provide regular public transport services, the Suffolk Local Transport Plan 3 highlights this as a priority and establishes that this will be addressed to provide more sustainable travel choices to employees.

4 PROPOSED DEVELOPMENT

Overview of Development

- 4.1 The application seeks outline planning permission for the erection of up to 46,000 sq m of floorspace for uses within B1,B2 and B8 of the Use Classes Order, road side uses (petrol filling station and restaurant/s Use Class A3/A5), car dealerships (sui generis), ancillary lorry park for Business Park occupiers, together with landscaping, car and HGV parking and associated works and facilities including access. Access is to be determined.
- 4.2 The development is arranged into seven plots, split across both sides of Bumpstead Road. The indicative Masterplan for the site is included at **Appendix A**, which shows eight buildings on the seven plots. As this is an Outline Application, the precise floor areas are not detailed, however, a percentage split of the each unit and the total site area is included below in **Table 4.1**.

Table 4.1: Development Schedule

Plot	Total Unit Area (sqm)	% of Total Site Area
SW1	1,983	4%
NW1	2,408	5%
NW2	8,160	18%
NE1	9,119	20%
NE2	6,030	33%
SE2	4,901	11%
SE1	4,044	9%
Total	45,965	100%

- 4.3 The final mix of land uses at the Application Site has not yet been determined, as such, two development scenarios have been prepared to examine the traffic impact on the local highway network. These scenarios are:

Table 4.2: Development Scenarios

Land Use	Scenario A	Scenario B
B1	45%	-
B8	45%	90%
PFS	5%	5%
Drive Thru	5%	5%

- 4.4 In regards to trip generation, these scenarios will be discussed later in this report in **Section 5**.

Access

Vehicular Access

- 4.5 As the site consists of several plots of land, there will be multiple new accesses associated with the development. Plots NW1 and SW1 will be accessed from Phoenix Road, NW2 will be accessed from Bumpstead Road and the remaining plots will be accessed from Icen Way.
- 4.6 All proposed accesses will consist of priority T-junctions. The arrangement of the priority junction onto Bumpstead Road, along with associated swept path analysis, is shown in **Appendix B**.

Pedestrian Access

- 4.7 Pedestrian and cycle access will be via the proposed vehicle access points to each unit. These will make use of existing shared foot/cyclepaths in the vicinity of the site.
- 4.8 It is proposed that the footway along the western side of Bumpstead Road is extended to tie in with the existing footway to the north. This will allow increase pedestrian accessibility to the site.

Parking

- 4.9 Off street car parking will be provided at the site for each unit. Cycle parking will also be provided.
- 4.10 The relevant parking standards for both vehicles and cycles are included within the Suffolk Advisory Parking Standards, 2014. This is shown in **Table 4.3**.
- 4.11 For the proposed land usages the maximum and minimum spaces for vehicles and cycles respectively have been calculated according to the standards and are indicated in **Table 4.3**.

Table 4.3: Maximum parking Standards from Suffolk advisory Parking Standards, 2014.

Use Classes	Parking Provision Maximum Standards	Proposed Cycle Parking Standards. Minimum provision required.
B1	1 space per 30sqm	1 stand per 200sqm
B8	1 space per 150sqm	1 stand per 400sqm
PFS	1 space per 20sqm retail space	1 stand per 4 staff plus customer spaces on individual merit
Drive Thru	1 space per 5sqm of public floor area (A3 standards)	1 stand per 100sqm (A3 standards)

4.12 As the application is for outline planning permission, parking provision will be determined as part of a future reserved matters application. Car and cycle parking will be provided in accordance with the standards above. A blended provision of the standards presented in Table 4.2 is shown in the Masterplan.

4.13 The possibility of a lorry park is included within the application description. Should that element of the proposals be progressed as part of the development, the lorry park is only to be used by Business Park occupiers and therefore will not generate primary HGV trips.

Travel Plan

4.14 Suffolk County Council will generally seek Travel Plans for developments where they fall within the thresholds indicated in Appendix B of the Department for Transport's: Guidance on Transport Assessment (2007). **Table 4.4** below summarises the thresholds for the proposed land uses.

Table 4.4: DfT Travel Plan Thresholds

Land Use	Travel Plan
B1	>2,500sqm
B8	>5,000sqm
PFS	Discuss with highway authority
Drive-Thru (A3)	>2,500sqm

4.15 Accordingly, a Draft Framework Workplace Travel Plan has been prepared for the Application Site. The Travel Plan has been prepared as a standalone document and has been submitted as part of the planning application.

5 TRAFFIC GENERATION & DISTRIBUTION

5.1 This section of the report describes the likely traffic generation and distribution onto the network for the proposed development.

Existing Site

5.2 In order to estimate the likely number of trips associated with the existing consented use of the site, the previously outlined scenarios have been applied to the entire site. These scenarios are;

- **Scenario A:** Of the total site area 45% will be B1c Light Industrial, 45% will be Commercial Warehousing and 10% will be Sui Generis (5% for a PFS, 5% for Drive-Thru Restaurants).
- **Scenario B:** Of the total site area 90% will be B8 Warehousing and 10% will be Sui Generis (5% for a PFS, 5% for Drive-Thru Restaurants).

5.3 Trip rates have been derived for the site using the TRICS database for similar sites located in the UK (excluding Greater London), situated in a similar locations to that of the Application Site.

5.4 Trip rates from B1c, B8 and Drive-Thru are provided per 100sqm whilst PFS trip rates are per hectare of the site. Full TRICS outputs can be seen in **Appendix C**.

5.5 As the land uses have varying AM and PM peak hours for traffic generation, the network peak hours of 08:00-09:00 and 17:00-18:00 have been chosen as peak hours for assessment. The trip rates used are summarised below in **Table 5.1**.

Table 5.1: Trip Rates

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B1c	0.426	0.196	0.622	0.107	0.413	0.52
B8	0.073	0.049	0.122	0.034	0.084	0.118
PFS	326.3	314.0	640.3	381.0	374.7	755.6
Drive Thru	5.697	4.52	10.217	9.491	8.901	18.392

5.6 As mentioned previously, the site currently operates as a business park. In absence of any other information, the trip rates in Table 5.1 have been used to assume the number of

consented trips associated with the undeveloped plots of land. These plots of undeveloped land total 37,161sqm.

- 5.7 Based on the justification above, the consented trips for Scenario A and Scenario B are shown below in **Tables 5.2 and 5.3**.

Table 5.2: Consented Trips - Scenario A

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B1c	71	33	104	18	69	87
B8	12	8	20	6	14	20
PFS	61	58	119	71	70	140
Drive Thru	106	74	180	176	93	269
Total	250	174	424	271	246	516

Table 5.3: Consented Trips - Scenario B

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B8	24	16	41	11	28	39
PFS	61	58	119	71	70	140
Drive Thru	106	74	180	176	93	269
Total	191	149	340	259	191	449

Proposed Site

- 5.8 It is proposed that 45,966sqm of B1/B2/B8/Sui Generis/road side uses (e.g. PFS/road side restaurant)/ancillary lorry park is built on the undeveloped plots at Haverhill Business Park. This is a maximum additional 8,805sqm of floorspace when compared to the consented development. The trip rates displayed in Table 5.1 have been applied to this proposed floor area and the proposed number of trips for both scenarios are shown in **Table 5.4 and 5.5**.

Table 5.4: Proposed Trips - Scenario A

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B1c	88	41	129	22	85	108
B8	15	10	25	7	17	24
PFS	75	72	147	88	86	174
Drive Thru	131	104	235	218	205	423
Total	309	227	536	335	393	729

Table 5.5: Proposed Trips - Scenario B

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B8	24	16	41	11	28	39
PFS	61	58	119	71	70	140
Drive Thru	106	74	180	176	93	269
Total	191	149	340	259	191	449

Net Trip Generation

- 5.9 Given that the Application Site has consent for the trips shown in Tables 5.1/5.2, they have been subtracted from the proposed trips (Tables 5.3/5.4), resulting in the net trips generated by the Application Site. The net trips will be used to assess the impact of the proposed development on the local highway network and they will be compared against the consented trips.
- 5.10 The net trip generation for both scenarios are presented in **Tables 5.6 and 5.7**.

Table 5.6: Net Trip Generation -Scenario A

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B1c	17	8	25	4	16	21
B8	3	2	5	1	3	5
PFS	14	14	28	17	16	33
Drive Thru	25	30	55	42	112	153
Total	59	53	112	64	148	212

Table 5.7: Net Trip Generation - Scenario B

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B8	6	4	10	3	7	9
PFS	14	14	28	17	16	33
Drive Thru	25	30	55	42	112	153
Total	45	47	93	61	135	196

5.11 It is assumed that 100% of trips associated with the PFS will be pass-by trips and 50% of the trips associated with the Drive Thru will also be pass-by trips (the remaining 50% will be new trips). **Tables 5.8** shows the net pass-by trips related to both scenarios.

Table 5.8: Net Pass-By Trips- Scenario A & B

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
PFS	14	14	28	17	16	33
Drive Thru	13	15	28	21	56	77
Total	27	29	56	38	72	110

5.12 Subtracting the net pass-by trips from the net trips results in the primary trips generated by the development. **Tables 5.9 and 5.10** below show the primary trips for both scenarios.

Table 5.9: Net Primary Trips - Scenario A

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B1c	17	8	25	4	16	20
B8	3	2	5	1	3	4
PFS	0	0	0	0	0	0
Drive Thru	13	15	28	21	56	77
Total	33	35	58	26	75	101

Table 5.10: Primary Trips - Scenario B

Land Use	AM			PM		
	Arr	Dep	2-Way	Arr	Dep	2-Way
B8	24	16	40	11	28	39
PFS	0	0	0	0	0	0
Drive Thru	13	15	28	21	56	77
Total	37	31	68	32	84	116

Distribution

- 5.13 Manual Classified Counts (MCC) were carried out on Thursday 10th September 2015 at two junctions in the local highway network. These junctions are the A1017/Bumpstead Road and Phoenix Road/Iceni Way/Bumpstead Road roundabouts.
- 5.14 These MCC surveys were carried out on 10th September between 07:00-10:00 in the AM and 16:00-19:00 in the PM peak periods
- 5.15 ATC surveys were undertaken between 07th September and 14th September 2015 and the location of the ATC units are show on **Figure 5**. The MCC and ATC survey data can be found in **Appendix D**. The observed traffic movements during network peak hours are shown in **Traffic Figures 1 & 2**.
- 5.16 From these surveys detailed above, a vehicle distribution profile for the primary trips has been established for vehicles using the existing turning proportions on the local highway network. Internal site distribution has been determined in accordance with the floor areas set out in Table 4.1. This distribution is shown in **Traffic Figures 3 & 4**.
- 5.17 The distribution for the pass-by trips associated with the PFS and Drive Thru developments is shown in **Traffic Figures 5 & 6**. This is based on traffic travelling along the A1017 and Bumpstead Road, which would have passed the site, visiting the PFS/Drive Thru before continuing along the A1017/Bumpstead Road in the direction they were travelling.

Summary

- 5.18 It can be seen from **Tables 5.6 and 5.7** that the net trip generation for the development under the worst case scenario (Scenario A) would produce an additional 112 two-way vehicle trips in the AM and 212 two-way vehicle trips in the PM peak in comparison to what the existing site could generate under its consented uses.

6 ASSESSMENT OF TRAFFIC IMPACT

6.1 The following assessment considers the impact of the development proposals on the surrounding road network.

6.2 The assessments have been undertaken for the following peak hours:

- AM Weekday Peak hour (08:00 to 09:00); and
- PM Weekday Peak hour (17:00 to 18:00).

6.3 The impact of the development proposals on the proposed site access on Bumpstead Road and the roundabout junctions has been assessed using Junctions 9, the industry standard modelling software for junctions of this type.

6.4 **Scenario A** outlined previously has been used to represent a worst case scenario for the following traffic impact assessment.

Assessment Years

6.5 The future year assessments have been undertaken for 2020 as this will be five years after the application has been made.

6.6 TEMPRO growth factors were applied to the observed traffic to account for the background growth between 2015 and 2020. The growth factors have been based on 'Suffolk, Haverhill, Urban and Principal routes' parameters. To represent the worst case scenario, the 2015 growth rates have been applied to the site access and the roundabout junctions. The growth factors are shown below:

- AM Peak – 1.0705; and
- PM Peak – 1.0740

6.7 The junctions have been modelled using the following scenarios:

- 2015 Observed (weekday AM peak & weekday PM peak);
- 2020 Base (weekday AM peak & weekday PM peak); and
- 2020 Base + Development (weekday AM peak & weekday PM peak)

Detailed Junction Assessments

6.8 Standalone junction assessments have been undertaken using Junctions 9 at the following locations:

- Proposed Site Access/Bumpstead Road priority junction;
- Icen Way/Phoenix Road/Bumpstead Road roundabout ; and
- A1017/Bumpstead Road roundabout

2020 Base

6.9 The 2015 observed traffic flows have been growthed using the growth factors set out above and the consented trips (shown in Table 5.2) have been added. The resultant AM and PM Weekday peak hour 2020 Base traffic flows are displayed in **Traffic Figures 7 & 8**.

Development Traffic

Primary Trips

6.10 The primary trips shown in Table 5.9 have been distributed on the local highway network in accordance with the primary trips distribution shown in Traffic Figures 3 & 4. These trips are shown on the local highway network in **Traffic Figures 9 & 10**.

Pass-By Trips

6.11 The pass-by trips shown in Table 5.8 have been distributed on the local highway network in accordance with the pass-by trips distribution shown in Traffic Figures 5 & 6. These trips are shown on the local highway network in **Traffic Figures 11 & 12**.

Total Development Trips

6.12 The primary trips have been added to the pass-by trips to create the total development trips associated with the Application Site. These are shown in **Traffic Figures 13 & 14**.

2020 Base plus Total Development Flows

6.13 The 2020 Base + Total Development flows have been derived by adding the Development flows to the 2020 Base flows. These can be seen in **Traffic Figures 15 & 16**.

Junction Modelling Outputs

6.14 This section of the report summarises the outputs of the junction modelling assessment of the proposed site access junction on Bumpstead Road and the roundabout junctions at Icen Way/Phoenix Road/Bumpstead Road and A1017/Bumpstead Road. The junction modelling outputs are included at **Appendix E**.

Proposed Site Access

6.15 As the site access is not constructed, the observed scenario of this junction has not been modelled. **Table 6.1** below provides a summary of the results under the 2020 Baseline + Development scenario.

Table 6.1 Site Access / Bumpstead Road – 2020 Base + Total Development

Stream	AM		PM	
	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)
Site Access – Bumpstead Road N	0.02	0	0.03	0
Site Access to Bumpstead Road S	0.03	0	0.05	0
Bumpstead Road N to Site Access	0.02	0	0.02	0

6.16 **Table 6.1** shows that the proposed site access on Bumpstead Road will operate well within capacity in 2020. The site access will not have a significant impact on the operation of Bumpstead Road during the peak hours.

Phoenix Road / Bumpstead Road / Icen Way Roundabout

6.17 **Table 6.2** below provides a summary of the Phoenix Road /Bumpstead Road / Icen Way roundabout assessment results under the Observed Scenario.

Table 6.2 Phoenix Road / Bumpstead Road/ Icen Way – Observed

Arm	Weekday AM Peak		Weekday PM Peak	
	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)
Iceni Way	0.02	0	0.04	0
Bumpstead Road S	0.25	0	0.25	0
Phoenix Road	0.04	0	0.05	0
Bumpstead Road N	0.19	0	0.18	0

6.18 **Table 6.2** shows that the Phoenix Road /Bumpstead Road / Icen Way roundabout presently operates within capacity with the largest RFC being 0.25 with a corresponding queue of 0 vehicles on Bumpstead Road South during the AM peak hour.

6.19 **Table 6.3** below provides a summary of the Phoenix Road /Bumpstead Road / Icen Way roundabout assessment results under the future year scenarios.

Table 6.3 Phoenix Road / Bumpstead Road/ Icen Way – 2020

Arm	AM Peak				PM Peak			
	2020 Base		2020 Base + Dev		2020 Base		2020 Base + Dev	
	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)
Bumpstead Road (N)	0.15	0	0.19	0	0.21	0	0.32	1
Iceni Way	0.38	1	0.40	1	0.39	1	0.42	1
Bumpstead Road (S)	0.06	0	0.06	0	0.08	0	0.09	0
Phoenix Road	0.26	0	0.28	0	0.25	0	0.28	0

6.20 **Table 6.3** shows that the roundabout operates within capacity in the future years. The addition of the development traffic will not significantly increase queues. This is considered to be a negligible impact.

A1017 / Bumpstead Road Roundabout

6.21 **Table 6.4** below provides a summary of the A1017/Bumpstead Road roundabout assessment results under the Observed Scenario.

Table 6.4 A1017 / Bumpstead Road– Observed

Arm	Weekday AM Peak		Weekday PM Peak	
	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)
Bumpstead Road (N)	0.30	0	0.15	0
A1017 East	0.20	0	0.16	0
Bumpstead Road (S)	0.25	0	0.41	1
A1017 West	0.18	0	0.23	0

6.22 **Table 6.4** shows that the A1017/Bumpstead Road roundabout presently operates within capacity with the largest RFC being 0.41 with a corresponding queue of 0 vehicles on Bumpstead Road South during the PM peak hour.

6.23 **Table 6.5** below provides a summary of the A1017/Bumpstead Road roundabout assessment results under the future year scenarios.

Table 6.5 A1017 / Bumpstead Road– 2020

Arm	AM Peak				PM Peak			
	2020 Base		2020 Base + Dev		2020 Base		2020 Base + Dev	
	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)	RFC	Max Queue (Vehs)
Bumpstead Road (N)	0.35	1	0.35	1	0.18	0	0.18	0
A1017 East	0.26	0	0.27	0	0.20	0	0.21	0
Bumpstead Road (S)	0.30	0	0.30	0	0.48	1	0.49	1
A1017 West	0.25	0	0.27	0	0.33	1	0.38	1

6.24 **Table 6.5** shows that the roundabout operates within capacity in the future years. The addition of the development traffic will not increase queues. This is considered to be a negligible impact.

Summary

6.25 As has been shown above the highway network surrounding the site has sufficient capacity to accommodate all of the traffic associated with the proposed development with no issue arising even at the busiest peak periods.

7 SUMMARY & CONCLUSIONS

Summary

- 7.1 Vectos has been retained by Hammond Rutts Investments Limited to advise on the transport aspects of a planning application for the proposed development of a site located off Icen Way and Phoenix Road in Haverhill, Suffolk.
- 7.2 The site consists of undeveloped plots of land within Haverhill Business Park.
- 7.3 The proposed development will be accessed from points along Phoenix Road, Bumpstead Road and Icen Way.
- 7.4 The application seeks outline planning permission for the erection of up to 46,000 sq m of floorspace for uses within B1, B2 and B8 of the Use Classes Order, road side uses (petrol filling station and restaurant/s Use Class A3/A5), car dealerships (sui generis), ancillary lorry park for Business Park occupiers, together with landscaping, car and HGV parking and associated works and facilities including access. Access is to be determined.
- 7.5 Two scenarios for development have been prepared to outline the most likely schedule of land uses. These two scenarios are detailed earlier in the report with the worst case scenario for traffic generation being Scenario A, which will be 45% will be B1 Light Industrial, 45% will be B8 Commercial Warehousing and 10% will be other uses (5% for a PFS, 5% for a Drive-Thru Restaurants).
- 7.6 As the application is in outline parking provision will also be determined as part of a future reserved matters application. Car and cycle parking will be provided in accordance with SCC's standards. A blended provision is included in the Masterplan.
- 7.7 The TRICS database has been used to derive the future trips for the site. Existing peak hour trips observed at the junctions previously mentioned have been included in the total trips.
- 7.8 The primary trips generated by the proposed site have been distributed according to the existing turning counts at the aforementioned junctions.
- 7.9 Junction capacity assessments were carried out for the worst case traffic scenario (Scenario A) at the proposed site access/Bumpstead Road priority junction and the Phoenix Road /

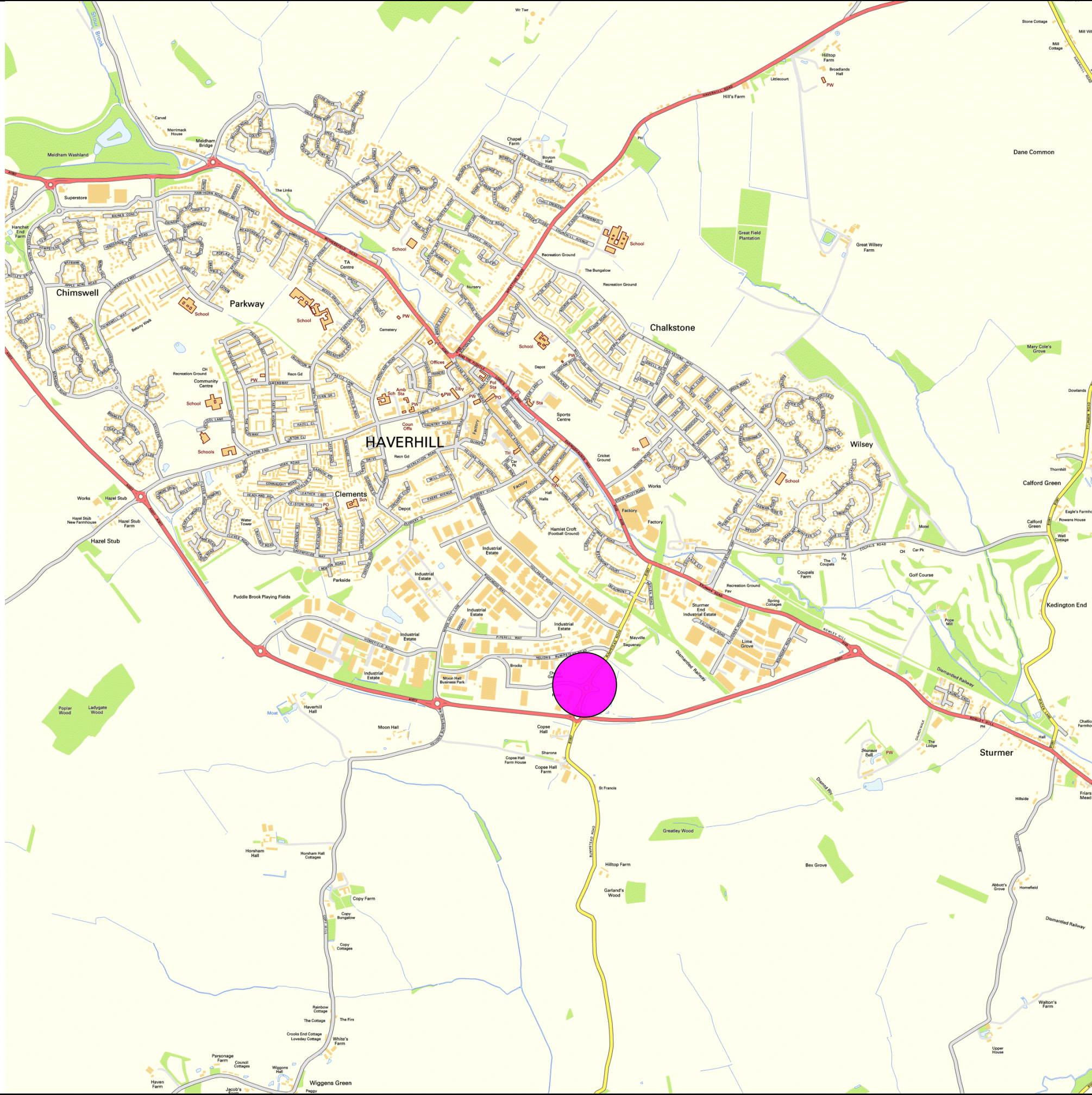
Iceni Way / Bumpstead Road roundabout and A1017/Bumpstead Road roundabout under the observed, 2020 Base and 2020 Base + Total Development scenarios in order to test the impact of the development on the highway network.

- 7.10 Following the occupation of the development, the site access and roundabouts will continue to operate well within capacity and not result in any additional queuing.

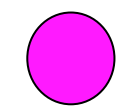
Conclusion

- 7.11 In conclusion, it is considered that there are no traffic or transport reasons why the mixed use development at Iceni Way and Phoenix Road should not be granted planning permission.

FIGURES



Key:



Site Location

Icen Way, Haverhill

Hammond Rutts Investments Limited

Site Location (Regional)

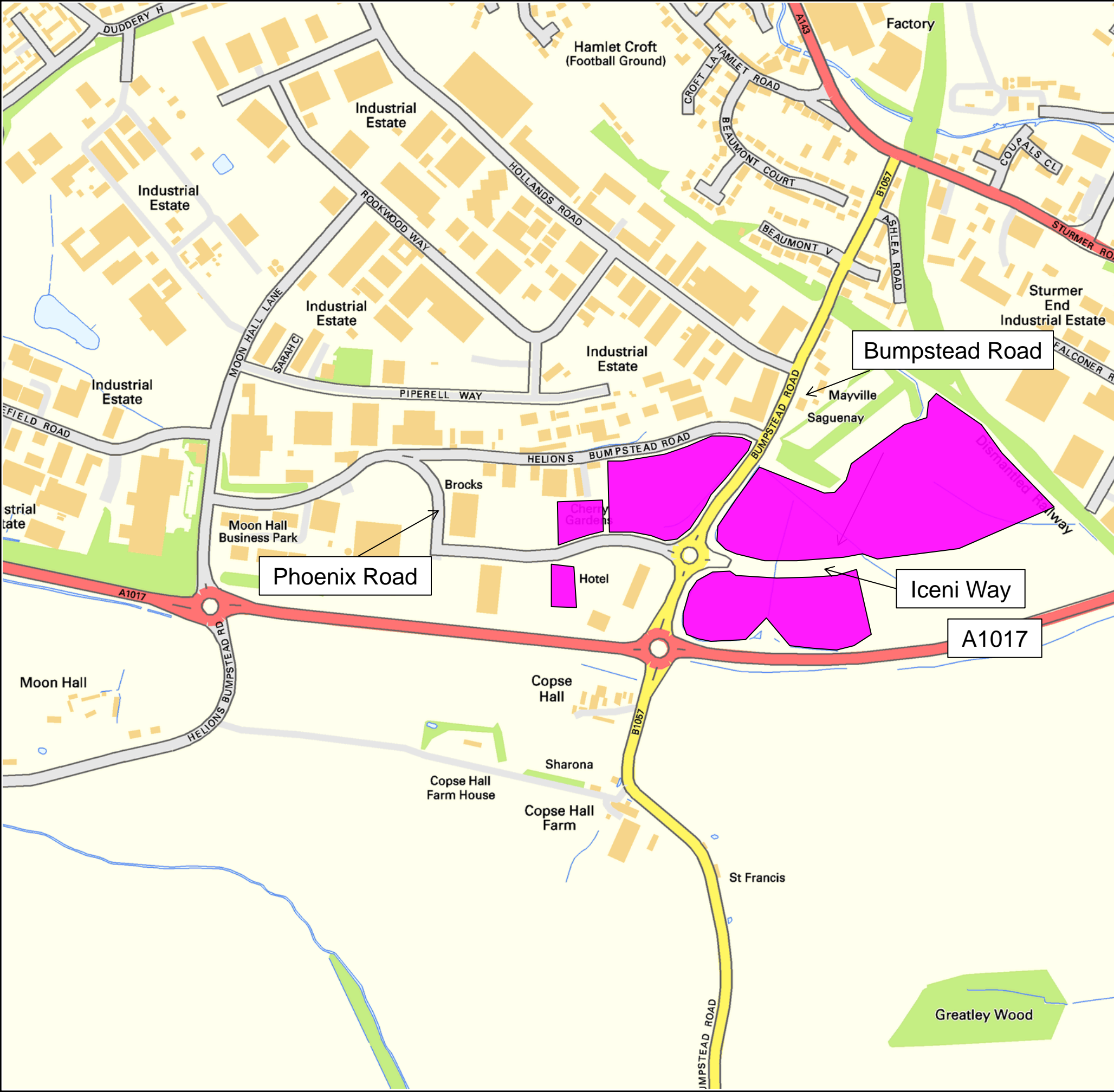
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DRAWN: BB	CHECKED: PW	DATE: 03/11/15	REVISION: •
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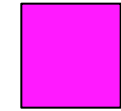


Network Building, 97 Tottenham Court Road, London W1T 4TP
Tel: 020 7580 7373 Email: london@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE: Figure 1



Key:



Site Location

Iceni Way, Haverhill

Hammond Rutts Investments Limited

Site Location (Local)

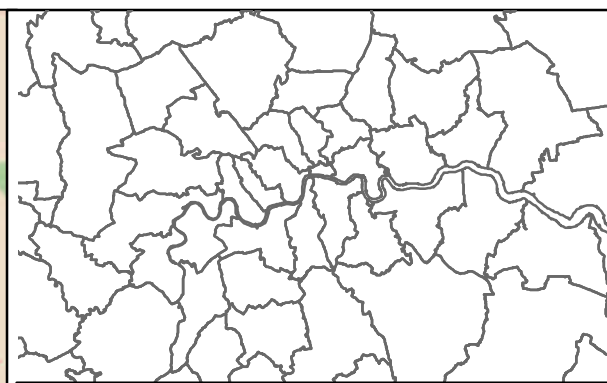
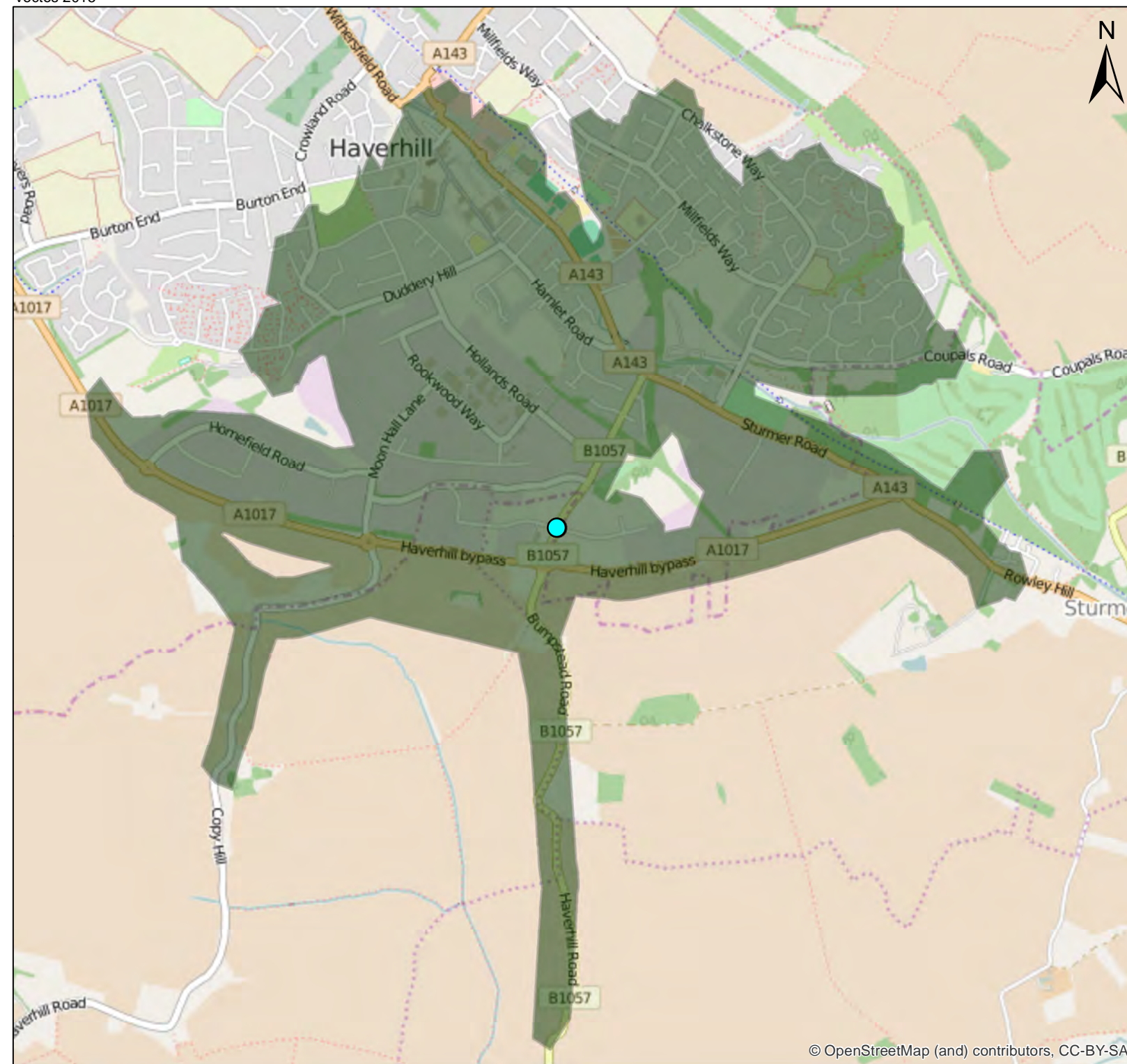
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DRAWING REFERENCE: Figure 2



Legend

-  Site
-  2km Walking Distance

Iceni Way, Haverhill

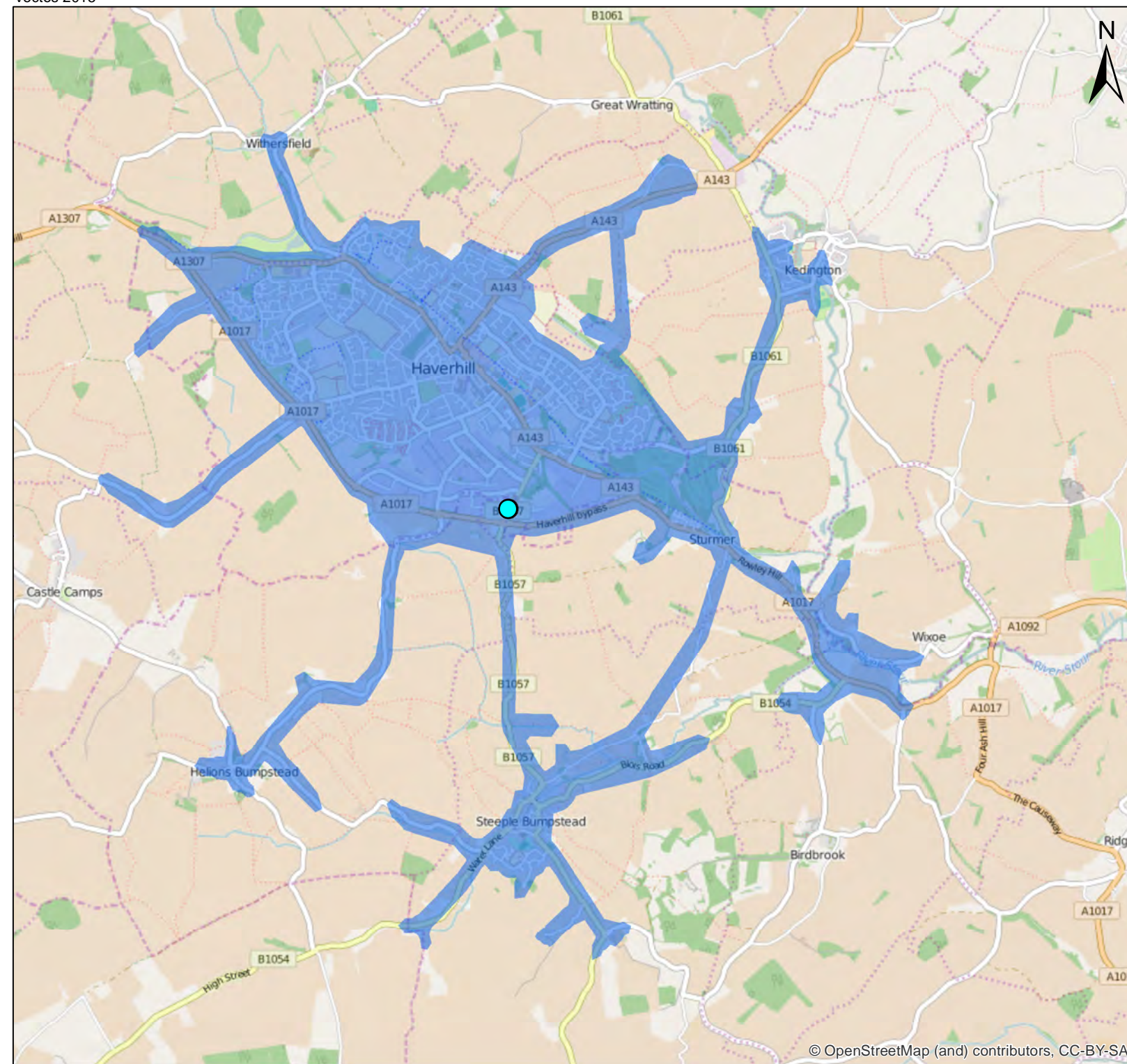
Figure 3

2km Walking Isochrone





CLIENT:
Hammond Rutts Investments Limited

DRAWN BY: B.B.	CHECKED BY: P.W.	DATE: 04/11/2015
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Legend

-  Site
-  5km Cycling Isochrone

Iceni Way, Haverhill

Figure 4

5km Cycling Isochrone

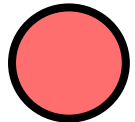



CLIENT:
Hammond Rutts Investment Limited

DRAWN BY: B.B.	CHECKED BY: P.W.	DATE: 04/11/2015
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Key:

-  MCC at Roundabout
-  ATC Location

Icen Way, Haverhill

Hammond Rutts Investments Limited

MCC and ATC Location Plan

SCALES: NTS

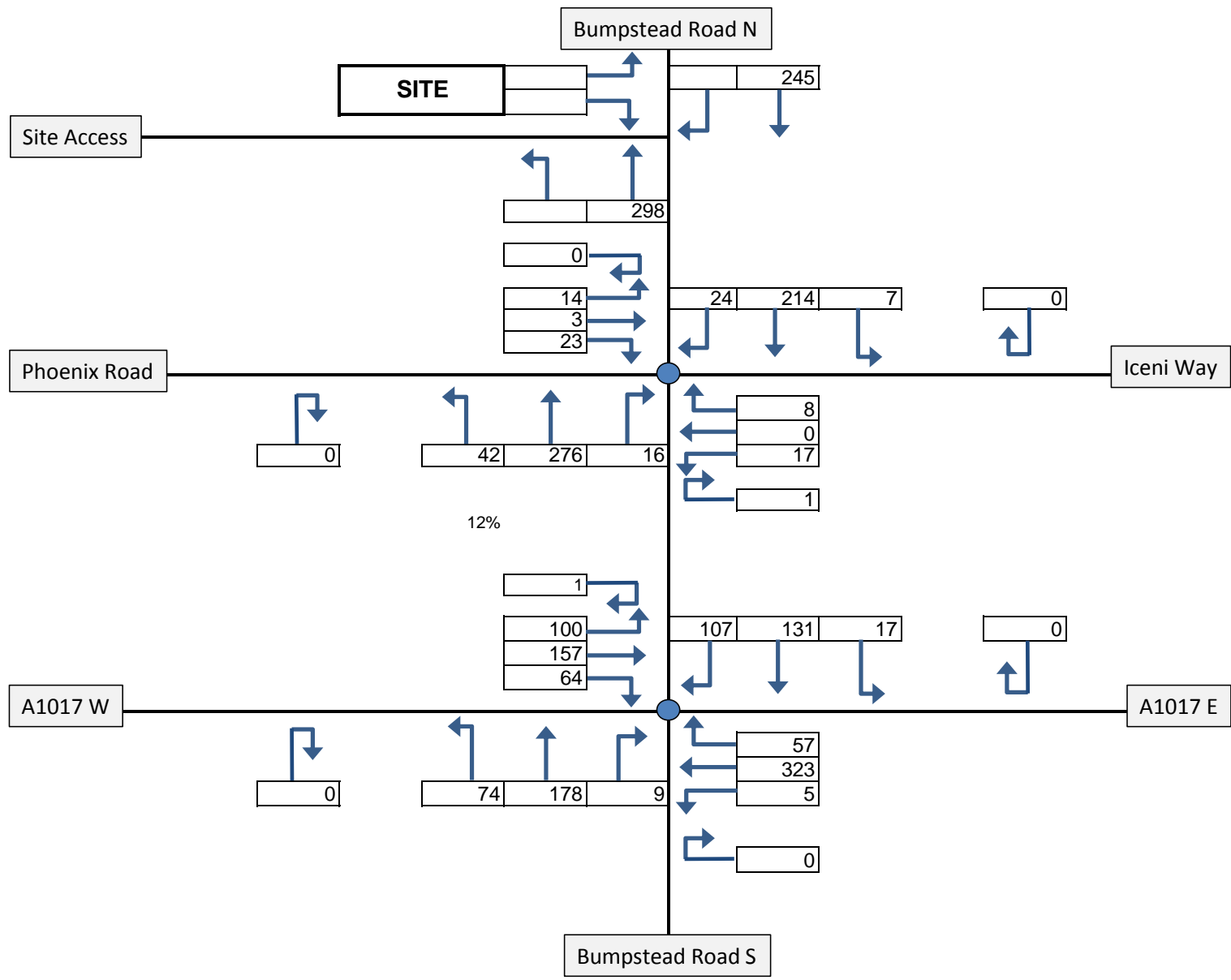
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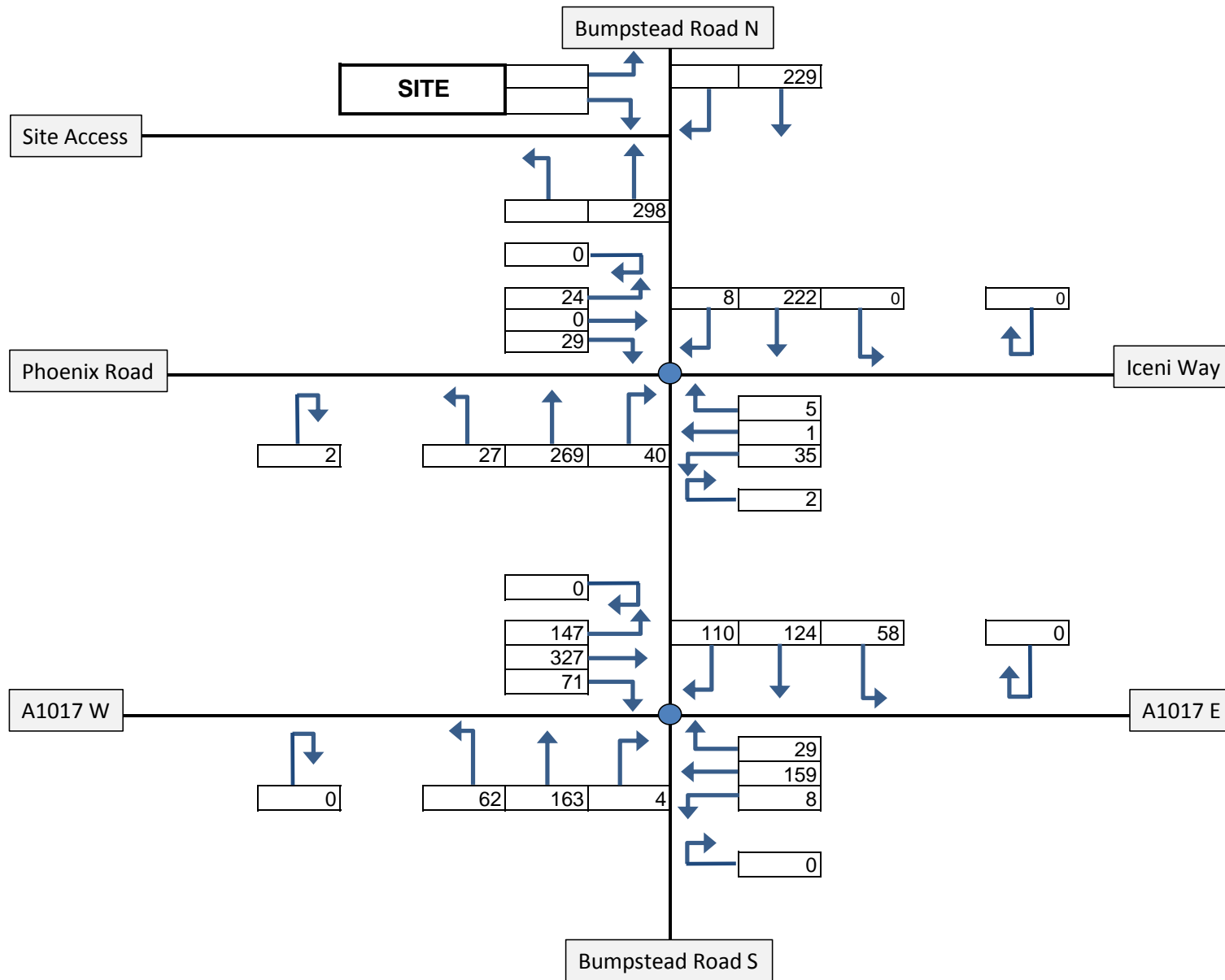
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DRAWING REFERENCE: Figure 5

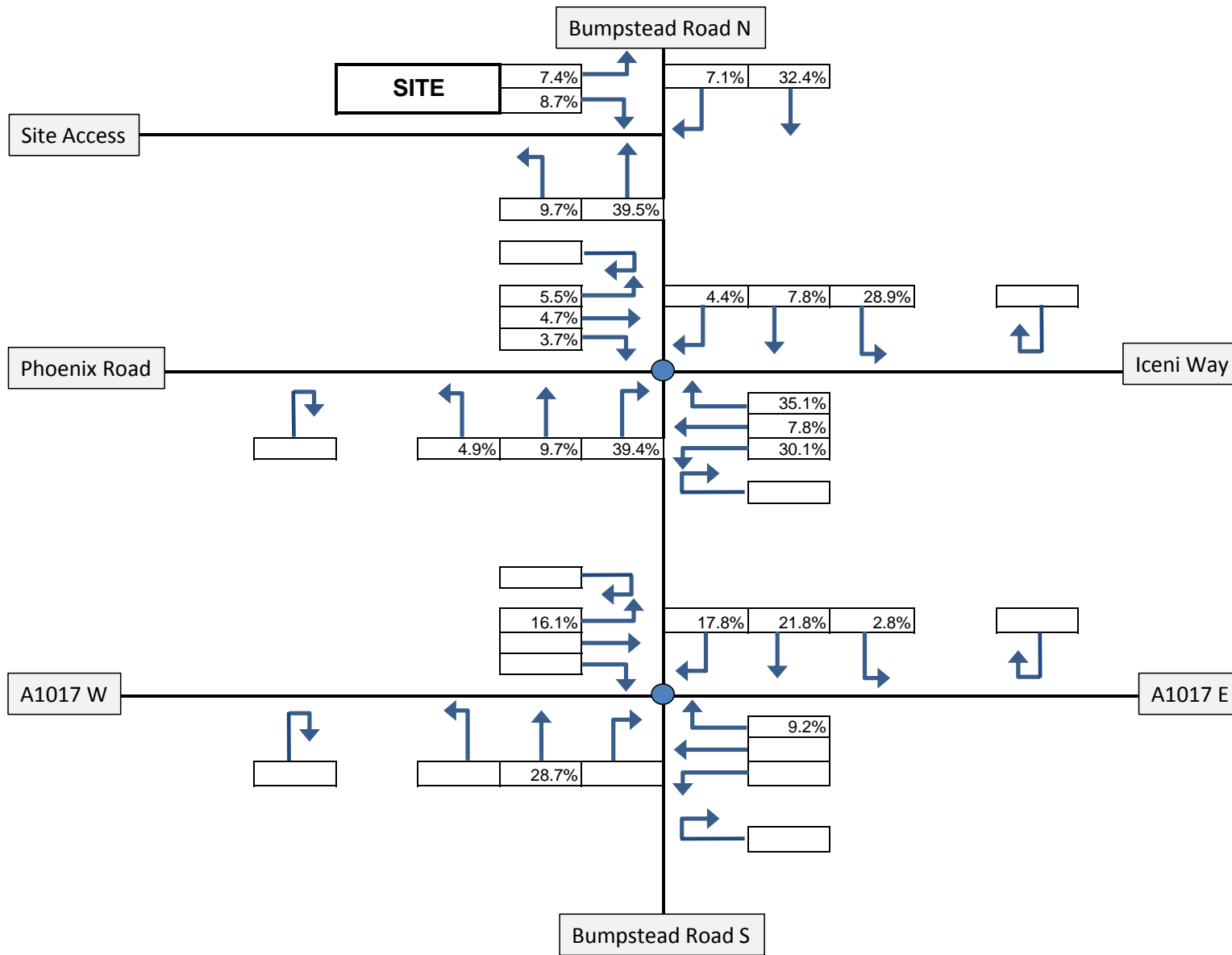
TRAFFIC FIGURES



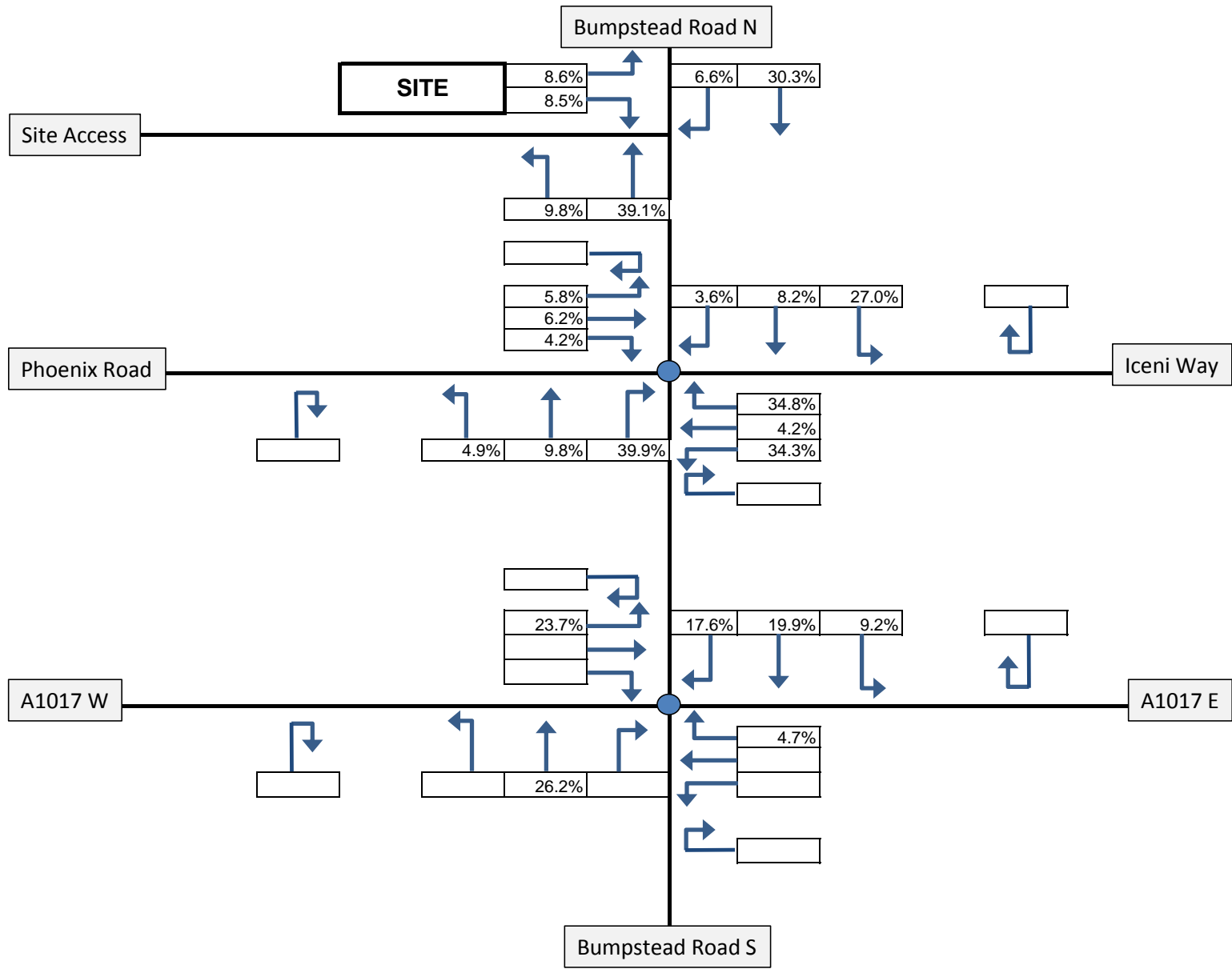
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	Client: Hammond Rutts Investments Ltd	Title: Observed Traffic Movements - AM Peak (PCU)			Figure: 1



Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd	Title: Observed Traffic Movements - PM Peak (PCU)			Figure: 2



Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd	Title: Primary Trips Distribution - AM Peak			Figure: 3



Project: **Icen Way, Haverhill**

Client: **Hammond Rutts Investments Ltd**

Scale: NTS

Drawn: GC

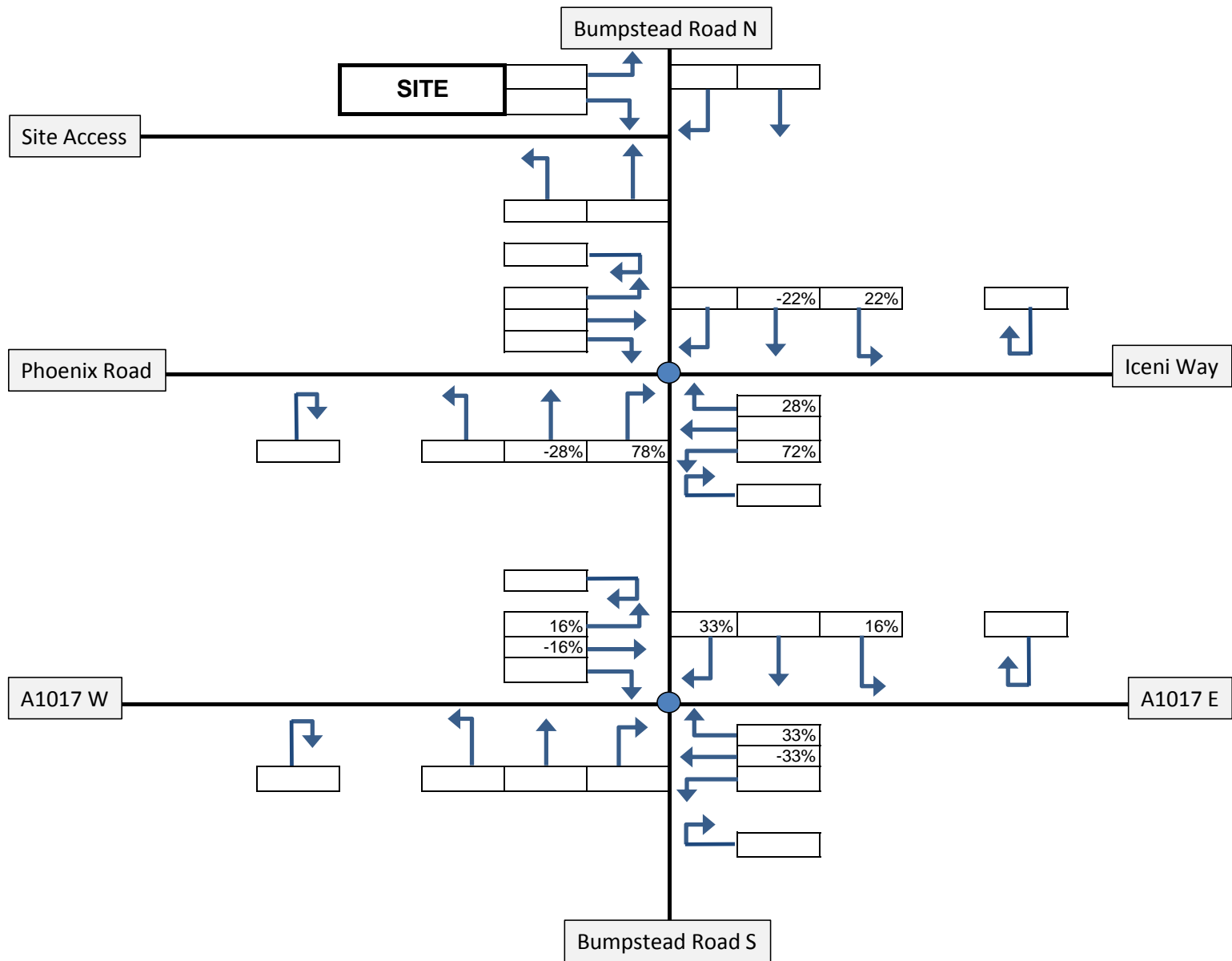
Date: Oct-15

Checked: PW

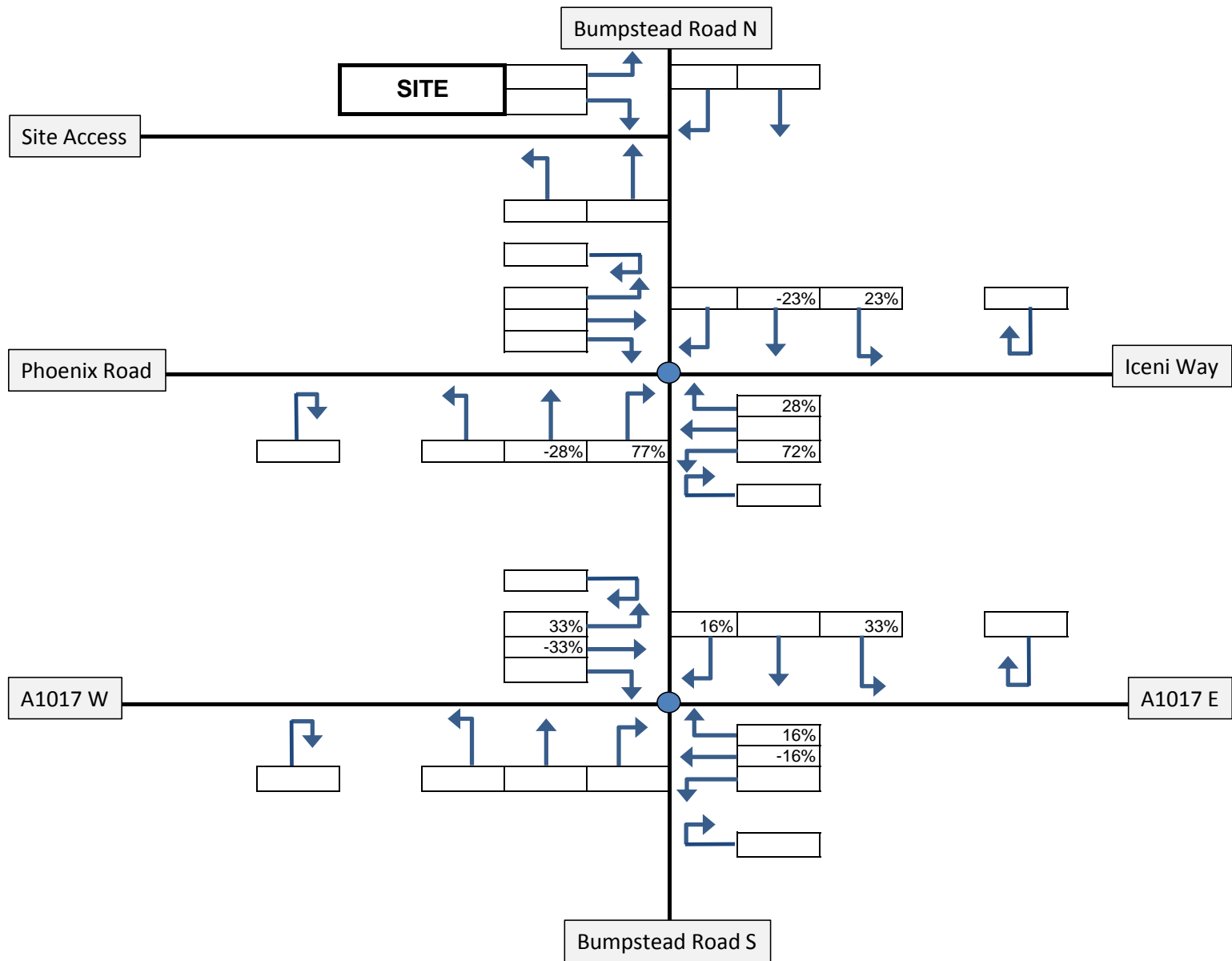
Rev:

Title: **Primary Trips Distribution - PM Peak**

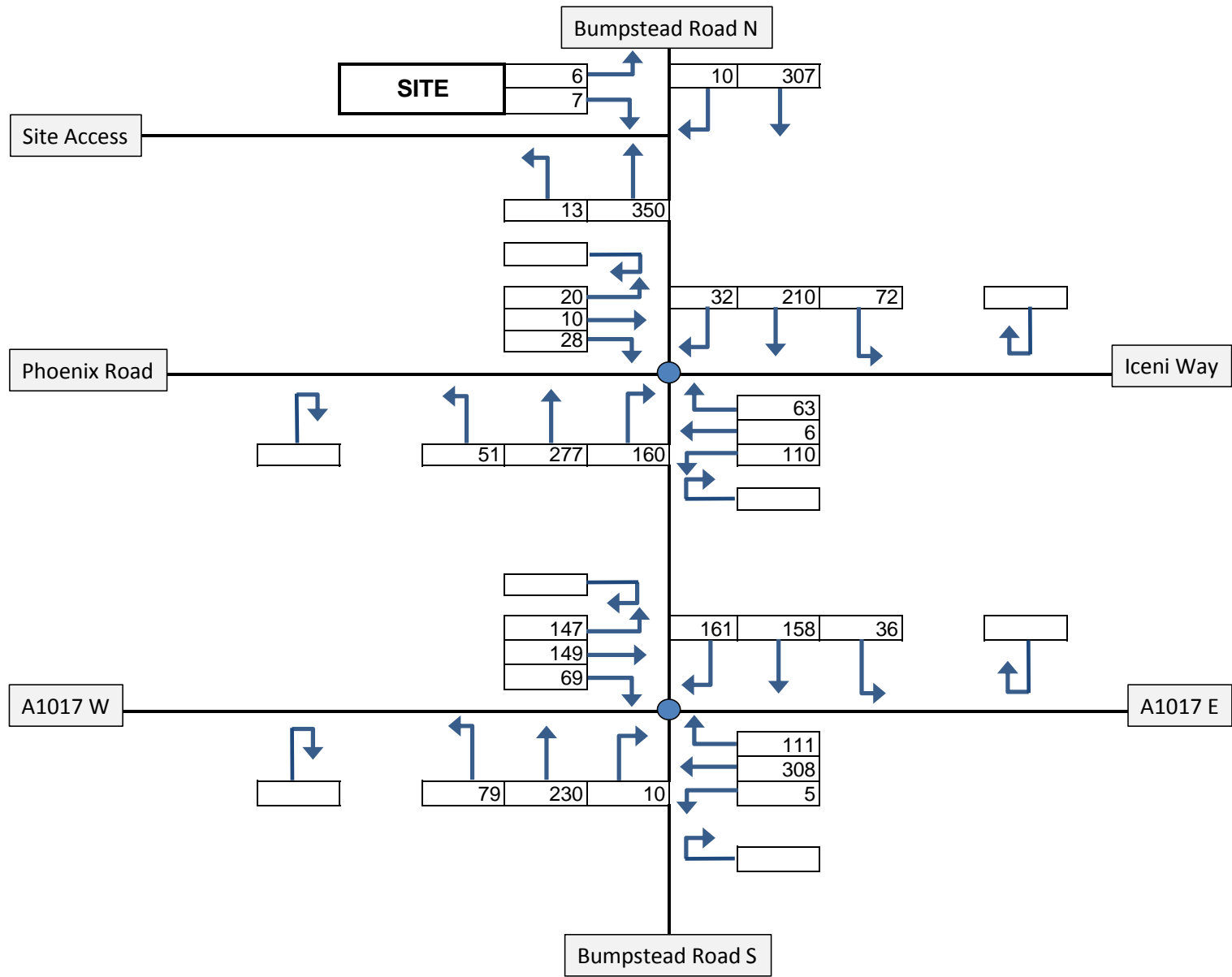
Figure: **4**



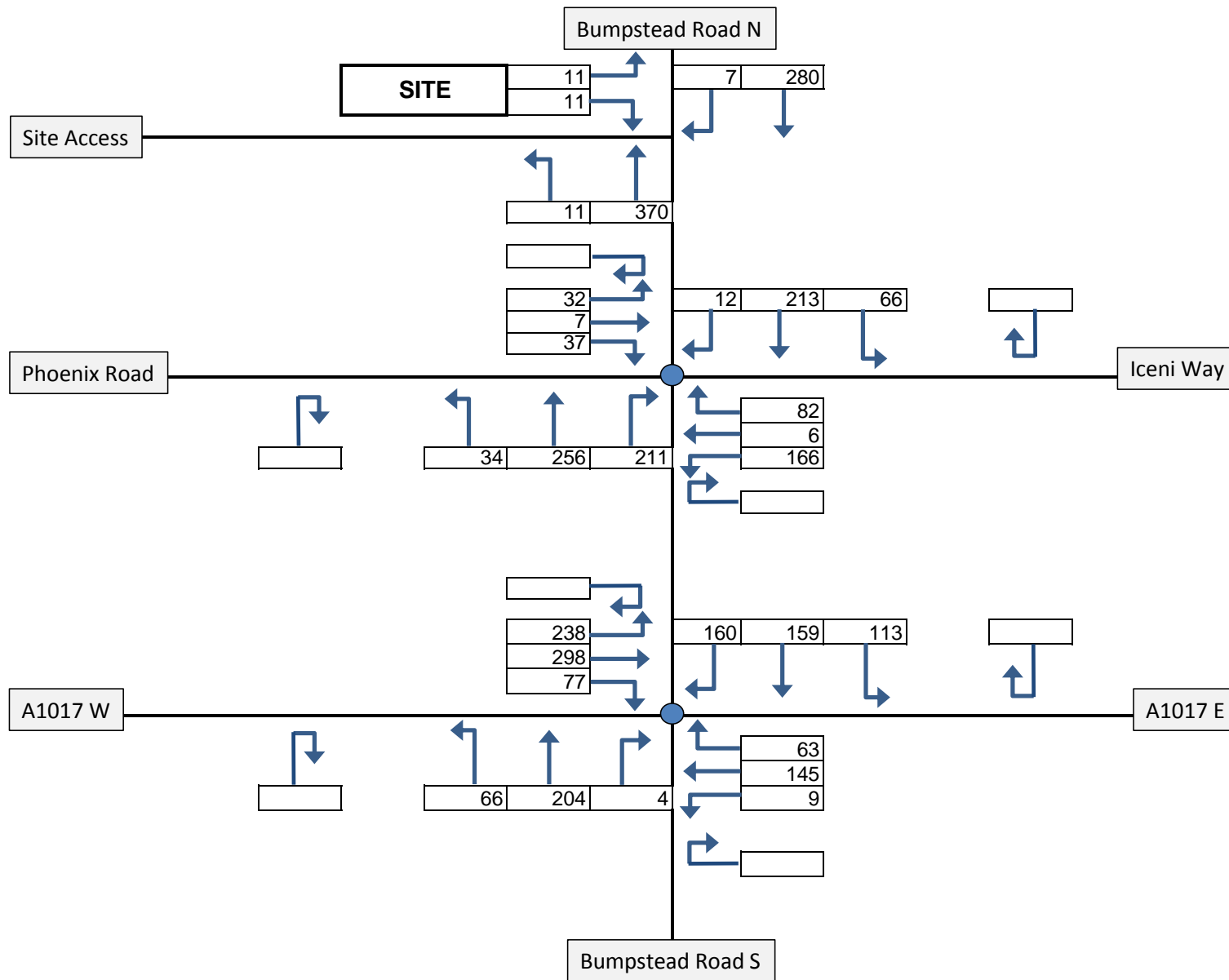
Project:	Iceni Way, Haverhill	Scale:	NTS	Drawn:	GC	Date:	Oct-15	Checked:	PW	Rev:	
Client:	Hammond Rutts Investments Ltd	Title:	Pass-by Trips Distribution - AM Peak					Figure:	5		



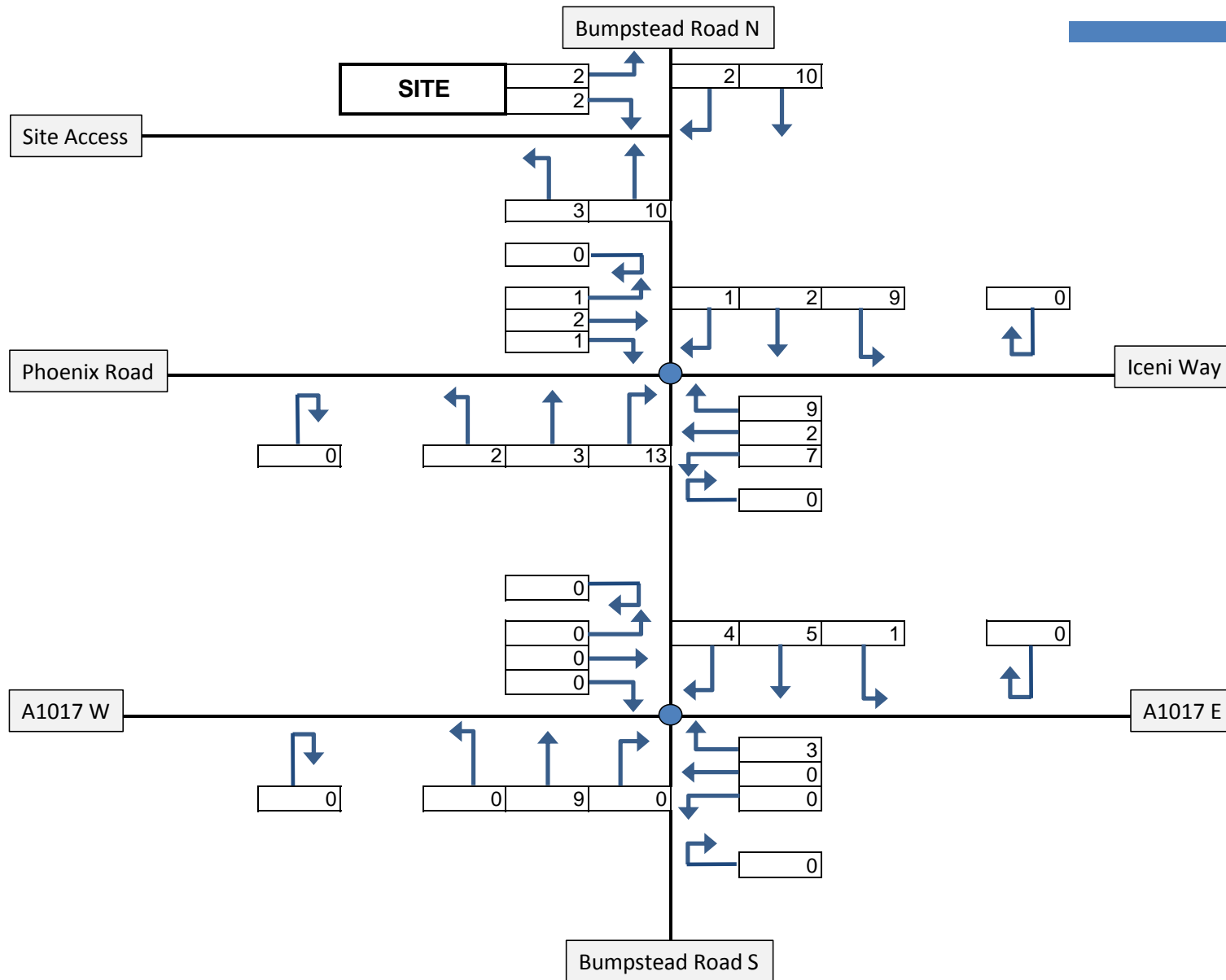
Project: Iceni Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Title: Pass-by Trips Distribution - PM Peak				Figure: 6
Client: Hammond Rutts Investments Ltd					



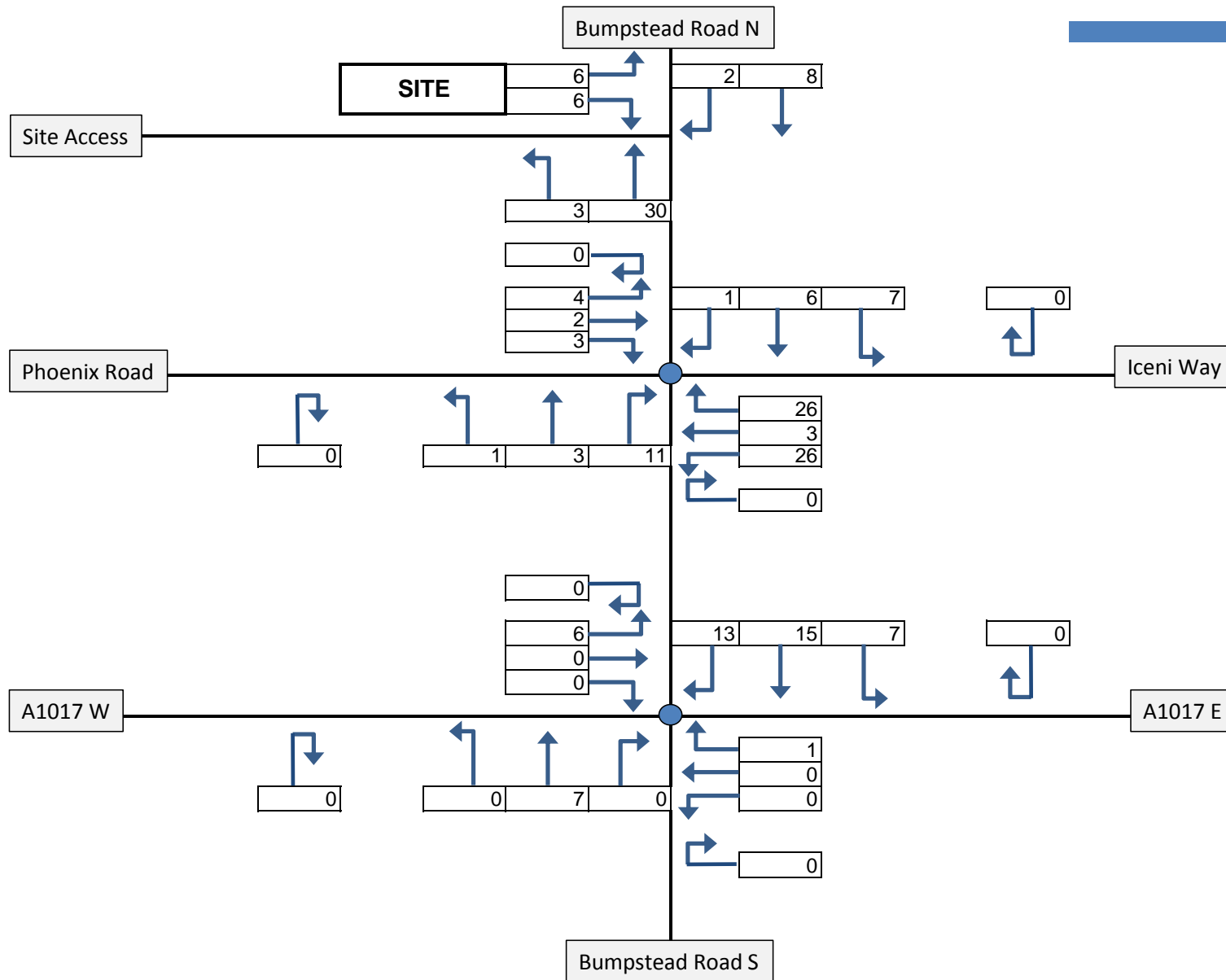
Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd				
Title: 2020 Base Trips - AM Peak				Figure: 7	



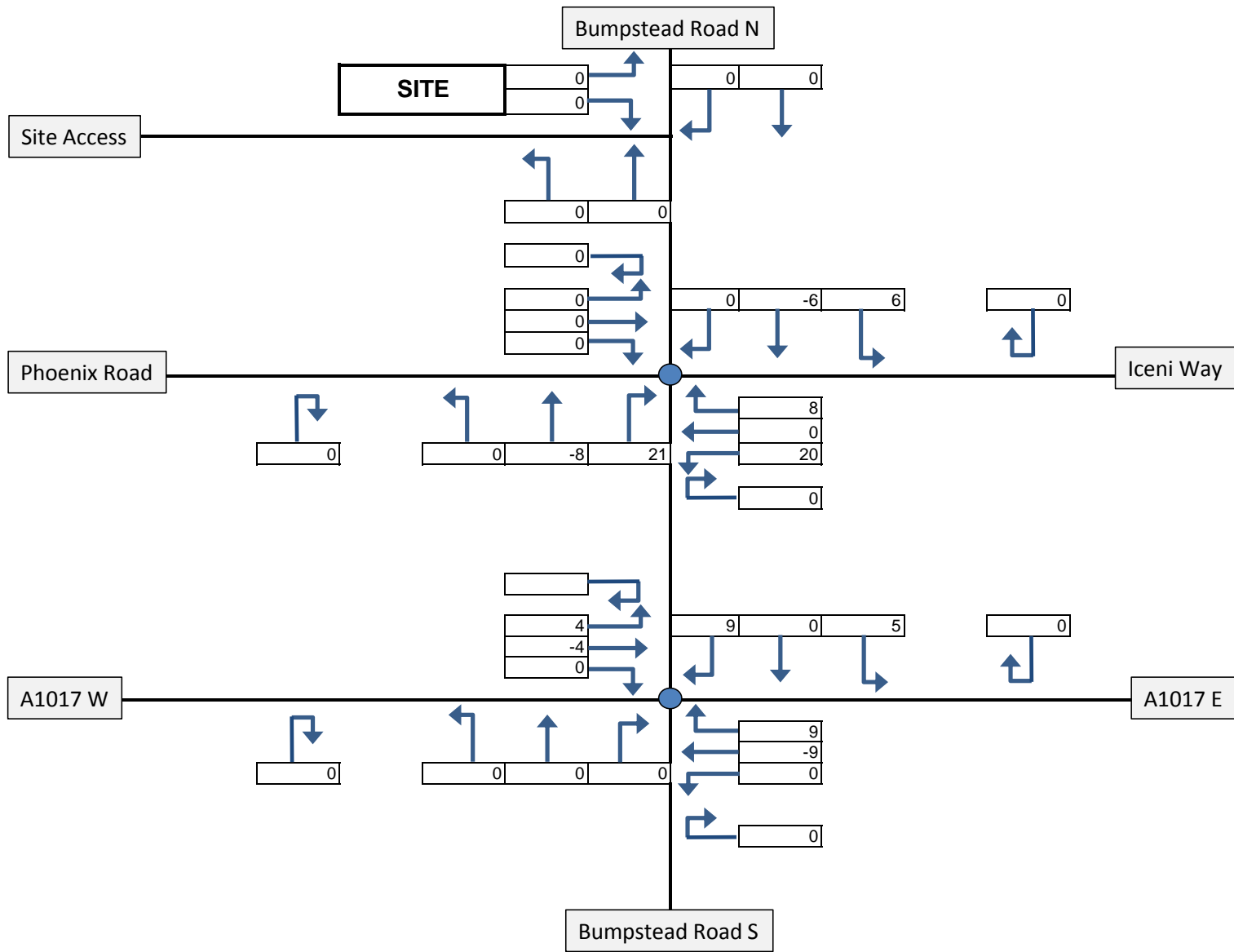
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	Client: Hammond Rutts Investments Ltd	Title: 2020 Base Trips - PM Peak			Figure: 8



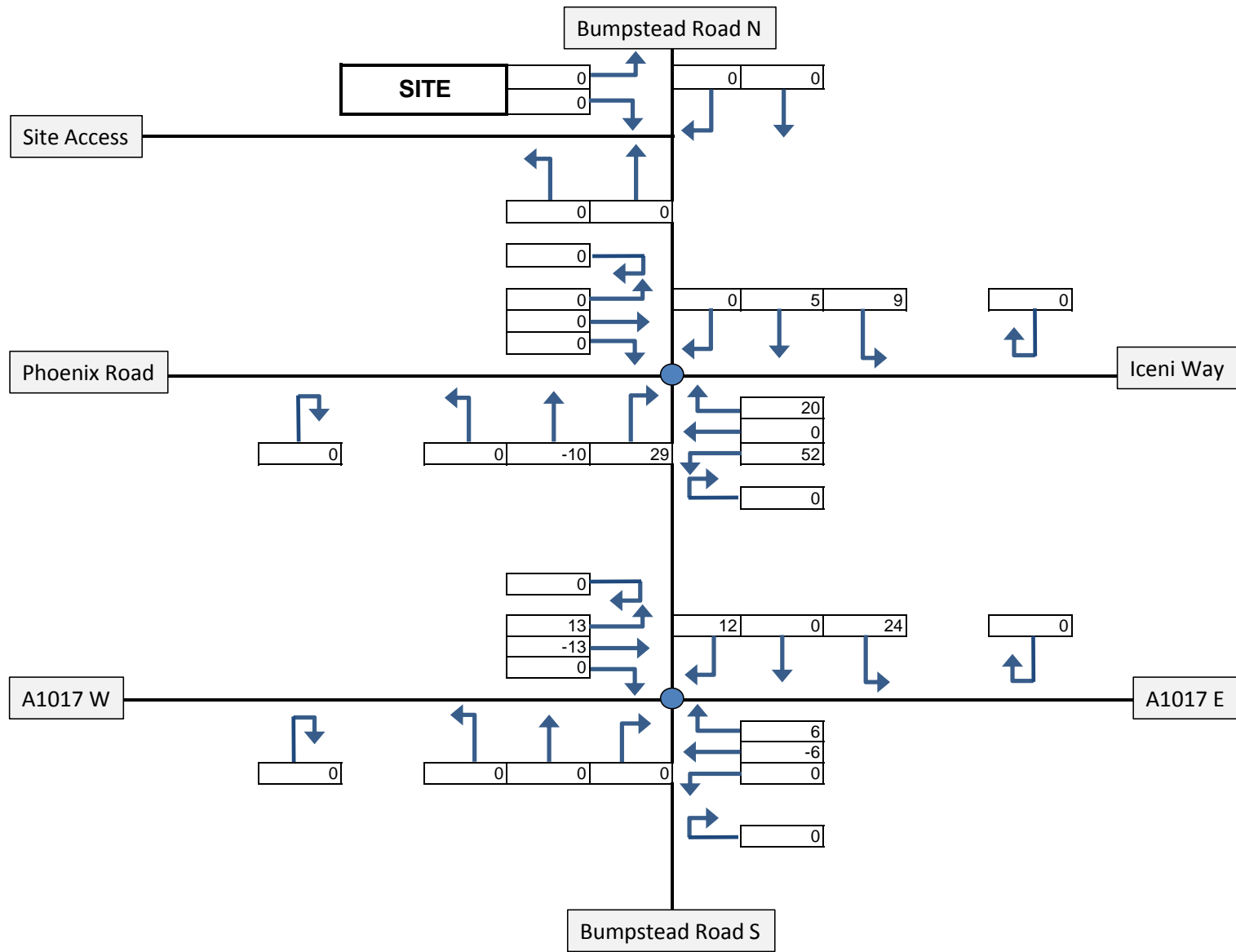
Project: Iceni Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd	Title: Proposed Net Primary Trips - AM Peak			Figure: 9



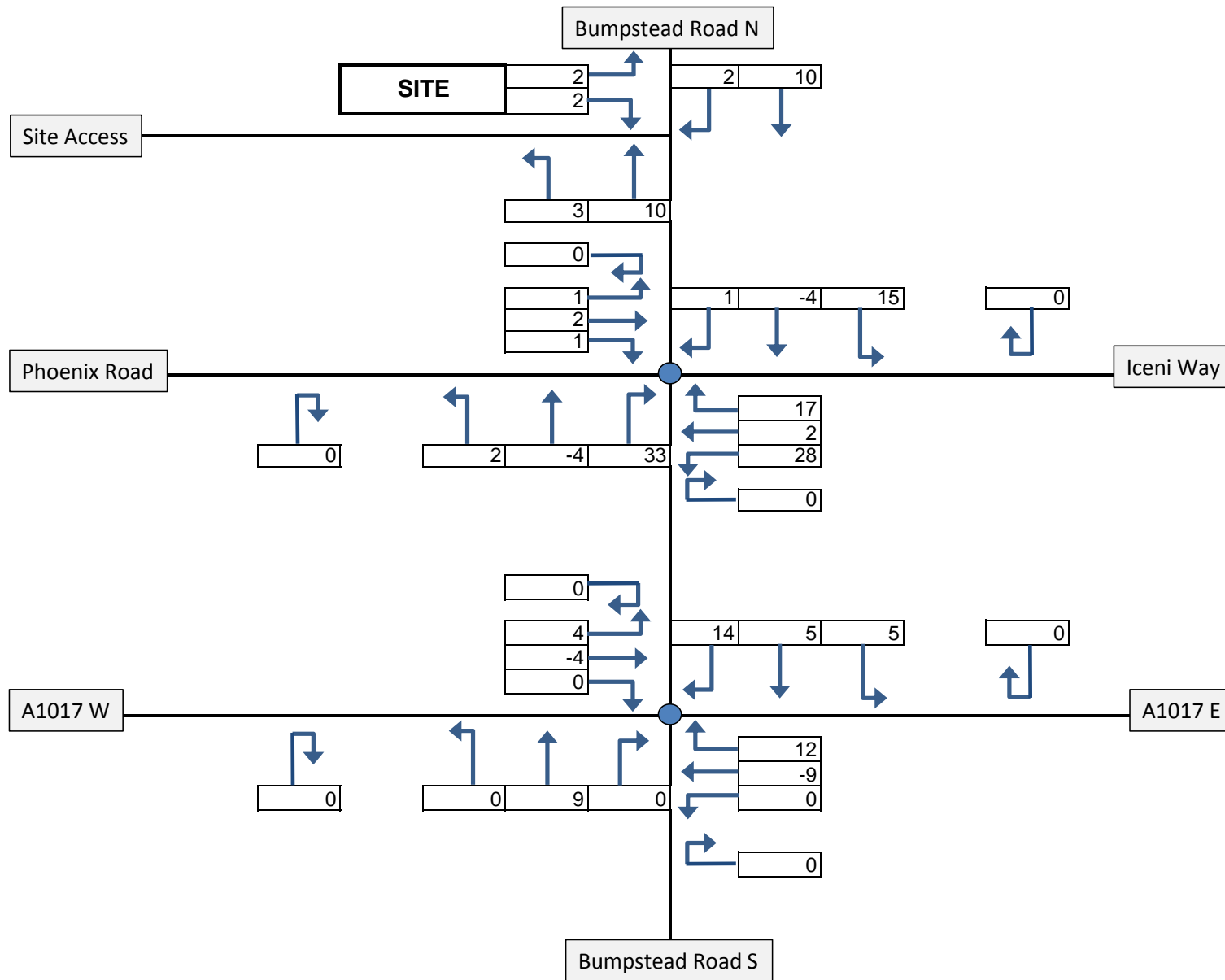
Project: Iceni Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd				
Title: Proposed Net Primary Trips - PM Peak				Figure: 10	



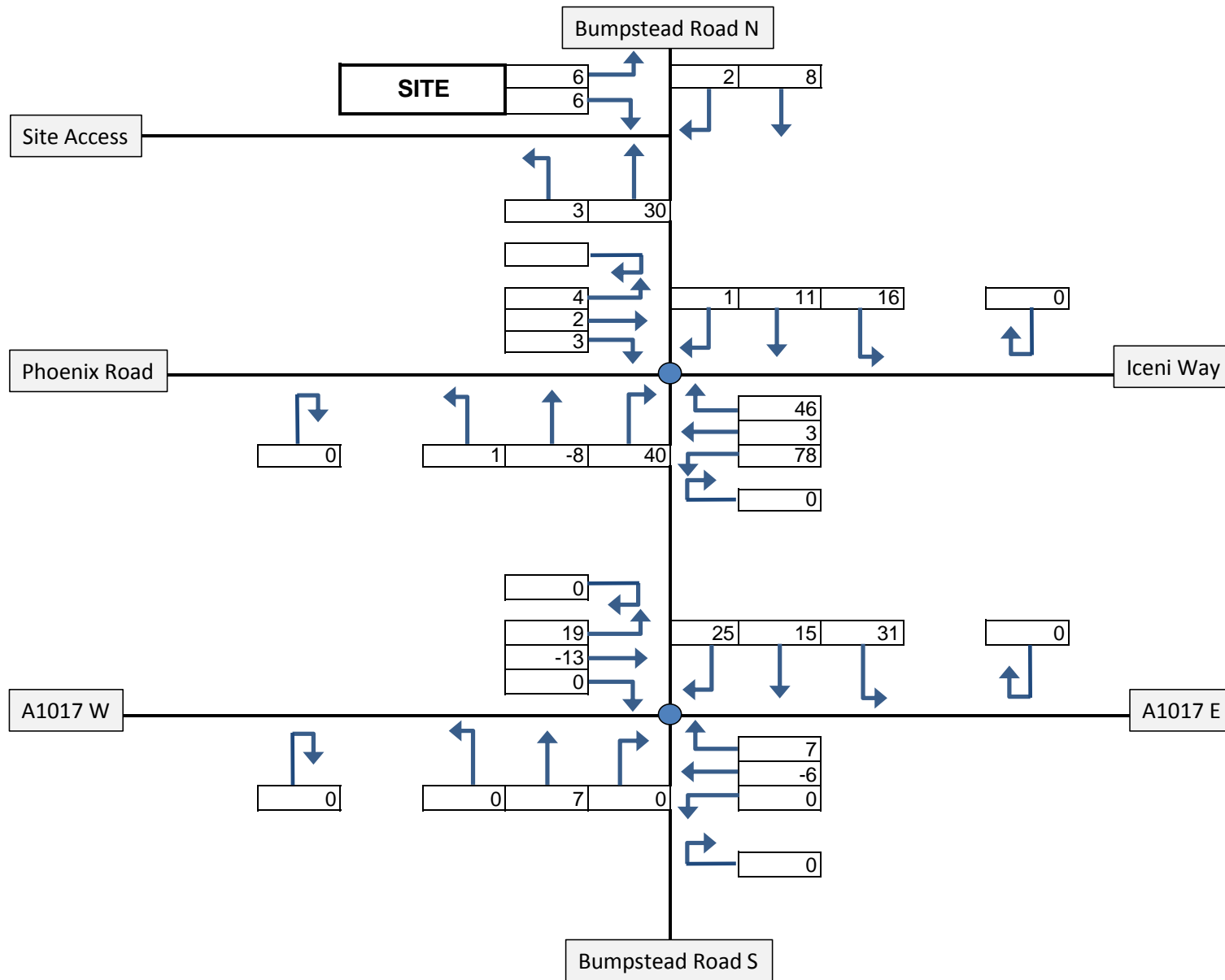
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Title: Proposed Net Pass-By Trips - AM Peak					Figure: 11



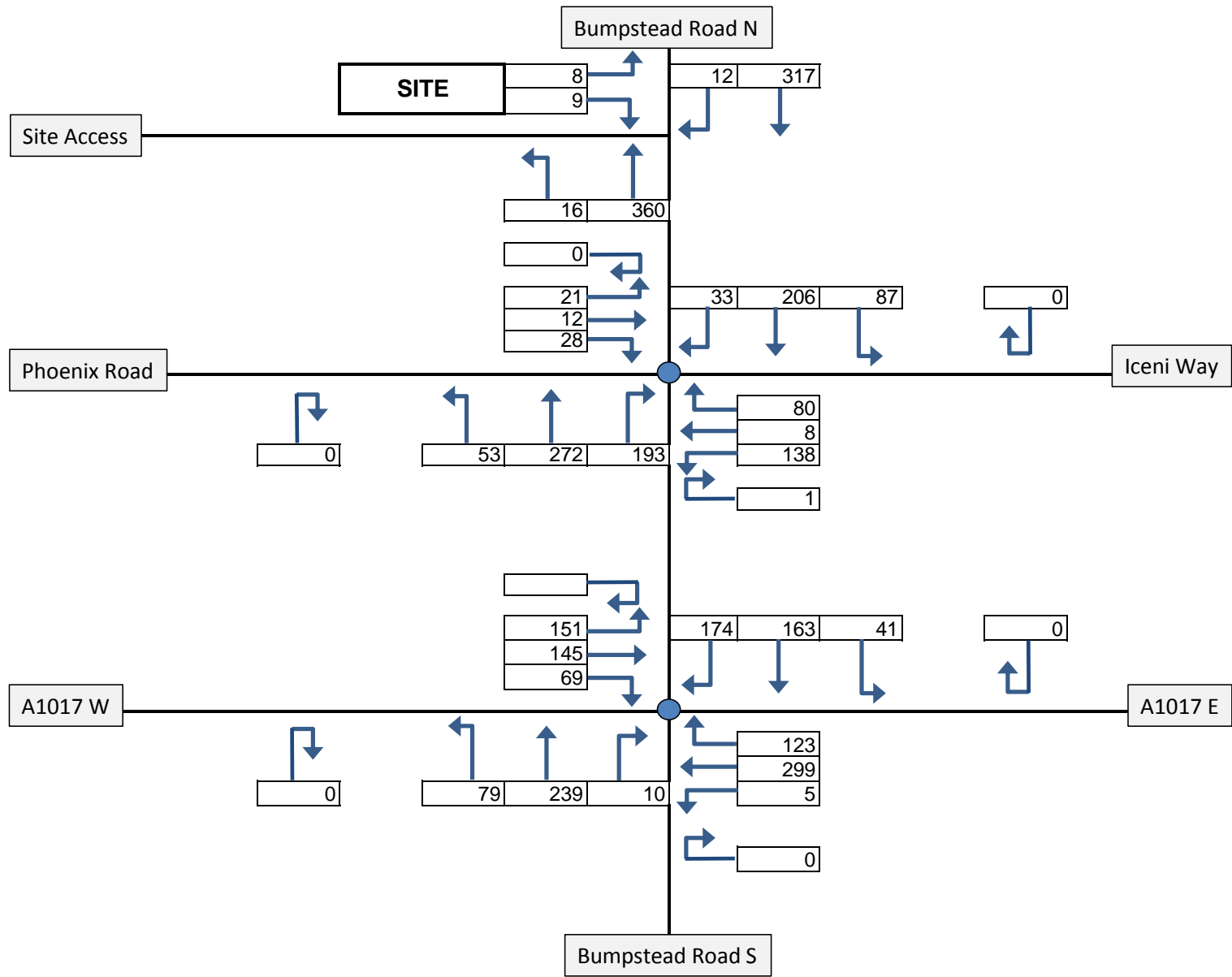
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	Client: Hammond Rutts Investments Ltd	Title: Proposed Net Pass-By Trips - PM Peak			Figure: 12



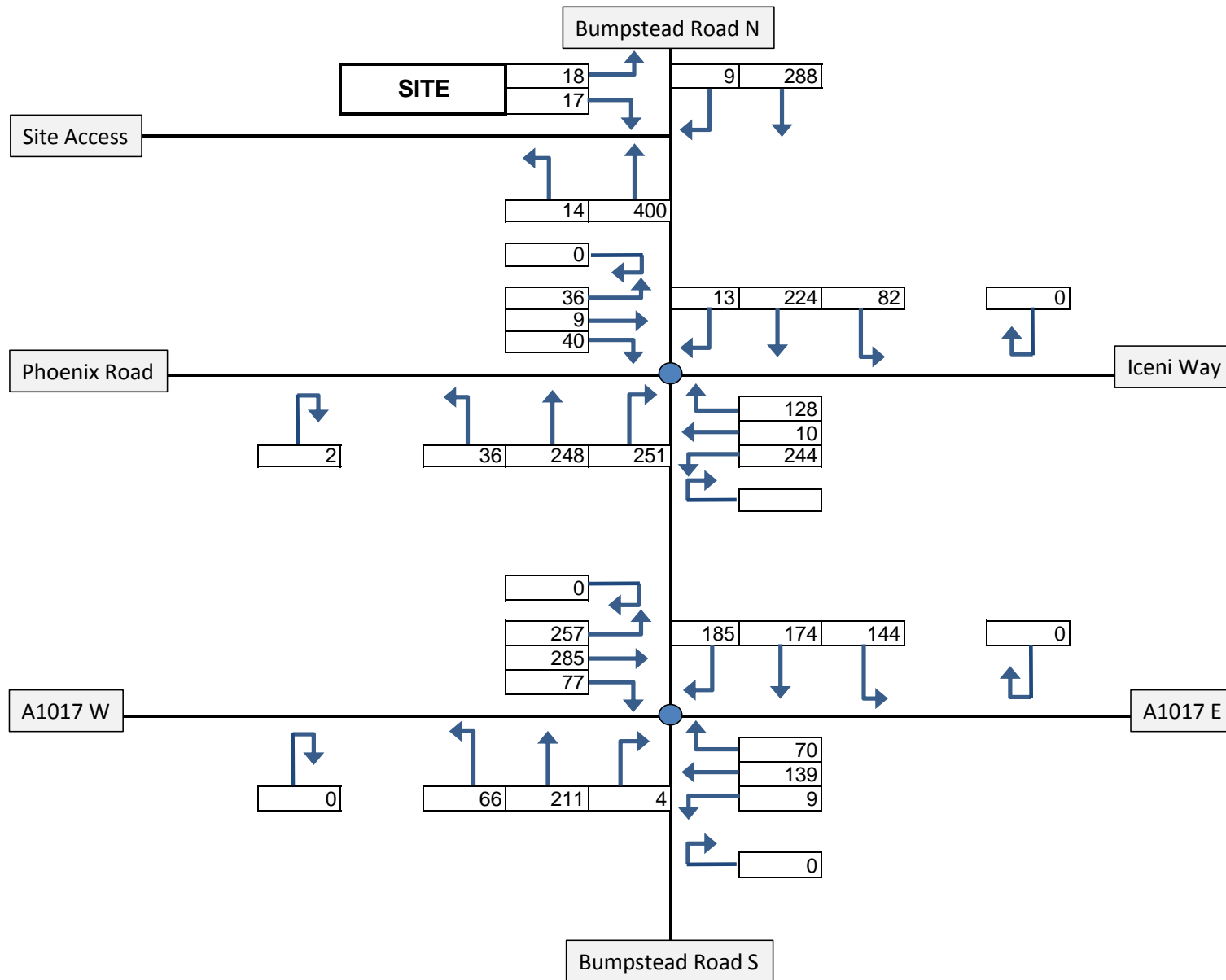
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Title: Proposed Net Development Traffic - AM Peak				Figure: 13	



Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd				
Title: Proposed Net Development Traffic - PM Peak				Figure: 14	



Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd	Title: 2020 Base + Development Trips - AM Peak			Figure: 15



Project: Icen Way, Haverhill	Scale: NTS	Drawn: GC	Date: Oct-15	Checked: PW	Rev:
	Client: Hammond Rutts Investments Ltd				
Title: 2020 Base + Development Trips - PM Peak				Figure: 16	