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Project: Proposed Residential Development
Land South of Holt Road, Wrexham

Client: Barratt Homes and Bloor Homes North West

Document: Highways and Transport Evidence of
Mr Paul Corbett MEng, CEng, MICE, MIHT

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Doc Ref:
CBO-0322-050

Issue:
3

Status:
Final

Date:
30/11/2021



Contents

1	Introduction	1
	Experience	1
	Background	1
	Planning Application Timeline	2
	Basis and Structure of Evidence	3
2	Policy Background	4
	Overview	4
	Future Wales (CD2.5)	4
	Planning Policy Wales (CD2.1)	4
	Technical Advice Note 18 (CD2.12)	5
	Sustainable Urban Mobility Plan (CD4.11)	5
	Deposit LDP Policy (CD3.16)	5
	Conclusion	6
3	Accessibility by Walking, Cycling and Public Transport	7
	Context	7
	Access for Pedestrians	7
	Access for Cyclists	7
	Pedestrian Accessibility	8
	Cycling Accessibility	8
	Accessibility by Public Transport	9
	Overview	9
4	Existing Highway Network	10
	Site Context	10
	The Local Highway Network	10
	Peak Hour Traffic Flows	11
	Highway Conditions	12
	Personal Injury Accident Record	12
	Overview of Highway Network	13
5	Development Proposals	14
	Development Content and Phasing	14
	Access Details	14
	Wider Site Access Framework	14
	Pedestrian and Cycle Access	15
	Overview	15
6	Traffic Generation, Assignment and Future Year Traffic Flows	16
	Trip Rates and Trip Generation	16
	Trip Distribution and Assignment	16
7	WCMC Local Plan Traffic Modelling and Mitigation Strategy	18
	Overview	18
	Modelling Approach	18
	Extent of Modelled Network	19
	Forecast Demand Methodology	19
	Development Traffic	20
	2023 Modelling Results	21
	2028 Modelling Results	21
8	Agreed Highway Mitigation	23



Factors Effecting the Timing of Improvements and Level of Mitigation	23
Improvements to A534 Holt Road / A5156 and Industrial Estate	
Roundabouts	23
Agreed Position on Off Site Mitigation	23
Agreed Position on the KSS2 Link Road	24
Overview	25
9 Conclusions and Recommendations	26
Conclusions	26
Recommendations	27

Figures

Figure 1.1: Site Location – Strategic

Figure 1.2: Site Location - Wrexham

Figure 1.3: Local Context

Figure 3.1: Local Facilities

Figure 4.1: Existing Traffic Flows: Weekday Morning Peak

Figure 4.2: Existing Traffic Flows: Weekday Evening Peak

Figure 6.1: Development Traffic Flows: Morning Peak

Figure 6.2: Development Traffic Flows: Evening Peak

Appendices

Appendix A: Drawing CBO-0322-017: Site Access and Improvements to A534 / A5156 Roundabout

Appendix B: WCBC Highway Adoption Map

Appendix C: Illustrative Concept Site Layout

Appendix D: Extracts from the LDP Statement of Common Ground (CD3.22)

Appendix E: Welsh Government Letter of No Objection to the Appeal Development

1 Introduction

Experience

- 1.1 My name is Paul Corbett. I am a chartered Member of the Institution of Civil Engineers and have 30 years experience in highways and transport matters associated with planning and development. I am a founding Director of CBO Transport Ltd which is a specialist development planning practise. Before setting up CBO Transport I was a Director of JMP Consultants Ltd and responsible for their North West business unit.
- 1.2 I have extensive experience in the assessment of residential development and have advised many house builders and land owners in this context. My experience ranges from small developments of a few units through to major residential schemes incorporating over 1,000 units.
- 1.3 I am familiar with the site and its surroundings.
- 1.4 The evidence that I have prepared and provide for this Appeal in this Proof of Evidence is true and has been prepared and give in accordance with the guidance of the professional institution of which I am a member. I can also confirm that the opinions given are my true professional opinions.

Background

- 1.5 My company CBO Transport Ltd [CBO] has been commissioned by Barratt Homes and Bloor Homes to provide transport and highways advice for a proposed residential development of up to 600 dwellings at Land to the South of Holt Road, the appeal site. CBO has been working on the site since 2015.
- 1.6 The location of the site at a strategic level is shown in **Figure 1.1**. This shows that the site is on the east side of Wrexham and the accessibility to the trunk road network which includes the A483 and A55 in north Wales and the connections to the northwest of England via the M53 and M56. The A534 to the east of Wrexham is less strategic and serves the rural area of west Cheshire before linking with Nantwich and Crewe. **Figure 1.1** also shows the rail connections serving Wrexham.
- 1.7 The site is a proposed allocation in the deposit version of Wrexham County Borough Council's (WCBC) Local Development Plan (LDP) which runs to 2028. The LDP has been through the scheduled Hearing Sessions of its Examination in Public and the Inspectors have not raised any issues which are outstanding with Wrexham's proposed housing strategy. The LDP is expected to be adopted in 2022.
- 1.8 The site forms the northern part of Key Strategic Site 2 (KSS2) within the LDP which is allocated for 1,680 homes, with 1,580 expected to be delivered in the plan period, and represents an essential component of the Council's housing delivery strategy. The appeal site is commonly known as KSS2 North and at times in my evidence I refer to it as this, particularly in sections which consider the two parts of KSS2, north and south.
- 1.9 **Figure 1.2** shows the site location in a local context and **Figure 1.3** shows the area immediately surrounding the site in more detail. These Figures show the site boundary and the wider boundary of the KSS2 allocation. In this context the site is bounded by the A534 Holt Road to the north, Bryn Estyn Road to the south, existing residential development to the west and open land to the east.
- 1.10 The route to the A483 trunk road is provided by the A5156 which is dual carriageway road linking with the A534 Holt Road at a large roundabout. This is a relatively new roundabout constructed as part of a scheme to improve access to Wrexham Industrial Estate, a scheme which included upgrading the A534 to the east of the junction to a dual carriageway and providing a further new roundabout and dual carriageway access road into the Industrial Estate. These roads are shown in **Figure 1.3**.
- 1.11 The KSS2 allocation extends south and west of Bryn Estyn Road and has a further highway frontage with Cefn Road along its western edge. The KSS2 LDP policy requires there to be connectivity between the northern and southern parts of the KSS2 site and to identify highway improvements to address capacity constraints at the Greyhound roundabout.
- 1.12 To address these two policy requirements a link road is to be provided between the A5156 / A534 Holt Road roundabout and Cefn Road, through the site. For the purposes of my evidence this road is referred to as "the KSS2 link road". The northern section of the KSS2 link road would also provide the main access to the KSS2 north and therefore appeal site.

- 1.13 The location of the Industrial Estate is shown in **Figure 1.2**. This Figure shows how the KSS2 site is located midway between Wrexham town centre and Wrexham Industrial Estate both of which are key destinations for people living in Wrexham. Based on 2011 census journey to work data, of the existing residents in east Wrexham 40% work in the town centre including the hospital and the university while 22% work in the industrial estate. The only other districts with notable employment destinations are Flintshire (8%) and Cheshire West and Chester (6%).
- 1.14 The LDP also proposes to allocate a large area of land to the north of the Industrial Estate for further employment based development. The location of this site, known as Key Strategic Site 3 (KSS3) is also shown in **Figure 1.2**.

Planning Application Timeline

- 1.15 The outline planning application for up to 600 homes which this appeal is to determine, was submitted in 2019 under planning application Reference P/2019/0005. All matters other than the primary means of access to the north of the site are reserved.
- 1.16 In this section of my evidence, I provide a chronological summary of the relevant highway matters which have informed WCBC's decision that highways should not be a reason for refusing planning permission for the appeal development.
- 1.17 My company CBO Transport submitted a Transport Assessment (TA) (**CD5.24 and CD5.25**) to accompany the planning application. The document was prepared in the second half of 2018 and is dated December 2018. The TA included details of the proposed access to the appeal development which consisted of a new arm on the southern side of the A5156 / A534 Holt Road roundabout.
- 1.18 At the time the TA was prepared, detailed modelling work was ongoing – undertaken by consultants working for WCBC and part funded by the developers of KSS2 north (the appellants and my clients) and the then developer of KSS2 South – to provide an evidence base for the LDP in support of strategic sites KSS2 and KSS3. KSS3 is the large employment site in the industrial estate which I refer to above.
- 1.19 This modelling work, which was key to understanding the cumulative impacts of proposed allocated development on the east side of Wrexham, was not finalised in time to be incorporated in the TA but the TA acknowledged the work was ongoing and recognised the findings from the modelling would be important to determine the application.
- 1.20 The modelling work was concluded in September 2019 and included recommendations for a number of highway improvement schemes which would be required to mitigate the impact of the cumulative development and information pertinent to the provision of the KSS2 link road. I will provide much greater detail on the modelling and findings later in my evidence.
- 1.21 Once the modelling had been finalised an Addendum Transport Assessment (ATA) (**CD6.8**) was prepared by CBO which summarised the findings of the modelling in the context of the appeal development. The ATA is dated January 2021.
- 1.22 Once the ATA was submitted discussions were held with WCBC officers over the mitigation required for the appeal development on KSS2 north. This led to an agreement that an improvement would be required at the A5156 / A534 Holt Road roundabout in the form of widening to 3 lanes on the A534 Holt Road westbound approach. This widening formed a key part of the mitigation measures identified in the modelling work for the cumulative impacts of KSS2 north and south and KSS3.
- 1.23 CBO's access scheme drawing for the appeal development was modified to incorporate the widening on the A534 westbound approach (CBO drawing CBO-0322-017) and submitted to WCBC in May 2020. A copy of this plan is included in **Appendix A** of my evidence.
- 1.24 It was also agreed with WCBC officers that the KSS2 link road would be provided to the southern boundary of the site before occupation of the 250th dwelling and that the developers would contribute to the cost of connecting the road with the northern boundary of KSS2 south.
- 1.25 These agreements were reflected in the committee report for the appeal application and were of course an integral part of the officer recommendation that planning permission should be granted.

-
- 1.26 The access works, including the widening to the A534 and the requirement to build the KSS2 link road to the southern boundary were proposed planning conditions. The contribution to the cost of the link road connection was envisaged as a Section 106 obligation.
- 1.27 Despite the recommendation for approval the planning application was refused by WCBC planning committee. Highways and transport issues were not however a reason for refusal. It is therefore evident the Council members as well as officers consider the impacts of the proposed development are mitigated by the highway improvement; provision of the northern section of the KSS2 link road and the contribution to the cost of the link road connection.

Basis and Structure of Evidence

- 1.28 On the basis of the above my evidence has not been prepared to address a particular reason for refusal of the application. I have been asked to prepare it to provide the Inquiry with the background to the agreed position reached on highways and transport matters.
- 1.29 Following this Introduction I will set out in Section 2 of my evidence a summary of the transport planning policy of most relevance to the proposed development.
- 1.30 In section 3 I will consider the accessibility of the site by walking, cycling and public transport.
- 1.31 In Section 4 I consider the existing highway network including, traffic flows, traffic conditions and highway safety.
- 1.32 Section 5 provides an overview of the development including the details of the proposed access and indicative access framework shown on the masterplan.
- 1.33 In Section 6 I set out the levels of traffic which would be generated by the appeal development and the likely distribution pattern.
- 1.34 Section 7 provides a summary of the process and findings of the WCBC local plan traffic modelling and Section 8 describes how this was used to reach the agreed position on highway mitigation for the appeal development.
- 1.35 My Conclusions and Recommendations are set out in Section 9 of this evidence.

2 Policy Background

Overview

- 2.1 In this section of my evidence I provide a brief overview of relevant transport policy.
- 2.2 As a proposed allocation in the LDP and given highways and transport were not reasons for refusal, residential development on this site, brought forward in the manner proposed, is clearly consistent with policy. Notwithstanding this a summary of relevant policy is provided below.

Future Wales (CD2.5)

- 2.3 Future Wales is a new national planning document for Wales published since the application was determined at committee. In highways and transport terms the high level policies in the document are entirely consistent with the policies in Planning Policy Wales and so it does not, in this context, change the national planning policy basis against which the appeal development should be considered.
- 2.4 I would note however that Wrexham is designated as a growth area for housing and employment in the Future Wales document.

Planning Policy Wales (CD2.1)

- 2.5 Transport Planning in Wales has a very strong focus on following an accessibility lead approach. This is developed from the national policies set out in Planning Policy Wales. Edition 11 of Planning Policy Wales was published in 2021, while the application was determined under Edition 10. The policy references I quote below are the same in Edition 11 as they were in Edition 10 so again the policy basis as it affects my evidence has not changed.
- 2.6 In Edition 10 of Planning Policy Wales the transport policies are included in the Section entitled "Active and Social Places". Paragraph 4.1.1 introduces the transport section with:

The planning system should enable people to access jobs and services through shorter, more efficient and sustainable journeys, by walking, cycling and public transport. By influencing the location, scale, density, mix of uses and design of new development, the planning system can improve choice in transport and secure accessibility in a way which supports sustainable development, increases physical activity, improves health and helps to tackle the causes of climate change and airborne pollution by

- **Enabling More Sustainable Travel Choices** – measures to increase walking, cycling and public transport, reduce dependency on the car for daily travel;
- **Network Management** – measures to make best use of the available capacity, supported by targeted new infrastructure; and
- **Demand Management** – the application of strategies and policies to reduce travel demand, specifically that of single-occupancy private vehicles.

- 2.7 In the subsection of Planning Policy Wales entitled Sustainable Transport paragraphs 4.1.9 and 4.1.10 state:

The Welsh Government is committed to reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. Delivering this objective will make an important contribution to decarbonisation, improving air quality, increasing physical activity, improving the health of the nation and realising the goals of the Well-being of Future Generations Act.

The planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:

- *are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car;*
- *are designed in a way which integrates them with existing land uses and neighbourhoods; and*

- *make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.*

Technical Advice Note 18 (CD2.12)

2.8 More detailed national advice is provided Technical Advice Note 18 (TAN18). TAN 18 continues the theme of taking an accessibility led approach to development planning.

2.9 TAN 18 (paragraph 3.3) states:

The location of new residential development has a significant influence on travel patterns as the majority of trips start or finish at home.... It should be the key aim of development plans to identify residential sites that are accessible to jobs, shops and services by modes other than the car.

2.10 Paragraph 3.4 of TAN 18 continues with:

Settlement policies and residential allocations in development plans should therefore promote housing development at locations with good access by walking and cycling to primary and secondary schools and public transport stops.

2.11 Finally, paragraph 3.8 TAN 18 states

Locations that are highly accessible by a variety of modes offer significant opportunities to make travel patterns more sustainable.

Sustainable Urban Mobility Plan (CD4.11)

2.12 WCBC has produced a Sustainable Urban Mobility Plan (SUMP) in response to these national policy requirements.

2.13 The Vision of the SUMP itself makes it clear that transport solutions in the County will be made up of physical, technological, operational and behavioural measures. It is not just about providing road infrastructure to provide 24/7 free flowing traffic.

2.14 The SUMP has five Objectives all focused on the provision of sustainable communities within a sustainable transport network.

- *Safer Places: Wrexham Connected will work with partners to create places and environments where people from all walks of life can live, work and play safely together - both on and off the transport network and at the final destination.*
- *Sustainable Places: Wrexham Connected will embrace a 'sustainable', transport-first approach to new development through the planning process. It will facilitate and manage the County Borough's growth agenda in the most sustainable and efficient way possible, strengthening its economy and improving access to jobs, education, services and tourism.*
- *Healthy Places: Wrexham Connected will reduce the impacts of air and noise pollution, greenhouse gas emissions and energy consumption. It will contribute to raising health standards through the promotion of active travel, particularly along the 'last mile'. By connecting communities we will make it easier for people to access open spaces and the countryside.*
- *Affordable Places: Wrexham Connected will stimulate inward investment and regeneration that leads to job-creation across a wide skill-base, using the planning process to ensure that affordable housing and employment needs are met.*
- *Well Connected Places: Wrexham Connected will enhance connectivity to, from and within Wrexham. Transport solutions will improve the attractiveness and quality of the environment both on key transport corridors and in the town centre.*

Deposit LDP Policy (CD3.16)

2.15 The policies in the LDP continue this theme of the accessibility lead approach.

2.16 Four of the Strategic Objectives of the Plan are relevant to the development of KSS2 in this context.

- *Strategic Objective 4: Promote active travel and use of public transport by locating new development in the most accessible and sustainable locations; and seek to alleviate known highway infrastructure capacity constraints on the road network within the County Borough.*
- *Strategic Objective 6: Promote and encourage a healthy, active and safe lifestyle.*
- *Strategic Objective 8: Ensure all development is supported by the necessary provision of, or improvements to infrastructure, services and facilities in an effective and timely manner to make development sustainable and minimise its effect upon existing communities.*
- *Strategic Objective 10: Reduce carbon emissions and maximise our resilience to and mitigate and adapt to the impact of climate change.*

Conclusion

- 2.17 It is clear from this summary of transport planning policy that the primary requirement is to locate development in as accessible locations as possible to facilitate as many trips as possible by sustainable transport modes and provide equality of transport opportunities.
- 2.18 The location of KSS2 between the town centre and the industrial estate means it is well located to the two biggest attractors of trips in the Borough. My evidence will detail the sustainable transport options which will be available to future residents.
- 2.19 Much of the detail of how the site will be laid out to encourage sustainable trips will be the subject of reserved matters applications. However, the access details to the A5156/ A534 Holt Road include off carriageway cycle facilities which it is envisaged will continue along the length the KSS2 link road to link with Cefn Road. The access road is also to a standard that can accommodate bus services and again this standard of road is envisaged to continue along the length of the KSS2 link road.
- 2.20 I would reiterate that the fact the site is an allocation in the emerging LDP and that highways and transport matters were not reasons for refusal of the application, demonstrates that the development of the site for residential development is consistent with the transport planning policy framework.
- 2.21 In the next section of my evidence, I provide a summary of the accessibility characteristics of the appeal site.

3 Accessibility by Walking, Cycling and Public Transport

Context

- 3.1 As I have previously discussed, the appeal site is a proposed allocation for residential development in the deposit LDP. As part of the process WCBC went through in determining the site allocations, consideration will have been given to site sustainability, based on its proximity to Wrexham town centre and industrial estate. It therefore follows that the inclusion of the site with a residential allocation indicates an acceptance of the principle that the site is accessible and sustainable. The fact that highways and transport matters were not reasons for refusal of the development further strengthens this point.
- 3.2 Notwithstanding the above, this section of my evidence considers the accessibility of the site by the sustainable modes and describes how the development of the site will enhance this level of accessibility.
- 3.3 Three Figures will assist with reading this section of my evidence. **Figure 1.2** shows the location of the site in the context of Wrexham and the industrial estate. **Figure 1.3** shows the local context including designated cycle routes and bus stops. **Figure 3.1** shows the location of local facilities such as schools and shops.

Access for Pedestrians

- 3.4 The site can be accessed on foot from three locations: -
 - The existing footways on Holt Road which run around the south side of the A5156 / A534 Holt Road roundabout.
 - From the existing footways on Thornhurst Drive which is a residential road that abuts the western boundary of the site.
 - From Bryn Estyn Road which is the road that runs along the southern boundary of the site.
- 3.5 The footways on Holt Road and Thornhurst Drive link to the junction of Holt Road and St Mellion Crescent from where the general footway provision on the urban network provides pedestrian access to the local area including the Greyhound roundabout. There are a number of controlled crossing points on Holt Road to the west of the site.
- 3.6 Bryn Estyn Road has the nature of a country lane. Although there are no footways provided the lightly trafficked nature of the road means it is a safe walking route. To the east of the site driving is prohibited over the section of road to Sandy Lane and Erilas Road so this section of the lane is solely for the use of pedestrians and cyclists. To the west it provides an alternative and more pleasant route to the Greyhound Roundabout.

Access for Cyclists

- 3.7 Bryn Estyn Road and the footway which runs around the southern side of the A534 / A5156 roundabout, extending west along the Holt Road corridor are both identified and signed cycle routes in the Wrexham cycle route network. The site can be accessed from either of these cycle routes.
- 3.8 To the west these cycle routes converge at the Greyhound Roundabout and a signed route continues along the Holt Road to the town centre.
- 3.9 To the east the signed cycle route on Bryn Estyn Road continues to the industrial estate. The section between the site and the junction of Sandy Lane and Erilas Road is a cycle / pedestrian route only and the section to the east of the junction is very lightly trafficked so it provides a very convenient and safe cycle route to the industrial estate particularly in daylight hours.
- 3.10 Sandy Lane and Erilas Road are also very lightly trafficked so provide safe and convenient cycle routes. Erilas Road provides a link to the southern section of the industrial estate and Sandy Lane provides a link back to the cycle route which follows the A534 corridor.
- 3.11 As well as these cycle route connections to the site, cyclists would be able to access the site from the general highway network. Other than the A5156 and dual carriageway section of the A534 the roads in

the vicinity of the site are suitable for general on carriageway cycling. Cycle access to the network could be provided via Thornhurst Drive as well as Bryn Estyn Road and Holt Road.

Pedestrian Accessibility

- 3.12 Considering the site's accessibility on foot, it is commonly accepted that walking has the greatest potential to replace short car trips, particularly those under two kilometres, whilst the Institution of Highways and Transportation [IHT] "Guidelines for Providing for Journeys on Foot" states that "Walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile".
- 3.13 The "Guidelines for Providing for Journeys on Foot" also includes a table which suggests that 800 metres is an acceptable maximum walking distance in a town centre and that 1.2km is an acceptable maximum walking distance elsewhere. It also suggests a distance of 2km is an acceptable maximum for commuter and education journeys, although statutory guidance indicates that just over 3km is an acceptable walk distance for primary school pupils, with secondary school pupils being expected to walk up to 5km.

Local Schools

- 3.14 The closest primary school to the site is the Borrass Park Community school on Borrass Park Road. It is about a 1.1 km walk from the site. There are other existing Primary Schools located to the west of Cefn Road.
- 3.15 The closest secondary schools are Rhosnesni High School (1.2km walk from the site) and Ysgol Morgan Llwyd (1.2km walk from the site).
- 3.16 These schools are well within the recognised 2km walk distance for educational journeys.
- 3.17 The allocation of KSS2 requires the provision of a primary school on site which would supplement the existing primary school provision.
- 3.18 In the context of the above, the site is well placed to allow future pupils to walk to and from school.

Local Shops

- 3.19 There are local shops on Dean Road which include a post office which are a 1km walk from the site. There are also local shops on Borrass Park Road which include a Coop supermarket and a chemist. These are a 1.2km walk from the site.
- 3.20 The closest main supermarkets are Tesco and ASDA located on the eastern edge of the town centre and are a 2km walk from the site.
- 3.21 A service station has recently open on Holt Road (accessed from the golf club access) and this also includes some convenience retail.

Health Facility

- 3.22 The closest health facilities are about a 2km walk from the site on Holt Road and Prince Charles Road.

Bus Stops

- 3.23 The closest existing bus stops are located on St Mellion Crescent. With a pedestrian access to Thornhurst Drive these stops would be within 400m of the majority of the site.

Summary

- 3.24 The above demonstrates that the site is well placed in terms of local pedestrian connectivity and that walking would represent an alternative to the car for future residents undertaking educational, retail and other key journeys, as well as linking to the local bus network.

Cycling Accessibility

- 3.25 Considering the site's accessibility by bicycle, it is commonly accepted that cycling also has the potential to substitute for short car trips, particularly those under five kilometres, and to form part of a longer journey by public transport.

- 3.26 This puts the whole of Wrexham town centre, including the university and hospital within cycling distance of the site. As described earlier in this section there is a cycle route which follows the A534 corridor to the town centre.
- 3.27 It also puts the whole of the industrial estate within cycling distance of the site. Again, as described earlier in this section of my evidence the industrial estate is accessible from the site via lightly trafficked lanes which are signed for cyclists.

Accessibility by Public Transport

Bus

- 3.28 As set out above the closest bus stops to the site are situated on St Mellion Crescent. These stops are served by bus 35 which is operated by Arriva and runs on a circular service between the town centre and the residential areas to the east of Wrexham. The route of the bus is shown in **Figure 3.1**.
- 3.29 Based on the current timetable the service runs from 08:00 to 18:00 Monday to Saturday on a 30 minute frequency. The travel time to and from the town centre is less than 15 minutes.
- 3.30 This bus services would provide future residents with opportunities to use buses for a range of journey purposes including employment, retail and leisure.
- 3.31 There would be the opportunity for the bus operator to divert this service through the site which would enhance the bus accessibility of the eastern part of the site particularly. The diversion would be particularly effective with access to Thornhurst Drive as this would allow the service to loop through the site via the main access to the A534 roundabout.
- 3.32 Service 5 runs along the A534 Holt Road corridor between Chester and Wrexham. The closest stop for this service is to the west of St Andrews Crescent and some 650m from the site boundary at Thornhurst Drive and 700m from the site boundary at the site access on the A534 Holt Road / A5156 roundabout.
- 3.33 Based on current timetables the bus runs an irregular frequency, at times once every hour and at others once every two hours. There is a bus which leaves for Chester at 07:45 which arrives at 08:30 and a return service which leaves Chester at 16:59 so the bus could be used for some journeys to work in Chester. The service runs Monday to Saturday so the no 5 bus could also be used for shopping and leisure trips as well.
- 3.34 There are a number of other services in east Wrexham which provide access to the Industrial Estate. These are not currently accessible from the site but with the provision of the KSS2 link road from the A534 to Cefn Road there are the opportunities to divert existing or provide new services through the site.

Rail

- 3.35 There are two stations in Wrexham, Wrexham Central and Wrexham General. Both are about 3.5km from the site so within cycling distance rather than walking.
- 3.36 Trains from Wrexham Central run on an hourly frequency to and from Bidston on the Wirral from where there is a connecting service into Liverpool. All these trains stop at Wrexham General as well.
- 3.37 Wrexham General is also served by Welsh cross country trains providing links to Cardiff, Holyhead and Birmingham International. These trains stop at Chester and there tends to be one train an hour between Chester and Wrexham in each direction.
- 3.38 In terms of the daily use of the train as a means to get to work Chester is the main destination served.

Overview

- 3.39 My analysis of accessibility demonstrates the suitability of the appeal site for residential development and confirms that the location is consistent with the transport planning policy framework.
- 3.40 Future residents would have a realistic choice to use modes other than the private car for many journeys. This would be reinforced through a comprehensive Travel Plan for the site which would be secured through a planning condition.

Having confirmed that the site is consistent with the overriding accessibility policies the next section of my evidence looks at the baseline highway position.

4 Existing Highway Network

Site Context

- 4.1 This section of my evidence considers the existing highway network in the vicinity of the appeal site.
- 4.2 **Figure 1.2** which shows the wider highway network in Wrexham and **Figure 1.3** which focuses on the detail more locally are useful in reading this section of my evidence.
- 4.3 The site is located on the eastern edge of Wrexham and immediately to the south of the A534 Holt Road. The site is approximately rectangular in shape and has an area of 28 hectares. It is currently farm land and therefore does not generate material levels of traffic.
- 4.4 The site is bounded by Holt Road to the north, Bryn Estyn Road to the south, existing residential development to the west and open land to the east. The site fronts the existing adopted highway along its northern edge (A534 Holt Road), southern edge (Bryn Estyn Road) and at the eastern end of Thornhurst Drive along its western edge. A screen shot of WCBC's highway adoption map demonstrating this is reproduced in **Appendix B**.

The Local Highway Network

- 4.5 The A534 Holt Road is the main radial route serving the eastern side of Wrexham. It links with the town centre road network at the Tesco's roundabout and then runs through the eastern residential areas of the town to its junction with the A5156. This section of the road is single carriageway with footways and covered by the urban 30mph speed limit. The road is urban in nature with frontage access, frequent junctions and a number of controlled pedestrian crossing points.
- 4.6 The Greyhound Roundabout is located on this section of Holt Road and is about 900m to the west of the A5156 junction. The roundabout is at the junction of Holt Road with Dean Road and Cefn Road which provide an inter-radial connection through east Wrexham. There is also a fifth arm at the junction formed by Bryn Estyn Road. The roundabout has a diameter of 35m and all arms have single lane approaches.
- 4.7 The pedestrian environment at the junction is poor with limited crossing opportunities and a general lack of basic provision such as dropped crossings.
- 4.8 The junction of Holt Road and A5156 is a large roundabout with a diameter of about 90m. The national speed limit applies at the junction and the junction is lit. The A534 continues to the east of the junction and the A5156 forms the northern arm of the roundabout. There is also a local access to Wrexham Golf Club between the A5156 and A534 (east) approaches. There is no connection to the southern side of the roundabout which is where access to the appeal site will be taken.
- 4.9 All approaches to the junction have two lanes other than the golf club. All approaches have pedestrian crossing points but there are no footways provided on the A5156 or the northside of the A534 (east).
- 4.10 The A534 east of the roundabout is a derestricted dual carriageway road built to a modern standard. As explained in my introduction it forms part of a recently constructed scheme to improve access to the industrial estate. The road is unlit. There is a road which runs to the south of the new dual carriageway which I understand is on the line of the original single carriageway route serving the industrial estate. This road, alongside which the A534 footway runs, has been maintained as part of the adopted highway and provides access to two fields – one of which is the appeal site. This road is not used by general traffic.
- 4.11 About 1.3km to the east of the A5156 roundabout there is another roundabout junction on the A534 from which the access road to the industrial estate is taken.
- 4.12 This is another large roundabout with a diameter of about 70m built as part of the highway scheme to improve access to the industrial estate. The junction is de-restricted and lit. The Industrial Estate access forms the southern arm of the junction and is a dual carriageway road which runs for about 1.2km before linking with the industrial estate road network.

- 4.13 The A534 continues on the eastern side of the roundabout where it is known as Wrexham Road. Wrexham Road is a rural single carriageway road which serves the rural area of west Cheshire before linking with Nantwich and Crewe.
- 4.14 As well as these relatively strategic connections to the roundabout there are two other roads at the junction. On the northside is Borrass Hall Lane which is a rural lane and on the southwestern side is Sandy Lane. Sandy Lane is the original A534 road which has now been bypassed by the new dual carriageway. It now forms part of the pedestrian and cycle route which runs along the southern side of the A534.
- 4.15 The A5156 is a dual carriageway road built to a modern standard. It runs north from the A534 roundabout and connects with the A483 trunk road at Junction 6. The road is derestricted and unlit. The A483 is the strategic road which connects Wrexham with north Wales and northwest England via the A55, M53 and M56.
- 4.16 Between the A534 and A483 junctions there is a roundabout on the A5156 with Borrass Park Road. This roundabout is lit and has a diameter of about 50m. Borrass Park Road provides a local road connection into the Borrass Park area of Wrexham. Borrass Road forms a fourth arm to the junction and is rural lane.
- 4.17 Bryn Estyn Road runs along the southern edge of the site. It has the character of a rural lane and runs west to the Greyhound Roundabout and east to the industrial estate. Immediately to the east of the site the road is closed to motor vehicles so the connection to the east is for cyclists and pedestrians only.
- 4.18 To the south and west of the site a number of existing properties take access from Bryn Estyn Road but the cul-de-sac nature of the road means it is very lightly trafficked. There are connections to pedestrian and cycle routes which link into the relatively new housing estate on the north side of the road, but there is no vehicular access to these developments.
- 4.19 Thornhurst Drive forms part of this relatively new residential development. It is a 6.5m wide cul-de-sac road which terminates at the western boundary of the site. There are footways on both sides and it is lit. As I reference above the adopted highway (including footways) extends to the western boundary of the appeal site.
- 4.20 Thornhurst Drive links with St Mellion Crescent which is the main access road within the estate. St Mellion Crescent has a roundabout junction with the A534 Holt Road about 250m from the A5156 junction.

Peak Hour Traffic Flows

- 4.21 **Figures 4.1** and **4.2** show peak hour traffic flows from surveys undertaken in 2017 and 2018. These traffic flows are from the same data sets that was used for WCBC's local plan modelling which I mentioned in my introduction and which I cover in detail in Section 7 of my evidence. The flows are for the peak hours (08:00-09:00 and 16:30 to 17:30) tested in the modelling.
- 4.22 The flows at the Tesco Roundabout, Industrial Estate Roundabout and A5156 / Borrass Park Road roundabout are from surveys undertaken in June 2017. The flows at the Greyhound Roundabout and A534 Holt Road / A5156 roundabout are from surveys undertaken in March 2018.
- 4.23 Given the impacts of Covid 19 on traffic flows and the continuing uncertainty of how traffic levels will change in the future because of the pandemic, these 2017 and 2018 flows provide a much more robust baseline than any surveys undertaken now or in the foreseeable future.
- 4.24 The traffic flow figures show how dominant the industrial estate is as a car trip generator on the local network. In the morning peak hour there are nearly 1,600 vehicles entering the estate, 91% of which approach from the west on the A534. The majority of these come from the A5156 north with the flow from the A5156 to the A534 at 1,470 vehicles. A much smaller proportion come from Wrexham on the A534 Holt Road.
- 4.25 In the evening peak hour 1,700 vehicles leave the industrial estate with again the majority (85%) heading to the A534 west. Again, the majority of these head to the A5156 north with the flow from the A534 to the A5156 at 1,420 vehicles. A much smaller proportion head into Wrexham on the A534 Holt Road.
- 4.26 As a consequence, the flows on the A5156 and A534 are extremely peaky. On the A5156 approach to the Holt Road roundabout the morning peak flow is 1,750 vehicles but the evening peak is 880 vehicles.

On the A534 westbound approach the difference is even more extreme with 630 vehicles in the morning peak and 1,870 in the evening.

- 4.27 In the peak direction the majority of vehicles will be associated with the commute to and from the industrial estate with the majority no doubt single occupancy cars. In the off peak direction the traffic will be associated with HGVs and business travel. The single occupancy car commuter is the lowest tier of the travelling hierarchy whereas business and goods traffic have a much greater importance in this context.

Highway Conditions

- 4.28 In the context of typical urban peak period traffic conditions, Holt Road is not an unduly congested corridor. The Greyhound Roundabout is recognised locally as a congested junction, but my observations supported by queue surveys undertaken for the WCBC LDP modelling indicate that periods of queuing are relatively short. There is clearly a spike in traffic demand in the evening peak hour associated with commuters leaving the industrial estate but associated queueing is relatively quick to clear.
- 4.29 The modern dual carriageway road network which serves the industrial estate, made up of the A5156, A534 (east) and the industrial estate access road is heavily trafficked in the peak direction as I set out above in my observations on the traffic flows. At the roundabouts there are relatively low levels of opposing traffic and consequently approach speeds are high and the capacity of the approaches are maximised.
- 4.30 In the morning peak hour traffic does not queue on the A5156/A534/Industrial Estate route into the industrial estate but the high flow of traffic turning right at the industrial estate roundabout (into the industrial estate) causes some delay to traffic on the A534 Wrexham Road.
- 4.31 In the evening peak there are surges of traffic leaving the industrial estate associated with different work finish times the most pronounced being just after 17:00. This can lead to slow moving queuing on the industrial estate access road and the A534 (east) approach to the A5156 roundabout.
- 4.32 It is practically impossible to provide highway capacity to accommodate the surges of commuter traffic flow which occur at large employment sites when trip generation is concentrated into short periods of time. The access to the industrial estate is typical in this context and although the estate has a new modern high capacity highway network serving it, there are times when the demand from commuter traffic means some of the roundabout approaches are operating close to their design capacity.
- 4.33 This should not be interpreted as an indication that the network as a whole is operating at capacity or is not fit for purpose. During the majority of the day and in the non-peak direction in the peaks, when the roads will be accommodating goods and business traffic and other more strategic movements, the network has significant levels of spare capacity and provides the industrial estate with an excellent connection to the strategic road network and Wrexham.
- 4.34 The location of the appeal site adjacent to this modern highway capacity road network is a significant asset.

Personal Injury Accident Record

- 4.35 With regard to personal injury accidents (PIA) in the study area, a I have reviewed accident information for the most recent five year period on the Crashmap website (2016 to 2020). This PIA information is summarised below in Table 2.1. This is an update to the information provided in the Transport Assessment.

Table 2.1: Personal Injury Accidents

Location	All Casualties	Pedestrian Casualties	Cycle Casualties
Tesco Roundabout	2	0	1
A534 Tesco to Greyhound	13	6	3
Greyhound Roundabout	2	0	2
A534 Greyhound to A5156	2	0	1
A534/A5156 Roundabout	0	0	0
A534, A5156 to Industrial Estate	2	1	1
Industrial Estate Roundabout	5	0	0
A5156, A534 to Borrass Park Road	1	1	0
Borrass Park Roundabout	3	0	2

- 4.36 The accident data does not indicate a particular issue with highway safety in the local area. None of the junctions have a particularly poor accident record.
- 4.37 The number of accidents on the A534 Holt Road to the west of Greyhound reflects the multi-function nature of this section of the road where it serves frontage commercial development, residential development on both sides as well as accommodating town centre traffic. As this section of the road is about 1.5km long the number of accidents is not unduly high.
- 4.38 The position regarding highway safety has not changed materially for a number of years and the numbers of accidents indicated in Table 2.1 is very similar to that presented in the Transport Assessment which accompanied the application.

Overview of Highway Network

- 4.39 The A5156 and A534 (west) provide a modern high capacity road network. The fact that there is the opportunity to provide a direct connection to this network at the A5156 / A534 roundabout is a notable benefit of the appeal site and means that the impact of site generated traffic on the urban roads to the west of the site is minimised.
- 4.40 Generally, the traffic generated from the residential development will be travelling in the opposite direction to the industrial estate commuter traffic.
- 4.41 The A534 Holt Road corridor is a typical urban road corridor with some peak period queueing associated with commuting and education trips. It does not immediately strike me as a particular constraint to development although as I reference in the Introduction, the KSS2 LDP policy (Policy SP5) requires consideration of the impact of development traffic on this corridor, particularly the Greyhound Roundabout.
- 4.42 In the next section of my evidence I will consider the proposed development in more detail including the detailed access proposal to the A5156 / A534 Holt Road roundabout.

5 Development Proposals

Development Content and Phasing

- 5.1 The planning application was for a proposed development of up to 600 dwellings. Up to 20% of the units would be affordable. The development will be made up of a mix of 2, 3 and 4 bedroom homes. To assist with the testing of the development impacts the developers provided an indicative mix of property types with 20% 2 bed, 60% 3 bed and 20% 4 bed.

Access Details

- 5.2 The planning application was submitted with an Illustrative Concept Layout which set out the broad principles of the access framework for the site. For ease of reference I have included a copy of the Illustrative Concept Layout in **Appendix C**.
- 5.3 The Illustrative Concept Layout shows the main point of access to the appeal site from the A5156 / A534 Holt Road roundabout. Full planning approval is being sought for this main access.
- 5.4 As I outlined in the introduction the access scheme which was originally submitted with the planning application was modified prior to the determination of the application to include the widening scheme on the A534 Holt Road westbound approach. This revised scheme is shown in CBO drawing CBO-0322-017 and is included in the **Appendix A** of my evidence.
- 5.5 Other than the A534 widening the plan is the same as was originally submitted with the application. It shows the location that the access would connect to the roundabout and alignment of the first section of the access road. As well as providing access to the site this section of road would provide the northern part of the KSS2 link road.
- 5.6 The access road / KSS2 link road would have a carriageway width of 7.0m, suitable for bus use and a moderate to level of traffic flow. 3m wide shared footway/cycleways would be provided alongside the main route. It is envisaged the road would have a 30mph speed limit with frontage access to provide an urban feel to the road and act as a form of natural traffic calming.
- 5.7 As I outlined in the introduction, the developers are committed to providing the link road to the Bryn Estyn Road boundary and to providing a contribution to the cost of the link road connection to the KSS2 south northern boundary.

Wider Site Access Framework

- 5.8 The other elements of the Illustrative Concept Layout as they relate to access are shown indicatively.
- 5.9 There is an indicative alignment of the KSS2 link road shown on the Illustrative Concept Layout but this is not fixed as WCBC has not yet determined where the connection between KSS2 north and south should be located. There are a number of options for the connection but this is not a matter which requires consideration through this planning application as site layout is a reserved matter.
- 5.10 I would note that for a site of this scale there is flexibility in the final layout and a suitable site layout can be provided with a range of KSS2 link road alignments.
- 5.11 The Illustrative Concept Layout shows the potential to provide a secondary access through Thornhurst Drive but planning permission is not being sought for this access in this outline application. The nature and form of any access to Thornhurst Drive is a reserved matter.
- 5.12 There would however be notable accessibility benefits of providing access for pedestrians, cyclists and potentially buses through Thornhurst Drive. The Illustrative Concept Layout shows a loop road arrangement in the site which would maximise the opportunity for bus penetration. The access could potentially be used as an emergency access and a secondary access for vehicles.
- 5.13 Note that Planning Policy Wales supports the integration of new development with existing neighbourhoods. Paragraph 4.1.10 states

The planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:

- are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car;*
- are designed in a way which integrates them with existing land uses and neighbourhoods; and*
- make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.*

- 5.14 Should bus operators choose to do so, with the arrangement shown the existing bus (service 35) which serves the residential area to the west could be diverted into the site via the main A534 access, circulate within the site and leave via Thornhurst Drive. This would minimise the disruption to the existing service and maximise the proportion of the site with close access to a 30 minute bus service to and from Wrexham.
- 5.15 Any access to Thornhurst Drive would have a carriageway width of 6.5m which is consistent with its existing width and suitable for bus and lighter traffic use.
- 5.16 There would be no vehicular access to Bryn Estyn Road. It is envisaged that once the KSS2 link road has been provided into the site to the south, there would be a prohibition of driving on a short section of Bryn Estyn Road to the west of the link road to prevent access to the Greyhound junction to traffic from the KSS2 development and KSS2 link road. Whilst an issue for reserved matters, it is anticipated that access to Bryn Estyn Road to the east of the link road would then be provided by site roads as indicated by the illustrative secondary access on the masterplan. It is also envisaged that there would be a controlled Pegasus crossing (accommodating pedestrians, cyclists and horse riders) of the KSS2 link road on the line of Bryn Estyn Road recognising its function as a cycle connection to the industrial estate and the relatively rural nature of the road.

Pedestrian and Cycle Access

- 5.17 The Illustrative Concept Layout identifies a network of pedestrian and cycle routes which provide internal connectivity and linkage to external networks. The provision of infrastructure to promote active travel is another policy requirement of the LDP (Policy SP5).
- 5.18 As well as pedestrian and cycle access via the vehicular access points there would be pedestrian and cycle access to each end of Bryn Estyn Road and an access to the cycle route which runs along the southern side of the A534. This access links into a key north south cycle route through the site which would be provided within a green corridor.

Overview

- 5.19 In section 3 of my evidence I showed how the site was in an accessible location which would provide future residents with a choice of transport modes for many journey. The Draft Illustrative Concept Layout shows how the site would connect into these networks to help maximise the number of trips made by modes other than the private car. This would be reinforced through a site wide Travel Plan which would be delivered through a planning condition.
- 5.20 The details of the site access for which full planning is being sought provide the first elements of the networks which will support sustainable travel by including off carriageway cycle facilities and a carriageway width suitable for bus use.
- 5.21 In the next sections of my evidence I look at the suitability of the access and associated mitigation in traffic and highway capacity terms.

6 Traffic Generation, Assignment and Future Year Traffic Flows

Trip Rates and Trip Generation

- 6.1 The starting point of an assessment access design from a traffic point of view and wider traffic impact and the associated need for mitigation is vehicular trip generation.
- 6.2 Set out below in Table 6.1 are the agreed trip rates which were used in the WCBC local plan modelling. These were derived from the TRICS database which is the industry standard source of information on trip generation from development. Separate rates were derived for the private and affordable housing as set out in the Table.
- 6.3 These trip rates were derived from TRICS in 2018. Trip rates derived from TRICS now (November 2021) would be consistent with these rates.
- 6.4 On the basis of these trip rates the peak hour trip generations are shown in Table 6.2. These trip generations are based on a 20% level of affordable housing.

Table 6.1: Peak Hour Trip Rates – Per Dwelling

	Weekday Morning Peak		Weekday Evening Peak	
	Arrivals	Departures	Arrivals	Departures
Residential (private)	0.134	0.403	0.347	0.180
Residential (affordable)	0.170	0.251	0.243	0.178

Table 6.2: Peak Hour Traffic Generations

	Weekday Morning Peak		Weekday Evening Peak	
	Arrivals	Departures	Arrivals	Departures
Residential (private)	64	193	167	86
Residential (Affordable)	21	31	28	22
Total	85	224	195	108

Trip Distribution and Assignment

- 6.5 Having established the level of vehicular trip generation the next step is to determine the trip distribution pattern - where trips go to and come from.
- 6.6 This analysis has been based on the 2011 census journey to work (JTW) information using journeys to work made by car drivers at the middle super output area level [MSOA].
- 6.7 The site is in Wrexham MSOA 020 which is the large predominately rural area to the east of Wrexham also incorporating the industrial estate. The journey to work patterns from this area are unlikely to be particularly representative of journeys made from housing right on the eastern edge of Wrexham and therefore MSOA's 007 and 010 have been used which cover the existing residential areas on the east side of Wrexham. Only the journeys of people who currently drive to work have been used in this analysis.
- 6.8 This analysis identified the work based distributions set out in Table 6.3.

Table 6.3: Trip Distribution and Assignment

Route	Origin / Destination	
(1) A534 (West)	Central Wrexham including town centre, hospital and university	32%
(2) Cefn Road	South Wrexham	5%
(3) Dean Road	Central north Wrexham	4%
(4) Industrial Estate Access Road	Industrial Estate	24%
(5) A534 West	Part of Cheshire West and Cheshire East	3%
(6) A5156 North	North Wales, Chester, West Wrexham and A484 South	32%
Total		100%

- 6.9 This distribution pattern was used in the WCBC's local plan modelling. To give a broad indication of the level of development traffic on key corridors, **Figures 6.1** and **6.2** illustratively show peak hour development traffic flows based on the assignment assumptions set out in Table 6.3. These will not be precisely replicated in the WCBC local plan modelling as they do not take account of the implications of network conditions on vehicle assignment as the model will have done.
- 6.10 The WCBC modelling is discussed in more detail in the next section of my evidence.

7 WCMC Local Plan Traffic Modelling and Mitigation Strategy

Overview

- 7.1 As I set out in my Introduction, WCBC commissioned detailed traffic modelling work to provide evidence for the local plan on the traffic impact and mitigation requirements for the two proposed strategic allocations on the east side of Wrexham, namely KSS2 and KSS3 – KSS3 being the large employment allocation at the industrial estate. This modelling work was part funded by the developers of KSS2 north (the appellants) and the then developers of KSS2 south.
- 7.2 The Transport Assessment (TA) **(CD5.24 and 5.25)** which was originally prepared for the appeal application was finalised before WCBC's modelling for the local plan evidence was concluded but recognised the findings from the modelling would be important to determine the application.
- 7.3 The modelling work was concluded in September 2019 and included recommendations for a number of highway improvement schemes which would be required to mitigate the impact of the cumulative development and information pertinent to the provision of the KSS2 link road.
- 7.4 Once the modelling had been finalised an Addendum Transport Assessment (ATA) **(CD6.8)** was prepared by CBO which summarised the findings of the modelling in the context of the appeal development. The ATA is dated January 2021.
- 7.5 Using the information in the ATA the mitigation scheme for the appeal development involving the widening of the A534 Holt Road westbound approach to the A5156 / A534 Holt Road roundabout was agreed with WCBC and the proposed site access scheme modified accordingly. The scheme is shown in CBO drawing CBO-0322-017 in **Appendix A**.
- 7.6 The modelling also confirmed that the proposed design of the site access / KSS2 link road connection to the A5156 / A534 Holt Road roundabout shown on the access scheme was appropriate in the context of full development of KSS2 and KSS3 including the KSS2 link road connecting the roundabout with Cefn Road.
- 7.7 As the WCBC local plan modelling was key to determining the approach to mitigation and the suitability of the site access design I discuss it in some detail in this section of my evidence.

Modelling Approach

- 7.8 The WCBC local plan modelling was undertaken using the VISSIM modelling package. VISSIM is a microsimulation model which is used to consider relatively small networks at a fine level of detail. The findings of VISSIM models are often used to derive mitigation requirements for large developments and are seen as a more accurate and comprehensive alternative to the standalone junction models which are more commonly used such as ARCADY, PICADY and LINSIG.
- 7.9 The VISSIM modelling work was initially undertaken by consultants ITP. ITP produced the base model and prepared a Local Model Validation Report (LMVR). The LMVR demonstrated that the model validated to an acceptable level.
- 7.10 The testing of development impacts and mitigation was undertaken by a different organisation, Vectos Microsim (VM), utilising ITP's validated model.
- 7.11 The modelling was used as technical evidence for the LDP and an agreed Statement of Common Ground (EIP Ref: SoCG002) (LDP SoCG) between the Council and the KSS2 developers was prepared for the Local Plan Examination in Public.
- 7.12 The LDP SoCG is a Core Document **(CD3.22)** but I have included copies of the agreed junction improvement plans in **Appendix D** to my evidence.
- 7.13 Appendix 2 of the LDP SoCG **(CD3.22)** contains a full copy of VMs report 'Holt Road VISSIM Modelling: Forecast, Mitigation Proposals & Summary Results' which provides details of the modelling work undertaken. Appendix 3 of the SoCG contains copies of the improvement plans which the modelling identified as being required for the mitigation strategy and which I have included in **Appendix D** of my evidence as above.

Extent of Modelled Network

- 7.14 The extent of the VISSIM model network is shown in Figure 1 of the VM Report (Appendix 2 of **CD3.22**).
- 7.15 The model includes the whole A534 Holt Road corridor from the A5152 / Tesco Roundabout in the town centre to the Industrial Estate roundabout on the eastern edge of the town. It also includes the Cefn Road / Dean Road / Jeffreys Road north south corridor which intercepts with the Holt Road corridor at the Greyhound Roundabout.
- 7.16 As well as these main east west and north south corridors the model includes Queensway / Ffordd Montgomery and Hullah Lane which provide alternative routes between Cefn Road and Holt Road and Borrass Road / Borrass Park Road which provides an alternative route between Holt Road and the A5156.
- 7.17 Within this network are the following key junctions:-
- A5156 / A534 Holt Road Roundabout
 - Greyhound Roundabout (junction of the A534 Holt Road / Dean Road / Cefn Road)
 - Tesco Roundabout (junction of the A534 Holt Road with the town centre road network)
 - Industrial Estate Roundabout (junction of the A534 and the Industrial Estate Access Road)
 - A5156 / Borrass Park Road Roundabout
- 7.18 This modelled network was agreed with Council officers. They agreed that the model did not need to include the A5156 north of the Borrass Park Road junction and therefore it did not include the A483 Junction 6. This is noted in the SoCG (**CD3.22**) which states at paragraph 4.6:-
- The northern extent of the model is the roundabout on the A5156 with Borrass Park Road. Traffic on the A5156 is dominated by the Industrial Estate. In the morning commuter peak southbound (towards the industrial estate) traffic is much higher than northbound and vice versa in the evening. In this context KSS2 traffic is counter peak with the highest flows being northbound in the morning and southbound in the evening. On this basis the impacts of KSS2 traffic to the north of the Borrass Park Road junction are not expected to be significant.*
- 7.19 The fact that developments impact on the trunk road network would not be significant is reflected in the fact that the Welsh Government did not issue a direction in respect of the appeal application. A copy of their letter advising this, dated 27 April 2020 is included in **Appendix E**.

Forecast Demand Methodology

- 7.20 The modelling included two forecast years 2023 and 2028. 2028 was used as this is the end of the LDP plan period and 2023 reflected the midpoint between 2028 and the modelled base year which is 2018.
- 7.21 For these two forecast years three scenarios were developed:-
- Do-nothing (DN) which assumed no development on KSS2 or KSS3 with background growth calculated using TEMPRO growth assumptions. For both 2023 and 2028 the modelled DN network was as existing.
 - Do-minimum (DM) which assumed development on KSS2 and KSS3 with TEMPRO included but adjusted to take account of the levels of development on the strategic sites to reduce the level of double counting through applying traffic growth. In the modelling at 2023, traffic from 250 units on KSS2 north; 460 on KSS2 south and half of KSS3 was included. At 2028 traffic from the full development of KSS2 and KSS3 was included. The 2023 DM model was based on the existing network, but the 2028 DM model included the mitigation works identified from the 2023 Do-something model.
 - Do-something (DS) which used the same level of traffic demand as the DM but included highway mitigation measures.
- 7.22 The assumptions on traffic growth, including the use of adjusted TEMPRO in the DM and DS models were agreed with the Council. The inclusion of TEMPRO in the modelling represents a robust approach in that sustained year on year traffic growth is no longer occurring, the trend for car ownership is falling and

people are travelling less. In this context I would have considered it more appropriate to run the modelling on a no background growth assumption which just tested the impacts of the developments.

- 7.23 In this context it follows that the two assessment scenarios (2023 - 250 units on KSS2 north; 460 on KSS2 south and half of KSS3 and 2028 – full development on all sites) are more tests of different development levels and less tests of traffic levels at specific years. The uncertainties that have arisen over future traffic levels as a result of Covid 19 mean the specific years the models have been tested at are even less relevant.
- 7.24 On this basis, I do not consider the fact that the level of development included in the 2023 model will not materialise in this timeframe will not have a material impact on the findings of the modelling or the mitigation strategy.
- 7.25 In other words, I do not believe the findings of the modelling are sensitive to the specific assessment years included in the modelling. If it takes a few more years for the levels of development to come forward this would not change the level of highway works required to mitigate the impacts of the levels of development included in the models.

Development Traffic

- 7.26 The trip rates and associated development traffic used in the modelling were agreed with WCBC. The KSS2 residential trip generation is based on trip rates from the TRICS “houses privately owned” category with an allowance for affordable housing. Further details on these trip rates are provided in Section 6 of my evidence.
- 7.27 The KSS3 employment trip generation is based on trip rates from large sites in the TRICS “industrial estate” category.
- 7.28 Based on the levels of development included in the 2023 and 2028 modelling the peak hour traffic generation from the strategic sites is set out in Tables 7.1 and 7.2.

Table 7.1: 2023 Peak Hour Traffic Generations

	Weekday Morning Peak		Weekday Evening Peak	
	Arrivals	Departures	Arrivals	Departures
KSS2 North (250 units)	35	93	81	45
KSS2 South (460 units)	65	171	150	82
KSS3 (50% developed)	177	69	71	186

Table 7.2: 2028 Peak Hour Traffic Generations

	Weekday Morning Peak		Weekday Evening Peak	
	Arrivals	Departures	Arrivals	Departures
KSS2 North (600 units)	85	224	195	108
KSS2 South (1080 units)	152	402	352	194
KSS3 (100% developed)	355	137	142	371

- 7.29 The trip generation for KSS2 north in Table 7.2 is the same as that in Table 6.2 which presents the KSS2 north trip generation broken down into private and affordable housing.
- 7.30 The trip distribution used in the VISSIM modelling for the residential development on KSS2 is based on local journey to work patterns derived from the 2011 census data. Further detail on this is provided in Section 6 of my evidence.
- 7.31 The trip distribution used in the modelling for the employment development on KSS3 is based on the distribution to and from the industrial estate zone in the base model and therefore reflects that of the current industrial estate traffic.

7.32 Trip distribution was agreed with the WCBC.

2023 Modelling Results

- 7.33 The 2023 do-minimum (DM) model runs show the addition of KSS2 and KSS3 traffic has some impact on the local road network.
- 7.34 In the morning peak the average delay per vehicle increases by about 17 seconds compared to the do-nothing (DN) so the overall impact is not that significant. There are some increases in queue lengths at the Greyhound roundabout; the A5156 approach to the A534 Holt Road roundabout and the A534 westbound (Wrexham Road) approach to the industrial estate roundabout but the model shows that queues do not persist for prolonged periods and dissipate quickly enough to ensure the network continues to operate efficiently – which is reflected in the relatively small increase in average journey time.
- 7.35 In this context VM concluded that mitigation was not required to mitigate impacts at 2023 in the morning peak.
- 7.36 In the evening peak the average delay per vehicle is about 40 seconds which is still not that significant but the increase in delay is almost exclusively on the industrial estate approach to the industrial estate roundabout (ie people leaving work in the evening) where the model indicates an increase in delay of about 2 minutes with a corresponding queue length increase of about 100 vehicles.
- 7.37 On this basis VM recommended a partial signalisation improvement scheme at the industrial estate roundabout is implemented at 2023 to address the impact in the evening peak. The scheme includes signalisation of the industrial estate approach to the roundabout and signalisation of the two A534 approaches to better manage traffic flow through the roundabout.
- 7.38 These improvements were developed into the improvement scheme shown in CBO drawing CBO-0322-015 which was included in the LDP SoCG (**Appendix D** of my evidence – as above the drawings are included in Appendix C of the LDP SoCG).
- 7.39 The modelling showed that the improvement to the industrial estate roundabout released more traffic onto the A534 westbound approach to the A534 / A5156 roundabout to the extent that an improvement would be required here as well. On this basis VM recommended a widening scheme on the A534 westbound approach to this roundabout, widening from 2 lanes to 3, and corresponding widening of the roundabout.
- 7.40 This improvement was developed into the improvement scheme shown in CBO drawing CBO-0322-014 which was included in the EIP SoCG (**Appendix D** of my evidence).
- 7.41 With these improvements in place the 2023 Do-something (DS) model runs show the impacts of the KSS2 and KSS3 would be mitigated.
- 7.42 In the morning peak the implementation of the traffic signals at the industrial estate roundabout actually increases the average delay compared to the DM (some traffic is stopped at the signals when in the DM it free flows) but the increase is only 21 seconds.
- 7.43 In the evening peak the implementation of the improvement schemes reduces the increase in delay between the DS and DM to 5 seconds. On the industrial estate approach the 2023 journey time is lower than in the 2018 base.

2028 Modelling Results

- 7.44 The traffic from the full development of KSS2 and KSS3 has a significant impact on the DM network even allowing from the improvements to the industrial estate and A534 / A5156 roundabouts outlined above and further mitigation is required in both the morning and evening peaks.
- 7.45 VM undertook two sets of Do-something model runs. The first included just the KSS2 link road linking the A5156 / A534 Holt Road roundabout with Cefn Road. This showed that some of the impact was mitigated but further improvements were required at the A5156 / A534 roundabout.

-
- 7.46 On this basis a second Do-something model run was undertaken which included widening from 2 lanes to 3 and signalisation of the A5156 approach and signalisation of the A534 westbound approach – this approach had already been widened from 2 lanes to 3 in the 2023 mitigation scheme.
- 7.47 These improvements were developed into the improvement scheme shown in CBO drawing CBO-0322-016 which was included in the EiP SoCG (**Appendix D** of my evidence).
- 7.48 With the KSS2 link road in place and with these improvements to the A5156 / Holt Road roundabout the modelling shows the impacts of the KSS2 and KSS3 traffic are mitigated. The average delay per vehicle in the morning peak hour only increases by 13 seconds relative to the 2028 Do-nothing despite there being more than 1,000 more trips completed.
- 7.49 In the evening peak hour the average delay per vehicle is only 14 seconds higher than the 2028 Do-nothing despite there being about 950 more trips completed.
- 7.50 Having consider the details of the modelling and summarised the agreed conclusions drawn from it, in the next section of my evidence I will look at what this means for the appeal development and how the information was used to reach the agreed position on highway mitigation.

8 Agreed Highway Mitigation

Factors Effecting the Timing of Improvements and Level of Mitigation

- 8.1 I set out above how the mitigation requirements for the cumulative impacts of the two strategic sites were identified using the VISSIM model and how the details of three mitigating junction improvement schemes were included in the LDP SOCG. The modelling also confirmed the requirement for the KSS2 link road.
- 8.2 These schemes deal with significant levels of traffic, only a relatively small proportion of which is associated with the appeal development. In this part of my evidence, I therefore put this in context and look at how traffic from each site contributes to the required junction improvements and also the timing of the KSS2 link road.
- 8.3 I then use this information to describe how the agreed position on highway mitigation for the appeal development was reached.

Improvements to A534 Holt Road / A5156 and Industrial Estate Roundabouts

- 8.4 Traffic flows at the A5156 / A534 Holt Road and industrial estate roundabouts are dominated by industrial estate traffic heading to and from the A483 trunk road. In the morning peak the south and east bound flows are much higher than the west and north and vice versa in the evening peak.
- 8.5 As explained in the previous section of the report the improvements at these junctions, required at 2023 are aimed at dealing with traffic flows leaving the industrial estate in the evening peak.
- 8.6 Similarly, at 2028 the improvement on the A5156 approach to the A5156 / A534 Holt Road roundabout is aimed at dealing with traffic heading towards the industrial estate in the morning peak with the additional improvement to the A534 Holt Road westbound approach required to accommodate traffic leaving the industrial estate in the evening.
- 8.7 In this context it appears likely that the traffic from KSS3 (the employment site next to the industrial estate) is highly significant in determining the timing of these improvements.
- 8.8 Table 8.1 sets out the total traffic flows on these key links during the critical time periods and provides a breakdown of traffic associated with KSS2 and KSS3. It confirms how significant KSS3 is to the timing of the improvements at these junctions.

Table 8.1: Traffic Flows on Critical Approaches to A534 / A5156 and Industrial Estate Roundabouts

	Industrial Estate Access Road Approach to Industrial Estate R'bout		A534 Westbound Approach to A534/A5156 Roundabout		A5156 Approach to A534/A5156 Roundabout	
Traffic Flow	2023 PM	2028 PM	2023 PM	2028 PM	2023 AM	2028 AM
Total	2038	2195	2206	2365	1963	2014
KSS2	36	85	42	97	25	69
KSS3	181	348	152	290	146	286

- 8.9 On this basis if development on KSS3 does not come forward as quickly as anticipated in the modelling work (or at all in the plan period) then the need for the improvements, or the improvements at the scale identified in the modelling work would not be required.

Agreed Position on Off Site Mitigation

- 8.10 During the determination of the appeal application, initial discussions over delivery of mitigation focused on the provision of a contribution by the KSS2 north (appeal site) developers to the funding of the junction improvements. Developers of KSS2 south and KSS3 would similarly be required to provide contributions when development on these sites came forward.

- 8.11 The problem with this approach is that if development on one or more of the sites is delayed there is a delay in delivering any form of mitigation.
- 8.12 Recognising this, it was agreed with WCBC that rather than paying a contribution to all the works, the KSS2 north developer should implement specific improvements at the A534 Holt Road / A5156 roundabout which were in line with the overall mitigation strategy.
- 8.13 On this basis the highway improvement scheme shown in CBO drawing CBO-0322-017 was prepared (**Appendix A**), the scheme that now forms the proposed access to the appeal development. As I have outlined elsewhere in my evidence the scheme involves the widening of the A534 Holt Road westbound approach and the southern section of the circulatory carriageway as well as the provision of the site access itself.
- 8.14 This is the same scheme identified through the VISSIM modelling to address the impacts of development on the A534 Holt Road / A5156 roundabout at 2023 (CBO drawing CBO-0322-014 in **Appendix D**), albeit the extent of widening on the A534 westbound approach has been reduced from 100m to about 50m. The lesser degree of widening reflects the fact that KSS2 north traffic represents a relatively small proportion of the total development traffic on the A534 westbound approach which necessitates the longer widening scheme.
- 8.15 This is illustrated by the traffic flows in Table 8.1 and **Figure 6.2**. With full development of KSS2 north there would be some 53 vehicles using the A534 westbound approach to the roundabout (Figure 6.2) in the critical evening peak hour. With the level of development tested at 2023 in the WCBC modelling there would be 194 development generated vehicles on the approach (4th column of Table 8.1 shaded pale grey), the majority from KSS3.
- 8.16 Therefore, even with full development on KSS2 north the level of development traffic on the A534 westbound approach is much less than the total development traffic tested at 2023, so less widening would clearly be required.

Agreed Position on the KSS2 Link Road

- 8.17 The WCBC modelling clearly showed that with full development on the two strategic sites the KSS2 link road was required. It was also clear however through the 2023 models of partial development that notable levels of development could come forward without the road.
- 8.18 In this section of my evidence I therefore consider the model findings over the timing of the completion of the KSS2 link road and how this was used to reach the agreed position on the road.
- 8.19 The modelling shows that development on KSS3 is unlikely to be such a significant factor in determining the timing of the KSS2 link road. At the Greyhound roundabout in the 2023 models (models without the link road) there is notably more traffic from KSS2 than KSS3. In the morning peak Do-something model out of a total of 2,232 vehicles 233 are associated with KSS2 and 43 from KSS3. The corresponding figures in the evening peak hour are 187 KSS2 and 47 KSS3 in a total of 2,291 vehicles.
- 8.20 The timing of the link road is therefore more likely to be influenced by the levels of development on the north and south parts of KSS2. The 2023 model runs were based on 250 units on KSS2 north and 460 on KSS2 south ie a total of 710 units. This exceeds the total development capacity of 600 units on the KSS2 north site, which of course corresponds to the level of development included in the appeal planning application.
- 8.21 On this basis if development on KSS2 south does not come forward as quickly as anticipated in the modelling work – which now seems entirely probable as no planning application has yet to be submitted – it is highly likely that more development on KSS2 north could be accommodated before the link road is required.
- 8.22 Indeed, if there is a significant delay to development on KSS2 south, I believe the whole of the appeal development on KSS2 north could be delivered without requiring the KSS2 link road to be completed.
- 8.23 As I set out in my Introduction it was agreed with WCBC prior to determination of the appeal application that the KSS2 link road would be completed to the southern boundary of the appeal site prior to occupation of the 250th dwelling ie the level of development the model included on the appeal

site without the road. It was also agreed that the developers of the appeal site would pay a proportional contribution to the cost of constructing the KSS2 link road to the northern boundary of the KSS2 south site.

- 8.24 In this way WCBC has accepted that the appeal development can be completed prior to the full KSS2 link road connection to Cefn Road being made. This is a recognition that the KSS2 south development is some way behind the appeal development but also ensures the developers of the appeal site make a fair contribution to the full delivery of the KSS2 link road such that future delivery is not prejudiced.
- 8.25 This is a logical approach and one which ensures development can proceed, while protecting the local road network by ensuring the KSS2 link road can come forward as and when it is required.

Overview

- 8.26 In this section of my evidence, I have demonstrated how the WCBC local plan modelling was used to determine the agreed access scheme and highway mitigation for the appeal development. In summary this was
- Access scheme and mitigation works shown in CBO drawing CBO-0322-017 and included in **Appendix A** of my evidence.
 - Complete the KSS2 link road to the southern boundary of the appeal site before occupation of the 250th dwelling.
 - Provide a proportional contribution to the cost of the section of the KSS2 link road between the southern boundary of the appeal site and the northern boundary of the KSS2 south site.
- 8.27 Although this agreed position was reached last year and is based on modelling completed the year before that, nothing has materially changed which would affect the access or requirements for mitigation. Indeed, I would say that the implications of COVID mean an already robust position is now even more robust.
- 8.28 In the appeal Statement of Common Ground (SOCG) (**CD16.1**) there are agreed planning conditions securing the delivery of the access and mitigation works shown in drawing CBO-0322-017.
- 8.29 In the draft Section 106 agreement there are obligations for the developer to complete the KSS2 link road to the southern boundary before occupation of the 250th dwelling and pay a proportional contribution to the cost of the section of the KSS2 link road between the southern boundary of the appeal site and the northern boundary of the KSS2 south site. The appellants have commissioned a quantity surveyor to prepare a cost for this section of road which is currently being considered by WCBC. This will provide the basis of an agreed contribution to include in the final Section 106 agreement.
- 8.30 With this planning condition and S106 obligations I would conclude that planning permission for the appeal development should not be withheld on traffic grounds.

9 Conclusions and Recommendations

Conclusions

- 9.1 The appeal development includes 600 homes of which 20% would be affordable. The main access to the site would be taken from the southern side of the A534 Holt Road / A5156 roundabout. Detailed planning approval is being sought for the access – all other matters are reserved. The access scheme includes widening on the A534 Holt Road westbound approach to the roundabout to mitigate the impact of the appeal development. The access scheme is shown in drawing CBO-0332-017 in **Appendix A** of my evidence.
- 9.2 The KSS2 link road would run through the KSS2 site between Holt Road and Cefn Road. The northern section of the link road would serve as the main access to the appeal site and by implication the site access scheme described above would form the northern section of the link road.
- 9.3 The primary requirement of transport planning policy is to locate development in as accessible locations as possible to facilitate as many trips as possible by sustainable transport modes and provide equality of transport opportunities.
- 9.4 The location of the appeal site and wider KSS2 between the town centre and the industrial estate means it is well located to the two biggest attractors of trips in the Borough. There are cycling routes linking the site to both and the site is also well located to other local key services for walking and cycle journeys. There is also a frequent bus service to the town centre.
- 9.5 The fact that the site is a proposed allocation and that highways and transport matters were not reasons for refusal of the application, demonstrates that development of the site for housing is consistent with the transport planning policy framework and confirms it is an accessible location suitable for sustainable development.
- 9.6 Much of the detail of how the site will be laid out to encourage sustainable trips will be the subject of reserved matters applications. However, the access details to the A5156/ A534 Holt Road include off carriageway cycle facilities which it is envisaged will continue along the length the KSS2 link road to link with Cefn Road. The access road is also to a standard that can accommodate bus services and again this standard of road is envisaged to continue along the length of the KSS2 link road.
- 9.7 The A5156 and A534 (west) provide a modern high capacity road network. The fact that there is the opportunity to provide a direct connection to this network at the A5156 / A534 roundabout is a notable benefit of the appeal site and means that the impact of site generated traffic on the urban roads to the west of the site is minimised.
- 9.8 Generally, the traffic generated from the residential development will be travelling in the opposite direction to the industrial estate commuter traffic which dominates the local road network.
- 9.9 The A534 Holt Road corridor is a typical urban road corridor with some peak period queueing associated with commuting and education trips. It does not immediately strike me as a particular constraint to development although the KSS2 LDP policy requires mitigation on this corridor, particularly at the Greyhound Roundabout.
- 9.10 WCBC commissioned detailed traffic modelling work to provide evidence for the Local development Plan on the traffic impact and mitigation requirements for the two proposed strategic allocations on the east side of Wrexham, namely KSS2 and KSS3. This modelling work was part funded by the developers of KSS2 north (the appellants) and the then developers of KSS2 south. All findings of the modelling were agree between WCBC and the developers of KSS2 as reflected in the LDP Statement of Common Ground (**CD3.22**).
- 9.11 WCBC's traffic modelling demonstrated that the site access as proposed (drawing CBO-0322-017 in **Appendix A**) was suitable to serve as the main access point to the appeal site and as the northern connection for the KSS2 link road.
- 9.12 The modelling also showed that highway improvements would be required at the A534 Holt Road / A5156 and Industrial Estate roundabouts to mitigate the cumulative impacts of KSS2 (north and south) and KSS3.

- 9.13 The widening to the A534 westbound approach to the A534 Holt Road / A5156 roundabout incorporated in the proposed access scheme forms part of the wider mitigation strategy and reflects the extent to which KSS2 north (the appeal site) contributes to the cumulative impact.
- 9.14 The extent of these highway mitigation works for the appeal development were agreed with WCBC officers prior to determination of the application.
- 9.15 The LDP modelling clearly showed that with full development on the two strategic sites the KSS2 link road was required, but that notable levels of development could come forward without the road.
- 9.16 The timing of the link road will be primarily influenced by the levels of development on the north and south parts of KSS2. The 2023 model runs were based on 250 units on KSS2 north and 460 on KSS2 south ie a total of 710 units. This exceeds the total development capacity of 600 units on the appeal (KSS2 north) site.
- 9.17 On this basis if development on KSS2 south does not come forward as quickly as anticipated in the modelling work – which now seems entirely probable - it is highly likely that more development on KSS2 north could be accommodated before the link road is required.
- 9.18 Indeed, if there is a significant delay to development on KSS2 south, I believe the whole of the appeal development on KSS2 north could be delivered without requiring the KSS2 link road to be completed.
- 9.19 Prior to the determination of the appeal application, it was agreed with WCBC officers that the KSS2 link road would be provided to the southern boundary of the site before occupation of the 250th dwelling and that the developers would proportionally contribute to the cost of connecting the road with the northern boundary of KSS2 south.
- 9.20 With these commitments alongside the access scheme and associated A534 westbound widening works, WCBC officers agreed that the highway impacts of the appeal development were mitigated. The fact that highways is not a reason for refusal demonstrates that members agreed with this conclusion.
- 9.21 In this way WCBC has accepted that the appeal development can be completed prior to the full KSS2 link road connection to Cefn Road being made. This is a recognition that the KSS2 south development is some way behind the appeal development but also ensures the developers of the appeal site make a fair contribution to the full delivery of the KSS2 link road such that future delivery is not prejudiced.
- 9.22 This is a logical approach and one which ensures development can proceed, while protecting the local road network by ensuring the KSS2 link road can come forward as and when it is required.

Recommendations

- 9.23 I would recommend that planning approval is not withheld on transport or highway grounds for the appeal development subject to the following :-
- Implementation of the access scheme at the A534 Holt Road / A5156 roundabout incorporating widening to the A534 westbound approach shown in drawing CBO-0322-017 (**Appendix A** of my main evidence).
 - Completion of the KSS2 link road to the southern boundary of the appeal site before occupation of the 250th dwelling.
 - Provision of a proportional contribution to the cost of the section of the KSS2 link road between the southern boundary of the appeal site and the northern boundary of the KSS2 south site.
- 9.24 The implementation of the access scheme would be controlled by planning condition and such is included in the conditions listed in the SOCG (**CD16.1**). The requirement to complete the KSS2 link road to the southern boundary and pay the contribution to the connection to KSS2 south are obligations in the draft S106 agreement which the appellants have prepared.



Figures

Figure 1.1 Site Location - Strategic

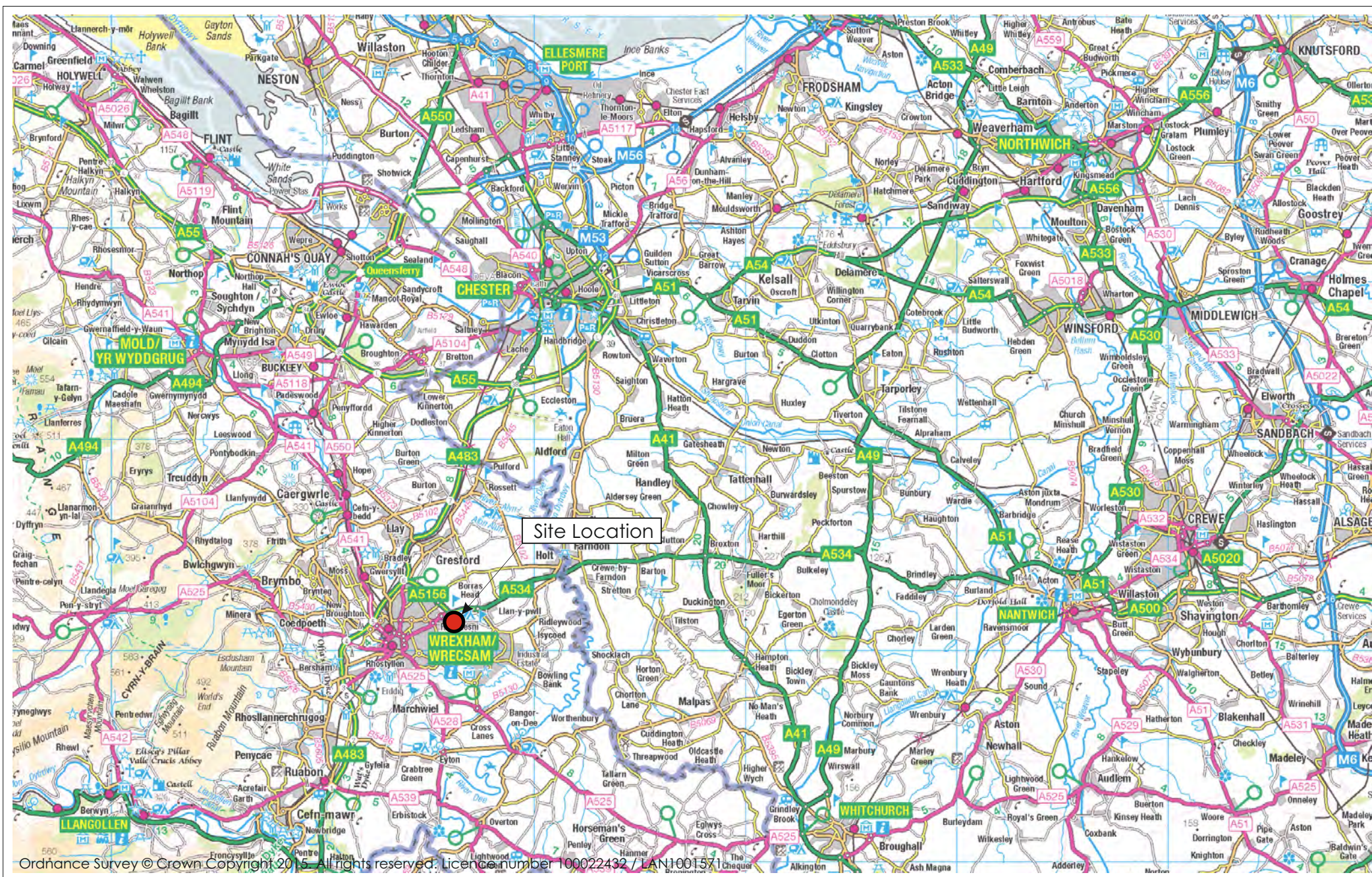


Figure 1.2 Site Location (Local)

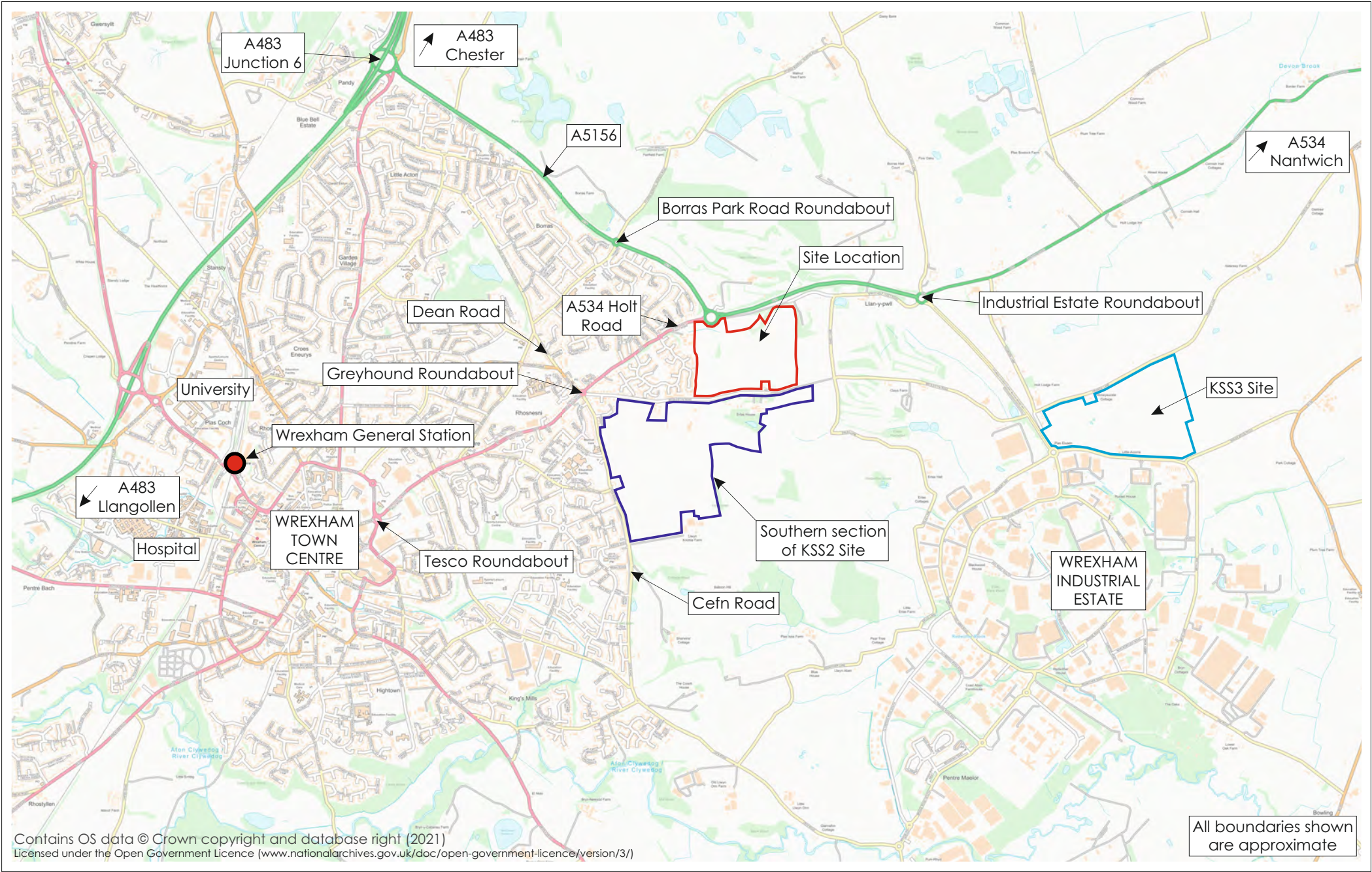


Figure 1.3 Local Context

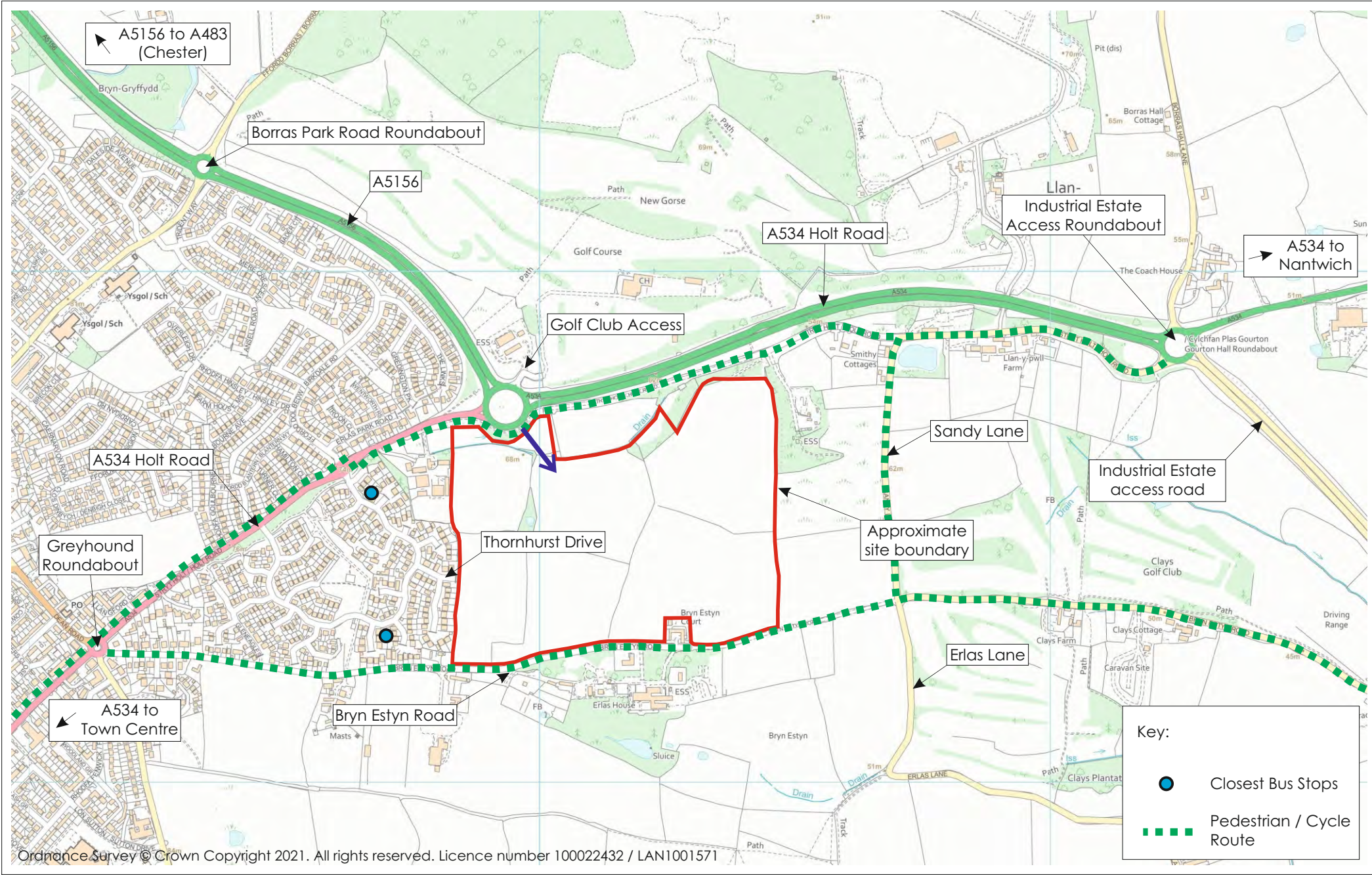


Figure 3.1 Local Facilities

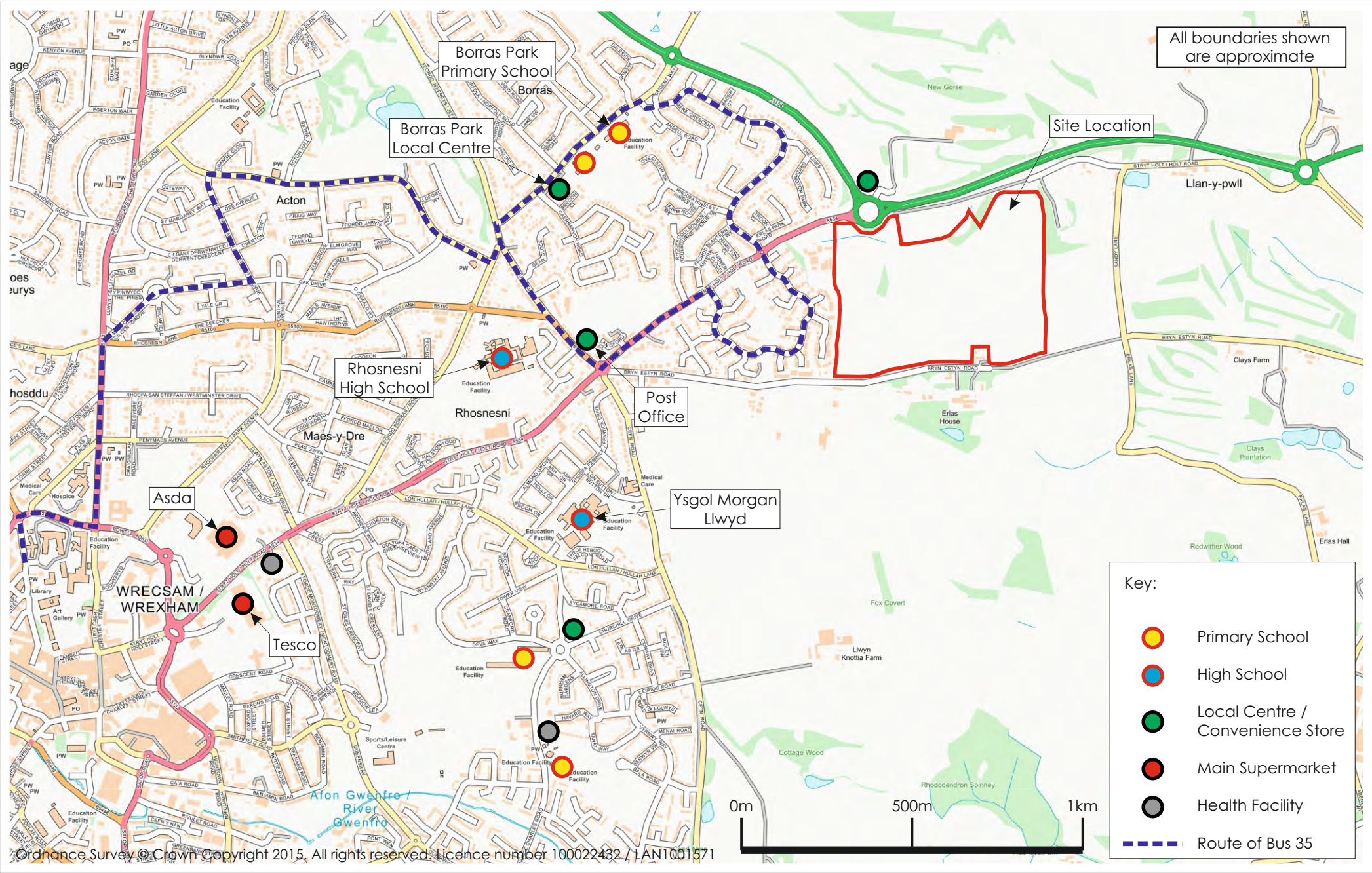


Figure 4.1 Existing Traffic Flows: Weekday Morning Peak

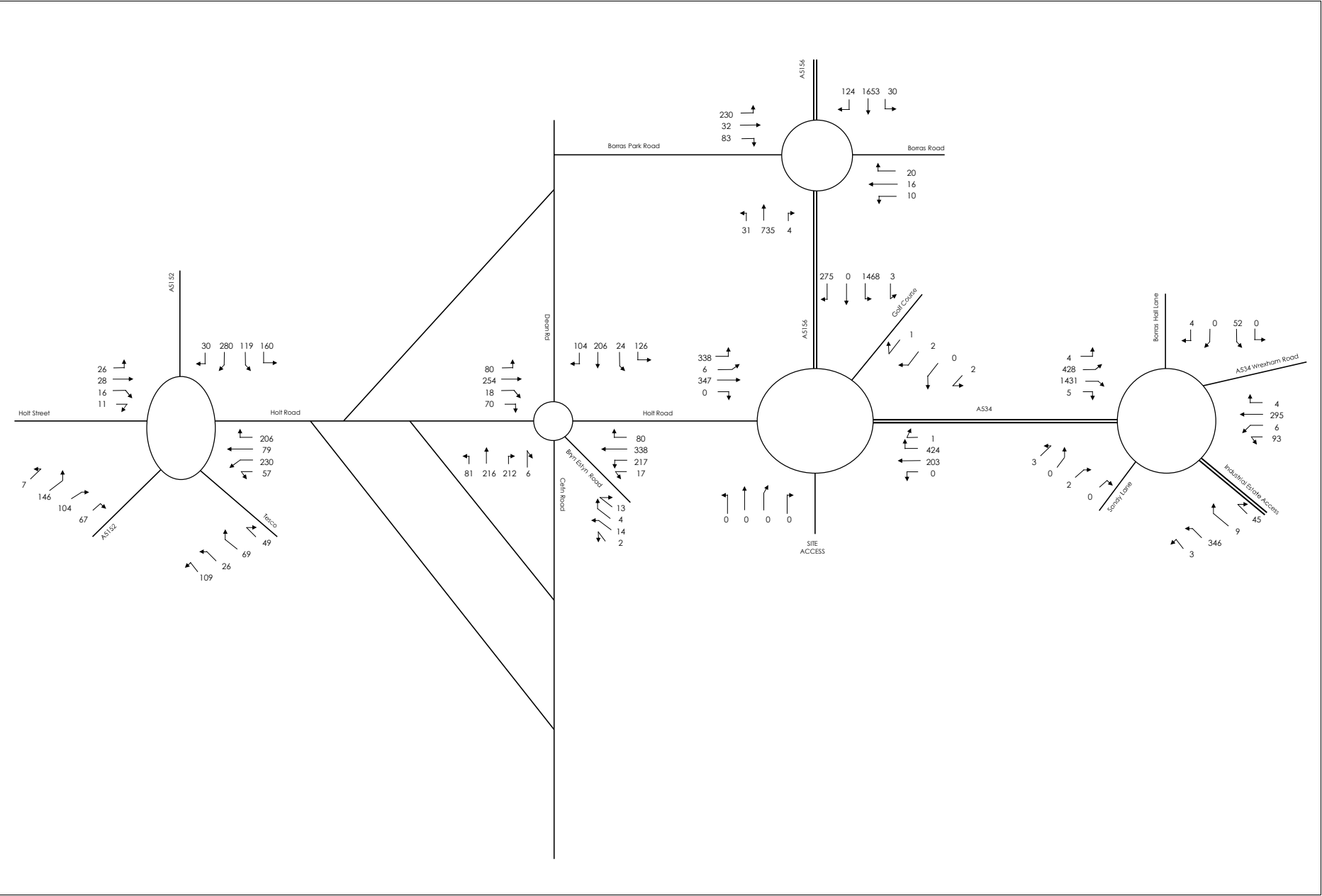


Figure 4.2 Existing Traffic Flows: Weekday Evening Peak

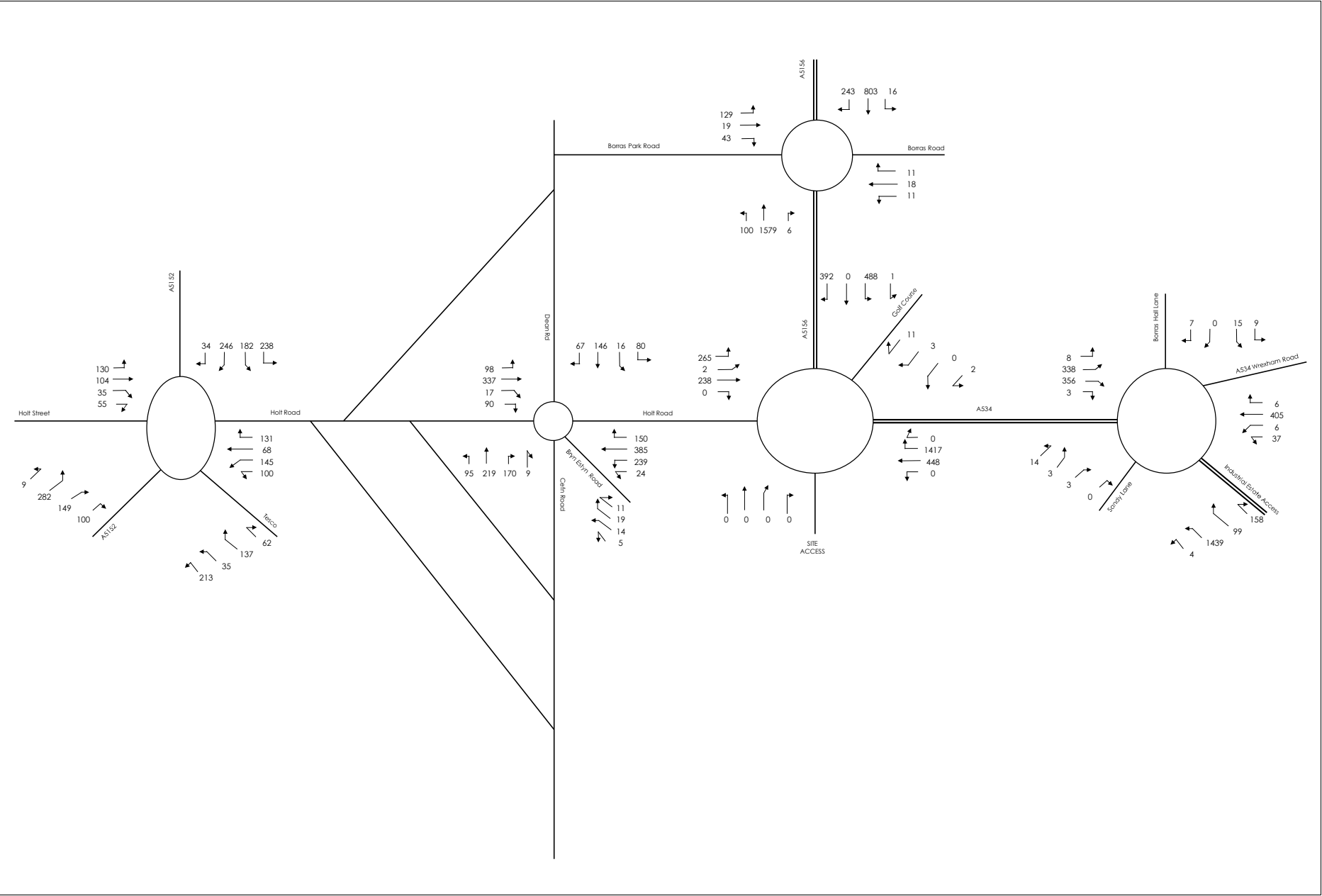


Figure 6.1 Development Traffic Flows: Morning Peak

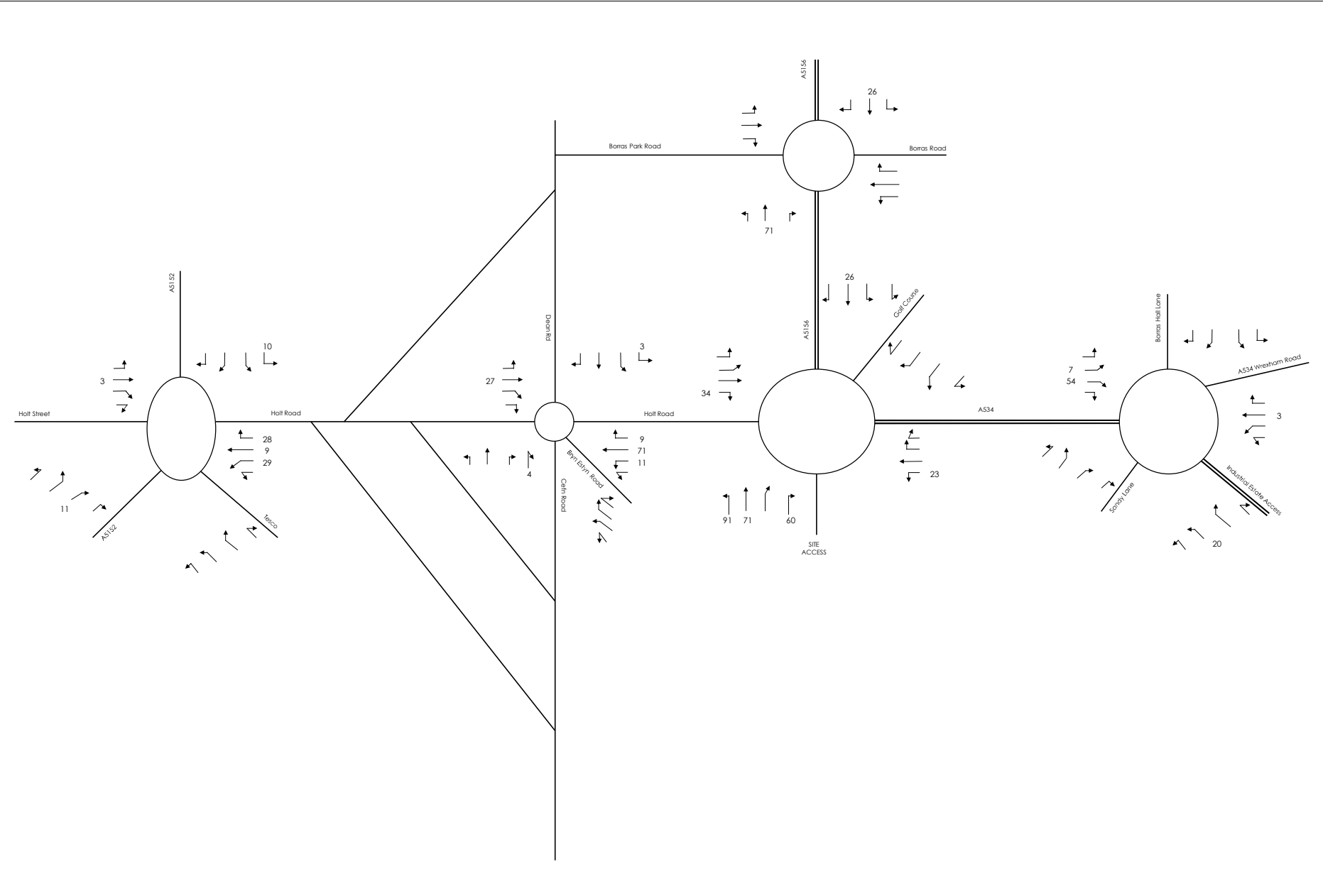
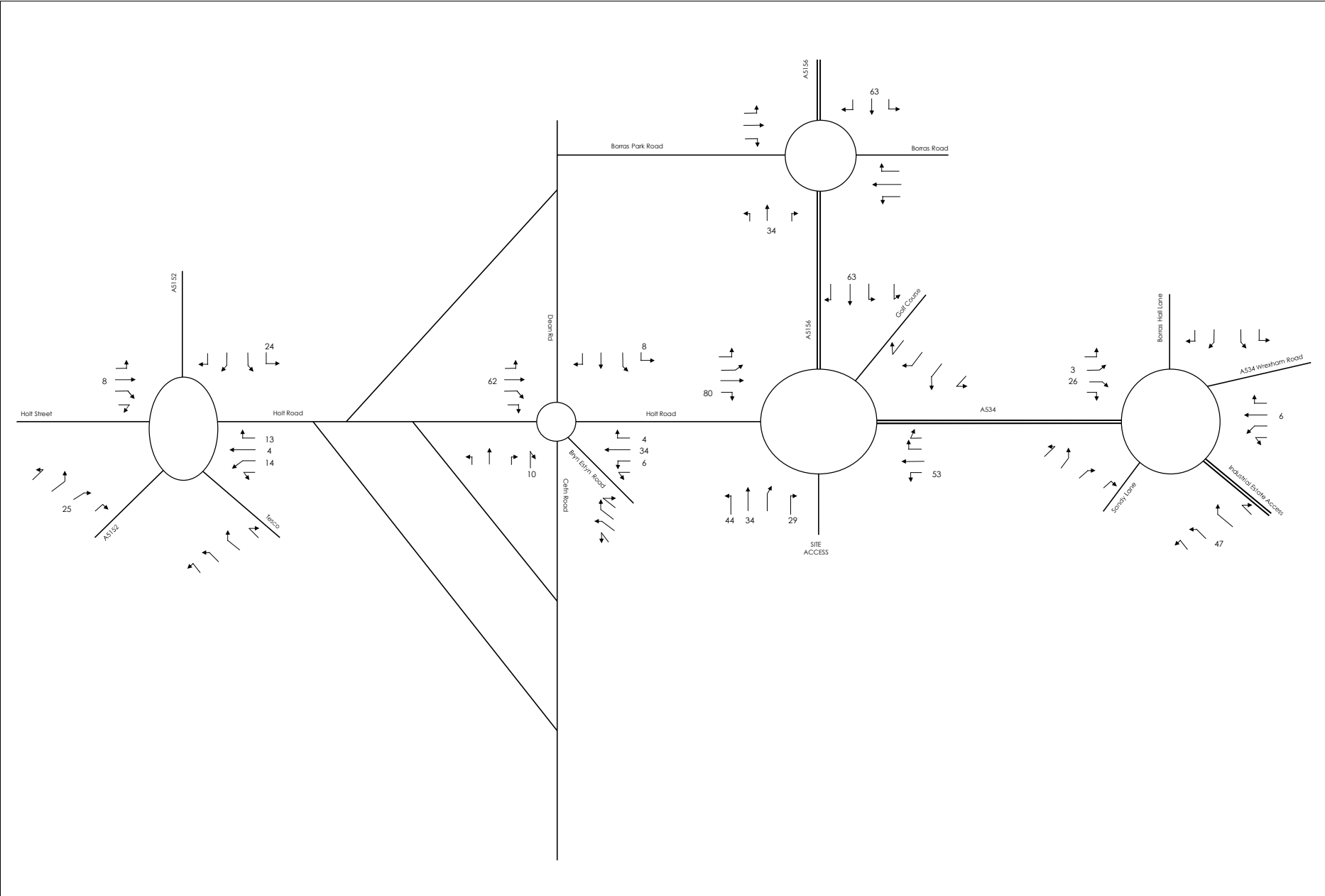


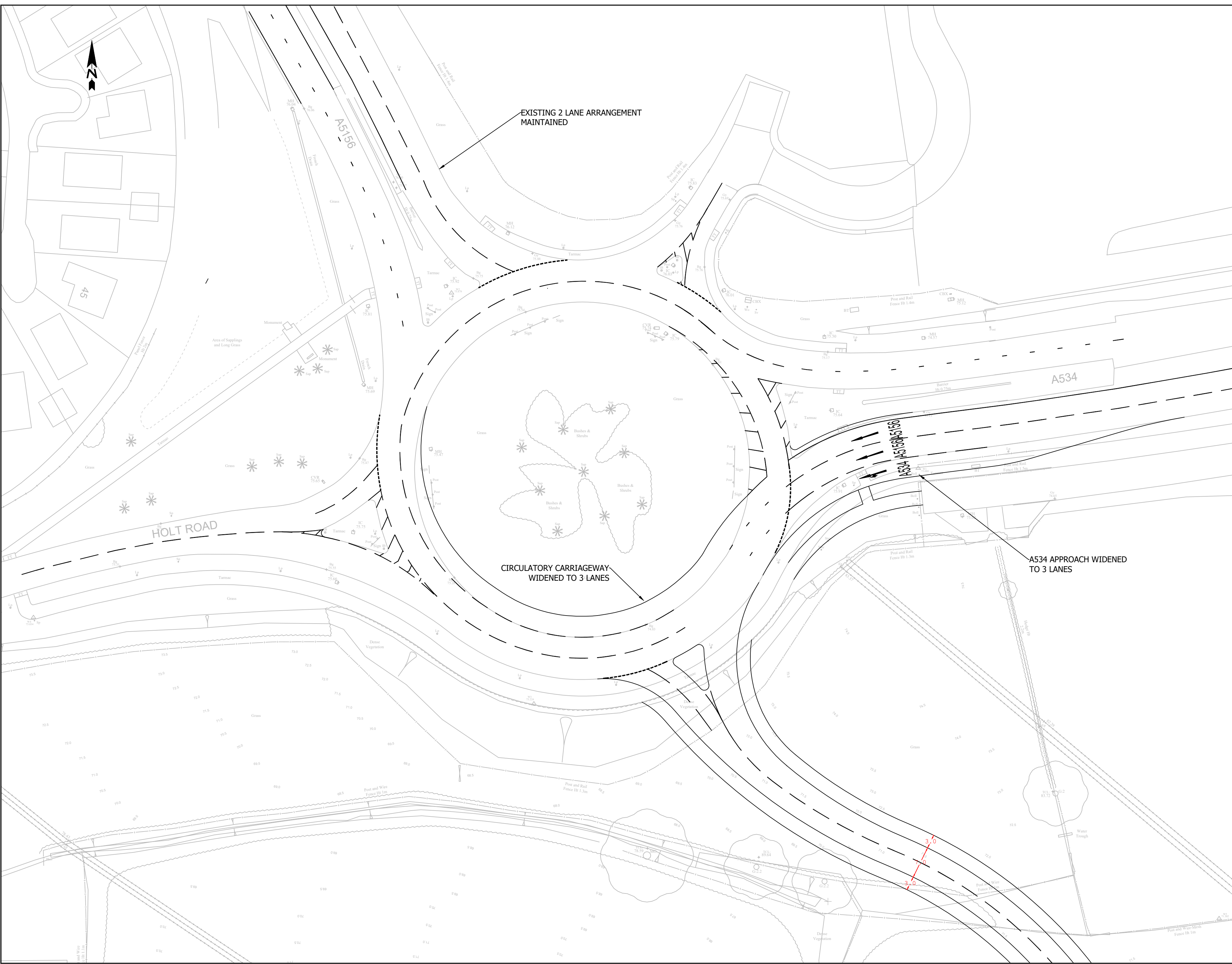
Figure 6.2 Development Traffic Flows: Evening Peak





Appendix A: Drawing CBO-0322-017: Proposed Site Access and Improvements to A534 / A5156 Roundabout





EXISTING 2 LANE ARRANGEMENT
MAINTAINED

CIRCULATORY CARRIAGEWAY
WIDENED TO 3 LANES

A534 APPROACH WIDENED
TO 3 LANES

Rev.	Date	Revision Details	Drawn	Checked	App.



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Client
Barratt Homes and Bloor Homes North West

Project
KS22 / KS53

Drawing Title
A5156/A534 Roundabout
Interim Improvement Scheme

Drawn	Checked	Approved
SFB	PC	PC

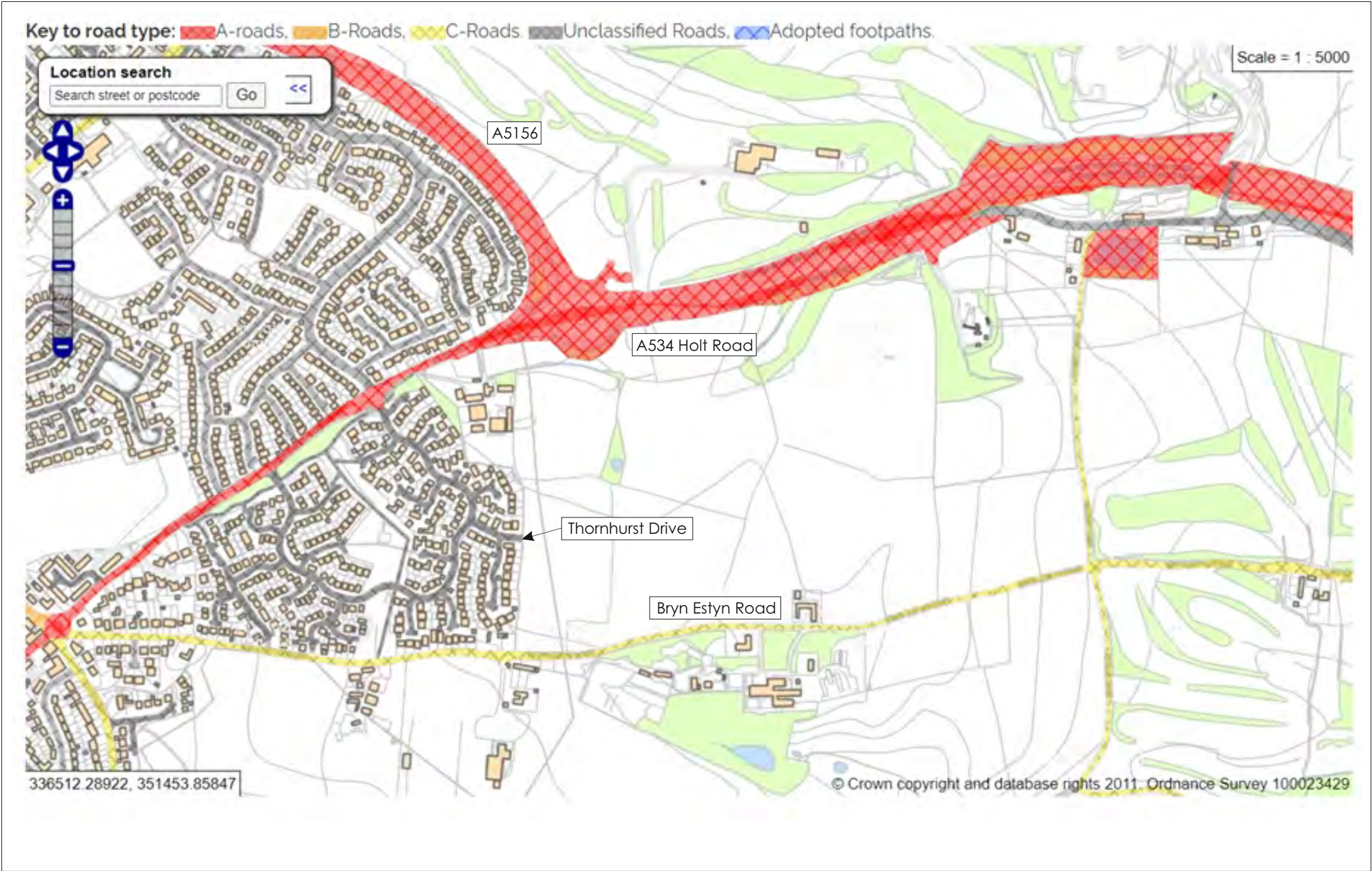
Scale / Size	Date
1:500 @ A2	22.08.2019

Status	Drg No	Rev
Information	CBO-0322-017	



Appendix B: WCBC Highway Adoption Map

Figure AB1 Highway Adoption in the Vicinity of the Site





Appendix C: Illustrative Concept Site Layout





LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

**RANDALL
THORP**

Canada House, 3 Chepstow Street, Manchester M1 5FW
0161 228 7721 mail@randallthorp.co.uk www.randallthorp.co.uk

Key:

- Site boundary
- Open space
- Undevelopable sloping land
- Potential residential development
- Primary access point (as per CBO Site Access plan ref CBO-0322-011)
- Potential secondary link
- Strategic link road
- Primary roads
- Secondary roads
- Tertiary roads
- Footpaths
- Strategic cycle link
- Existing pedestrian and cycle routes
- Existing vegetation
- Existing pond to be retained
- Proposed woodland
- Proposed trees
- Play area
- Indicative SuDs attenuation areas (if required)

**BARRATT
HOMES**
built around you

**BLOOR HOMES**

Land South of Holt Road, Wrexham

Draft Illustrative Concept Layout

Drwg No: 661B-04 C
Drawn by: SB
Rev by: SB
QM Status: Checked
Scale: 1:2500 @ A3

Date: 30.01.18
Checker: DL
Rev checker: DL
Product Status: Issue

Illustrative Land Use Summary:

Site area:	28.52 ha
Residential development:	15.55 ha
Visually prominent land:	1.99 ha
Undevelopable land (open space):	3.28 ha
SuDS ponds:	0.65 ha
Woodland buffers:	1.35 ha
Other informal open space:	5.70 ha



Appendix D: Extracts from the LDP Statement of Common Ground (CD3.22)





BORRAS HALL LANE

WREXHAM ROAD

A534

INDUSTRIAL ESTATE ROAD

SANDY LANE

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Rev.	Date	Revision Details	Drawn	Check	App.



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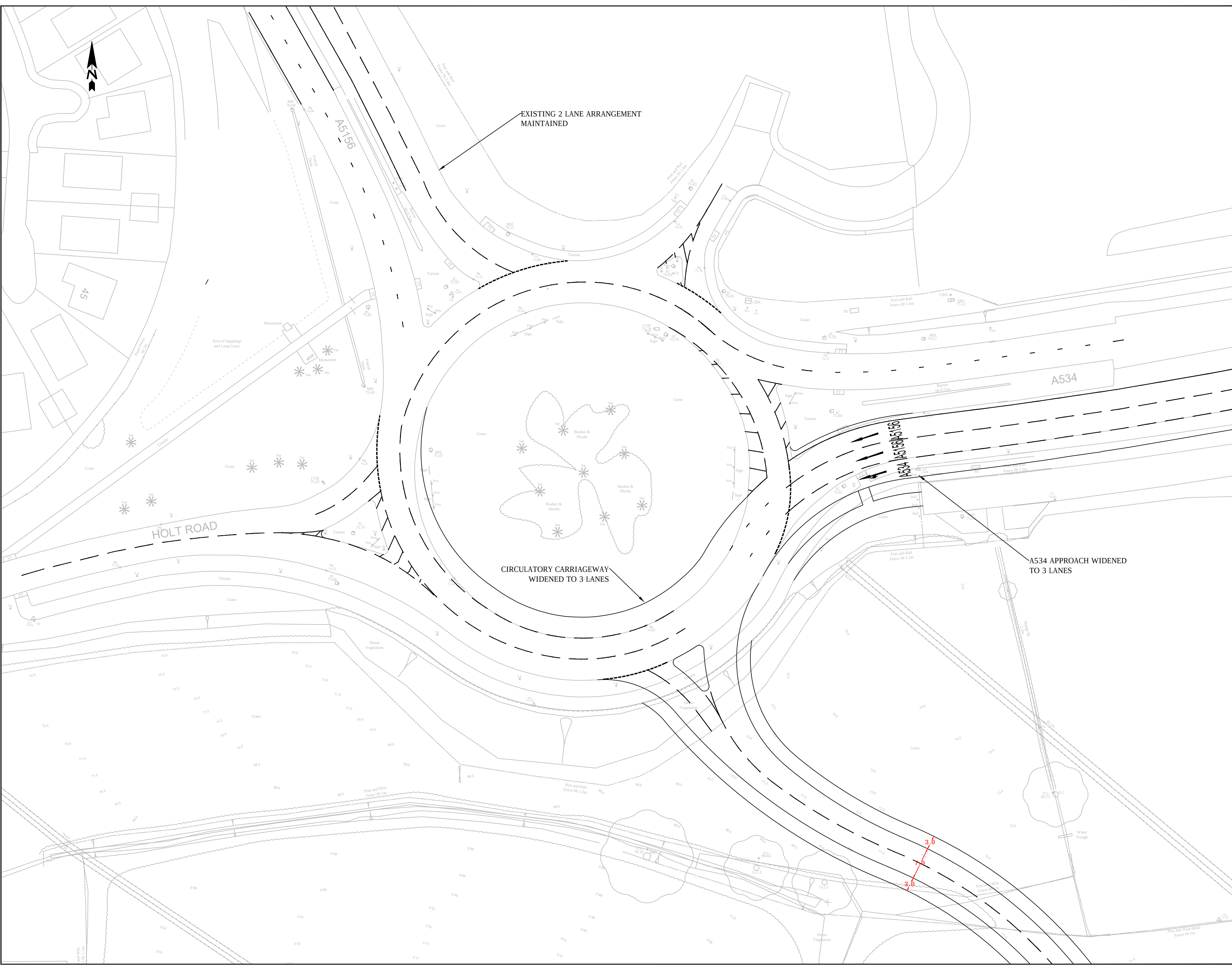
Project
KSS2 / KSS3

Drawing Title
Industrial Estate Roundabout Improvement Scheme

Drawn	Checked	Approved
LPB	PC	PC

Scale / Size	Date
1:500 @ A2	25.08.2019

Status	Drg No	Rev
Information	CBO-0322-015	

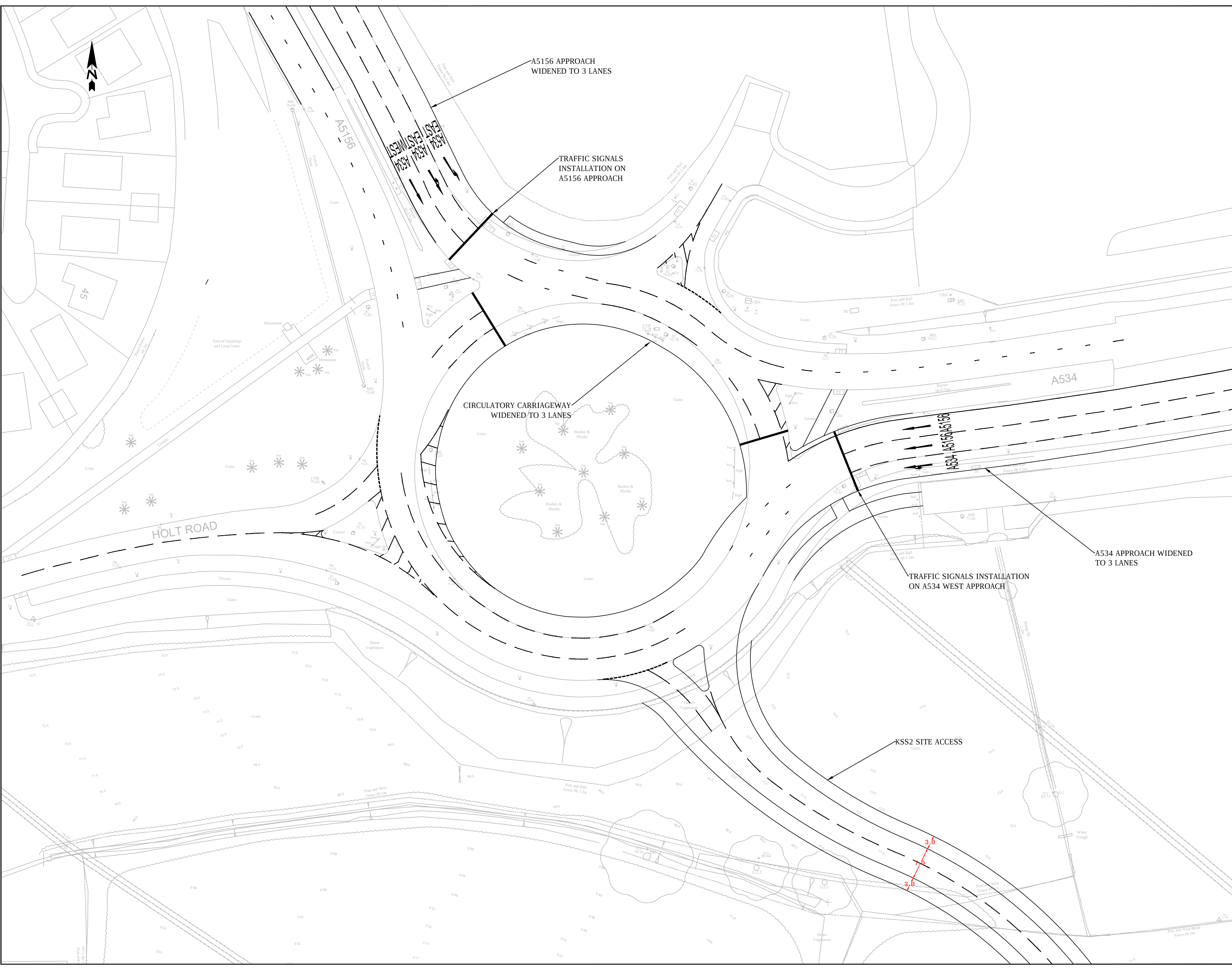


Rev.	Date	Revision Details	Drawn	Checked	Appr.



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Client		
Barratt Homes and Bloor Homes North West		
Project		
KSS2 / KSS3		
Drawing Title		
A5156/A534 Roundabout Interim Improvement Scheme		
Drawn	Checked	Approved
SFB	PC	PC
Scale / Size		Date
1:500 @ A2		22.08.2019
Status	Drw No	Rev
Information	CBO-0322-014	



Rev.	Date	Revision Details	Drawn	Check	App.



CBO
TRANSPORT

Client
Barratt Homes and Bloor Homes North West

Project
KSS2 / KSS3

Drawing Title
A5156/A534 Roundabout
Full Improvement Scheme

Drawn	Checked	Approved
SFB	PC	PC

Scale / Size	Date
1:500 @ A2	25.08.2019

Status	Drw No	Rev
Information	CBO-0322-016	

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Appendix E: Welsh Government Letter of No Objection to the
Appeal Development





Llywodraeth Cymru
Welsh Government

Development Control
Wrexham County Borough Council
16 Lord Street
Wrexham
LL11 1LG

Eich cyf / Your ref P/2019/0005

Ein cyf / Our ref 20/NM-2807

27 April 2020

Dear Sir/Madam,

**TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (WALES)
ORDER 2012:**

Land South of Holt Road, Wrexham, LL13 9SA

**Outline Application For The Construction Of Up To 600 Dwellings, With Associated
Landscaping, Public Open Space And On-Site Infrastructure, With All Matters Reserved Except
From The Northern Site Access**

I refer to your consultation of 3 March 2020 regarding the above planning application and advise that the Welsh Government as highway authority for the A483 trunk road does not issue a direction in respect of this application.

If you have any further queries, please forward to the following Welsh Government Mailbox
NorthandMidWalesDevelopmentControlMailbox@gov.wales

Yours faithfully

Casey Dunn



BUDDSODDWR MEWN POBL
INVESTOR IN PEOPLE

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