

PROPOSED RESIDENTIAL DEVELOPMENT

Vicarage Lane, Gresford

Transport Statement

Prepared on behalf of:



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1.0 INTRODUCTION

1.1 Purpose of This Report

- 1.1.1 This Transport Statement (TS) has been prepared by Axis on behalf of Gower Homes to consider the highways and transport implications of a detailed planning application for a new residential development comprising 44 dwellings off Vicarage Lane, Gresford.
- 1.1.2 This TS has been prepared in accordance with the relevant sections of the Welsh Government's *"Technical Advice Note 18"* (TAN18).

1.2 Pre-Application Discussions

- 1.2.1 Significant scoping discussions have been held between the project planning / design team and Wrexham County Borough Council (WCBC) Planning and Highways Officers over the last 18 months. During this time, various details on the scheme have evolved.
- 1.2.2 These discussions culminated in the preparation of a formal pre-application consultation (PAC) in August 2018, pursuant to Article 1 of The Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016.
- 1.2.3 As part of this PAC process, a TS report dated March 2018 was produced by the previous highway consultants (Curtins), which was made available for consultation to the local community and to the local highway and planning authority at WCBC.
- 1.2.4 A copy of the response from WCBC Highways to the PAC is contained in **Appendix 1**. The comments are addressed in detail within this updated TS report, however for ease of cross reference **Appendix 1** also contains a summary of Axis' findings and response to each comment.

1.3 Structure of This Report

- 1.3.1 The structure of this TS is as follows:
- Following this introduction, Chapter 2 of the report provides a comprehensive description of the existing site and its surroundings, including a review of the highway safety record and details of traffic surveys;

- The accessibility of the site by sustainable modes of travel (including on foot, by bicycle and by public transport) is assessed in Chapter 3;
- The development proposals are summarised in Chapter 4, including the proposed parking provision, servicing and access arrangements;
- Chapter 5 outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals;
- Chapter 6 provides a detailed appraisal of the mitigation measures that are proposed as part of the proposed development;
- The concerns raised by various parties in response to the pre-application consultation exercise are addressed in Chapter 7;
- Relevant local and national transport policy is summarised in Chapter 8; and,
- The report is summarised and concluded in Chapter 9.

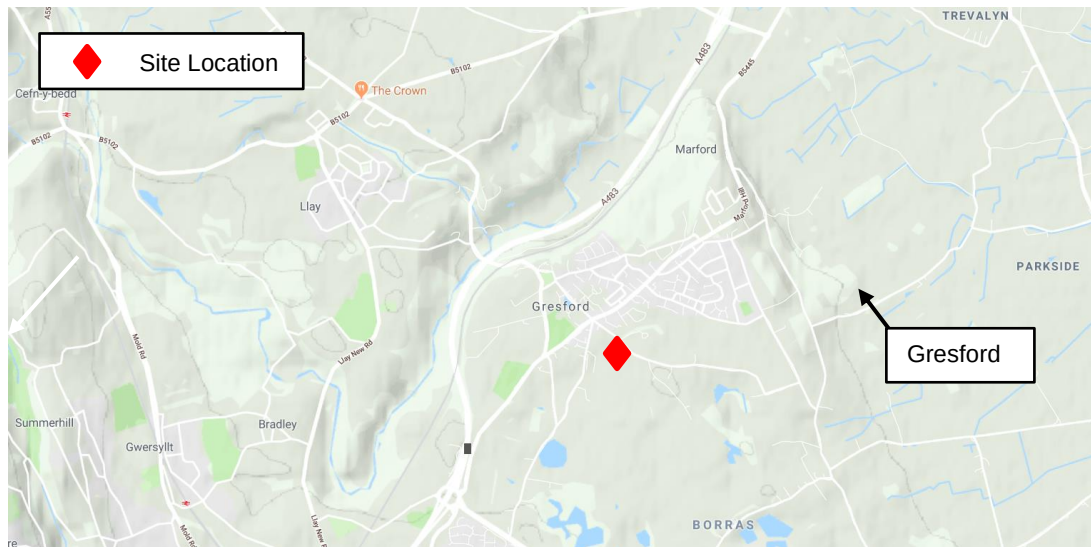
2.0 SITE LOCATION AND SURROUNDING AREA

2.1 Site Location

2.1.1 The proposed development site is located on the south-western side of Gresford. It is bound by Vicarage Lane to the north-east, residential properties to the east, undeveloped land to the south and the rear of residential properties to the west and north-west.

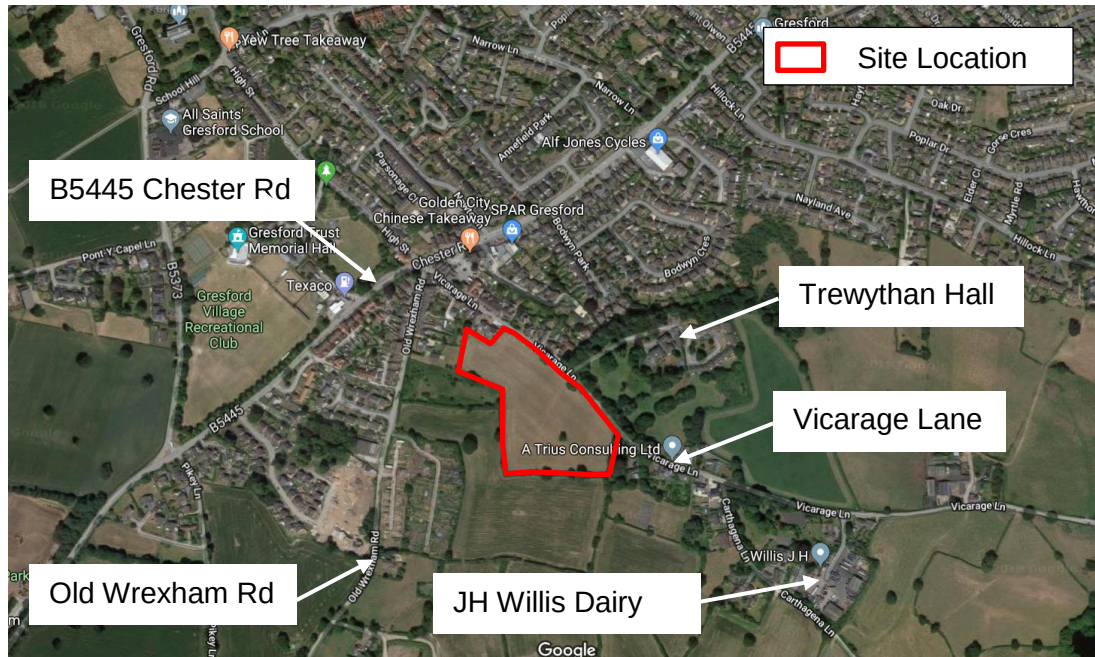
2.1.2 **Figure 2.1** shows the site location in relation to the wider highway network:

Figure 2.1 – Site Location – Wider Context



2.1.3 The site is shown in a more local context on **Figure 2.2** below:-

Figure 2.2 – Site Location – Local Context



2.2 Existing Use

- 2.2.1 The application site currently comprises agricultural land.

2.3 Existing Access Arrangements

- 2.3.1 There is an existing agricultural access from Vicarage Lane along the north-eastern site boundary, situated adjacent to the Trewythan Hall Care Home access.

2.4 Surrounding Highway Network

Vicarage Lane

- 2.4.1 The proposed development would be accessed from Vicarage Lane. The road extends along an approximate north-west/south-east alignment past the northern site boundary, linking the site to Gresford Village Centre.
- 2.4.2 Vicarage Lane is a single lane, two-way road with a typical carriageway width of approximately 5m – 6m along to the north-eastern site boundary. Heading south-eastwards, the carriageway narrows as Vicarage Lane becomes more rural.

- 2.4.3 Heading south east from the signalised junction with the B5445, Vicarage Lane is subject to a 30mph speed restriction. However, adjacent to the Trewythen Hall access, the speed limit increases to 60mph as it continues south east to a T-junction with Wynnstay Lane.
- 2.4.4 On-street parking occurs along Vicarage Lane, predominantly along the northern side outside the existing properties. There is currently no footway provision, although some street lighting is present. This is discussed further in **Chapters 4 and 6** of this TS.

B5445 Chester Road

- 2.4.5 The B5445 Chester Road forms a signalised junction with Vicarage Lane approximately 140m from the north west corner of the site. The road extends along an approximate north-east/south-west alignment; linking Gresford to Rossett in the north and Wrexham in the south.
- 2.4.6 In the vicinity of the signalised junction with Vicarage Lane, the B5445 Chester Road forms a single lane, two-way road with a typical carriageway width of approximately 9m. There are crossing points with dropped kerbs and tactile paving at the junction, in addition to a pedestrian refuge island within 30m to the south west.
- 2.4.7 There are bus laybys situated within 50m of the north-eastern and south-western arms of the signalised junction, complete with shelters. A combination of advisory/off-road cycle provision also extends along the carriageway throughout south-western areas of Gresford.
- 2.4.8 Footways are present along both sides of the road, and the B5445 Chester Road is lit with street lighting.

2.5 Highway Operation

- 2.5.1 A high-level review of the local highway network described above has been undertaken utilising Google Traffic, a feature on Google Maps. Google Traffic works by analysing the GPS-determined locations of mobile phone users and calculating their speed along a length of road (in relation to the prevailing speed limit) and their subsequent congestion times at junctions.

- 2.5.2 Within Google Traffic users can access historical data to present the “typical traffic” for an area based on the time of day and day of the week. A coloured overlay appears on top of the road with ‘green’ representing a normal speed of traffic, ‘yellow’ representing slower traffic and ‘red/ dark red’ indicating congestion.
- 2.5.3 A review of both the AM and PM peak hours in Gresford, on any given weekday demonstrates that the majority of the highways links and junctions are ‘green’ or ‘yellow’ with 3 small sections of ‘red’ and no ‘dark red’ recorded. Therefore, there are no particularly problematic locations that suggest a material congestion issue.
- 2.5.4 **Figure 2.3** and **2.4** below illustrates a typical weekday traffic example in Gresford, based on Google Traffic data, during the AM and PM peak hours: -

Figure 2.3 – Typical AM Peak Traffic (Thursday 8.30am) in Gresford (Google Traffic)

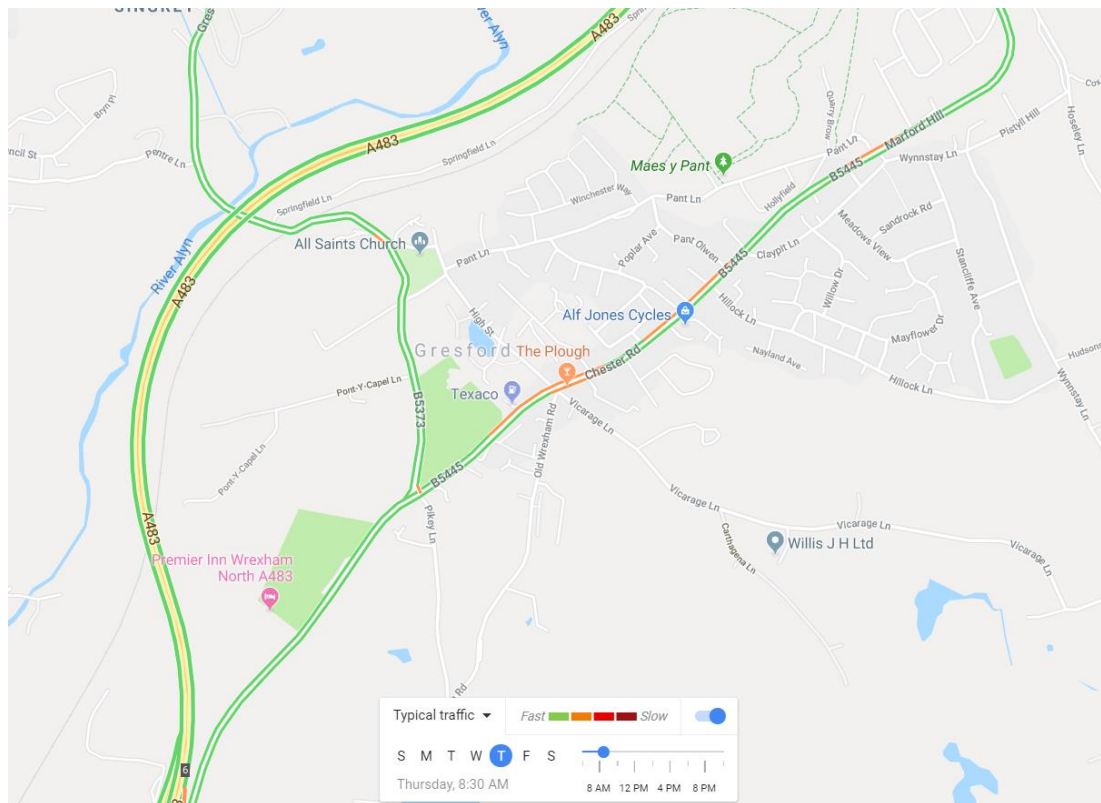
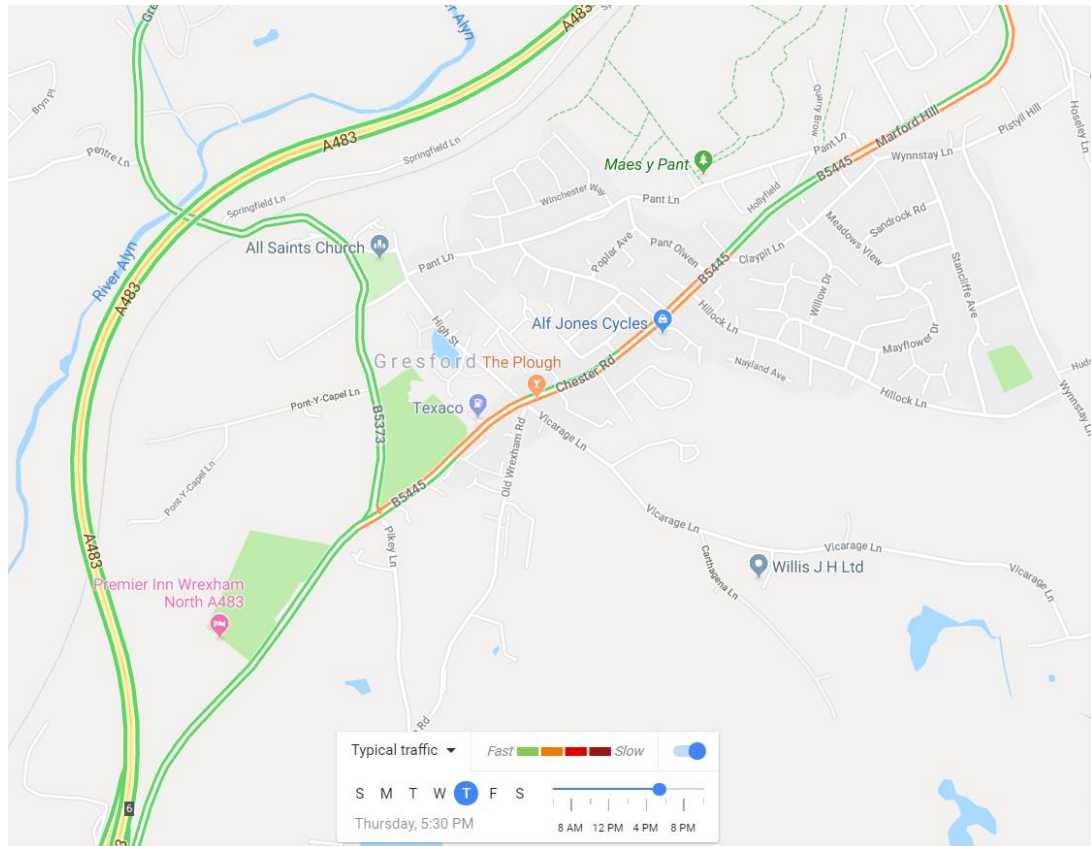


Figure 2.3 – Typical PM Peak Traffic (Thursday 17.30pm) in Gresford (Google Traffic)



2.5.5 **Figures 2.3 and 2.4** show that during the typical weekday peak hours traffic conditions in Gresford, there are no instances of 'red' or 'dark red', and only some areas of 'orange' along Chester Road where traffic is slightly slower than it otherwise could be.

2.6 ATC Traffic Surveys

2.6.1 A number of surveys have been carried out along Vicarage Lane to objectively establish how the existing route operates.

2.6.2 Two Automatic Traffic Counter (ATC) speed surveys were placed either side of the proposed development site access location (eastern and western survey sites). The purpose of the surveys was to establish the 'design' speed of traffic along Vicarage Lane (to determine junction visibility purposes) and also traffic and HGV volumes.

2.6.3 The surveys were undertaken by an independent surveying company between 01/07/2017 and 07/07/2017 inclusive. The results have been included in **Appendix 2** and are summarised in **Table 2.1:-**

Table 2.1 – ATC Survey: Summary

Site		7-Day Speeds (mph)		Vehicle Volumes			
		Average Speed	85 th %ile Speed	Weekday Average		Week Average	
				Veh	HGV	Veh	HGV
E	Eastbound	20.2	25.3	451	33	397	30
	Westbound	23.6	29.1	505	31	440	28
W	Eastbound	19.8	24.9	452	32	403	28
	Westbound	20.8	26.0	504	32	441	30

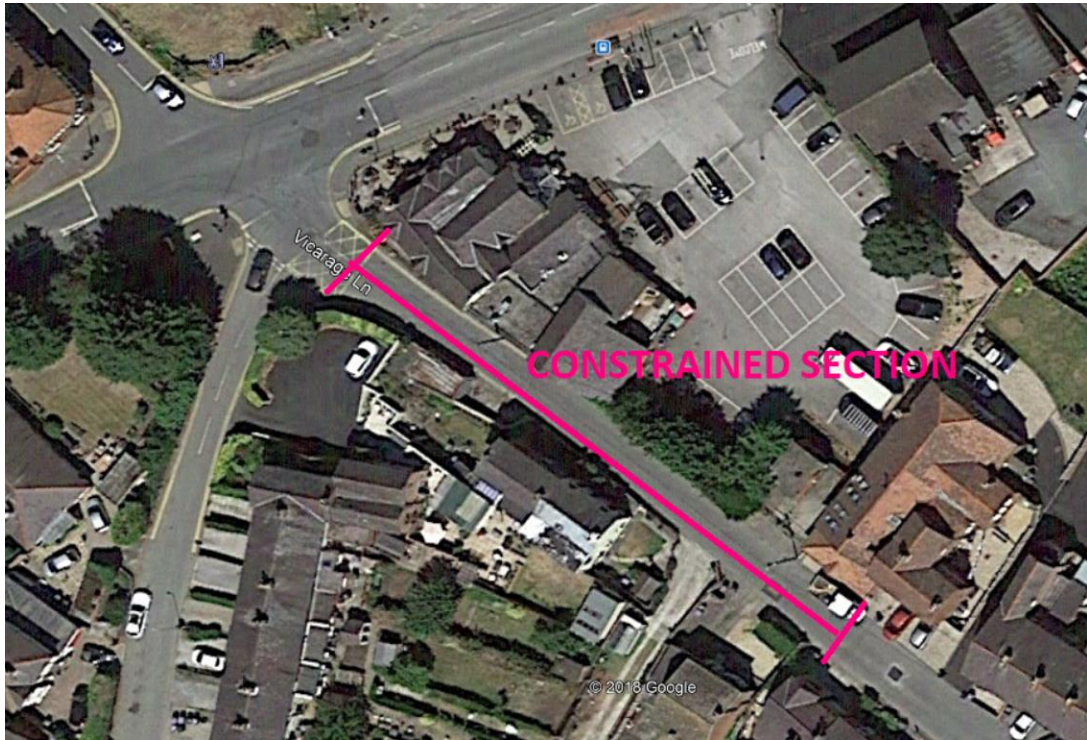
2.6.4 It is clear from the above table that the vast majority of vehicular movements that were observed to pass site did so comfortably within the 30mph speed limit. It is also clear that two-way weekday flows are in the region of 956 vehicles which is considered a relatively low flow for an adopted classified 'C-Road' as per WCBC's online interactive adopted roads map.

2.7 Video Traffic Surveys

2.7.1 In addition to the above ATC surveys, a further video-based traffic survey was carried out on Wednesday 17th October 2018 by MHC Traffic Ltd, a professional traffic surveying company.

2.7.2 The video survey consisted of 3 cameras positioned on Vicarage Lane within the first 100m of its junction with Chester Road. This area is perceived to be the main constrained section of Vicarage Lane, as shown on **Figure 2.5** below:

Figure 2.5 – Main Constrained Section of Vicarage Lane Surveyed by Video Camera



- 2.7.3 The main purpose of the survey was to establish the manner in which this section of Vicarage Lane currently operates, and also to determine whether the proposed mitigation measures (discussed in detail later in **Chapter 6**) along that section will therefore function effectively.
- 2.7.4 More specifically, the survey was carried out to check whether vehicles currently give-way to one another along the constrained section of Vicarage Lane (informally, by virtue of the geometry and nature of that section of the route), and if this would therefore provide a good indication of how a formalised give-way single track highway improvement scheme might operate. The survey confirmed that this is indeed the case.
- 2.7.5 However the survey footage was also analysed in detail to provide some important secondary information as well, namely the following:-
- The two-way vehicle movement along the section of Vicarage Lane (i.e. as a means to validate the outcome of the ATC survey carried out in July 2017);
 - A note of the frequency with which two vehicles were observed to meet one another, or when a vehicle meets a cyclist or a pedestrian, and then a brief summary of what each party does on those occasions; and,

- The amount of pedestrians observed to walk along the constrained section.

2.7.6 A copy of the raw data is contained in **Appendix 3**.

2.7.7 The results of the two-way directional traffic count tally well with the results of the weekday ATC data summarised in **Table 2.1** earlier. The July 2017 ATC indicated that there were around 956 two-way traffic movements per day along Vicarage Lane (west of the proposed site access), whilst the video survey showed there were 908 two-way movements on the survey day. This is only a 5% variance in flow which is within the typical 10% degree of variation that might be expected in traffic flow on any highway link.

2.7.8 The results of the video survey are discussed in greater detail later in **Chapter 6** in the context of the proposed highway improvement scheme put forward as part of the planning application.

2.8 Highway Safety

2.8.1 Personal Injury Accident (PIA) data for the highway network adjacent to the site has been obtained from the online CrashMap resource for the most recently available 19-year period (1999 – 2017 inclusive). The Crashmap extract is shown below on **Figure 2.4:-**

Figure 2.6 – Crashmap Extract for Vicarage Lane, 1999-2017 Inclusive



- 2.8.2 Ordinarily, for the purposes of establishing whether there might be a pre-existing highway safety issue near a proposed development site (and which might therefore be exacerbated by the development traffic), data from a 3 year period would be examined, or where onerous safety issues are present, the 5 year road safety record would be considered.
- 2.8.3 However, Crashmap contains the records going back up to 19 years, some 6+ times longer than the minimum period that it is necessary to examine.
- 2.8.4 Nonetheless, the 19-year record demonstrates that there have been no reported accidents along Vicarage Lane in the vicinity of the site.
- 2.8.5 This therefore provides compelling evidence that Vicarage Lane has operated safely and satisfactorily for a considerable period, despite concerns raised as part of the PAC exercise about a lack of footways and on-street parking.
- 2.8.6 This is discussed further in **Chapter 6** in the context of the proposed highway improvement scheme.
- 2.8.7 Whilst it noted that there have been a number of accidents along Chester Road, including at its signalised junction with Vicarage lane, the frequency of accidents is not considered to be unusually onerous.
- 2.8.8 The accidents that have occurred on Chester Road were generally spread out rather than being concentrated in one or two locations. This spread of accidents does not indicate the prevalence of any existing traffic 'hot spots' which would be worsened by the increase in traffic levels that would arise from the development.

2.9 J H Willis Ltd. Dairy

- 2.9.1 Beyond the proposed development site to the south east, Vicarage Lane serves a few residential and farm properties and a milk transportation facility (J H Willis).
- 2.9.2 The transportation of milk requires vehicles similar in nature to an oil tanker. Using the ATC results in **Appendix 2**, the following **Table 2.2** sets out the recorded HGV movements in comparison to total vehicle movements:-

Table 2.2 – ATC Survey: HGV Traffic

	Eastbound			Westbound			Two-Way		
	Total Vehs	HGVs	%HGVs	Total Vehs	HGVs	%HGVs	Total Vehs	HGVs	%HGVs
Monday	344	32	9.3%	402	32	8.0%	746	64	8.6%
Tuesday	448	32	7.1%	497	28	5.6%	945	60	6.3%
Wednesday	465	32	6.9%	533	21	3.9%	998	53	5.3%
Thursday	509	31	6.1%	518	30	5.8%	1,027	61	5.9%
Friday	489	39	8.0%	576	44	7.6%	1,065	83	7.8%
Saturday	276	19	6.9%	299	20	6.7%	575	39	6.8%
Sunday	248	25	10.1%	255	20	7.8%	503	45	8.9%
Average Day	397	30	7.8%	440	28	6.5%	837	58	7.1%

2.9.3 The information presented in **Table 2.2** demonstrates that, over an average day, approximately 58 HGVs travel along Vicarage Lane. Assuming a 12hr day (even though the counts are a full 24hrs), this equates to approximately one movement every 12 – 13 minutes on average.

2.10 Trewythen Care Home Appeal

2.10.1 An Appeal was lodged in 2015 in relation to the refusal of planning permission for an extra care facility, creation of an internal access road and associated works on land adjacent to the Trewythen Care Home, which is located opposite to the application site (see **Figure 2.2** earlier).

2.10.2 As the Appeal concerned an adjacent site, some relevant observations were made regarding pedestrian/vehicular interaction and associated highway safety along Vicarage Lane.

2.10.3 The Inspector's full decision is provided in **Appendix 4**, whilst paragraphs 22 – 24 from the Appeal Decision are reproduced below:-

“22. There are no footpaths along Vicarage Lane and there is a high level of on-street parking between the site and the junction with Chester Road to the north. The Council is concerned that this does not provide a safe route for pedestrians from the site to the local shops and bus stops on Chester Road. It is clear from the discussion at the hearing that existing residents on the site walk or use mobility scooters between the site and Chester Road and I observed staff from the Hall and local residents walking along Vicarage Lane as I also did. Whilst it would be preferable to segregate pedestrians from the main highway the Council confirmed this was not possible.

23. Notwithstanding this, the route is within a 30mph area and the nature of the road together with the parked cars actively slow vehicles. Pedestrians do have to be more aware of the traffic when using a shared surface rather than when there is a dedicated footway and I accept that some residents may choose not to walk to local services. However, I do not consider the situation to be significantly different from numerous roads in rural settlements. Furthermore, I do not consider that the increase in the use of Vicarage Lane by pedestrians as a result of the proposed development would be so significant as to be detrimental to highway safety.

24. I therefore conclude that, subject to the provision of the stated visibility splays, the proposal would not harm highway safety, in accord with Policy GPD1(d) of the UDP.”

- 2.10.4 Although the Appeal was ultimately dismissed, this was not for highway reasons and so the above observations are considered to be highly material to the consideration of this planning application.

3.0 ACCESSIBILITY BY SUSTAINABLE MODES OF TRAVEL

3.1 Introduction

3.1.1 A key element of national, regional and local policy is to ensure that new developments are located in areas where alternative modes of travel to the car are available. It is important to ensure that developments are not isolated but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

3.1.2 The accessibility of the proposed development is considered in this context for the following modes of travel:

- Pedestrian Accessibility;
- Accessibility by Cycle; and
- Accessibility by Public Transport.

3.2 Pedestrian Accessibility

3.2.1 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled “*Guidelines for Providing for Journeys on Foot*” suggests walking distances which are relevant to this planning application. These are reproduced in **Table 3.1:-**

Table 3.1 – CIHT Suggested Acceptable Walking Distances

	Town Centres (m)	Commuting/School/ Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

- 3.2.2 To assist in summarising the accessibility of the site by foot, an indicative pedestrian catchment plan has been produced. **Plan 2479-01-SK05** in **Appendix 5** shows distances of 500m, 1,000m and 2,000m which are termed 'Desirable', 'Acceptable' and the 'preferred maximum' by the CIHT for commuting and school trips; deemed an appropriate proxy for the majority of residential trips.
- 3.2.3 Gresford Branch Library is located within 200m walk from the centre of the site. The 500m catchment extends to a number of residential dwellings to the north and west of the site along roads such as Vicarage Lane, High Street, Old Wrexham Road and Newtown. The catchment reaches as far as Parc Bodwyn, Allington Crescent and Lakeside Close.
- 3.2.4 Moreover, within this 500m catchment along the A5445 Chester Road, there is also a row of local shops including convenience stores (including a food store), an ATM, Post Office facilities, eating / drinking establishments, a pharmacy and a hair and beauty facility.
- 3.2.5 The 1,000m walking catchment includes All Saints Gresford Primary School, All Saints Church, Gresford Methodist Church, Gresford Health Centre and additional local businesses including eating / drinking establishments. The 2,000m walking catchment covers the majority of Gresford and Marford, and includes the Rofft Primary School.
- 3.2.6 A scheme of off-site improvements to Vicarage Lane is proposed as part of the planning application, full details of which are contained in **Chapter 6**. This will partially mitigate against the lack of footway provision between the site and the village centre.
- 3.2.7 In addition, the proposed development layout includes pedestrian infrastructure, including a 4m wide foot/cycleway through the site which will allow pedestrians and cyclists passing along Vicarage Lane to divert through the site instead of walking or cycling along the lane. Furthermore the scheme includes a new footway link to the public footpath to the south-east of the site frontage, as requested by WCBC Highways in their response to PAC exercise (see **Appendix 1**).
- 3.2.8 The site is therefore considered to be accessible on foot.

3.3 Accessibility by Cycle

- 3.3.1 In order to assist in assessing the accessibility of the site by cycle, **Plan 2479-01-SK06** in **Appendix 5** presents an 8km cycle catchment for the site. The 8km cycling distance refers to a recommendation within the document *“Integrating Cycling into Development Proposals”* (2009).
- 3.3.2 The catchment extends as far as Hope in the north, Holt to the east, and the whole of Wrexham and Wrexham Industrial Estate to the south and south west.
- 3.3.3 There are 6 railway stations situated within the catchment area, therefore the potential for a longer journey by cycle and rail is a possibility for prospective residents.
- 3.3.4 Considering the facilities in the surrounding areas and nature of the surrounding road network, there are no reasons why travel by bicycle would not be an option for some future residents of the proposed development.

3.4 Accessibility by Public Transport

- 3.4.1 **Plan 2479-01-SK07** in **Appendix 5** demonstrates those areas accessible via public transport within 20, 40 and 60 minutes journey from the site. The catchment extends as far as Chester, Buckley and Chirk; and the whole of Wrexham Town Centre is accessible within 20minutes – 40 minutes.
- 3.4.2 Accessibility by bus and rail are considered in further detail within the subsections below.

Bus Accessibility

- 3.4.3 Guidance from the CIHT document *“Guidelines for Planning for Public Transport in Development”* indicates that ideally, a bus stop should be located within 400m from a new development.
- 3.4.4 The nearest bus stops to the site are located approximately 300m – 350m from the centre of the site along the B5445 Chester Road. **Table 3.2** details the service number 1 that calls at these stops and its associated frequencies:-

Table 3.2 – Summary of Bus Service Frequencies from Chester Road

Bus Service	Route	Typical Frequency (One Way)		
		Mon – Fri	Sat	Sun/Hols
1	Wrexham – Chester via Gresford – Marford – Rossett – Chester Business Park	15 mins	15 mins	30 mins

3.4.5 Bus service number 1 provides regular access to key residential, leisure and employment destinations across Wrexham and its surrounding areas including Wrexham Town Centre itself, Chester and Chester Business Park.

3.4.6 The service also offers regular access to these areas on the weekends. It is considered that the site is highly accessible by bus.

Rail Accessibility

3.4.7 Wrexham General and Wrexham Central Railway Stations are both located approximately 5km – 6km to the south west of the site. Whilst these are outside of typical walking catchments, it is considered that some future residents could travel by rail as part of a multi-modal trip (e.g. by cycle). In addition, Gwersyllt, Cefn-y-Bedd, Caergwrle and Hope stations are also within an 8km cyclin distance, as shown on **Plan 2479-01-SK06** in **Appendix 5**.

3.4.8 The number 1 bus service terminates at Wrexham Bus Station, which is within 250m walk of Wrexham Central and approximately 500m walk of Wrexham General. Additionally, the stations are both situated within the 8km cycle catchment.

3.4.9 Wrexham General offers a wider range of services, with regular destinations such as Cardiff Central, Bidston and Llandudno. These services provide access to a variety of key employment, leisure and residential areas across Wales and England including:

- Shrewsbury
- Rhyl
- Hereford
- Newport
- Caergwrle
- Heswall
- Flint

- Buckley
- Ludlow
- Shotton

3.5 Comparison with Other Potential Candidate Development Sites in Gresford

- 3.5.1 The emerging Local Development Plan for Wrexham proposes to classify settlements into a defined hierarchy. Within this, Gresford is identified as being a 'Tier 2' settlement, where naturally, it would be expected to be a suitable location for growth given its range of services and facilities, its scale, its proximity to the main Tier 1 settlement of Wrexham, its sustainable location and proximity to Wrexham Industrial Estate and the A483 trunk road network.
- 3.5.2 Moreover, Gresford has the capacity to deliver growth and in the context of Planning Policy Wales (and the emerging framework which concentrates on placemaking and sustainable growth) it is therefore unclear why Gresford is not identified within the emerging LDP as being a location to provide for this growth.
- 3.5.3 Nonetheless, Axis and J10 Planning have carried out an exercise to examine all of the prospective residential development sites in and around Gresford to determine the relative merits of each site (in sustainability, access and general planning terms) in relation to the application site.
- 3.5.4 **Plan 2479-01-SK04** in **Appendix 6** identifies these sites. The sites are a mixture of those candidate sites put forward to the Council as part of the recent 'call for sites' exercise, sites identified by council officers, urban capacity study sites as well as a number of other sites identified as potentially capable of being brought forward for development. Together, there are some 32 sites.
- 3.5.5 The 'Gresford Site Sustainability Assessment', also in **Appendix 6**, sets out an assessment of these sites.
- 3.5.6 In summary, the analysis shows that the site is comparatively very close to the useful everyday facilities in the village centre in relation to other potential candidate residential sites around the village. Moreover, the plan demonstrates that most other candidate residential schemes would also face similar footway provision shortfalls as the application site, if they were developed.

- 3.5.7 There are very few wholly unconstrained sites in Gresford that can claim to be accessible to pedestrians in a way which wholly satisfies the aspirations within Planning Policy Wales, Active Travel Wales Act Guidance or TAN 18.
- 3.5.8 The emerging LDP, which at the time of writing has been submitted to the Welsh Government following approval by Full Council in its current “Submission Version” form, identifies further constraints on other potential development sites, namely the location of a large Site of Special Scientific Interest and areas of Green Barrier / Wedge land that provide robust protections against new development coming forward in those locations, whereas the application site is free of any such constraint. A copy of the LDP Deposit Draft Plan for Gresford is contained in **Appendix 6** for reference.
- 3.5.9 It is considered to be a defining characteristic of Gresford (and indeed other similar villages within Wrexham Borough) that large parts of the road network simply do not have any footway provision. However, this lack of footway provision should not necessarily automatically lead to highway safety concerns.
- 3.5.10 The accident record summarised earlier in **Chapter 2** supports this view, as does observations of the video survey recently conducted. Chapter 6 provides a full appraisal of the

3.6 Accessibility Summary

- 3.6.1 The site is considered to be highly accessible by various modes of transport. There are a number of public transport opportunities within acceptable walking distance of the site, and there are everyday facilities situated within typical walking and cycling catchments.
- 3.6.2 It is considered that the site presents an excellent opportunity to accommodate a sustainable residential development in Gresford, particularly when compared to other prospective residential sites within the settlement.

4.0 DEVELOPMENT PROPOSALS

4.1 Introduction

- 4.1.1 The scheme comprises a detailed planning application for the development of 44 dwellings on land off Vicarage Lane.
- 4.1.2 The proposed development layout is provided to the rear of this report as **Appendix 7**.

4.2 Proposed Access

Vehicular Access

- 4.2.1 Vehicular access is proposed from Vicarage Lane, approximately 65m to the west of the existing Trewythen Hall Care Home access and the 30mph / 60mph speed limit change.
- 4.2.2 **Plan 2479-01-SK02** in **Appendix 8** illustrates the proposed site access in more detail. The site access bellmouth will feature a 5.5m wide carriageway with a 2m wide footway on its western side, a 4m wide foot/cycleway on its eastern side and 6m corner radii.
- 4.2.3 It will be possible to achieve junction visibility splays of 2.4m x 33m to the west and 2.4m x 41m to the east, in accordance with the observed eastbound 85th percentile speed of 24.9mph, and westbound 85th percentile speed of 29.1mph presented in **Table 2.1**.
- 4.2.4 There will be footways situated along the site frontage extending as far as the junction visibility splay envelopes to ensure that they will be achievable in perpetuity without the prospect of vegetation growing out to encroach upon them.

Pedestrian and Cycle Access

- 4.2.5 Pedestrians and cyclists will be able to access the site at the proposed vehicular access point and also at the eastern corner of the site.
- 4.2.6

- 4.2.7 In accordance with pre-application feedback provided by WCBC Highways, the eastern pedestrian access point will include a short section of footway which abuts Vicarage Lane, linking the on-site footway network to the Public Right of Way (PROW) which runs along the site's eastern boundary.
- 4.2.8 Internally, this footway will also be suitable for cyclists, featuring a total width of around 3.8m-4.1m.
- 4.2.9 In addition to the site access arrangements, **Plan 2479-01-SK02** also shows the proposed off-site pedestrian improvements along Vicarage Lane, providing a formalised pedestrian footway and margin for approximately 50m along the south-western side of the carriageway and a give-way feature for vehicular traffic.
- 4.2.10 The operation of this feature is discussed in greater detail in **Chapter 6** of this report.

4.3 Servicing

- 4.3.1 **Plan 2479-01-SK03** in **Appendix 9** illustrates how a Large Refuse Vehicle (11.2m) is able to access and egress the site in a forward gear, serving all dwellings within the proposed development.
- 4.3.2 The plan also shows how a 7.5T Box Van is able to enter into and turn around within the two cul-de-sacs at the south-western side of the site, and a 3.5T van would be able to turn within the smaller cul-de-sac serving plots 1-8.

4.4 Proposed Parking Provision

Car / Cycle Parking for New Proposed Dwellings

- 4.4.1 The proposed development layout demonstrates that car parking would be provided as per the following:
- 1-bedroom dwellings: 1.5 car spaces per unit;
 - 2-bedroom dwellings: 2 car spaces per unit;
 - 3/4-bedroom dwellings: 3 car spaces per unit; and,
 - 5-bedroom dwellings: 4 car spaces per unit.
- 4.4.2 This is therefore in accordance with the prevailing parking standards contained in WCBC's "*Local Planning Guidance Note (LPGN) 16*" document.

- 4.4.3 In addition, many of the proposed dwellings will include garages (not counted towards parking provision according to LPGN 16), which will provide secure covered cycle parking space within the curtilage of those dwellings.

Car Parking for Existing Dwellings on Vicarage Lane

- 4.4.4 In addition to the above, it is proposed that a parking area is to be provided at the north-west corner of the site, adjacent to units 1 – 8, as shown on the proposed site layout plan in **Appendix 7**.
- 4.4.5 These 11 parking spaces would be offered to the existing residents along Vicarage Lane in order to assist in reducing the number of parked vehicles, thus increasing the available space for pedestrians, cyclists and vehicles to pass one another on the lane.
- 4.4.6 It is expected that the spaces will be apportioned to the existing properties based on the following factors / criteria:
- Demand from the residents;
 - For those existing properties who do not currently benefit from an off-street parking space; and,
 - Proximity of the spaces to the existing dwellings.
- 4.4.7 In the first instance, the level of demand from local residents will determine how the spaces will be apportioned. Some interest has already been received from local residents as a result of the recent PAC exercise.
- 4.4.8 It may also be the case that the spaces could be constructed with the 'passive' infrastructure needed to allow electric vehicle car charging (e.g. 'E.V. Ready', replete with electric connections and ducting etc). The spaces will benefit from natural surveillance by virtue of the properties on either side. The are will also be lit and open.
- 4.4.9 There are a number of mechanisms available to ensure that the spaces will be available to the residents who might demand them in perpetuity, including (not exclusively):-
- Legal transfer of land title (including right of access);

- Long term leasehold with peppercorn rent;
- By license / management company arrangement.

4.4.10 It is considered that details of this scheme can be secured by an appropriately worded planning condition. Depending on the level and nature of the demand, it may also be appropriate to provide a small portion of the spaces for use by visitors to the nearby library.

4.5 Highway Drainage

4.5.1 One of the comments raised by WCBC Highways as part of the PAC consultation relates to the need to submit details of any surface water drainage prior to the adoption of any on-site roads. It is therefore considered that this requirement could be attached as a planning condition of any grant of planning permission.

4.6 Public Right Of Way (PROW) Widening

4.6.1 Similarly, it is understood from the comments raised by WCBC Highways as part of the PAC consultation that the PROW team would recommend that the footpath route which abuts the site's eastern side should be widened through the dedication of a slither of the site land as public highway. Axis can confirm that the applicant is willing to enter into the necessary separate legal agreement process to commence this land dedication if planning permission is granted.

4.6.2 The widening of the PROW route would offer an improved alternative option for pedestrians. The PROW (GRE/12) connects to another PROWs to the south (BIE/9 and BIE/3) and provides a route to Barkers Lane and Borrass Road on the north-eastern side of Wrexham.

5.0 TRAFFIC FORECASTS AND HIGHWAY IMPACT

5.1 Introduction

5.1.1 This Chapter considers the traffic-generating potential of the proposed development of 44 residential dwellings, using trip rates from the industry-standard TRICS Database and from trip rates supplied by WCBC as a sensitivity test.

5.2 Forecast Trip Generation – TRICS-Based Trip Rates

5.2.1 In order to undertake an assessment of the likely development trips, the TRICS database has been used. TRICS is the industry-standard tool for calculating the anticipated future trip demand of a proposed development. The database contains multi-modal surveys of varying land uses in multiple destinations across the UK, including residential land uses.

5.2.2 The TRICS search was undertaken for all residential sites across Wales, England (excluding Greater London) and Scotland.

5.2.3 Survey days were Monday – Friday, and various location and other search criteria have been applied to ensure the TRICS survey sites provide representative trip rates for the proposed development location. The TRICS outputs, which include the full search criteria, have been included within **Appendix 10** to the rear of this report.

5.2.4 A total of 44 dwellings have been applied to these trip rates, in line with the detailed proposals. **Table 5.1** below summarises the anticipated traffic during the AM and PM peak periods, alongside a calculation of expected total daily flows:-

Table 5.1 – TRICS-Based Average Vehicular Trip Rates And Forecast Traffic Generation

TRICS – Residential Developments	TRICS Trip Rates (per unit)			Proposed Development Trips		
	Arrive	Depart	Total	Arrive	Depart	Total
AM (08:00 – 09:00)	0.161	0.437	0.598	7	19	26
PM (17:00 – 18:00)	0.351	0.194	0.545	15	9	24
Daily	2.923	2.861	5.784	129	126	254

5.2.5 The above table shows that the proposed development could generate approximately 24-26 two-way traffic movements in the peak hours, or 254 two-way trips across a typical weekday.

5.2.6 As daily development flows would represent an increase of approximately 27% along Vicarage Lane (considering the two-way flow as recorded in July and as summarised in **Table 2.1** of this report), this level of increase could conceivably seem significant at first consideration.

5.2.7 However, it should be noted that, due to the fact the existing baseline traffic flows are already relatively low in overall terms, the perceived development impact is exaggerated.

5.2.8 When considered volumetrically, traffic generation in the development peaks equates to around one additional movement on Vicarage Lane every two minutes or so. This is considered to represent an imperceptible impact.

5.3 Forecast Trip Generation – Sensitivity Trip Rates

5.3.1 As part of the PAC exercise referred to in the introduction to this report, WCBC provided feedback on the TS that was previously prepared.

5.3.2 Whilst the TRICS-based trip rates included within that report were lower than those reported above (being based on a previous, older version of the TRICS Database), nonetheless WCBC referred to a traffic survey of an existing residential development in Wrexham which is perceived to be similar to the application site, and which indicated higher trip rates.

5.3.3 Axis have contacted WCBC to obtain details of the other site in question, which is at Kensington Grove, a residential cul-de-sac featuring 34 dwellings to the north of Wrexham. The raw ATC survey results from Kensington Grove were obtained between 7th-14th July 2018, and a copy is contained in **Appendix 11** for reference.

As a sensitivity test, and for comparison purposes, the trip rates obtained from Kensington Grove have been summarised in **Table 5.2** below and applied to the proposed development of 44 dwellings:-

Table 5.2 – Sensitivity Test Vehicular Trip Rates And Forecast Traffic Generation

TRICS – Residential Developments	Average TRICS Trip Rates			Proposed Development Trips		
	Arrive	Depart	Total	Arrive	Depart	Total
AM (08:00 – 09:00)	0.124	0.476	0.600	5	21	26
PM (17:00 – 18:00)	0.482	0.259	0.741	21	11	32
Daily	3.782	3.835	7.618	166	169	335

- 5.3.4 As shown above, if the sensitivity test trip rates from the Kensington Grove survey were adopted, then the resultant generated traffic would be higher than that forecast by the TRICS-based trip rates. For comparison, **Table 5.3** shows the differences between the two sets of figures from **Table 5.1** and **Table 5.2**:-

Table 5.3 – Comparison Between TRICS & Sensitivity Test Vehicular Forecast Traffic

TRICS – Residential Developments	TRICS-Based Trip Rates Forecasts			Sensitivity Test Based Trip Rates Forecasts		
	Arrive	Depart	Total	Arrive	Depart	Total
AM (08:00 – 09:00)	7	19	26	5 (-2)	21 (+2)	26 (0)
PM (17:00 – 18:00)	15	9	24	21 (+6)	11 (+2)	32 (+8)
Daily	129	126	254	166 (+37)	169 (+43)	335 (+81)

- 5.3.5 Notwithstanding the above, the use of the 'sensitivity test' trip rates derived from the ATC surveys of Kensington Grove is questionable. Kensington Grove is situated within the centre of a large residential area and is further away from many local facilities and amenities than the application site.
- 5.3.6 Therefore, by definition, it is perhaps inevitable that the trip rates from Kensington Grove will be higher than sites that are in a location more reflective of the site at Vicarage Lane, which as demonstrated in **Chapter 3** earlier, is in a sustainable location close to the village centre of Gresford.
- 5.3.7 Nonetheless, due regard is given to the above sensitivity test traffic forecasts in the consideration of the proposed mitigation scheme, as detailed in the following Chapter.

6.0 PROPOSED MITIGATION SCHEME

6.1 Proposed Vicarage Lane Pedestrian Improvements

- 6.1.1 As mentioned earlier in this TS, the proposals include improvements to Vicarage Lane to enhance pedestrian connectivity between the site and the village centre.
- 6.1.2 Specifically, the improvements feature the formation of a new 50m long pedestrian footway / margin along the constrained section of the south-western side of Vicarage Lane. For reference the constrained section is identified on **Figure 2.5** earlier in this TS.
- 6.1.3 The improvement scheme is illustrated on **Plan 2479-01-SK02** in **Appendix 8**.
- 6.1.4 The scheme will reduce the carriageway width of Vicarage Lane to single-track working only along the section, and therefore a give-way priority-working scheme forms an integral part of the proposals.
- 6.1.5 Based on observations of the video survey footage and the way in which this section of Vicarage Lane already operates, the proposal simply formalises the informal way in which this section of Vicarage Lane already works – e.g. by proposing a system whereby vehicles must give way to one another through the constrained section.
- 6.1.6 The video survey results demonstrate that when two vehicles meet one another through this constrained section, one vehicle invariably stops, or both vehicles slow down to very low speeds when passing one another.
- 6.1.7 This is due to the nature of the constrained section, with high boundary walls and hedges on either side creating a sense of enclosure.
- 6.1.8 Therefore, by formalising the give-way situation which already occurs in practice for the majority of the time, it will also be possible to provide eastbound vehicles with formal priority over westbound vehicles.
- 6.1.9 In this way, vehicles turning into Vicarage Lane from Chester Road will not feel as obligated to wait (i.e. to give way) near the traffic signals and potentially thereby causing a queue to form behind blocking back to the signals.

- 6.1.10 Instead, eastbound vehicles will be given priority by the signage so that traffic can move away from the signals more easily.
- 6.1.11 In practice, and based on the observations of the video surveys, for the majority of the time, no queueing actually occurs when vehicles give-way to one another because Vicarage Lane is very lightly trafficked. However, the proposed highway improvements will help ensure that any queueing which does occur is from westbound vehicles at the give way line where they cannot cause any potential issues.
- 6.1.12 The footway has also been proposed along a location where it is possible to do so without impinging upon any area that is currently used for resident parking (as confirmed by the video surveys that were carried out in October 2018).
- 6.1.13 However, as demonstrated in **Appendix 1**, WCBC Highways have raised some queries in regard to the proposed improvement on this section of Vicarage Lane. These queries have been addressed in the subsections below:

Incidence of Conflict Adjacent to the Chester Road Signals

- 6.1.14 It is noted that that there could arise a situation whereby a 'non-priority' westbound vehicle could be entering into or travelling through the proposed give-way feature as an approaching eastbound vehicle simultaneously enters Vicarage Lane from Chester Road.
- 6.1.15 However, such situations can be observed to arise already at this location as a result of the fact that vehicles currently give way to one another on an informal basis. Despite this, in 24 hours of analysed video survey footage, there was not one occasion where an eastbound vehicle gave way to a westbound vehicle, and which resulted in a queue extending back to the traffic signals.
- 6.1.16 Furthermore, the scheme includes a passing place to allow two-way movement to occur within the middle of the priority working section. This provides a further 'release valve' opportunity for eastbound traffic to move away from the junction whilst a westbound vehicle waits temporarily in the passing place.

6.1.17 A series of calculations have been carried out to determine the length of time that it would take a westbound vehicle to clear the give-way feature, the likelihood of two vehicles meeting at the give way feature and the likelihood that a queue would develop behind an eastbound vehicle waiting for a westbound vehicle pass by.

6.1.18 The detailed calculations are provided in **Appendix 12**. The calculations demonstrate that:

- It would take just over 5 seconds for a north-westbound car to clear the give-way feature, travelling at 20.8mph (i.e. which is the speed recorded from the westbound ATC nearest to the proposed improvement (see **Table 2.1** earlier));
- Even in the worst-case peak hours, it is forecast that there would only be around 52 vehicles travelling eastbound through the feature in the AM peak and around 48 in the PM peak (i.e. from Chester Road). This represents just over one vehicle a minute in the peak hours, volumetrically.
- Due to the way in which the proposed feature has been designed, eastbound vehicles will have priority over westbound vehicles. However even if an eastbound vehicle were forced to occasionally give way to a westbound vehicle (for example if the westbound vehicle had already just 'entered' through the feature), a queue would not build up behind the eastbound vehicle to block the signals because the underlying eastbound flow demand is very low, even with development-related traffic included, and furthermore the amount of time that a vehicle has to wait for is so small.
- It is not expected that the potential for 'platoons' of vehicles arriving from the release of the upstream signals is material, or will cause blocking queues, because again the westbound flow demand is simply very low to begin with – less than one vehicle per minute. There is an eastbound demand of around 1 vehicle per minute and the cycle is also around 1 minute long. Therefore on average each successive signal cycle releases a demand for a single vehicle movement into Vicarage Lane. Observations of the existing 'informal' give-way operation corroborate this.

- **Appendix 12** also contains a version of the same calculations, albeit with development-related traffic based on the 'sensitivity test' forecast method described in Section 5.3 earlier. Nonetheless, the conclusions are the same – no material queues would be forecast to build up on either side of the proposed give-way feature and there is significant spare capacity along Vicarage Lane to allow any momentary one or two vehicle queues to disperse quickly and easily.

Case Study - Comparison With A Similar Scheme

- 6.1.19 The proposed footway improvement / give-way priority scheme is considered to be similar in many respects to another existing scheme situated along Marl Drive in Llandudno Junction, which was constructed in connection with the redevelopment of the former Albini House site situated nearby.
- 6.1.20 A satellite image of this give-way / passing place feature is shown on **Figure 6.1** overleaf:

Figure 6.1 - New Footway Scheme with Give-Way / Passing Place Feature on Marl Drive, Llandudno Junction



- 6.1.21 In the case of the scheme at Llandudno Junction, the give-way priority system there operates over a distance of some 100m+ (e.g. twice the length of the proposed feature at Vicarage Lane) and also includes a passing place half-way along, the same feature that is included on the proposed Vicarage Lane scheme.
- 6.1.22 Furthermore, peak hour two-way traffic flows through this feature range between around 200-350, some 2-3 times greater than the flow that is anticipated to pass through the proposed feature at Vicarage Lane.

- 6.1.23 Notwithstanding this, the existing give-way feature at Llandudno Junction has been observed to operate very well with no material queue build ups, safety or operational issues. It has been in place since around 2012.
- 6.1.24 It should be noted that the primary purpose of the scheme at Llandudno Junction is to provide a dedicated footway for pedestrians passing along that section of Marl Lane, which is the same purpose that the scheme at Vicarage Lane is to serve.

Assessment Using DB32 / TSN 029R

- 6.1.25 The layout of the proposed give-way feature and associated passing place follows the advice provided in Appendix 4 of DB32 Edition 1 (1977) and Appendix 2 of DB32 Edition 2 (1992), which are still considered to be the preeminent sources of guidance on this subject, along with TRL Report TSN 029R (1977), which provides the underlying research. DB32 states that:

“To avoid opposing vehicles confronting each other on a narrowed stretch of carriageway they should be able to see each other before a passing bay is reached by the vehicle nearest to it.”

- 6.1.26 TRL Report TSN 029R is based on a series of detailed observational experiments and simulations around single-track sections of road between passing places. It states that:

“It also seems that the simulation provides reasonable guidance as to the frequency and size of passing place required. Figure 9 suggests that for two-way flows of up to 100 veh/h [each way, e.g. 200 veh/h two-way flow] two passing places within 180 m (ie a separation of 60 m, centre-to-centre) are sufficient.”

- 6.1.27 Two-way traffic flows along Vicarage Lane will be considerably less than the 100 veh/h (each way) threshold referred to in the experiments / simulations carried out for TRL Report TSN 29R, even with the development in place.
- 6.1.28 Furthermore, the distance between those areas where two-way movement will be possible is considerably shorter than that referred to in TSN 029R (e.g. the total constrained section on Vicarage Lane is some 50m in length with a passing place situated 25m (half-way) along, whereas the comment above within TSN 029R is based on an assumed single-track section of 60m length).

- 6.1.29 There is also a table within the report which sets out the results of experiments which indicate that a single-track section of road with a more comparable level of flow (50 veh/h each way) and passing place spacing (36m) similar to that which will arise at Vicarage Lane would only experience a maximum queue of 2 vehicles at any point, and minimal impact on delay.
- 6.1.30 This therefore lends further evidential weight to the view that the proposed mitigation measures will not adversely affect the free flow in traffic.

Vehicle Interaction at Old Wrexham Road

- 6.1.31 Old Wrexham Rd forms the minor arm at its priority controlled junction with Vicarage Lane. Therefore, a vehicle would not turn right into Vicarage Lane from Old Wrexham Road if a vehicle were travelling through the proposed give-way feature from the right, as they would simply wait and give way to oncoming traffic in the normal way, as they would do now without the proposed scheme in place.
- 6.1.32 Indeed, the addition of a footway on Vicarage Lane would in practice make it easier for vehicles waiting on Old Wrexham Rd to see oncoming traffic to the right (visibility from Old Wrexham Rd is currently partially restricted by a wall and hedge).
- 6.1.33 Due to the arrangement of the wider highway network and the availability of other, better routes, the number of movements between Old Wrexham Road and the eastern section of Vicarage Lane (both ways) are likely to be minimal and limited to only a very small number of localised journeys. Nonetheless, even with the improvements in place, the corner radius between Old Wrexham Road and the eastern side of Vicarage Lane would still be 8m.
- 6.1.34 Following a swept path analysis assessment, a large car would still easily be able to turn left into Old Wrexham Road without encroaching into the opposite lane with the proposed footway scheme in place.
- 6.1.35 Large vehicles would need to encroach into the opposite lane when turning left from Vicarage Lane into Old Wrexham Road, however this is no different to what already happens in the existing situation (see the 11.2m swept path assessments shown on **Plan 2479-01-SK02** in **Appendix 8**). Moreover, the frequency of such movements will be negligible.

- 6.1.36 The impact of the scheme on the operation of the Vicarage Lane / Old Wrexham Road junction is therefore negligible, with a slight benefit of improved emerging visibility from Old Wrexham Road to north-westbound vehicles travelling along Vicarage Lane.

Vehicle Clearance within the Priority Section

- 6.1.37 The design set out on **Plan 2479-01-SK02** in **Appendix 8** is based on detailed, accurate topographical survey mapping.
- 6.1.38 One of the insets on the drawing demonstrates that there will easily be adequate clearance between a large tanker vehicle and the proposed footway / existing northern highway boundary to allow a large vehicle to pass in free flow conditions. There will be a minimum 0.6m clearance between the vehicle body and the surrounding features.

Parking within the Priority Section

- 6.1.39 It is not considered that any person would choose to park along the priority section, as such features are, by their nature, self-enforcing in this regard.
- 6.1.40 Additionally, various overhead satellite / Google Streetview images obtained by Axis (going back to the mid-2000's) show that no cars are photographed as being parked along this particular section of Vicarage Lane; presumably because it is constrained (contained by walls / hedges) when compared to the more 'active' section slightly further south-east.
- 6.1.41 Nonetheless, if required, parking within the feature could be controlled by 'No Waiting' restrictions both through the feature and for a short distance on either side.

6.2 Proposed Vicarage Lane Car Parking Improvements

- 6.2.1 On-street parking is an existing feature along the more active area of Vicarage Lane to the south east of the proposed give-way feature due to the fact that a number of the existing properties have little or no parking provision within their curtilage.

6.2.2 On this basis, the proposal to include an alternative off-street 11-space parking facility within the site could help reduce the number of parked vehicles along the road, thus increasing the available space for pedestrians, cyclists and vehicles to pass one another.

6.2.3 As mentioned in Chapter 4 earlier, there are a number of mechanisms available to ensure the spaces will be available to the residents who might demand them, and details of this can be secured by an appropriately worded planning condition.

6.2.4 It is considered that this would therefore provide a benefit to the operation and free flow of traffic along Vicarage Lane.

6.3 HGV Volumes and Associated Highway Safety

6.3.1 The level of milk tanker movements associated with the existing J H Willis Ltd. Dairy facility along Vicarage Lane has been raised as a safety concern by Highway Officers at WCBC during pre-application discussions.

6.3.2 It is not considered that the existing HGV volumes along Vicarage Lane present a safety concern to the proposed development for the following reasons:-

- ATC surveys undertaken (see **Table 2.2**) suggest there is an HGV movement (two-way) approximately once every 12 – 13 minutes, on average, along Vicarage Lane. This is an infrequent occurrence along a lightly-trafficked road;
- The existing accident records for Vicarage Lane (between the site and the village) suggest there have been no reported road collisions over the past 19 years involving any vehicles, let alone milk tankers (see **Section 2.7** earlier);
- As referenced by the Inspector within the Trewythen Care Home Appeal Decision (see **Appendix 4**), the situation along Vicarage Lane is not considered to be significantly different from numerous roads in rural settlements;
- Drivers of the milk tankers are, by definition, highly familiar with the route and how pedestrians and vehicles interact on a shared surface, conciliatory basis; and,
- The proposed development would generate in the region of 254 two-way trips over a typical weekday (or 24-26 two-way trips in the peak hours – see **Table 5.1**). This is not considered to be a significant increase in vehicular traffic.

6.4 Mitigation Summary

- 6.4.1 It is not considered that there would be any material impact on the surrounding highway network associated with an increase in development-related vehicular trips.
- 6.4.2 Conversely, it is considered that there would be a material benefit derived from the implementation of a formal footway improvement / vehicle priority scheme, and the offer of additional parking within the site for existing residential properties along Vicarage Lane.
- 6.4.3 Whilst there would still be an 80m or so section of Vicarage Lane between the site and the village centre where no footway is present, it is not considered that this should present a significant highway safety concern.
- 6.4.4 The level of traffic flow along this section would still be very low even with the development in place. Even in the busiest PM peak hour, two-way traffic flow could be in the order of only 123 two-way movements. To put this in perspective, the 80m long section of Vicarage Lane that would be without a footway would take perhaps 44 seconds to walk along for someone at a brisk walking pace of 1.8m/s, or 57 seconds for someone walking at an average 1.4m/s. The section is lit by street lighting.
- 6.4.5 During this time perhaps only 1 or 2 vehicles might be expected to pass, on average in the peak hours. In the AM peak hour, and at all other times in the day, it is more likely than not (on average) that an individual would be able to walk along this 80m section without even encountering any moving vehicles whatsoever.
- 6.4.6 Detailed calculations demonstrate that the proposed give-way feature will not lead to any material queues or operational issues on Vicarage Lane for vehicular traffic.
- 6.4.7 Perhaps the clearest indication of this is by comparison to another similar scheme in Llandudno Junction, North Wales, which is twice the length of the proposed scheme and experiences 2 to 3 times the level of two-way traffic flow. Despite this, the comparator site operates entirely satisfactorily in all respects.
- 6.4.8 Similarly, an assessment of the anticipated operation with reference to experimental data reported by the Transport Research Laboratory indicates that the scheme will operate entirely satisfactorily.

- 6.4.9 The Manual for Streets indicates that ‘shared surface’ streets (i.e. where vehicles and other road users share the same area) generally work well where the volume of traffic is around 100 vehicles per hour, or less. This is because traffic and pedestrians are likely to operate on a more conciliatory level with each other with this level of traffic flow. This is likely to be case along Vicarage Lane for the vast majority of the day, even with the scheme in place.
- 6.4.10 The survey data in **Appendix 3** illustrates that there were 105 occasions during the survey day when pedestrians or cyclists (or groups thereof) encountered moving vehicles. Every single occasion passed without issue at all. Vicarage Lane is a low speed environment with good forward visibility available.
- 6.4.11 The video footage provides highly visible and conspicuous evidence to corroborate what the data shows, where pedestrians (sometimes with young children and pushchairs, dogwalkers etc) can be observed walking 2 or 3 abreast along the lane, without being intimidated by road traffic, and that the nature of the route encourages vehicles to travel with due regard to this situation.
- 6.4.12 The 19-year road safety record demonstrates that the route has operated safely with no reported accidents, providing very significant weight to the view that the survey day did not portray an unusual snapshot in any way, but rather a true reflection of how the route actually operates in practice for pedestrians.
- 6.4.13 There is no reason to believe that this would not continue to be the case with the proposed development in place, particularly given that the proposed mitigation scheme has been put forward which is commensurate with the scale and nature of the proposals.
- 6.4.14 To help put the proposals in context, when the proposed off-site mitigation scheme (footway & give-way priority feature) is considered alongside the proposed foot / cycleway network fronting and within the site itself, there will be new pedestrian facilities provided along 266m of a 342m long section of Vicarage Lane (or 78% of this distance), where currently there are no such facilities.
- 6.4.15 This will not only be of benefit to the prospective residents but also to pedestrians walking through the wider area.

7.0 RESPONSE TO LOCAL REPRESENTATIONS

7.1 General

7.1.1 As part of the PAC process described earlier in **Chapter 1**, a number of representations were made on the pre-application scheme from local residents and stakeholders.

7.1.2 Whilst it would be inappropriate to exhaustively respond to each and every set of comments individually, upon reviewing the responses it can be seen that a number of common highway-related concerns and themes emerge.

7.1.3 This Chapter of the TS therefore seeks to address these common concerns, having regard to the information and analysis represented earlier in this report.

7.1.4 The Chapter therefore addresses the following general topics of expressed concerns under separate sub-headings:

- Road safety of drivers and pedestrians along Vicarage Lane;
- Construction traffic/road closures;
- Increased volume of traffic/increased pollution;
- Loss of on street parking for neighbouring properties; and
- Vicarage Lane as a rat run.

7.2 Perceived Road Safety Issues for Drivers and Pedestrians

7.2.1 The previous **Chapter 6** of this report sets out a comprehensive analysis of the anticipated operation of Vicarage Lane with both the development and accompanying mitigation schemes in place.

7.2.2 The various assessment methodologies all arrive at the same conclusion, which is that the proposed on and off-site highway improvements will work satisfactorily in terms of their effect on vehicular traffic, whilst simultaneously providing significant new footway provision for pedestrians.

7.3 Perceived Construction Traffic / Road Closures Issues

- 7.3.1 It is noted that a number of local residents have expressed concerns about the potential effect of construction-related traffic movements if the development proceeds.
- 7.3.2 As a general principle, it should be noted that the volume of construction traffic associated with any residential development is usually considerably less than the volume that the development will generate once it is occupied (i.e. by the residents).
- 7.3.3 Similarly, apart from some relatively minor disruption that might arise from traffic management measures associated with the formation of the proposed site access junction, surrounding footways and new service connections, once these matters have been addressed all construction-related traffic will be contained wholly on-site. Such impacts are an inevitable consequence of any new residential development but should not be used as a reason to withhold planning permission.
- 7.3.4 Nonetheless, construction traffic can be controlled and mitigated against as much as possible through the application of a planning condition requiring a robust Construction Traffic Management Plan to be put in place prior to the commencement of the development.

7.4 Perceived Issues with Increased Volume of Traffic / Increased Pollution

- 7.4.1 **Chapter 5** of this TS demonstrates that the level of traffic that will be generated by the proposed development is not onerously high, and that it can be accommodated on the local network without issue.
- 7.4.2 The site is not located within or near to a designated Air Quality Management Area, and indeed no site within Gresford is deemed to have an air quality issue that would warrant the regular monitoring of air quality (source – *“North Wales Combined Authority Annual Progress Report 2017”*).

7.5 Perceived Loss of On-Street Parking

- 7.5.1 There have been some concerns expressed regarding the potential loss of on-street parking that will result from the proposed give-way priority feature that has been put forward.

7.5.2 As referred to earlier in this report, observations have demonstrated that the constrained section of Vicarage Lane that will be improved does not currently experience any significant level of on-street parking, and any parking that did occur in that section would be generally undesirable anyway due to the nature of the road layout at that specific location.

7.5.3 The construction of a new footway through that section should deter any on-street parking through that section (which should be generally desirable), and which if necessary, can be reinforced through No Waiting Restrictions both through the feature and for a short distance on either side.

7.5.4 In any event, it is considered that any displaced parking that could theoretically arise from the scheme will be offset by the proposed on-site residents parking area.

7.6 Perception That Vicarage Lane is a Rat Run

7.6.1 It is noted that a number of local residents have expressed the view that Vicarage Lane is used as a rat run, for example between Wrexham Industrial Estate and Llay.

7.6.2 Whilst it is almost certainly the case that some drivers will use Vicarage Lane as a route to work (or for other routing purposes), any such movements will have been recorded in the ATC surveys carried out in July 2017 and in the October 2018 video survey.

7.6.3 Both sets of data were consistent with one another and showed that Vicarage is, by any measure, lightly trafficked, currently carrying less than a thousand two-way movements per day. In traffic engineering terms it is a public highway that undoubtedly has the capacity to carry significantly more traffic flow than it does at present.

7.6.4 The degree of rat-running movements that actually occurs is therefore generally low in overall gross terms and does not represent a reason to withhold planning permission.

8.0 TRANSPORT PLANNING POLICY

8.1 Introduction

- 8.1.1 This section of the report sets out the key national and local traffic and transport policies that are relevant to this application.

8.2 Planning Policy Wales (Edition 9)

- 8.2.1 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The document forms a total of 14 subject-specific chapters, which are supplemented by a series of Technical Advice Notes (TANs).

PPW Chapter 8: Transport

- 8.2.2 Chapter 8 of PPW concerns Transport. The document sets out the aim of extending choice in transport and to extend accessibility in a way which supports sustainable development, which will be done by:

“...encouraging a more effective and efficient transport system, with greater use of the more sustainable and healthy forms of travel, and minimising the need to travel.”

- 8.2.3 It is recognised that land use planning can help to achieve the above aims in the following ways:

- *“Reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;*
- *Locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys;*
- *Improving accessibility by walking, cycling and public transport;*
- *Ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;*
- *Promoting walking and cycling;*
- *Supporting the provision of high quality public transport;*
- *Supporting traffic management measures;*
- *Supporting sustainable travel options in rural areas;*
- *Supporting necessary infrastructure improvements; and*

- *Ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.”*

8.2.4 It is considered that the proposed development is consistent with these objectives. There is good access to local facilities and amenities by bicycle, and the proposals include enhanced pedestrian infrastructure along Vicarage Lane. This improvement is not only for future residents of the proposed development, but would also benefit pedestrians walking along the carriageway to access either the existing residential properties along Vicarage Lane or the Gresford Branch Library.

8.2.5 The site is highly accessible by bus, and future residents could also embark on travel by train as part of a multi-modal trip.

Planning Policy Wales, Technical Advice Note 18: Transport

8.2.6 Chapter 8 of PPW is supplemented by Technical Advisory Note (TAN) 18 which provides detailed guidance on implementing the transport objectives contained in PPW Chapter 8.

8.2.7 TAN 18 outlines the need for, and the required content of, Transport Assessments (TAs) for some classifications and scales of development in Wales. It is clear from Annex D of TAN 18 that a Transport Assessment is not required, as the residential threshold for a TA is set at 100 dwellings.

8.3 Wrexham Unitary Development Plan

8.3.1 The Wrexham UDP 1996 - 2011 was adopted by WCBC on the 14th February 2005. It is scheduled to be replaced by the Local Development Plan 2 (currently being consulted on), but currently remains the framework for local decision making in Wrexham.

8.3.2 The two relevant transport policies contained in the UDP comprise Policy T8 and Policy T9. These are discussed in greater detail below:

Wrexham UDP Policy T8

8.3.3 The UDP Policy T8 states:

“Development granted planning permission will be required to provide vehicle parking spaces either on site or nearby, in accordance with the Council's current parking standards. Special regard will be paid to the following factors, as appropriate:-

- a) the availability of public transport nearby,*
- b) proximity to public car parking,*
- c) proximity to local services and facilities,*
- d) road safety hazards and amenity considerations arising from on-street parking in the vicinity of the site.*

Where implementation difficulties arise in making parking provision on-site or nearby, the Council will require a developer to make financial contributions for measures to assist public transport, or walking and cycling as appropriate.”

- 8.3.4 The council's current parking standards are contained in Local Planning Guidance Note 16, which has been considered in the design of the site layout.

Wrexham UDP Policy T9

- 8.3.5 The UDP Policy T9 states:

“Development proposals will be required to provide walking and cycling routes, where feasible and appropriate, that link with existing or proposed walking and cycling routes, and integrate with the public transport system. Opportunities for horse riding along these routes will be secured where appropriate.”

- 8.3.6 It is considered that the proposals provide good pedestrian and cyclist connectivity throughout the site, and include an enhanced link to public transport opportunities along Chester Road. The internal layout has also been designed in a way that is conducive to cycling.

8.4 Transport Planning Policy Summary

- 8.4.1 In summary, it is considered that the development proposals accord with relevant local and national transport planning policy.

9.0 SUMMARY AND CONCLUSIONS

9.1 Summary

- 9.1.1 This TS has been prepared by Axis on behalf of Gower Homes to consider the highways and transport implications of a detailed planning application for a new residential development comprising 44 dwellings off Vicarage Lane, Gresford.
- 9.1.2 Significant scoping discussions have been held between the project planning / design team and Wrexham County Borough Council (WCBC), which recently culminated in the preparation of a formal pre-application consultation (PAC) in August 2018. WCBC Highways responded to the PAC on the 18th September 2018 and their comments have been addressed within this TS report.
- 9.1.3 A high-level review of the local highway network described above has been undertaken utilising Google Traffic. The analysis shows that there are no particularly problematic locations that suggest a material congestion issue.
- 9.1.4 A number of surveys have been carried out along Vicarage Lane to objectively establish how the existing route operates. Two Automatic Traffic Counter (ATC) speed surveys were placed either side of the proposed development site access location in July 2017. The purpose of the surveys was to establish the 'design' speed of traffic along Vicarage Lane (to determine junction visibility purposes) and also traffic and HGV volumes.
- 9.1.5 The data shows that Vicarage lane carries in the order of 956 two-way vehicle movements per day, of which around 58 are HGV movements. This is considered to be a relatively low flow for an adopted classified 'C-Road' as per WCBC's online interactive adopted roads map.
- 9.1.6 In addition to the above ATC surveys, a further video-based traffic survey was carried out on Wednesday 17th October 2018. The video survey consisted of 3 cameras positioned on Vicarage Lane within the first 100m of its junction with Chester Road. This area is perceived to be the main constrained section of Vicarage Lane.

- 9.1.7 The video survey footage and data shows that the majority of vehicles already currently give-way to one another along the constrained section of Vicarage Lane (informally, by virtue of the geometry and nature of that section of the route). The data also validates the results of the July 2017 ATC data, due to the fact that 908 two-way vehicle movements were recorded along Vicarage Lane, a 5% variance in flow from the earlier data.
- 9.1.8 Personal Injury Accident (PIA) data for the local highway network has been obtained from CrashMap for the most recently available 19 year period (1999 – 2017 inclusive), which is some 6+ times longer than the 3 year period that would ordinarily be examined. Nonetheless, the 19-year record demonstrates that there have been no reported accidents along Vicarage Lane in the vicinity of the site.
- 9.1.9 This therefore provides compelling evidence that Vicarage Lane has operated safely and satisfactorily for a considerable period, despite concerns raised as part of the PAC exercise about a lack of footways and on-street parking.
- 9.1.10 In assessing a 2015 Appeal against the refusal of planning permission for an extra care facility at Trewythen Hall, located opposite the site, the Inspector noted that Vicarage Lane is not significantly different from numerous roads in rural settlements and did not consider that an increase in pedestrian movements from that scheme would be detrimental to highway safety.
- 9.1.11 The site is considered to be highly accessible by various modes of transport. There are a number of public transport opportunities within acceptable walking distance of the site, and there are everyday facilities situated within typical walking and cycling catchments.
- 9.1.12 It is considered that the site presents an excellent opportunity to accommodate a sustainable residential development in Gresford, particularly when compared to other prospective residential sites within the settlement.
- 9.1.13 The proposed site access will feature a 5.5m wide carriageway with a 2m wide footway on its western side, a 4m wide foot/cycleway on its eastern side and 6m corner radii. It will be possible to achieve junction visibility splays of 2.4m x 33m to the west and 2.4m x 41m to the east, in accordance with the observed design speed of Vicarage Lane.

- 9.1.14 There will be footways situated along the site frontage extending as far as the junction visibility splay envelopes to ensure that they will be achievable in perpetuity without the prospect of vegetation growing out to encroach upon them.
- 9.1.15 The proposed site layout has been assessed using swept path software to ensure that it can be satisfactorily accessed by a large 11.2m long reuse vehicle, and that deliveries can be made by vans to the culs-de-sac within the site.
- 9.1.16 Parking levels for the proposed dwellings will be in accordance with the prevailing parking standards. Secure covered cycle parking will be available within the garages of those units which have one.
- 9.1.17 In addition, it is proposed that a parking area is to be provided at the north-west corner of the site, featuring 11 parking spaces that would be offered to the existing residents along Vicarage Lane in order to assist in reducing the number of parked vehicles along the road, thus increasing the available space for pedestrians, cyclists and vehicles to pass one another on the lane.
- 9.1.18 It is considered that details of this scheme can be secured by an appropriately worded planning condition. Depending on the level and nature of the demand, it may also be appropriate to provide a small portion of the spaces for use by visitors to the nearby library.
- 9.1.19 The applicant is willing to dedicate a slither of land on the site's eastern side as public highway, which will allow the widening of the public footpath which abuts the site, if planning permission is granted.
- 9.1.20 The traffic-generating potential of the proposed development has been estimated using trip rates from the industry-standard TRICS Database. This exercise shows that the proposed development could generate approximately 24-26 two-way traffic movements in the peak hours, or 254 two-way trips across a typical weekday.
- 9.1.21 However, as a sensitivity test, Axis have also estimated the traffic generation using a different set of trip rates derived from the results of an ATC survey of Kensington Grove in Wrexham, as obtained from WCBC. Using these alternative trip rates indicates that the scheme could generate approximately 26-32 two-way traffic movements in the peak hours, or 335 two-way trips across a typical weekday.

- 9.1.22 The proposals include improvements to Vicarage Lane to enhance pedestrian connectivity between the site and the village centre - specifically, the formation of a new 50m long pedestrian footway / margin along the constrained section of the south-western side of Vicarage Lane.
- 9.1.23 The scheme will reduce the carriageway width of Vicarage Lane to single-track working only along the section, and therefore a give-way priority-working scheme forms an integral part of the proposals.
- 9.1.24 The proposal simply formalises the informal way in which this section of Vicarage Lane already works – e.g. by proposing a system whereby vehicles must give way to one another through the constrained section. However with the scheme in place, eastbound vehicles would be given priority by the signage so that traffic can move away from the signalised junction with Chester Road more easily.
- 9.1.25 Whilst there would still be an 80m or so section of Vicarage Lane between the site and the village centre where no footway is present, it is not considered that this should present a significant highway safety concern.
- 9.1.26 The level of traffic flow along this section would still be very low even with the development in place. Even in the busiest PM peak hour, two-way traffic flow could be in the order of only 123 two-way movements. To put this in perspective, the 80m long section of Vicarage Lane that would be without a footway would take perhaps 44 seconds to walk along for someone at a brisk walking pace of 1.8m/s, or 57 seconds for someone walking at an average 1.4m/s. The section is lit by street lighting.
- 9.1.27 During this time perhaps only 1 or 2 vehicles might be expected to pass, on average in the peak hours. In the AM peak hour, and at all other times in the day, it is more likely than not (on average) that an individual would be able to walk along this 80m section without even encountering any moving vehicles whatsoever.
- 9.1.28 Detailed calculations demonstrate that the proposed give-way feature will not lead to any material queues or operational issues on Vicarage Lane for vehicular traffic.

- 9.1.29 Perhaps the clearest indication of this is by comparison to another similar scheme in Llandudno Junction, North Wales, which is twice the length of the proposed scheme and experiences 2 to 3 times the level of two-way traffic flow. Despite this, the comparator site operates entirely satisfactorily in all respects.
- 9.1.30 Similarly, an assessment of the anticipated operation with reference to experimental data reported by the Transport Research Laboratory indicates that the scheme will operate entirely satisfactorily.
- 9.1.31 The Manual for Streets indicates that 'shared surface' streets (i.e. where vehicles and other road users share the same area) generally work well where the volume of traffic is around 100 vehicles per hour, or less. This is because traffic and pedestrians are likely to operate on a more conciliatory level with each other with this level of traffic flow. This is likely to be case along Vicarage Lane for the vast majority of the day, even with the scheme in place.
- 9.1.32 The survey data illustrates that there were 105 occasions during the survey day when pedestrians or cyclists (or groups thereof) encountered moving vehicles. Every single occasion passed without issue at all. Vicarage Lane is a low speed environment with good forward visibility available.
- 9.1.33 The video footage provides highly visible and conspicuous evidence to corroborate what the data shows, where pedestrians (sometimes with young children and pushchairs, dogwalkers etc) can be observed walking 2 or 3 abreast along the lane, without being intimidated by road traffic, and that the nature of the route encourages vehicles to travel with due regard to this situation.
- 9.1.34 The 19-year road safety record demonstrates that the route has operated safely with no reported accidents, providing very significant weight to the view that the survey day did not portray an unusual snapshot in any way, but rather a true reflection of how the route actually operates in practice for pedestrians.
- 9.1.35 There is no reason to believe that this would not continue to be the case with the proposed development in place, particularly given that the proposed footway mitigation scheme has been put forward which is commensurate with the scale and nature of the proposals.

- 9.1.36 To help put the proposals in context, when the proposed off-site mitigation scheme (footway & give-way priority feature) is considered alongside the proposed foot / cycleway network fronting and within the site itself, there will be new pedestrian facilities provided along 266m of a 342m long section of Vicarage Lane (or 78% of this distance), where currently there are no such facilities.
- 9.1.37 This will not only be of benefit to the prospective residents but also to pedestrians walking through the wider area.
- 9.1.38 The PAC generated a number of comments from local residents and stakeholders which have been reviewed and responded to in detail in this report.
- 9.1.39 The scheme has been assessed in terms of its compliance with relevant local and national transport-related planning policies. This exercise demonstrates that the development proposals accord with relevant local and national transport planning policy.

9.2 Conclusion

- 9.2.1 On the basis of the findings outlined in this report, it is therefore concluded there should be no reasons to withhold planning permission for the proposed development from a transport perspective.

**APPENDIX 1 – WCBC HIGHWAYS COMMENTS TO PAC CONSULTATION
DATED 18-9-18 AND AXIS' RESPONSE**

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J10 Planning
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Eich Cyf/Your Ref
Ein Cyf/Our ref
Dyddiad/Date
Gofynner am/Ask for
Rhif Cyswllt/Contact No
E-bost/E-mail

EP/PP/DC/Pre/2018/051
18th September 2018
Mr P Palmer
01978 729688
phil.palmer@wrexham.gov.uk

FAO: Justin Paul

Dear Sir

**Land off Vicarage Lane, Gresford, Wrexham.
Proposed Residential Development (42 dwellings)**

I refer to your email / consultation dated 24/08/2018 including layout plan (Drg. No. PL-002) in respect of the above and comment as follows:-

Access

The development site is located on Vicarage Lane which is a classified road subject to a 30mph speed limit west of the Trewythen Hall access and 60mph east of this access.

Any proposed / existing accesses within the 30mph zone would normally be required to provide visibility splays of 2.4 x 56m in both directions measured to the nearside edge of the adjoining highway in accordance with Manual for Streets. However, I understand that you have recently carried out a speed survey which determined 85th percentile speeds of 24.9mph for vehicles travelling eastbound (away from village) and 29.1mph for vehicles travelling westbound (towards Gresford).

Based on these determined speeds, any proposed access serving a residential development would need to provide visibility splays of 2.4 x 41m to the south east and 2.4 x 33m to the north west measured to the nearside edge of the adjoining highway in accordance with Manual for Streets. It would appear possible to provide a suitable access from the proposed development site which could provide adequate visibility. However, there are a number of mature trees and an established hedgerow fronting the site which would need to be removed to achieve the required splays.



Transport Statement

I have discussed the proposed traffic management measures (ie/ priority system) with our Traffic Section. The proposed traffic management measures are considered unacceptable and would not be supported.

A previously conducted traffic count along Vicarage Lane measured average two way daily flows (12 hr flows) of 766 movements, which included both cars and HGVs. However, the proposed development has the potential to generate in excess of 300 additional vehicle movements per day along this section of Vicarage Lane which is considered to be a significant increase compared with existing traffic flows along this lane.

I understand that a more recent traffic survey was carried out over 7 days between 01/07/2017 and 07/07/2017. This indicated two way weekday traffic flows in the region of 950 vehicles. In terms of HGVs, on an average day, 58 HGVs travel along Vicarage Lane which is significant given the lack of footway provision leading to the village from the development site.

Although the village centre is only a relatively short distance from the development site, there are no existing footways between the site and the junction with Chester Road. Although, a new footway could be provided along the entire site frontage, there is no scope to construct a new footway alongside the existing carriageway leading to the village centre given the limited available carriageway width between the existing properties along this section. Pedestrians walking from the proposed dwellings would have to walk in the order of 140m along Vicarage Lane without the benefit of any footway provision to reach any existing footway provision within the village which is considered unacceptable.

Some of the existing properties along this section of Vicarage Lane do not have adequate off-street parking provision which results in vehicles being parked along the highway. Parked vehicles typically affect vehicle flows along this section and can result in pedestrians walking along the road having to walk around these vehicles which is not ideal. Although the submitted layout plan indicates the provision of additional off-street parking provision for visitors / residents along Vicarage Lane, visitors / residents quite commonly prefer to park directly outside their properties for security / convenience reasons. It is suggested that 11 no. parking spaces will be offered to plots 9, 10 (which comprise 2 x 3 bed dwellings) as well as the existing residents along Vicarage Lane. The Transport Assessment indicates that parking provision will be provided in accordance with LPGN 16 maximum parking standards. However, 2 of the 11 spaces would be required for plots 1 – 8 and 6 of the parking spaces would be required for plots 9 and 10. This would leave only 3 spaces for any residents along Vicarage Lane who may wish to utilise these spaces. It is not clear how these spaces would be guaranteed to specific residents of Vicarage Lane and how any visitors to the development site would be prevented from using these spaces.

I have visited the site on a number of occasions and witnessed a significant number of vehicles parked along this section of Vicarage lane on both sides of the road. I have witnessed both milk tankers and tractor / trailers trying to negotiate between these parked vehicles on a number of occasions.

The proposed traffic management proposal / priority system including provision of 1.8m wide footway is likely to result in additional issues along this section of Vicarage Lane. Such issues include:-

- Vehicles travelling north west long Vicarage Lane may not see vehicles turning left off Chester Road or right off Old Wrexham Road into Vicarage Lane and continue travelling through the restricted section of carriageway. This would result in vehicles having to sit and wait for the oncoming traffic to clear. During this time, any traffic arriving behind these waiting vehicles has the potential to back up onto Chester Road and across the existing junction which is unacceptable. This has the potential to increase the likelihood of danger to road users and pedestrians.

- Any cars visiting the properties along the restricted section of Vicarage Lane may park along this section and restrict the available carriageway width. Any larger vehicles eg/ milk tankers, HGVs may well be unable to pass along this section which would be unacceptable.
- The location of the footway on the corner of the Vicarage Lane / Old Wrexham Road will make the turning manoeuvre of vehicles left into Old Wrexham Road more difficult and vehicles are likely to encroach over the centreline of the road. Although swept paths of a refuse vehicle have been provided with a new section of footway in this location , swept paths negotiating the existing junction have not been provided.

Traffic Generation

TRICS data was submitted in respect of the proposed development as follows:-

TRICS Residential	Ave TRICS Trip Rates			Ave TRICS Trip Rates		
	Arrive	Depart	Total	Arrive	Depart	Total
AM (08:00-09:00)	0.158	0.355	0.513	7	15	22
PM (17:00-18:00)	0.340	0.165	0.505	14	7	21
Daily	2.124	2.190	4.314	89	92	181

The submitted information suggests that the development would generate approximately 22 two-way trips in either peak period or 181 two-way trips across a typical weekday. The submitted TRICS data indicates 4.314 movements per dwelling for the proposed development site which is considered to be low for a development of this nature.

However, we have recently carried out a traffic survey on a site similar to this site which indicated typical weekday two-way flows of 7.6 movements per dwelling. In comparison, this would equate to around 319 total two-way weekday movements for the proposed site.

Site Layout

In terms of the proposed site layout (Drg. No. PL-002), I comment as follows:-

The proposed development will need to comply with WCBC Adoptable Standards / Manual Streets.

I would recommend the construction of a 2.0m wide footway either side of the main access to ensure the provision of adequate visibility in both directions along Vicarage Lane. Any internal access roads / junctions will need to provide visibility splays of 2.4 x 25m (20mph) in both directions in accordance with Manual for Streets. This detail has not been indicated on the submitted layout plan.

I would recommend that parking provision is provided in accordance with LPGN 16 maximum requirements.

Any proposed turning heads will need to comply with WCBC Adoptable Standards. A suitable turning head to accommodate the turning movements of a medium sized delivery vehicle will need to be provided for the proposed private cul-de-sac behind plots 1 – 8.

We would normally require 2m wide footways on both sides of the internal estate road. This has not been indicated on the submitted layout plan.

Localised carriageway widening may be required on the bends around the central public open space to accommodate the movements of an 11.3m long refuse vehicle.

I would recommend that the footway link between plots 25 and 26 takes the form of a 3m wide shared footway / cycleway link with appropriate cycle barriers. I would recommend the provision of a 2m wide footway along Vicarage Lane linking the above footway link into the site to public footpath no. 12 (Gresford) which runs alongside the eastern boundary of the site. Our Public Rights of Way Section have recommended that the developer widens the existing public right of way to 2m where it abuts the site boundary which shall be dedicated to the Highway Authority.

Surface Water Drainage

A suitable scheme to dispose of highway surface water run-off would need to be submitted and approved before any proposed estate road(s) could be considered suitable for adoption. This will need to be assessed / approved by our Flood management Officer – Neil Taunt.

Construction Traffic Management Plan - including details of contractor parking

In order to construct the proposed scheme, the applicant will need to submit a Construction Traffic Management Plan including details of contractor parking for further approval. This could be included as a planning condition should an application be supported.

Conclusion

In conclusion, the proposed development site would not appear to meet the requirements of the settlement policies (3.4 & 3.6) detailed in TAN 18. These policies require residential developments to provide safe walking and cycling routes to local facilities and public transport stops.

I would therefore consider the proposed development site to be in an unsustainable location for a development of this size (approx. 42 dwellings) and does not support the opportunity for residents to walk safely to local facilities and public transport stops. I would therefore not be able to support any application for such a development in this location for the reasons given above.

You are advised that the above comments are those of an officer of the council and do not commit the Council in any way with regard to the determination of any formal planning application that may be submitted. You are also advised that the above comments take account of policies and guidance adopted by the Council at the present time and which remain open to continuous review.

Yours faithfully

A handwritten signature in dark ink. It begins with the letters 'PP' followed by a space and the number '1'. This is enclosed within a large, sweeping oval. To the right of the oval, the name 'Hutter' is written in a cursive script, with a long horizontal flourish extending to the right.

Planning Control Manager

The following sets out Axis' response to the points raised in the consultation response from Wrexham County Borough Council (WCBC) highways on the pre-application consultation for the proposed residential development of 44 dwellings at Vicarage Lane, Gresford

The responses are set out in broadly the same order as they are presented in WCBC's original comments for ease of cross reference.

- The proposed site access onto Vicarage Lane has been designed so that the requisite visibility splays can be achieved in both directions, commensurate with the observed design speed of approaching traffic, and the visibility splays will be protected in perpetuity by the formation of new lengths of footway along site frontage on either side of the site access.
- The WCBC response indicates that prospective residents would need to walk some 140m along Vicarage Lane without a footway to reach the village. However, this does not take account of the proposed footway mitigation scheme, and so the distance that residents would actually have to walk in the existing lane carriageway would actually be some 80m instead.
- This TS has demonstrated, through reference to the 19-year safety record, through observations of the way pedestrians and traffic already interact on the lane, through reference to the Inspector's Decision from 2015, and with reference to the low traffic flows, that should not represent a reason to resist the application.
- The scheme layout has been revised and includes an area with 11 spaces reserved for local residents. Some interest has already been received from locals to utilise these facilities, and there are a number of ways to ensure they will be kept available to local residents in perpetuity, details of which can be secured by planning condition.
- This will alleviate the level of parking that currently occurs on the lane.
- The proposed footway improvements / give-way priority feature has been assessed in detail. It is Axis' view that the scheme will effectively formalise an existing situation which already occurs – e.g. cars give way or slow down significantly for one another through the constrained section. However, with the scheme in place eastbound cars will be able to move clear from Chester Road more easily as they would have formal priority in the give-way system.

- Detailed calculations have been carried out which show that no queues would be expected to build up behind eastbound cars. Eastbound cars would have priority, but even for those that would have to wait for westbound cars passing through the feature, the waiting time would be momentary, there is a passing place situated half way along the feature and the number of vehicles that travel eastbound would be very low even in the peak hours (more than 1 per minute). A comparison with a similar feature on Marl Lane in Llandudno Junction would suggest there will be no queue build ups, and this view is corroborated with reference to experimental research carried out by the Transport Research Laboratory.
- The view of oncoming traffic from Old Wrexham Road would also be enhanced by the scheme as approaching westbound traffic will be channelised further out into the carriageway by the proposed footway / give-way system.
- It is considered unlikely that cars would ever park within the proposed footway / give way feature because they would therefore block through traffic, and also because this section of Vicarage Lane is not generally parked within currently.
- The ability of a HGV to pass through the feature has been assessed and it has been shown that there would be ample clearance on either side to allow the movement to occur relatively freely.
- The ability of vehicles (large or small) to turn into or out of Old Wrexham Road will be almost entirely unaffected by the scheme when compared to the existing situation.
- The traffic generating potential of the development has been assessed using revised trip rates from TRICS and also from trip rates supplied by WCBC. Both sets of resultant forecasts have been used in the assessment of the ability of the proposed give way feature to accommodate traffic flow.
- The level for parking on the revised layout is compliant with WCBC's adopted parking standards.
- The turning heads on the latest site layout have been designed to cater for the largest vehicles likely to regularly use them.
- As recommended by WCBC, minimum 2m footways have been included on the latest site layout plan along all main desire lines, and there will also be a 4m combined foot / cycleway included that will be available for the wider public to use as an alternative to walking along Vicarage Lane.

- Similarly, as recommended by WCBC, a 2m wide link has been provided between the on-site foot / cycleway to the public footpath which runs alongside the site's eastern boundary.
- A slither of land along the site's eastern boundary will be offered up for dedication as highway so that the existing public footpath itself can also be widened.
- A scheme of appropriate surface water drainage will be designed in due course and details of this can be secured by means of a suitable planning condition prior to the submission of a S38 Agreement.
- A Construction Traffic Management Plan can also be secured by means of a suitably worded planning condition.

APPENDIX 2 – AUTOMATED TRAFFIC SURVEY RESULTS

Automatic Classified Counts, Gresford

DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (EASTERN SITE)



Direction : EASTBOUND

TIME PERIOD	AVERAGE SPEEDS						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	29.3	24.0	-	-	-	-	-
1:00 - 2:00	-	-	-	-	17.0	-	-
2:00 - 3:00	28.0	-	-	-	-	-	-
3:00 - 4:00	-	21.0	27.0	-	-	-	21.3
4:00 - 5:00	22.7	28.0	27.0	22.0	22.3	23.5	22.0
5:00 - 6:00	23.9	26.8	21.1	25.0	26.9	24.3	26.2
6:00 - 7:00	22.7	25.2	30.2	23.1	21.1	23.2	22.5
7:00 - 8:00	14.8	20.7	22.5	21.1	21.6	22.1	23.5
8:00 - 9:00	17.4	21.3	21.4	24.0	23.4	22.0	21.6
9:00 - 10:00	14.8	16.6	21.6	21.0	20.1	19.0	20.2
10:00 - 11:00	13.8	20.4	20.4	20.1	20.3	19.9	19.3
11:00 - 12:00	12.5	19.8	20.2	21.4	18.3	21.6	18.4
12:00 - 13:00	19.6	20.3	20.4	18.9	19.5	22.5	18.8
13:00 - 14:00	19.2	18.3	22.7	20.8	18.7	20.8	19.2
14:00 - 15:00	19.9	18.8	20.6	15.2	18.6	20.5	18.2
15:00 - 16:00	18.3	20.5	19.1	19.4	17.9	18.8	17.2
16:00 - 17:00	20.7	20.2	18.7	19.1	18.2	20.8	18.5
17:00 - 18:00	22.0	20.8	20.2	19.0	18.6	22.1	19.5
18:00 - 19:00	20.6	19.6	19.5	20.2	17.9	18.3	20.5
19:00 - 20:00	21.4	20.6	18.6	19.6	21.5	19.1	18.3
20:00 - 21:00	20.7	19.2	22.1	17.8	16.1	20.1	22.7
21:00 - 22:00	21.0	22.5	21.0	23.3	21.7	22.0	21.0
22:00 - 23:00	18.0	23.3	22.0	24.0	25.0	20.4	16.2
23:00 - 0:00	24.0	-	22.5	21.0	-	13.0	22.8

10-12	13.2	20.1	20.3	20.7	19.1	20.9	18.9
14-16	19.0	19.4	19.8	17.5	18.3	19.7	17.6
0-24	19.1	20.0	20.8	20.4	20.1	20.8	19.7

TIME PERIOD	85TH PERCENTILE						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	37.6	24.0	-	-	-	-	-
1:00 - 2:00	-	-	-	-	17.0	-	-
2:00 - 3:00	28.0	-	-	-	-	-	-
3:00 - 4:00	-	21.0	27.0	-	-	-	23.6
4:00 - 5:00	26.5	32.2	27.0	22.0	22.9	25.6	22.8
5:00 - 6:00	30.7	34.1	27.4	29.0	31.6	29.1	30.1
6:00 - 7:00	28.2	29.0	37.3	27.0	26.0	28.0	26.9
7:00 - 8:00	19.0	24.2	26.4	25.7	26.0	27.3	27.8
8:00 - 9:00	24.6	24.7	25.9	28.3	27.8	26.5	25.7
9:00 - 10:00	19.6	21.1	26.7	24.5	24.3	22.8	24.7
10:00 - 11:00	17.7	24.7	25.3	25.9	23.1	24.3	24.2
11:00 - 12:00	15.7	25.5	25.7	26.3	23.9	25.0	24.2
12:00 - 13:00	26.1	23.4	24.4	24.9	23.8	26.8	24.4
13:00 - 14:00	24.4	22.7	26.4	24.8	25.0	25.1	24.5
14:00 - 15:00	25.5	22.7	25.6	20.6	23.8	25.0	23.1
15:00 - 16:00	22.9	23.3	23.9	24.7	23.5	23.7	21.6
16:00 - 17:00	25.6	23.9	24.0	23.1	22.9	24.0	24.2
17:00 - 18:00	27.3	24.3	25.5	23.0	22.7	28.0	24.6
18:00 - 19:00	24.7	24.2	22.6	25.4	23.3	23.6	24.4
19:00 - 20:00	24.4	24.0	22.8	25.0	27.0	24.1	24.4
20:00 - 21:00	25.3	21.5	26.9	23.1	22.8	25.4	27.6
21:00 - 22:00	27.5	26.0	24.2	28.1	27.2	24.8	25.1
22:00 - 23:00	24.2	25.5	24.5	24.8	28.5	22.7	22.1
23:00 - 0:00	24.0	-	23.2	21.0	-	13.0	27.0

10-12	16.8	25.0	25.5	26.1	23.8	24.8	24.2
14-16	24.4	22.6	24.9	23.1	23.5	24.1	23.0
0-24	25.1	24.3	25.7	25.4	25.2	25.6	24.9

7 DAY AVERAGE SPEED	20.2
7 DAY AVERAGE 85th PERCENTILE	25.3

Automatic Classified Counts, Gresford

DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (EASTERN SITE)



Direction : WESTBOUND

TIME PERIOD	AVERAGE SPEEDS						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	22.5	26.5	-	-	-	-	23.0
1:00 - 2:00	-	31.0	-	17.0	31.0	-	28.0
2:00 - 3:00	-	27.5	34.0	-	-	-	-
3:00 - 4:00	-	6.7	26.0	-	-	33.0	-
4:00 - 5:00	24.0	34.0	33.0	24.0	-	-	21.5
5:00 - 6:00	25.5	26.0	24.0	25.8	18.8	19.0	26.3
6:00 - 7:00	22.8	23.0	27.4	23.0	17.7	25.0	26.1
7:00 - 8:00	19.0	20.4	22.8	24.4	23.1	26.0	22.9
8:00 - 9:00	21.8	19.1	22.9	24.2	23.7	23.7	24.3
9:00 - 10:00	16.8	22.5	22.4	27.9	23.4	26.4	25.8
10:00 - 11:00	16.7	24.2	22.6	25.4	24.0	21.7	24.0
11:00 - 12:00	13.4	21.2	21.1	25.0	23.1	23.9	24.1
12:00 - 13:00	18.8	22.4	22.2	23.4	21.2	23.4	23.0
13:00 - 14:00	22.5	21.8	24.3	24.0	22.9	24.8	23.3
14:00 - 15:00	22.0	23.8	22.8	21.9	24.3	23.8	22.9
15:00 - 16:00	22.2	21.0	22.1	24.9	21.4	23.8	23.1
16:00 - 17:00	23.5	23.1	24.0	24.7	24.1	25.4	25.0
17:00 - 18:00	21.0	25.6	24.1	25.0	23.4	24.5	25.4
18:00 - 19:00	25.3	24.3	24.0	23.8	25.6	24.4	24.6
19:00 - 20:00	24.8	27.4	22.7	23.8	27.0	21.8	23.9
20:00 - 21:00	20.3	22.0	22.3	21.7	21.5	21.5	28.3
21:00 - 22:00	21.3	20.7	23.3	23.3	23.7	26.4	24.0
22:00 - 23:00	30.5	-	25.6	26.3	25.6	25.0	25.2
23:00 - 0:00	22.3	20.0	21.0	27.0	-	20.8	26.4

10-12	15.3	22.9	21.8	25.2	23.5	22.8	24.1
14-16	22.1	21.9	22.5	23.5	22.5	23.8	23.0
0-24	21.1	22.9	23.4	24.5	23.4	24.3	24.3

TIME PERIOD	85TH PERCENTILE						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	33.1	31.4	-	-	-	-	23.0
1:00 - 2:00	-	31.0	-	17.0	31.0	-	28.0
2:00 - 3:00	-	32.4	34.0	-	-	-	-
3:00 - 4:00	-	7.2	31.7	-	-	33.0	-
4:00 - 5:00	24.0	34.0	33.0	24.0	-	-	23.6
5:00 - 6:00	26.5	31.7	31.2	31.3	22.0	19.0	30.4
6:00 - 7:00	26.5	37.2	32.2	26.0	23.2	31.1	28.7
7:00 - 8:00	24.2	24.6	27.6	28.9	27.6	30.5	27.8
8:00 - 9:00	26.8	24.8	28.8	28.7	27.9	29.6	28.7
9:00 - 10:00	22.8	27.9	29.3	31.6	29.3	31.6	31.7
10:00 - 11:00	23.4	30.4	28.2	31.0	28.1	27.7	27.8
11:00 - 12:00	17.2	26.8	26.2	29.6	27.5	28.8	28.7
12:00 - 13:00	26.9	27.1	26.2	31.0	26.2	28.2	27.2
13:00 - 14:00	29.4	28.5	30.7	28.1	28.8	29.8	30.0
14:00 - 15:00	27.2	27.9	27.4	26.6	29.0	28.0	27.6
15:00 - 16:00	26.7	24.4	27.5	29.1	26.4	28.5	27.5
16:00 - 17:00	29.7	28.1	29.2	28.8	27.8	30.1	29.7
17:00 - 18:00	26.8	31.9	29.8	29.7	27.9	30.2	30.0
18:00 - 19:00	30.6	30.0	29.3	30.8	30.3	29.5	29.5
19:00 - 20:00	29.6	33.5	30.3	29.6	35.0	25.7	30.7
20:00 - 21:00	27.4	24.4	25.8	26.8	28.4	27.3	30.9
21:00 - 22:00	27.9	24.5	27.8	28.3	27.0	34.4	27.3
22:00 - 23:00	35.7	-	32.6	33.0	32.0	25.0	30.4
23:00 - 0:00	27.8	20.0	21.0	32.8	-	24.3	31.1

10-12	21.2	28.9	27.2	30.2	27.7	28.3	28.4
14-16	26.4	26.3	27.3	28.3	28.0	28.7	28.2
0-24	27.7	28.7	29.0	29.5	28.4	29.6	29.1

7 DAY AVERAGE SPEED	23.6
7 DAY AVERAGE 85th PERCENTILE	29.1

Automatic Classified Counts, Gresford

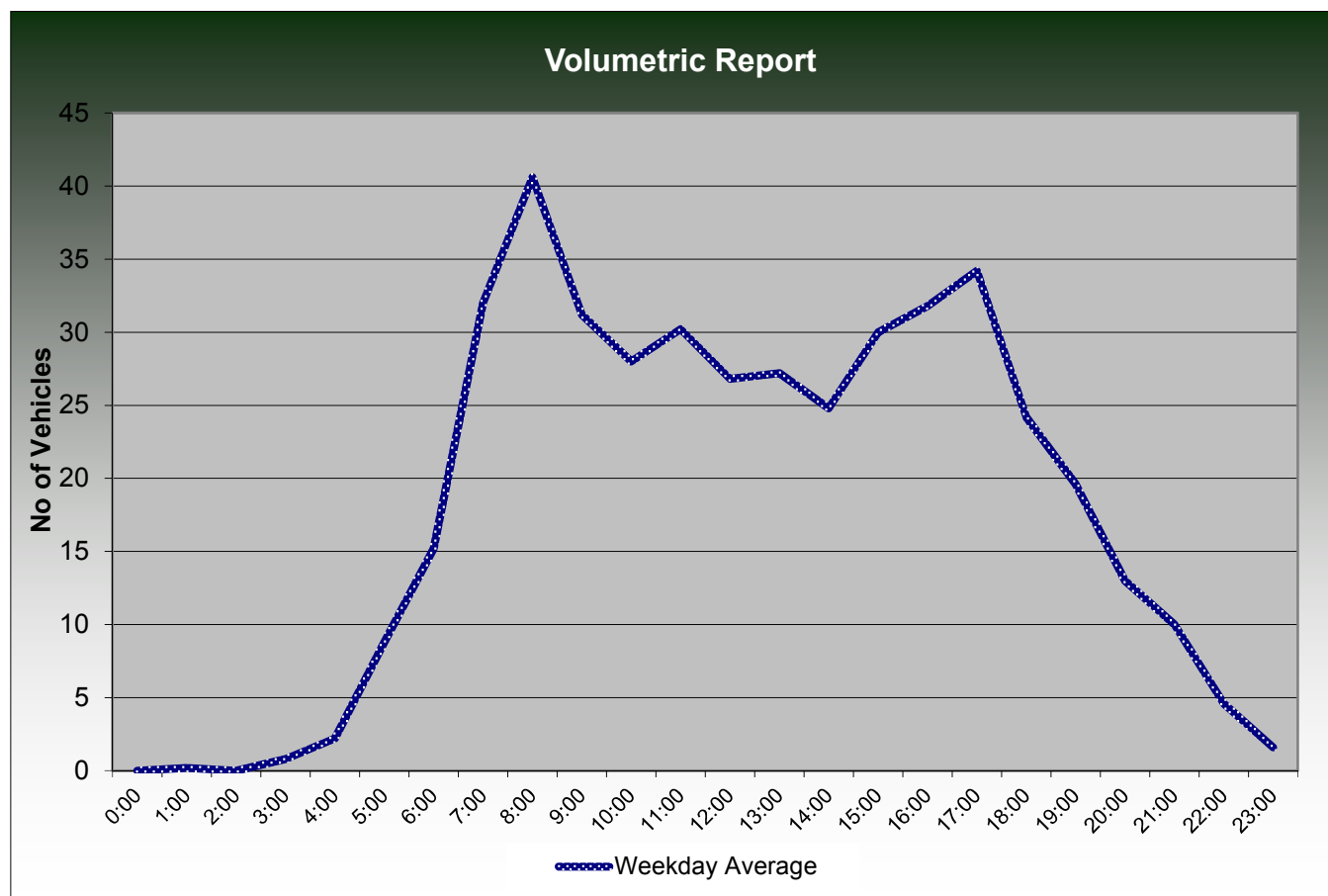
DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (EASTERN SITE)

Direction : EASTBOUND



TIME PERIOD	VEHICLE VOLUMES								
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Weekday	Week
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017	Average	Average
0:00 - 1:00	6	1	0	0	0	0	0	0	1
1:00 - 2:00	0	0	0	0	1	0	0	0	0
2:00 - 3:00	1	0	0	0	0	0	0	0	0
3:00 - 4:00	0	1	1	1	0	0	2	1	1
4:00 - 5:00	3	2	1	1	2	2	3	2	2
5:00 - 6:00	7	5	12	10	11	7	7	9	8
6:00 - 7:00	9	5	6	14	18	18	20	15	13
7:00 - 8:00	10	9	25	46	35	45	33	32	29
8:00 - 9:00	12	8	25	41	51	62	56	41	36
9:00 - 10:00	18	12	23	24	40	37	34	31	27
10:00 - 11:00	19	16	22	23	23	30	34	28	24
11:00 - 12:00	16	12	26	23	37	33	36	30	26
12:00 - 13:00	12	19	25	31	24	23	23	27	22
13:00 - 14:00	19	28	22	31	26	23	22	27	24
14:00 - 15:00	19	33	21	20	23	27	33	25	25
15:00 - 16:00	23	16	27	33	40	34	46	30	31
16:00 - 17:00	21	19	24	31	37	36	32	32	29
17:00 - 18:00	24	15	23	47	36	29	28	34	29
18:00 - 19:00	29	21	19	36	22	35	21	24	26
19:00 - 20:00	14	10	18	11	14	28	14	20	16
20:00 - 21:00	6	10	11	11	8	22	21	13	13
21:00 - 22:00	4	2	6	10	11	9	14	10	8
22:00 - 23:00	3	4	5	3	4	5	4	5	4
23:00 - 0:00	1	0	2	1	2	4	6	2	2
7-19	222	208	282	386	394	414	398	361	329
6-22	255	235	323	432	445	491	467	419	378
6-24	259	239	330	436	451	500	477	425	385
0-24	276	248	344	448	465	509	489	437	397



Automatic Classified Counts, Gresford

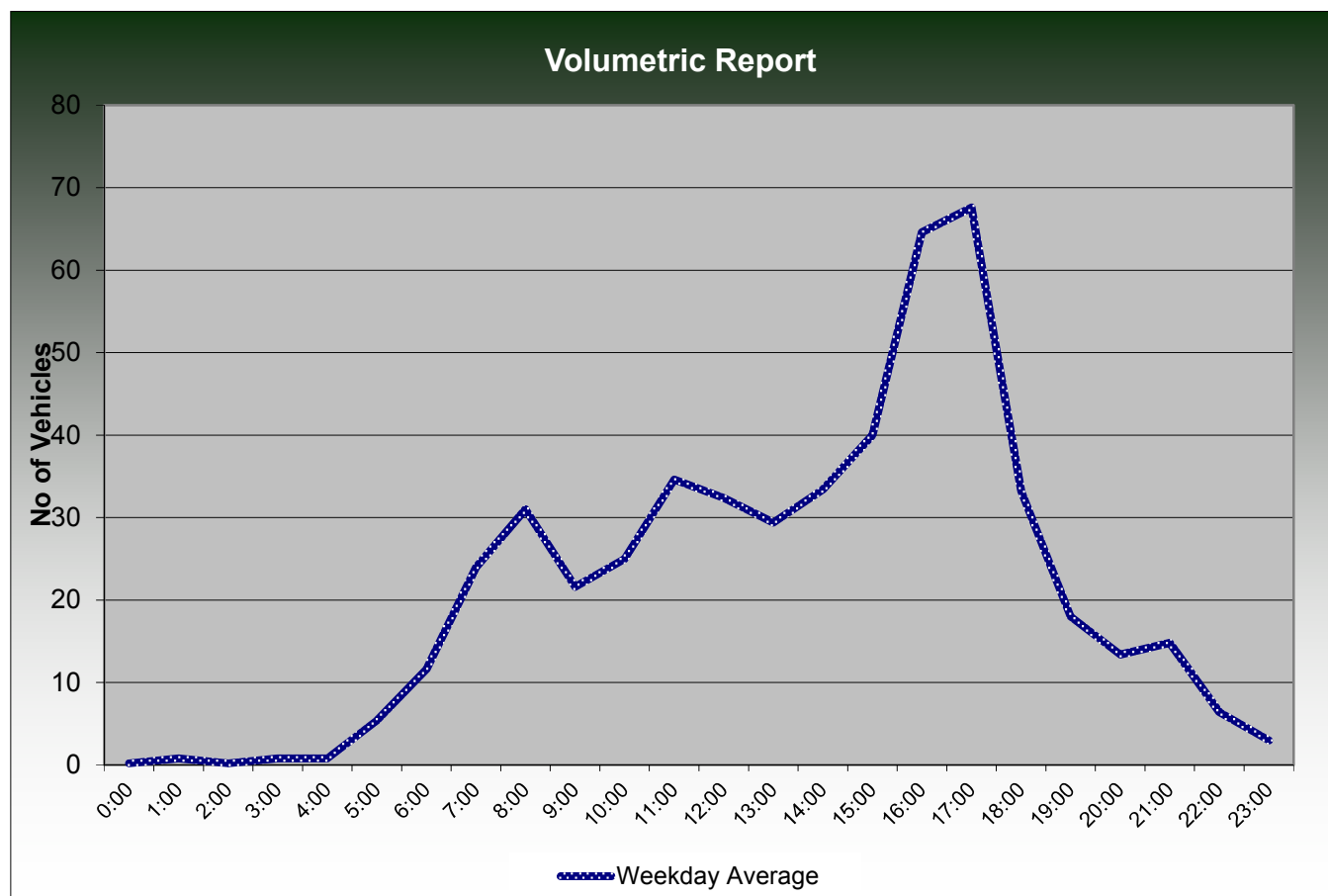
DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (EASTERN SITE)

Direction : WESTBOUND



TIME PERIOD	VEHICLE VOLUMES								
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Weekday	Week
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017	Average	Average
0:00 - 1:00	2	2	0	0	0	0	1	0	1
1:00 - 2:00	0	1	0	1	1	0	1	1	1
2:00 - 3:00	0	2	1	0	0	0	0	0	0
3:00 - 4:00	0	3	2	0	0	1	0	1	1
4:00 - 5:00	1	1	1	1	1	0	2	1	1
5:00 - 6:00	4	6	9	7	6	1	3	5	5
6:00 - 7:00	6	3	21	7	4	15	12	12	10
7:00 - 8:00	6	9	11	29	29	26	20	24	19
8:00 - 9:00	20	7	21	32	28	26	37	31	24
9:00 - 10:00	21	13	17	19	21	26	35	22	22
10:00 - 11:00	25	17	26	22	29	23	28	25	24
11:00 - 12:00	17	13	27	34	26	25	45	35	27
12:00 - 13:00	17	21	25	20	41	31	41	32	28
13:00 - 14:00	31	21	24	23	38	24	36	29	28
14:00 - 15:00	15	16	28	32	26	31	34	33	26
15:00 - 16:00	22	31	22	45	44	39	54	40	37
16:00 - 17:00	21	23	41	61	78	66	76	65	52
17:00 - 18:00	27	20	54	81	78	69	53	68	55
18:00 - 19:00	28	25	26	35	32	43	34	33	32
19:00 - 20:00	13	10	18	12	20	28	22	18	18
20:00 - 21:00	3	4	7	13	10	19	16	13	10
21:00 - 22:00	13	6	15	12	11	19	16	15	13
22:00 - 23:00	4	0	5	8	9	2	5	6	5
23:00 - 0:00	3	1	1	3	1	4	5	3	3
7-19	250	216	322	433	470	429	493	437	373
6-22	285	239	383	477	515	510	559	495	424
6-24	292	240	389	488	525	516	569	504	431
0-24	299	255	402	497	533	518	576	512	440



Automatic Classified Counts, Gresford

DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (WESTERN SITE)



Direction : EASTBOUND

TIME PERIOD	AVERAGE SPEEDS						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	27.0	21.0	-	-	-	-	-
1:00 - 2:00	-	8.0	-	-	17.0	-	-
2:00 - 3:00	27.0	-	-	-	-	-	-
3:00 - 4:00	-	20.0	23.0	22.0	-	-	22.0
4:00 - 5:00	20.7	26.0	27.0	22.0	22.5	23.5	22.0
5:00 - 6:00	22.4	25.2	21.1	25.2	26.3	24.3	25.8
6:00 - 7:00	22.0	24.0	25.6	23.3	21.4	22.7	21.6
7:00 - 8:00	14.7	20.9	20.7	21.5	21.6	22.5	23.2
8:00 - 9:00	20.5	20.4	20.8	23.6	23.1	22.0	22.1
9:00 - 10:00	18.4	16.8	18.7	20.9	21.0	19.7	20.7
10:00 - 11:00	17.1	19.6	18.8	20.6	20.7	20.1	19.9
11:00 - 12:00	15.2	17.8	15.8	20.8	18.2	20.8	19.1
12:00 - 13:00	19.5	17.9	19.6	19.4	18.8	22.5	18.3
13:00 - 14:00	17.0	17.9	20.6	19.8	18.9	21.2	19.0
14:00 - 15:00	16.9	17.8	17.8	15.5	18.2	19.8	18.2
15:00 - 16:00	15.2	15.9	18.4	19.7	18.4	18.9	17.0
16:00 - 17:00	20.9	18.8	18.0	18.3	18.4	20.5	18.9
17:00 - 18:00	19.8	18.1	19.1	19.0	18.5	21.7	20.1
18:00 - 19:00	20.0	18.5	19.1	19.7	18.8	18.5	20.8
19:00 - 20:00	17.8	19.8	16.7	19.2	20.2	18.8	18.7
20:00 - 21:00	16.3	18.2	20.9	19.0	18.6	20.1	22.0
21:00 - 22:00	20.5	17.3	20.9	22.4	21.7	21.2	21.4
22:00 - 23:00	18.3	20.0	21.8	24.0	23.8	19.8	17.0
23:00 - 0:00	22.0	-	22.3	21.0	18.5	24.5	23.7

10-12	16.2	18.9	17.0	20.7	19.2	20.5	19.5
14-16	16.1	17.1	18.1	17.9	18.3	19.3	17.5
0-24	18.4	18.5	19.2	20.3	20.1	20.8	20.1

TIME PERIOD	85TH PERCENTILE						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	35.1	21.0	-	-	-	-	-
1:00 - 2:00	-	8.0	-	-	17.0	-	-
2:00 - 3:00	27.0	-	-	-	-	-	-
3:00 - 4:00	-	20.0	23.0	22.0	-	-	24.8
4:00 - 5:00	25.3	31.7	27.0	22.0	23.2	25.6	23.0
5:00 - 6:00	28.2	31.7	24.4	29.1	30.0	29.1	29.5
6:00 - 7:00	26.0	30.7	29.1	27.3	26.6	27.3	25.7
7:00 - 8:00	20.1	24.3	24.2	25.7	26.2	26.5	26.9
8:00 - 9:00	26.9	24.7	25.5	28.0	27.5	27.1	26.2
9:00 - 10:00	23.3	19.7	24.4	24.5	25.3	23.5	25.1
10:00 - 11:00	20.2	23.9	24.6	26.0	23.4	24.8	25.1
11:00 - 12:00	19.9	24.1	21.1	26.5	23.4	24.8	24.8
12:00 - 13:00	24.0	21.3	23.2	25.2	23.0	27.0	23.4
13:00 - 14:00	22.2	22.1	24.5	23.8	24.7	25.7	24.3
14:00 - 15:00	20.4	21.8	23.2	20.4	23.5	24.7	23.0
15:00 - 16:00	20.3	22.3	22.0	25.2	23.7	23.3	21.4
16:00 - 17:00	24.6	23.1	22.4	23.1	23.1	24.2	24.3
17:00 - 18:00	25.2	22.6	24.8	23.3	22.3	27.5	24.7
18:00 - 19:00	25.0	24.5	22.9	25.0	24.1	23.5	24.6
19:00 - 20:00	23.7	24.0	21.6	25.5	25.6	24.3	24.8
20:00 - 21:00	22.7	21.8	26.4	24.3	24.3	25.1	27.8
21:00 - 22:00	28.0	24.4	24.0	27.2	27.2	25.0	25.3
22:00 - 23:00	23.0	24.5	24.4	25.0	26.6	22.0	23.5
23:00 - 0:00	22.0	-	23.9	21.0	19.2	34.8	30.2

10-12	20.2	24.0	22.7	26.2	23.7	24.8	24.9
14-16	20.7	21.9	22.7	23.5	24.4	24.1	22.9
0-24	23.8	23.4	24.0	25.5	25.1	25.6	25.2

7 DAY AVERAGE SPEED	19.8
7 DAY AVERAGE 85th PERCENTILE	24.9

Automatic Classified Counts, Gresford

DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (WESTERN SITE)



Direction : WESTBOUND

TIME PERIOD	AVERAGE SPEEDS						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	22.0	23.0	-	-	-	-	20.0
1:00 - 2:00	-	27.0	-	14.0	28.0	-	25.0
2:00 - 3:00	-	23.5	28.0	-	-	-	-
3:00 - 4:00	-	10.0	23.0	-	-	30.0	-
4:00 - 5:00	23.0	29.0	30.0	21.0	20.0	-	18.5
5:00 - 6:00	21.5	22.7	23.8	22.1	15.7	16.0	23.3
6:00 - 7:00	20.7	24.7	24.5	20.1	14.8	22.4	21.2
7:00 - 8:00	17.0	18.0	19.4	22.3	20.5	23.0	20.4
8:00 - 9:00	21.7	18.6	20.6	21.8	19.6	21.9	21.6
9:00 - 10:00	18.5	20.1	20.7	24.1	20.3	22.9	21.8
10:00 - 11:00	17.8	20.0	21.0	22.3	21.4	18.9	20.1
11:00 - 12:00	16.9	19.3	16.9	21.8	19.7	21.4	20.9
12:00 - 13:00	18.9	19.9	21.3	21.1	18.4	20.4	20.2
13:00 - 14:00	19.9	20.2	21.5	21.0	19.4	22.2	21.0
14:00 - 15:00	16.9	18.0	19.8	19.0	21.5	20.9	19.2
15:00 - 16:00	19.9	17.3	19.6	22.5	18.3	20.3	20.3
16:00 - 17:00	21.3	20.0	20.7	20.6	21.3	22.9	22.0
17:00 - 18:00	18.5	22.3	21.6	22.8	20.0	21.8	22.1
18:00 - 19:00	21.6	21.5	20.5	20.4	22.2	20.8	21.8
19:00 - 20:00	19.6	23.5	19.7	20.5	22.9	18.3	22.1
20:00 - 21:00	18.0	18.5	18.7	19.5	19.2	17.6	25.5
21:00 - 22:00	20.2	19.3	21.8	21.2	21.0	22.7	21.0
22:00 - 23:00	26.8	-	25.5	23.3	22.6	31.0	21.8
23:00 - 0:00	20.0	17.0	22.0	26.0	23.0	18.3	23.4

10-12	17.5	19.7	19.0	22.1	20.5	20.2	20.6
14-16	18.4	17.5	19.7	21.0	19.5	20.5	19.9
0-24	19.5	20.1	20.7	21.6	20.3	21.3	21.3

TIME PERIOD	85TH PERCENTILE						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017
0:00 - 1:00	29.1	28.7	-	-	-	-	20.0
1:00 - 2:00	-	27.0	-	14.0	28.0	-	25.0
2:00 - 3:00	-	28.4	28.0	-	-	-	-
3:00 - 4:00	-	10.0	27.2	-	-	30.0	-
4:00 - 5:00	23.0	29.0	30.0	21.0	20.0	-	20.6
5:00 - 6:00	23.6	26.9	29.8	27.0	19.5	16.0	27.4
6:00 - 7:00	22.8	32.4	29.8	24.6	19.3	29.3	25.5
7:00 - 8:00	20.8	21.4	24.9	28.0	25.5	27.6	25.7
8:00 - 9:00	25.7	22.8	24.9	26.4	23.9	27.5	25.9
9:00 - 10:00	23.3	25.0	27.3	27.4	25.7	27.5	27.5
10:00 - 11:00	22.8	25.2	25.4	27.8	25.8	24.8	24.4
11:00 - 12:00	22.8	24.9	21.3	26.4	24.2	26.0	25.5
12:00 - 13:00	24.5	23.2	24.0	28.1	23.7	25.3	24.3
13:00 - 14:00	25.6	24.5	25.4	25.1	25.2	26.9	28.0
14:00 - 15:00	20.8	22.1	24.1	23.7	26.3	25.7	24.4
15:00 - 16:00	24.3	21.4	23.2	27.8	23.7	25.1	24.6
16:00 - 17:00	26.4	24.3	25.6	24.8	25.5	27.5	26.8
17:00 - 18:00	22.9	27.8	27.3	27.6	24.5	27.0	26.9
18:00 - 19:00	26.3	26.5	26.7	27.2	26.8	26.1	26.6
19:00 - 20:00	27.1	30.1	25.1	26.3	30.4	23.2	28.8
20:00 - 21:00	24.6	21.9	21.1	24.3	26.3	24.6	28.4
21:00 - 22:00	25.9	24.3	25.0	25.1	24.5	30.9	24.4
22:00 - 23:00	32.1	-	29.0	30.0	28.9	43.7	27.5
23:00 - 0:00	25.6	17.0	29.1	32.1	23.0	22.1	28.1

10-12	22.8	25.0	23.8	27.0	25.0	25.6	25.1
14-16	22.5	22.1	23.7	26.9	25.3	25.9	25.4
0-24	24.8	25.0	25.7	26.7	25.4	26.7	26.2

7 DAY AVERAGE SPEED	20.8
7 DAY AVERAGE 85th PERCENTILE	26.0

Automatic Classified Counts, Gresford

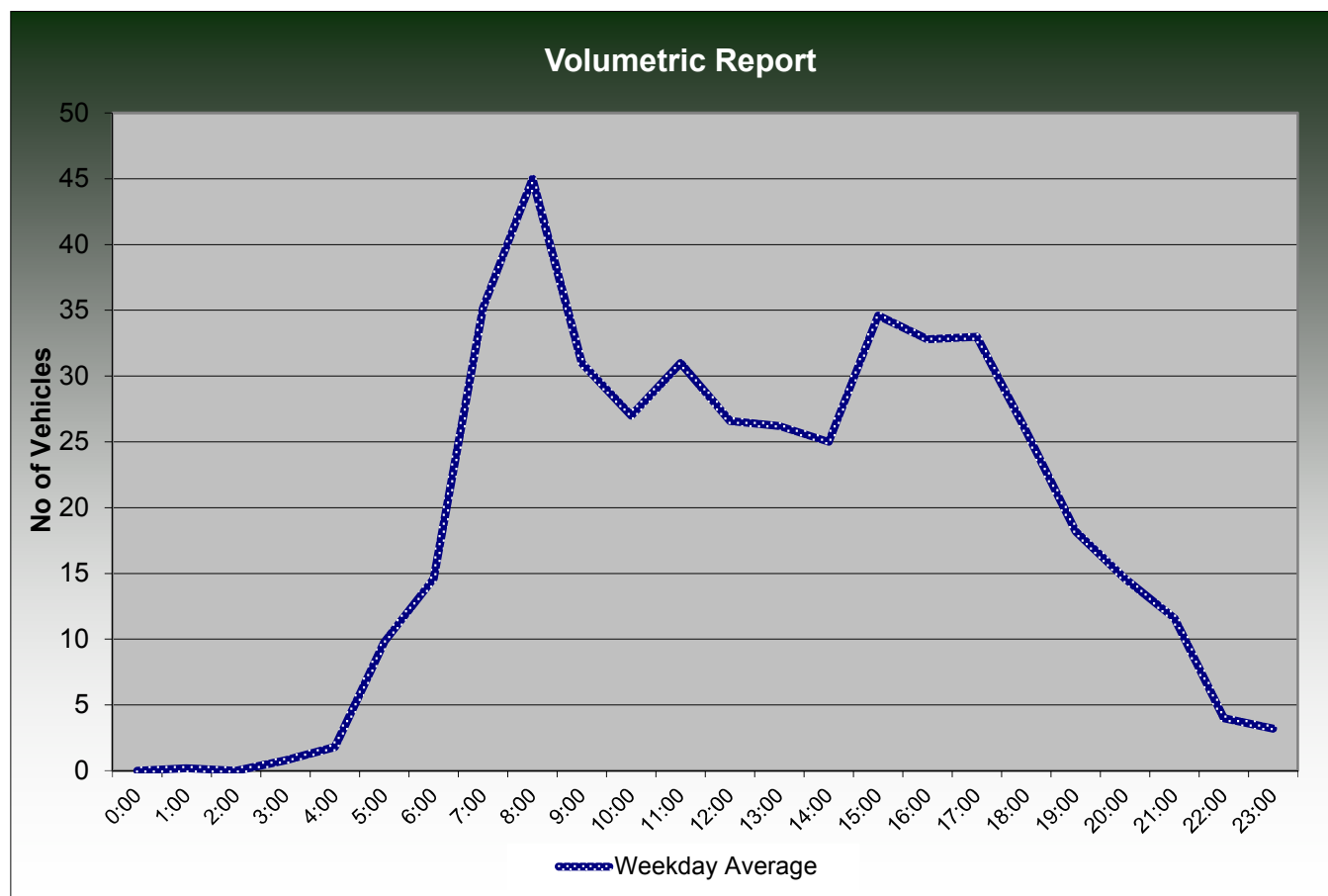
DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (WESTERN SITE)

Direction : EASTBOUND



TIME PERIOD	VEHICLE VOLUMES								
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Weekday	Week
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017	Average	Average
0:00 - 1:00	6	1	0	0	0	0	0	0	1
1:00 - 2:00	0	1	0	0	1	0	0	0	0
2:00 - 3:00	1	0	0	0	0	0	0	0	0
3:00 - 4:00	0	1	1	1	0	0	2	1	1
4:00 - 5:00	3	2	1	1	2	2	3	2	2
5:00 - 6:00	7	5	12	12	11	8	6	10	9
6:00 - 7:00	9	5	6	15	17	18	18	15	13
7:00 - 8:00	10	10	25	39	42	39	31	35	28
8:00 - 9:00	12	8	26	40	53	53	53	45	35
9:00 - 10:00	20	12	27	24	34	32	38	31	27
10:00 - 11:00	22	19	21	27	21	29	37	27	25
11:00 - 12:00	21	12	29	25	32	33	36	31	27
12:00 - 13:00	12	20	27	27	28	24	27	27	24
13:00 - 14:00	22	27	23	30	29	26	23	26	26
14:00 - 15:00	27	33	21	24	23	26	31	25	26
15:00 - 16:00	26	21	25	30	46	30	42	35	31
16:00 - 17:00	21	19	28	34	34	34	34	33	29
17:00 - 18:00	24	15	25	40	34	32	34	33	29
18:00 - 19:00	27	20	21	34	21	31	22	26	25
19:00 - 20:00	12	12	19	12	13	29	18	18	16
20:00 - 21:00	7	10	12	11	8	20	22	15	13
21:00 - 22:00	4	3	8	12	11	11	16	12	9
22:00 - 23:00	3	6	4	3	4	5	4	4	4
23:00 - 0:00	1	0	3	1	2	4	6	3	2
7-19	244	216	298	374	397	389	408	373	332
6-22	276	246	343	424	446	467	482	432	383
6-24	280	252	350	428	452	476	492	439	390
0-24	297	262	364	442	466	486	503	452	403



Automatic Classified Counts, Gresford

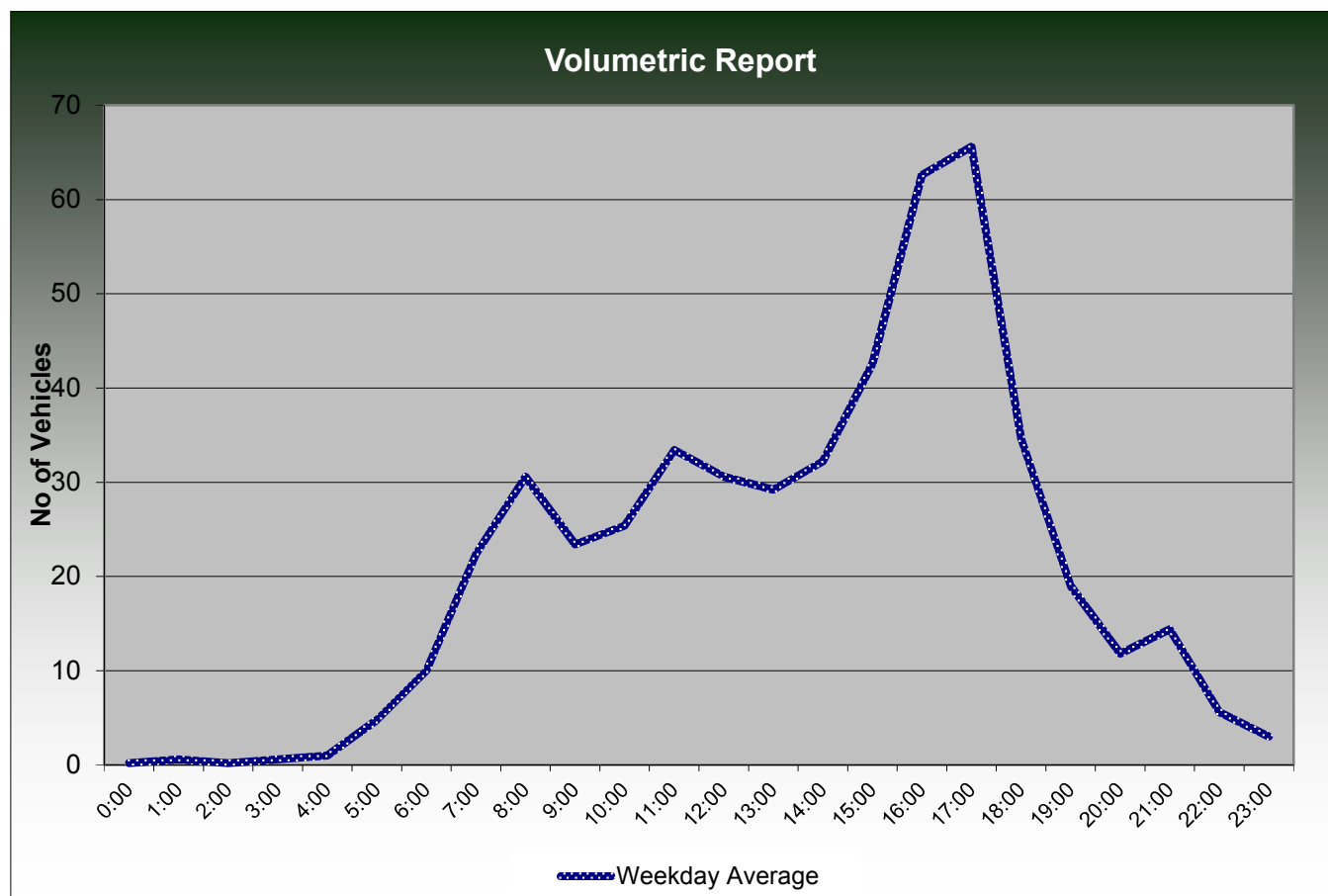
DATE: 01/07/2017 TO 07/07/2017

LOCATION: VICARAGE LANE (WESTERN SITE)

Direction : WESTBOUND



TIME PERIOD	VEHICLE VOLUMES								
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Weekday	Week
	01/07/2017	02/07/2017	03/07/2017	04/07/2017	05/07/2017	06/07/2017	07/07/2017	Average	Average
0:00 - 1:00	2	2	0	0	0	0	1	0	1
1:00 - 2:00	0	1	0	1	1	0	1	1	1
2:00 - 3:00	0	2	1	0	0	0	0	0	0
3:00 - 4:00	0	1	2	0	0	1	0	1	1
4:00 - 5:00	1	1	1	1	1	0	2	1	1
5:00 - 6:00	2	6	6	8	6	1	3	5	5
6:00 - 7:00	6	3	15	7	4	14	10	10	8
7:00 - 8:00	7	7	12	28	30	24	18	22	18
8:00 - 9:00	20	5	25	33	33	23	39	31	25
9:00 - 10:00	21	12	20	20	18	28	31	23	21
10:00 - 11:00	26	21	26	23	27	22	29	25	25
11:00 - 12:00	15	15	26	33	30	27	51	33	28
12:00 - 13:00	18	21	27	19	37	33	37	31	27
13:00 - 14:00	30	21	24	27	37	26	32	29	28
14:00 - 15:00	21	15	29	31	30	37	34	32	28
15:00 - 16:00	22	30	25	41	47	43	57	43	38
16:00 - 17:00	21	27	43	69	73	59	69	63	52
17:00 - 18:00	24	20	58	76	67	69	58	66	53
18:00 - 19:00	30	28	29	33	33	45	33	35	33
19:00 - 20:00	16	11	18	11	22	25	19	19	17
20:00 - 21:00	3	4	7	11	9	18	14	12	9
21:00 - 22:00	13	6	16	11	10	17	18	14	13
22:00 - 23:00	4	0	2	10	9	2	5	6	5
23:00 - 0:00	3	1	2	3	1	4	5	3	3
7-19	255	222	344	433	462	436	488	433	377
6-22	293	246	400	473	507	510	549	488	425
6-24	300	247	404	486	517	516	559	496	433
0-24	305	260	414	496	525	518	566	504	441



APPENIDX 3 – VIDEO TRAFFIC SURVEY RESULTS (17-10-18)

Vicarage Lane, gresford
Classified Junction Count

Site 1 of 1

Vicarage Lane (South)
Vicarage Lane (North)

Lat/Long

lat 53.084758° lon -2.971463°

Date

Wednesday 17 October 2018

Weather

Cloudy
Temp: 13°C

0000 - 2400 (Weekday 24 Hour Session)

TIME	Movement 1.2: Southbound from Vicarage Lane (North) to Vicarage Lane (South)								Original Data	
	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS/COACH	TOTAL	PCU TOTAL
0000 - 0015	0	0	0	0	0	0	0	0	0	0.00
0015 - 0030	0	0	0	0	0	1	0	0	1	1.50
0030 - 0045	0	0	0	0	0	0	0	0	0	0.00
0045 - 0100	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	0	0	0	1	0	0	1	1.50
Hourly Average	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.38
0100 - 0115	0	0	0	0	0	1	0	0	1	1.50
0115 - 0130	0	0	0	0	0	0	0	0	0	0.00
0130 - 0145	0	0	0	0	0	0	0	0	0	0.00
0145 - 0200	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	0	0	0	1	0	0	1	1.50
Hourly Average	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.38
0200 - 0215	0	0	0	0	0	0	0	0	0	0.00
0215 - 0230	0	0	1	0	0	0	0	0	1	1.00
0230 - 0245	0	0	0	0	0	0	0	0	0	0.00
0245 - 0300	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	1	0	0	0	0	0	1	1.00
Hourly Average	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.25
0300 - 0315	0	0	0	0	0	0	0	0	0	0.00
0315 - 0330	0	0	0	0	1	0	0	0	1	1.00
0330 - 0345	0	0	0	0	0	0	0	0	0	0.00
0345 - 0400	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	0	0	1	0	0	0	1	1.00
Hourly Average	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.25
0400 - 0415	0	0	0	0	0	0	0	0	0	0.00
0415 - 0430	0	0	0	0	0	0	0	0	0	0.00
0430 - 0445	0	0	0	0	0	0	0	0	0	0.00
0445 - 0500	0	0	1	0	0	0	0	0	1	1.00
Hourly Total	0	0	1	0	0	0	0	0	1	1.00
Hourly Average	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.25
0500 - 0515	0	0	3	0	0	0	0	0	3	3.00
0515 - 0530	0	0	3	0	0	0	0	0	3	3.00
0530 - 0545	0	0	3	0	0	0	0	0	3	3.00
0545 - 0600	0	1	2	0	0	0	0	0	3	2.40
Hourly Total	0	1	11	0	0	0	0	0	12	11.40
Hourly Average	0.00	0.25	2.75	0.00	0.00	0.00	0.00	0.00	3.00	2.85
0600 - 0615	0	0	1	0	0	0	0	0	1	1.00
0615 - 0630	0	0	2	0	1	0	0	0	3	3.00
0630 - 0645	0	0	3	0	0	0	0	0	3	3.00
0645 - 0700	0	0	4	0	0	0	0	0	4	4.00
Hourly Total	0	0	10	0	1	0	0	0	11	11.00
Hourly Average	0.00	0.00	2.50	0.00	0.25	0.00	0.00	0.00	2.75	2.75
0700 - 0715	0	0	1	0	2	0	0	0	3	3.00
0715 - 0730	1	0	1	0	0	0	1	0	3	3.50
0730 - 0745	0	0	4	1	2	0	0	0	7	7.00
0745 - 0800	1	1	8	1	3	0	0	0	14	12.60
Hourly Total	2	1	14	2	7	0	1	0	27	26.10
Hourly Average	0.50	0.25	3.50	0.50	1.75	0.00	0.25	0.00	6.75	6.53
0800 - 0815	0	0	1	0	2	0	1	0	4	5.30
0815 - 0830	0	0	6	0	0	0	0	0	6	6.00
0830 - 0845	0	0	5	0	2	1	0	0	8	8.50
0845 - 0900	0	0	6	0	3	0	0	0	9	9.00
Hourly Total	0	0	18	0	7	1	1	0	27	28.80
Hourly Average	0.00	0.00	4.50	0.00	1.75	0.25	0.25	0.00	6.75	7.20
0900 - 0915	0	0	7	0	2	1	2	0	12	15.10
0915 - 0930	0	0	0	0	0	0	0	0	0	0.00
0930 - 0945	0	0	1	0	0	0	0	0	1	1.00
0945 - 1000	0	0	4	0	1	1	0	0	6	6.50
Hourly Total	0	0	12	0	3	2	2	0	19	22.60
Hourly Average	0.00	0.00	3.00	0.00	0.75	0.50	0.50	0.00	4.75	5.65
1000 - 1015	0	0	5	0	1	0	0	0	6	6.00
1015 - 1030	3	0	4	0	1	0	1	0	9	7.90
1030 - 1045	0	0	1	0	2	0	0	0	3	3.00
1045 - 1100	2	0	3	0	1	1	0	0	7	5.90
Hourly Total	5	0	13	0	5	1	1	0	25	22.80
Hourly Average	1.25	0.00	3.25	0.00	1.25	0.25	0.25	0.00	6.25	5.70
1100 - 1115	1	0	6	0	1	0	1	0	9	9.50
1115 - 1130	0	0	2	0	1	0	0	0	3	3.00
1130 - 1145	1	0	5	0	1	1	1	0	9	10.00
1145 - 1200	1	0	8	0	1	1	0	0	11	10.70
Hourly Total	3	0	21	0	4	2	2	0	32	33.20
Hourly Average	0.75	0.00	5.25	0.00	1.00	0.50	0.50	0.00	8.00	8.30
1200 - 1215	2	0	3	0	3	0	0	0	8	6.40
1215 - 1230	0	0	4	0	1	0	0	0	5	5.00

1230 - 1245	0	0	1	0	1	1	0	0	3	3.50
1245 - 1300	0	0	5	1	0	0	0	0	6	6.00
Hourly Total	2	0	13	1	5	1	0	0	22	20.90
Hourly Average	0.50	0.00	3.25	0.25	1.25	0.25	0.00	0.00	5.50	5.23
1300 - 1315	0	0	5	0	1	0	0	0	6	6.00
1315 - 1330	0	0	3	0	1	0	1	0	5	6.30
1330 - 1345	0	0	4	0	0	2	0	0	6	7.00
1345 - 1400	0	0	6	0	2	0	0	0	8	8.00
Hourly Total	0	0	18	0	4	2	1	0	25	27.30
Hourly Average	0.00	0.00	4.50	0.00	1.00	0.50	0.25	0.00	6.25	6.83
1400 - 1415	1	0	4	0	1	0	1	0	7	7.50
1415 - 1430	0	0	1	0	0	0	0	0	1	1.00
1430 - 1445	0	0	8	0	1	0	0	0	9	9.00
1445 - 1500	0	0	8	0	2	0	0	0	10	10.00
Hourly Total	1	0	21	0	4	0	1	0	27	27.50
Hourly Average	0.25	0.00	5.25	0.00	1.00	0.00	0.25	0.00	6.75	6.88
1500 - 1515	0	0	3	1	0	0	0	0	4	4.00
1515 - 1530	1	0	8	0	2	0	1	0	12	12.50
1530 - 1545	0	0	4	0	0	0	0	0	4	4.00
1545 - 1600	0	0	9	0	1	0	2	0	12	14.60
Hourly Total	1	0	24	1	3	0	3	0	32	35.10
Hourly Average	0.25	0.00	6.00	0.25	0.75	0.00	0.75	0.00	8.00	8.78
1600 - 1615	0	0	7	0	0	0	0	0	7	7.00
1615 - 1630	0	0	5	0	0	1	0	0	6	6.50
1630 - 1645	0	0	7	0	4	0	2	0	13	15.60
1645 - 1700	0	0	8	0	2	0	2	0	12	14.60
Hourly Total	0	0	27	0	6	1	4	0	38	43.70
Hourly Average	0.00	0.00	6.75	0.00	1.50	0.25	1.00	0.00	9.50	10.93
1700 - 1715	1	0	6	0	2	0	0	0	9	8.20
1715 - 1730	0	0	14	0	0	1	0	0	15	15.50
1730 - 1745	0	0	4	0	2	0	0	0	6	6.00
1745 - 1800	0	0	9	0	0	0	2	0	11	13.60
Hourly Total	1	0	33	0	4	1	2	0	41	43.30
Hourly Average	0.25	0.00	8.25	0.00	1.00	0.25	0.50	0.00	10.25	10.83
1800 - 1815	0	0	8	0	1	0	0	0	9	9.00
1815 - 1830	0	0	4	0	1	0	1	0	6	7.30
1830 - 1845	0	0	5	0	1	0	0	0	6	6.00
1845 - 1900	0	0	4	0	1	0	0	0	5	5.00
Hourly Total	0	0	21	0	4	0	1	0	26	27.30
Hourly Average	0.00	0.00	5.25	0.00	1.00	0.00	0.25	0.00	6.50	6.83
1900 - 1915	0	0	2	0	1	0	1	0	4	5.30
1915 - 1930	0	0	3	0	0	0	0	0	3	3.00
1930 - 1945	0	0	4	0	0	0	0	0	4	4.00
1945 - 2000	0	0	5	0	1	0	0	0	6	6.00
Hourly Total	0	0	14	0	2	0	1	0	17	18.30
Hourly Average	0.00	0.00	3.50	0.00	0.50	0.00	0.25	0.00	4.25	4.58
2000 - 2015	0	0	2	0	0	0	0	0	2	2.00
2015 - 2030	0	0	4	0	0	0	0	0	4	4.00
2030 - 2045	0	0	4	0	1	0	0	0	5	5.00
2045 - 2100	0	0	5	0	0	0	0	0	5	5.00
Hourly Total	0	0	15	0	1	0	0	0	16	16.00
Hourly Average	0.00	0.00	3.75	0.00	0.25	0.00	0.00	0.00	4.00	4.00
2100 - 2115	0	0	2	0	0	0	0	0	2	2.00
2115 - 2130	0	0	4	0	0	0	0	0	4	4.00
2130 - 2145	0	0	5	0	0	0	0	0	5	5.00
2145 - 2200	0	0	2	0	0	0	0	0	2	2.00
Hourly Total	0	0	13	0	0	0	0	0	13	13.00
Hourly Average	0.00	0.00	3.25	0.00	0.00	0.00	0.00	0.00	3.25	3.25
2200 - 2215	0	0	0	0	0	0	0	0	0	0.00
2215 - 2230	0	0	2	0	0	0	0	0	2	2.00
2230 - 2245	0	0	2	0	0	0	0	0	2	2.00
2245 - 2300	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	4	0	0	0	0	0	4	4.00
Hourly Average	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2300 - 2315	0	0	1	0	0	0	0	0	1	1.00
2315 - 2330	0	0	0	0	0	0	0	0	0	0.00
2330 - 2345	0	0	0	0	0	0	0	0	0	0.00
2345 - 0000	0	0	0	0	0	0	0	0	0	0.00
Hourly Total	0	0	1	0	0	0	0	0	1	1.00
Hourly Average	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.25
Session Total	15	2	305	4	61	13	20	0	420	439.30
Session Average	0.16	0.02	3.18	0.04	0.64	0.14	0.21	0.00	4.38	4.58

Vicarage Lane, Gresford

Incident Analysis

Site 1 of 1

Vicarage Lane (South)

Vicarage Lane (North)

Lat/Long

lat 53.084758° lon -2.971463°

Date

Wednesday 17 October 2018

Weather

Cloudy

Temp: 15°C

0000 - 2400 (Wednesday 24H Session)

Sample	Incident Time	Incident Description
	(hh:mm:ss)	
1	5:35:21	Car from EB moving towards WB gives way to oncoming Hgv
2	6:15:50	Car from EB moving towards WB gives way to oncoming Car
3	6:36:40	Car from EB moving towards WB gives way to oncoming Car
4	7:36:15	Car from WB moves to the side to give way for another Car moving in the same direction from WB to EB
5	7:38:31	Car from EB moving towards WB gives way to oncoming Car
6	7:52:50	Car from EB moving towards WB gives way to oncoming Car
7	7:53:20	Car from EB moving towards WB gives way to oncoming Car
8	9:04:43	Hgv from EB moving towards WB gives way to oncoming Hgv
9	9:14:03	Hgv from EB moving towards WB gives way to oncoming Car
10	10:23:06	Car from WB waits in the side to give way for another Car moving in the same direction from WB to EB
11	11:13:07	Car from EB moving towards WB gives way to oncoming Hgv
12	11:14:16	Car from EB moving towards WB gives way to oncoming Hgv
13	11:22:59	Car waits in the side to give way for a pedal cycle to move from EB to WB
14	11:32:05	Car from EB moving towards WB gives way to oncoming Hgv
15	12:37:30	Hgv from WB waits in the side since another Lgv standing in the side with the door open
16	12:57:24	Car from EB moving towards WB gives way to oncoming Car
17	13:16:16	Hgv from EB moving towards WB gives way to oncoming Car
18	13:16:44	Hgv from EB moving towards WB gives way to oncoming Car
19	13:19:14	Car from EB moving towards WB gives way to oncoming Hgv
20	14:43:56	Car from WB moving towards EB gives way to oncoming Car in the opposite direction
21	15:20:00	Hgv from EB moving towards WB gives way to oncoming Car
22	15:51:04	Hgv moving towards EB had to wait for a coming to get parked in the side
23	16:14:02	Car from EB moving towards WB gives way to oncoming Car
24	16:33:10	Car from EB moving towards WB gives way to oncoming Car
25	16:35:49	Car from EB moving towards WB gives way to oncoming Car
26	16:41:58	Car from EB moving towards WB gives way to oncoming Car
27	16:44:53	Lgv from EB moving towards WB gives way to oncoming Car
28	16:43:25	Lgv from EB moving towards WB gives way to oncoming Car
29	16:51:00	Lgv from EB moving towards WB gives way to oncoming Car
30	17:02:30	Car from EB moving towards WB gives way to oncoming Car
31	17:15:00	Hgv from EB moving towards WB gives way to oncoming Car
32	17:15:09	Car from EB moving towards WB gives way to oncoming Car
33	17:17:40	Car from EB moving towards WB gives way to oncoming Lgv
34	17:20:25	Car from EB moving towards WB gives way to oncoming Car
35	17:20:45	Car from EB moving towards WB gives way to oncoming Car
36	17:43:50	Lgv from EB moving towards WB gives way to oncoming Lgv
37	17:44:21	Car from EB moving towards WB gives way to oncoming Mc
38	18:32:11	Car from EB moving towards WB gives way to oncoming Car
39	18:59:00	Lgv from EB moving towards WB gives way to oncoming Car
40	19:05:28	Lgv from EB moving towards WB gives way to oncoming Car

Vicarage Lane, Gresford

Incident Analysis

Site 1 of 1

Vicarage Lane (South)

Vicarage Lane (North)

Lat/Long

lat 53.084758° lon -2.971463°

Date

Wednesday 17 October 2018

Weather

Cloudy

Temp: 15°C

0000 - 2400 (Wednesday 24H Session)

Sample	Incident Time	Incident Description
	(hh:mm:ss)	
1	5:35:43	Eastbound vehicle passes Westbound pedestrian
2	6:55:00	Eastbound vehicle passes Westbound pedestrian
3	7:51:26	Westbound Vehicle passes next to westbound pedestrian
4	7:52:18	Eastbound vehicle passes 3 Westbound pedestrians
5	7:56:12	Eastbound Vehicle passes 2 Westbound pedestrians
6	7:56:25	Westbound Vehicle passes 2 Westbound pedestrians
7	8:02:45	Eastbound vehicle passes Westbound pedestrian
8	8:04:14	Westbound Vehicle passes pedestrians entering House at end of Constrained zone
9	8:12:16	Westbound Vehicle passes eastbound pedestrian
10	8:17:08	Eastbound vehicle passes 2 Westbound pedestrians
11	8:25:14	Westbound Vehicle passes 2 Eastbound pedestrians
12	8:34:27	Eastbound Vehicle passes Westbound pedestrian
13	8:37:00	Eastbound Vehicle passes 2 Westbound pedestrians
14	8:41:40	Eastbound Vehicle passes next to Westbound pedestrians
15	8:44:41	Eastbound Vehicle passes pedestrians boarding car
16	9:00:40	Eastbound Vehicle pass Westbound peds
17	10:15:08	Eastbound vehicle travels behind Eastbound Cyclist
18	10:41:53	Westbound Vehicle passes Westbound pedestrians
19	10:52:46	Eastbound vehicle passes Eastbound pedestrians
20	10:52:59	Westbound Vehicles pass Eastbound pedestrians
21	11:13:07	Eastbound Vehicle passes bin men at work, working their way Westbound down street
22	11:23:03	Westbound Cyclist passes westbound vehicle
23	11:32:20	Eastbound vehicle passes Eastbound Pedestrian
24	11:41:22	Eastbound Vehicle passes Eastbound Pedestrian
25	11:59:16	Eastbound Vehicle passes Eastbound Pedestrian
26	12:00:05	Eastbound Vehicle passes Westbound pedestrian
27	12:01:12	Westbound Vehicle passes Eastbound pedestrian
28	12:01:22	Cyclist passes Westbound Vehicle
29	12:03:27	Westbound Cyclist passes westbound vehicle
30	12:09:26	Westbound Vehicles passes Eastbound Pedestrian
31	12:11:18	Westbound Vehicle passes Eastbound pedestrian
32	12:41:32	Westbound Vehicle passes Westbound pedestrians
33	12:57:18	Eastbound vehicle passes two westbound pedestrians
34	13:07:17	Eastbound vehicle passes Westbound pedestrian
35	13:07:41	Westbound Vehicle passes Westbound pedestrians
36	13:16:55	Eastbound vehicle passes pedestrians boarding car
37	13:17:00	Westbound vehicle passes pedestrians boarding car
38	13:21:51	4 cyclists pass in front of cars heading eastbound
39	13:46:14	Westbound pedestrian passes Eastbound pedestrian
40	13:46:39	Eastbound vehicle passes Westbound pedestrian
41	13:51:23	Eastbound Vehicle passes Eastbound Pedestrian
42	13:53:49	Eastbound Vehicle passes Eastbound Pedestrian
43	13:57:10	Westbound Vehicle Passes Eastbound Pedestrian
44	13:57:23	Westbound Vehicle Passes Eastbound Pedestrian
45	14:10:46	Westbound Vehicle Passes Eastbound Pedestrian
46	14:34:15	Westbound Vehicle Passes Eastbound Pedestrian
47	14:49:47	Eastbound vehicle passes Westbound Cyclist
48	14:49:55	Eastbound vehicle passes 2 Westbound pedestrians
49	15:00:50	Westbound Vehicle Passes Eastbound Pedestrian

50	15:04:27	Eastbound vehicle passes Westbound pedestrian
51	15:06:46	Westbound Vehicle passes Westbound pedestrians
52	15:07:34	Westbound Vehicle passes Westbound pedestrians
53	15:14:23	Eastbound vehicle passes Westbound pedestrian
54	15:17:59	Westbound Vehicle passes Westbound pedestrians
55	15:37:29	Westbound Vehicle passes Westbound pedestrians
56	15:37:39	Eastbound vehicle passes Westbound pedestrian
57	15:39:52	Westbound Vehicle Passes Eastbound Pedestrian
58	15:42:04	Eastbound vehicle passes Westbound pedestrian
59	15:42:07	Westbound Vehicle passes Westbound pedestrians
60	15:45:15	Eastbound Vehicle passes Eastbound Pedestrian
61	15:47:59	Westbound Vehicle passes Westbound pedestrians
62	16:14:08	Westbound Vehicle Passes Eastbound Pedestrian
63	16:14:55	Eastbound Vehicle passes Eastbound Pedestrian
64	16:14:46	Westbound vehicle passes eastbound pedestrians
65	16:18:01	Westbound vehicle passes eastbound pedestrian
66	16:25:29	Eastbound Vehicle passes Eastbound Pedestrian
67	16:27:00	Westbound vehicle passes two Eastbound pedestrians
68	16:32:58	Westbound vehicle passes two Eastbound pedestrians
69	16:33:30	Eastbound vehicle passes Westbound pedestrian
70	16:39:06	Westbound Vehicle passes Westbound pedestrians
71	16:39:30	Eastbound vehicle passes Westbound pedestrian
72	16:47:51	Westbound vehicle passes eastbound pedestrian
73	16:48:31	Westbound vehicle passes pedestrians boarding car
74	16:53:23	Westbound vehicle passes eastbound pedestrians
75	16:58:35	Westbound cyclist goes around and in front of westbound vehicle
76	16:58:38	Westbound vehicle passes westbound pedestrians
77	17:01:48	Westbound Vehicle passes Westbound pedestrians
78	17:04:49	Westbound vehicle passes westbound cyclist
79	17:06:05	Westbound vehicle passes 3 eastbound pedestrians
80	17:13:04	Westbound Vehicle passes Westbound pedestrian
81	17:13:38	Eastbound vehicle passes Westbound pedestrian
82	17:15:49	Eastbound vehicle passes Westbound pedestrian
83	17:17:32	Westbound vehicle passes pedestrians boarding vehicle
84	17:17:44	Eastbound vehicle passes two pedestrians boarding vehicle
85	17:17:53	Eastbound vehicle passes two pedestrians boarding vehicle
86	17:19:51	Westbound vehicle passes westbound pedestrian
87	17:20:30	Eastbound Vehicle passes Eastbound Pedestrian
88	17:20:43	Westbound vehicle passes eastbound pedestrian
89	17:21:45	Westbound vehicle passes eastbound pedestrian
90	17:25:49	Westbound vehicle passes eastbound pedestrian
91	17:41:41	Westbound vehicle passes two eastbound pedestrians
92	17:47:52	Eastbound vehicle passes two pedestrians entering house on right
93	17:49:44	Westbound vehicle passes pedestrian entering car
94	18:01:14	Westbound vehicle passes eastbound pedestrian
95	18:12:47	Westbound vehicle passes eastbound pedestrian
96	18:22:16	Westbound vehicle passes Westbound Pedestrian
97	18:27:50	Eastbound Vehicle passes Eastbound Pedestrian
98	18:37:28	Eastbound vehicle passes two eastbound pedestrians
99	18:37:28	Eastbound vehicle passes eastbound cyclist
100	18:42:08	Westbound vehicle passes westbound pedestrian
101	18:44:54	Eastbound vehicle passes westbound pedestrian
102	19:00:19	Westbound vehicle passes eastbound pedestrian
103	19:00:50	Westbound vehicle passes eastbound pedestrian
104	21:37:16	Eastbound vehicle passes Westbound pedestrian
105	21:49:06	Westbound vehicle passes eastbound pedestrian

Vicarage Lane, Gresford
Pedestrian Survey

Site 1 of 1

Vicarage Lane (South)
Vicarage Lane (North)

Lat/Long

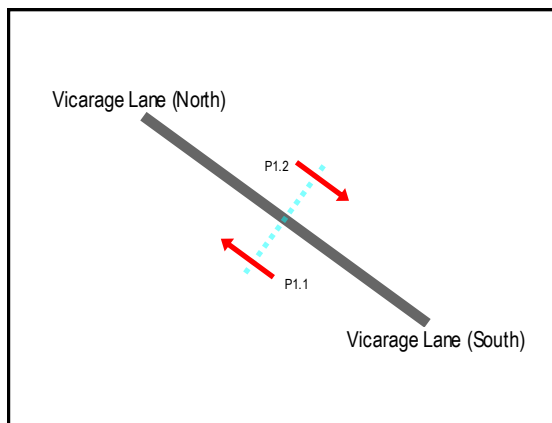
lat 53.084758° lon -2.971463°

Date

Wednesday 17 October 2018

Weather

Cloudy
Temp: 15°C



0000 - 2400 (Wednesday 24H Session)

TIME	p1.1	p1.2
0000 - 0015	1	1
0015 - 0030	1	1
0030 - 0045	0	0
0045 - 0100	0	0
Hourly Total	2	2
Hourly Average	0.50	0.50
0100 - 0115	0	0
0115 - 0130	0	0
0130 - 0145	0	0
0145 - 0200	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
0200 - 0215	0	0
0215 - 0230	0	0
0230 - 0245	0	0
0245 - 0300	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
0300 - 0315	0	0
0315 - 0330	0	0
0330 - 0345	0	0
0345 - 0400	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
0400 - 0415	0	0
0415 - 0430	0	0
0430 - 0445	0	0
0445 - 0500	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
0500 - 0515	0	0
0515 - 0530	0	0
0530 - 0545	1	0
0545 - 0600	0	0
Hourly Total	1	0
Hourly Average	0.25	0.00
0600 - 0615	0	0
0615 - 0630	0	0
0630 - 0645	0	0
0645 - 0700	1	0
Hourly Total	1	0
Hourly Average	0.25	0.00
0700 - 0715	1	1
0715 - 0730	0	0
0730 - 0745	0	0
0745 - 0800	7	0
Hourly Total	8	1
Hourly Average	2.00	0.25
0800 - 0815	2	2
0815 - 0830	2	2
0830 - 0845	5	1
0845 - 0900	0	0
Hourly Total	9	5
Hourly Average	2.25	1.25
0900 - 0915	1	0
0915 - 0930	0	0
0930 - 0945	0	0
0945 - 1000	0	0
Hourly Total	1	0
Hourly Average	0.25	0.00

1000 - 1015	1	0
1015 - 1030	2	2
1030 - 1045	0	0
1045 - 1100	0	1
Hourly Total	3	3
Hourly Average	0.75	0.75
1100 - 1115	0	0
1115 - 1130	1	0
1130 - 1145	2	2
1145 - 1200	1	0
Hourly Total	4	2
Hourly Average	1.00	0.50
1200 - 1215	0	4
1215 - 1230	0	0
1230 - 1245	1	0
1245 - 1300	2	0
Hourly Total	3	4
Hourly Average	0.75	1.00
1300 - 1315	1	0
1315 - 1330	1	0
1330 - 1345	0	0
1345 - 1400	2	5
Hourly Total	4	5
Hourly Average	1.00	1.25
1400 - 1415	1	0
1415 - 1430	1	1
1430 - 1445	0	1
1445 - 1500	3	1
Hourly Total	5	3
Hourly Average	1.25	0.75
1500 - 1515	1	1
1515 - 1530	2	0
1530 - 1545	1	2
1545 - 1600	1	1
Hourly Total	5	4
Hourly Average	1.25	1.00
1600 - 1615	1	2
1615 - 1630	2	5
1630 - 1645	2	2
1645 - 1700	3	3
Hourly Total	8	12
Hourly Average	2.00	3.00
1700 - 1715	3	0
1715 - 1730	2	2
1730 - 1745	3	4
1745 - 1800	3	2
Hourly Total	11	8
Hourly Average	2.75	2.00
1800 - 1815	2	3
1815 - 1830	3	2
1830 - 1845	3	0
1845 - 1900	1	0
Hourly Total	9	5
Hourly Average	2.25	1.25
1900 - 1915	0	3
1915 - 1930	1	0
1930 - 1945	0	0
1945 - 2000	3	1
Hourly Total	4	4
Hourly Average	1.00	1.00
2000 - 2015	0	1
2015 - 2030	0	0
2030 - 2045	0	0
2045 - 2100	0	0
Hourly Total	0	1
Hourly Average	0.00	0.25
2100 - 2115	1	0
2115 - 2130	0	1
2130 - 2145	1	1
2145 - 2200	0	1
Hourly Total	2	3
Hourly Average	0.50	0.75
2200 - 2215	0	0
2215 - 2230	0	0
2230 - 2245	0	0
2245 - 2300	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
2300 - 2315	0	0
2315 - 2330	0	0
2330 - 2345	0	0
2345 - 0000	0	0
Hourly Total	0	0
Hourly Average	0.00	0.00
Session Total	78	58
Session Average	0.98	0.73

APPENDIX 4 – INSPECTOR’S DECISION 3095184 (TREWYTHEN HALL)

Penderfyniad ar yr Apêl

Gwrandawriad a gynhaliwyd ar 27/10/15
Ymweliad â safle a wnaed ar 27/10/15

**gan Kay Sheffield BA(Hons) DipTP
MRTPI**

Arolygydd a benodir gan Weinidogion Cymru
Dyddiad: 25/11/15

Appeal Decision

Hearing held on 27/10/15
Site visit made on 27/10/15

by Kay Sheffield BA(Hons) DipTP MRTPI

an Inspector appointed by the Welsh Ministers
Date: 25/11/15

Appeal Ref: APP/H6955/A/15/3095184

**Site address: Land adjoining Trewythen Hall Care Home, Vicarage Lane,
Gresford, Wrexham, LL12 8US**

**The Welsh Ministers have transferred the authority to decide this appeal to me as the
appointed Inspector.**

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for planning permission.
- The appeal is made by Trewythen Hall Limited against Wrexham County Borough Council.
- The application Ref P/2014/0815, is dated 31 October 2014.
- The development proposed is the siting of extra care facility, creation of internal access road and associated works.

Decision

1. The appeal is dismissed.

Main Issues

2. The main issues are: whether the proposal would comply with local and national policies designed to protect the green barrier from harm and if not; whether there are very exceptional circumstances sufficient to outweigh the harm; the effect of the development on highway safety; and also on protected species.

Reasons

3. The Council confirmed that had it been able to determine the application it would have refused permission. The areas of concern it identified are reflected in the main issues. The Council also identified the policies of Wrexham Unitary Development Plan, 2005 (UDP) which it considered relevant to the appeal. However, in discussion at the hearing, it was agreed that Policy EC1 had been omitted and Policy EC3 was not relevant. The Appellant asked for regard to be given to Policy H11 which addresses elderly persons' residential care homes, nursing homes and development for specialist health care facilities.
4. The proposed extra care facility would consist of twenty self-contained bungalows designed for independent living with the Appellant providing a rapid response service in times of emergency. The scheme would be similar to the existing self-contained units to the east of the Hall. It was evident that the Appellant monitors existing residents in these units and alerts relatives of any concerns. Although reference was

made to the possibility of facilities at the existing Care Home being made available to future residents of the proposed units, no firm plans were put forward in evidence. Whilst I accept that the rapid response service and close presence of the staff at the Care Home may give residents the confidence and support necessary to live independently for longer, I am not convinced that the level of support proposed amounts to the residential, nursing or specialist health care services stated in the policy. I am therefore in agreement with the Council that Policy H11 of the UDP is not relevant in this instance.

Green barrier

5. The site lies between Vicarage Lane and Trewythen Hall. It is an area of open land outside but adjoining the settlement boundary of Gresford which also form part of the green barrier as identified in the UDP. Policy EC1 of the UDP only permits development within green barriers if it is for *"agriculture, forestry, essential facilities for outdoor sport and recreation, cemeteries and other uses of land which maintain the openness of the Green Barrier and do not conflict with the purpose of including land within it"*.
6. For the purposes of national policy the designation of green barrier is synonymous with the term green wedge. Planning Policy Wales (PPW) makes a presumption against inappropriate development in green wedges. The circumstances under which buildings in a green wedge may not be inappropriate are identified in paragraph 4.8.17 and include those set out in Policy EC1 of the UDP. The proposal does not fall within any of the specific uses listed in Policy EC1 or PPW.
7. Other uses are allowed in the green barrier where openness is maintained. Openness and permanence are recognised in paragraph 4.8.5 of PPW as the most important attributes of Green Belts and although local designations such as green barriers do not convey the permanence of a Green Belt, openness is still considered an important attribute. Although PPW does not specifically define openness, it is generally accepted to be the absence of urban sprawl and encroachment into the countryside.
8. Openness is not primarily about visual impacts but about the absence of development that would cause urban sprawl. The Appellant considered that the openness of the site would not be compromised by the development as the site is enclosed by its landscaped boundaries. Despite the low density of the proposal, the erection of twenty bungalows would result in a significant amount of built development. Although the access roads and car parking may have a limited effect, overall the proposal would fail to maintain the openness of the site.
9. The purposes of the green barrier set out in paragraph 5.2 of the UDP reflect those in PPW and include: to prevent the coalescence of urban areas and villages with other settlements; assist in safeguarding the countryside from encroachment; and to protect the setting of an urban area. The location of the site on the edge of the settlement is significant in safeguarding the countryside from encroachment and although the size of the development may limit its effect, I am nevertheless of the opinion that to allow the development would conflict with the purposes of including the land within the green barrier as well as failing to maintain openness.
10. The evidence therefore leads me to conclude that the proposal would constitute inappropriate development within the green barrier which would also fail to maintain openness and conflict with the purposes of including land within it, contrary to Policy EC1 of the UDP and PPW. This carries substantial weight against the appeal.

Very exceptional circumstances

11. PPW states in paragraph 4.8.15 that inappropriate development should not be granted planning permission *"except in very exceptional circumstances where other considerations clearly outweigh the harm which such development would do to the Green Belt or green wedge"*. The very exceptional circumstances advanced by the Appellant include the current supply of housing land and the identified need and suitability of the site for the type of accommodation proposed.
12. The most recent published figures indicate the Council has a 3.1 year housing land supply. The proposal in providing suitable accommodation into which older people could move would help satisfy a recognised need for housing for the elderly and the release of larger properties as a consequence of the development would help increase housing supply. In circumstances where a Council is unable to demonstrate a five year housing land supply paragraph 6.2 of Technical Advice Note 1: Joint Housing Land Availability Studies states the need to increase supply *"should be given considerable weight when dealing with planning applications, provided that the development would otherwise comply with national planning policies"*.
13. The provision of housing solely for occupation by the elderly would complement the existing accommodation provided at the Care Home and the existing bungalows associated with it. The design of the units would also allow future occupants to live independently. However, with no firm proposals for increased levels of care other than the possibility of transfer to the Care Home, the level of support proposed is limited to the close presence of the staff of and an emergency rapid response service operated by the Care Home. The Council expressed concern about the availability of such services if the Care Home ceased to operate. Whilst the speed of response may be faster than other telephone systems available to the elderly, I consider that the level of support proposed does not essentially require a location adjacent to the existing Care Home.
14. The Council expressed concern that to allow development of this site could set a precedent for the release of similar sites in the green barrier which lie on the edge of a settlement. It is the particular circumstances of housing schemes for the elderly which sets them apart from other residential developments. I am not convinced that the proposed development with the only confirmed planned support being an emergency rapid response service would be sufficiently different for it to be reasonable to anticipate that other schemes of a similar nature may not come forward.
15. Although the site adjoins the settlement boundary to the north and east and is bounded to the west by Vicarage Lane, it is nevertheless within the countryside with no physical boundary with the adjoining open land to the south. There is also open land to the west of the road. The development would infill the area between the Hall and Vicarage Lane which would have the effect of extending the built development further along the road frontage. It would also reduce the gap between the settlement and the cluster of properties to the south. I accept that views into the site from Vicarage Lane and other local vantage points are restricted by the mature tree planting along the road frontage and within the area generally. In addition the bungalows would be set back from the road in landscaped grounds and being single storey would be relatively low lying. Although there may only be glimpsed views of the proposal through the trees, it would still represent an extension of the settlement into the countryside.

16. The Council stated that the site is within an area classed as Grade 2 agricultural land whereas the Appellant described the site as parkland in association with the Hall. The mature trees within the site include not only native species, but also species including the Monkey Puzzle which are associated with planned landscapes such as parklands. Whilst the land may not be used productively at present, I have no substantive evidence that the land is not Grade 2 agricultural land or that it could not revert to such use.
17. I am aware that the Council has been asked to consider the appeal site as a candidate site in both the emerging Local Development Plan (LDP2) and the earlier version of the plan (LDP1), withdrawn in 2012. In its consideration of the site as part of LDP1 the Council concluded that the site displayed significant constraints which could not be overcome to allow development in this location. With the exception of insufficient school capacity, the constraints identified by the Council relevant to this development include the presence of protected trees, the ecology of the site and highway safety issues. These are addressed in other sections of the decision.
18. The LDP2 is at an early stage and the current timetable indicates the plan will not be ready for adoption until 2018. The status of the site should be a matter addressed as part of LDP2 and the Council is of the opinion that the importance of the site's current purpose and function as a green barrier is still regarded as relevant and material. It is clear from paragraph 4.8.11 of PPW that green wedges should be established through development plans. I accept that in paragraph 4.8.13 there is a need for local planning authorities to ensure that "*a sufficient range of development land is available which is suitably located in relation to the existing urban edge and the proposed green wedge*". However, there are several impediments to the site's development.
19. The lack of a five year housing land supply carries considerable weight. Moreover the site is located in a sustainable location on the edge of the settlement and the proposed dwellings would contribute towards the supply of housing. Whilst the dwellings would provide accommodation which would allow the elderly occupants to live independently, the type of support proposed does not necessarily require a site adjacent to the existing Care Home. Furthermore the development would represent an encroachment into the countryside with the potential to set a precedent for the release of other sites in similar locations. Therefore I conclude that in this case the considerations do not clearly outweigh the harm to the green barrier. Looking at the case as a whole, I consider that very exceptional circumstances to justify the development have not been demonstrated.

Highway safety

20. The Council initially indicated that visibility splays of 2.4m by 56m were required at the access onto Vicarage Lane. However, based on the results of a traffic survey undertaken by the Appellant, the Council revised its requirements and confirmed to the hearing that visibility of 2.4m by 40m measured to the nearside kerb in both directions would be acceptable. Assessment of the situation during the site visit confirmed that a short section of the stone boundary wall impinged on the required visibility to the south east. However, I am satisfied that the required visibility could be provided and it is a matter which could satisfactorily be addressed by condition.
21. The Appellant opined that due to the nature of the road and the recorded speed and volume of traffic the visibility splay could be measured to the centre line. Although in some instances it may be appropriate for visibility splays to be measured other than along the nearside edge, it is more usual for the nearside wheel track to be used as an

alternative. Whilst the volume of traffic using Vicarage Lane may not be high, it includes tankers from the nearby milk depot as well as cyclists and pedestrians and, as evidenced at the hearing, people using mobility scooters. I accept that there is no evidence of any recorded accidents on this stretch of road, nevertheless given those using the road, I do not consider it would be acceptable to reduce the visibility requirements below those requested by the Council which accord with Technical Advice Note 18: Transport.

22. There are no footpaths along Vicarage Lane and there is a high level of on-street parking between the site and the junction with Chester Road to the north. The Council is concerned that this does not provide a safe route for pedestrians from the site to the local shops and bus stops on Chester Road. It is clear from the discussion at the hearing that existing residents on the site walk or use mobility scooters between the site and Chester Road and I observed staff from the Hall and local residents walking along Vicarage Lane as I also did. Whilst it would be preferable to segregate pedestrians from the main highway the Council confirmed this was not possible.
23. Notwithstanding this, the route is within a 30mph area and the nature of the road together with the parked cars actively slow vehicles. Pedestrians do have to be more aware of the traffic when using a shared surface rather than when there is a dedicated footway and I accept that some residents may choose not to walk to local services. However, I do not consider the situation to be significantly different from numerous roads in rural settlements. Furthermore, I do not consider that the increase in the use of Vicarage Lane by pedestrians as a result of the proposed development would be so significant as to be detrimental to highway safety.
24. I therefore conclude that, subject to the provision of the stated visibility splays, the proposal would not harm highway safety, in accord with Policy GPD1(d) of the UDP.

Effect on protected species

25. The ecological appraisal submitted as part of the application included an Extended Phase 1 Habitats Survey which dated from 2013. The proposed layout of the development shown within the report differs slightly from the scheme before me. The appraisal concluded that the site has the potential to support roosting, foraging and commuting bats as well as badger, reptiles and various species of nesting birds. Habitats with the potential to support these protected species were reported to have been found within the development footprint and to have the potential to be impacted on by the scheme. The appraisal concluded that, without mitigation, the scheme would have the potential to result in a number of adverse impacts on the biodiversity value of the site, in particular potential impacts to the use of the site by bats. It was recommended that bat surveys be undertaken to establish the use of those trees lost to the scheme by roosting bats and to assess the overall value of the site to foraging and commuting bats.
26. It was also recommended that reasonable avoidance measures be undertaken to avoid harm to reptiles, badgers and nesting birds during construction works. Enhancement measures and the creation of a habitat management plan were also proposed to ensure that no long term adverse impacts on the biodiversity value and interest of the site would result from the scheme. The parties were agreed that reasonable avoidance measures with regard to badgers, reptiles and nesting birds could be satisfactorily addressed by condition and I have no reason to disagree.

27. A further report was submitted as part of the Appellant's final comments on the appeal. A daytime survey of the trees identified within the initial survey as having low to high potential to support a bat roost found no evidence of a bat roost located within the trees. Based on this lack of evidence the report concluded that bat activity surveys were not considered necessary. Whilst the likelihood of bats foraging across the site and their use of boundary tree belts as foraging and commuting habitat was recognised, the report considered that the trees to be felled would not result in the loss of important habitat for bats, the connectivity would not be broken and the foraging and commuting habitat would be maintained by the retention of the majority of trees on the site and the boundary tree belts. In addition new garden facilities would provide more suitable bat foraging habitat compared to the species poor grassland which is currently present.
28. Whilst this report was submitted at a late stage in the process the Council was able to consider its contents and presented written comments to the hearing. The Council remained concerned that there was insufficient evidence to confirm that the proposal would not have an adverse effect on bats. Whilst the roost assessment gave an indication of the potential value of the trees, the Council was concerned that fissures within the canopy might remain unseen. Indeed the report stated that bat absence is very difficult to prove definitively due to their mobility and size and that bats can rest in tiny spaces such as behind bark or within dense ivy. The Council was also concerned that the assessment failed to demonstrate how the site as a whole would be used for foraging, swarming, mating, feeding or commuting bats at various times of the year. It was anxious that the effect of the development on all these activities should be established as they would all have the potential to impact on the conservation of the species at a local level.
29. I accept that the later report did not identify any bat activity and the author was of the opinion that tree felling and tree treatment could proceed without the need for further bat survey work or bat mitigation. However, I am not convinced that the survey work undertaken is sufficient to ensure there would be no adverse impact on the conservation of the species. I am aware that the protection afforded by the legislation relates to any structure or place which any wild animal of a listed species uses for shelter or protection at any time even when the animal is not there. However paragraph 6.2.1 of Technical Advice Note 5: Nature Conservation and Planning (TAN 5) states that the presence of a protected species is a material consideration when considering a development that, if carried out, would be likely to result in disturbance or harm to the species or its habitat. It is essential that the presence or otherwise of protected species, and the extent to which they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.
30. Paragraph 6.2.1 of TAN 5 also states that consultation should take place with the Countryside Council for Wales, now Natural Resources Wales (NRW), before granting planning permission. NRW objected to the planning application unless it could be satisfied by the submission of additional information to show that the development would not have adverse effects on the favourable conservation status of bats. It was confirmed to the hearing that NRW had not been made aware of the later report. I am concerned that NRW would be prejudiced by the lack of opportunity to consider whether the contents of the report overcame the concerns it had raised.

31. I therefore conclude that insufficient evidence has been submitted to ensure that the development would not result in an adverse impact on the conservation of protected species, contrary to Policy EC6 of the UDP.

Other material considerations

32. The development would necessitate the removal of several trees some of which are protected by a Tree Preservation Order. The submitted evidence confirms that the protected trees to be removed have a limited life span. Moreover, it is proposed that suitable replacements would form part of a comprehensive scheme for the landscaping of the site. Given the condition of the existing mature protected trees and subject to the planting of suitable replacements as part of the landscaping of the site, which can be addressed by condition, I consider the loss of the trees to be insufficient reason to dismiss the appeal.
33. An intermediate pressure gas pipeline runs from Vicarage Lane along the roadside boundary of the site before turning towards the north east. The submitted drawings indicate that the pipeline would skirt the bungalows and in crossing the gardens to three of them would be within approximately 5m of those properties. The parties confirmed to the hearing that the pipeline operator, Wales and West, raised no objection to the development. However it did indicate that its apparatus may be at risk during construction works. In its response the Health and Safety Executive (HSE) stated that the risk of harm to future occupants of the development was sufficient to refuse permission on safety grounds.
34. I accept that the assessment undertaken by the HSE only took account of the basic details of the scheme and its response indicated that additional information might overcome its concerns. However, the parties confirmed to the hearing that no further details had been provided. Moreover, HSE also indicated that it was prepared to provide the necessary support in the event of an appeal. I have been advised that the HSE were not notified of the appeal.
35. The parties were of the opinion that the presence of a gas pipeline in close proximity to residential properties did not prevent the development from taking place. They agreed that precautionary measures would be needed during the construction phase and future occupants would need to be made aware of its presence in the use of their gardens. The parties were also in agreement that these issues could be satisfactorily addressed by way of a condition requiring a Construction Method Statement.
36. Whilst such a condition may be appropriate in some circumstances I consider that to impose such a condition would require a greater degree of certainty that the safety of residents would not be affected. Given that no further details were submitted to the HSE in response to its recommendation that the application be refused I am not convinced by the evidence that the safety of residents would not be compromised. Moreover, to reach a positive decision on the proposal without the HSE being aware of the appeal would, in my opinion, constitute prejudice.
37. In addition to the issues already covered, local residents expressed concern about loss of outlook. However, I am satisfied that the separation distance between the proposed bungalows and nearby residential properties, together with the orientation of the bungalows would ensure that there would be no unacceptable level of harm to the living conditions of the occupiers of nearby dwellings with regard to outlook or privacy.

Conclusions

38. The proposal would be inappropriate development in the green barrier which would also fail to maintain openness and there are no very exceptional circumstances sufficient to outweigh this harm. In addition I have identified potential harm to protected species and issues of safety regarding the proximity to the gas pipeline. Whilst I am satisfied that issues relating to highway safety and the loss of TPO trees are matters which can be satisfactorily addressed, these do not overcome the concerns I have raised. For these reasons, and having had regard to all other matters raised, the appeal is dismissed and planning permission is refused.

Kay Sheffield

Inspector

APPEARANCES

FOR THE APPELLANT:

Jamie Bradshaw BA(Hons) MSc MRTPI	Planning Consultant, Owen Devenport Ltd
Berwyn Owen DipTP MRTPI MRICS	Director, Owen Devenport Ltd
Julie Barr BA DipLA CMLI	Principal, Tirlun Barr Associates
Jon Addy BSc MSC MCILT	Principal Transport Planner, SCP
Peter Haycox	Of Trewythen Hall Limited, the Appellant

FOR THE LOCAL PLANNING AUTHORITY:

Janet Sutherberry	Senior Planning Officer
Emma Broad	Ecology Officer

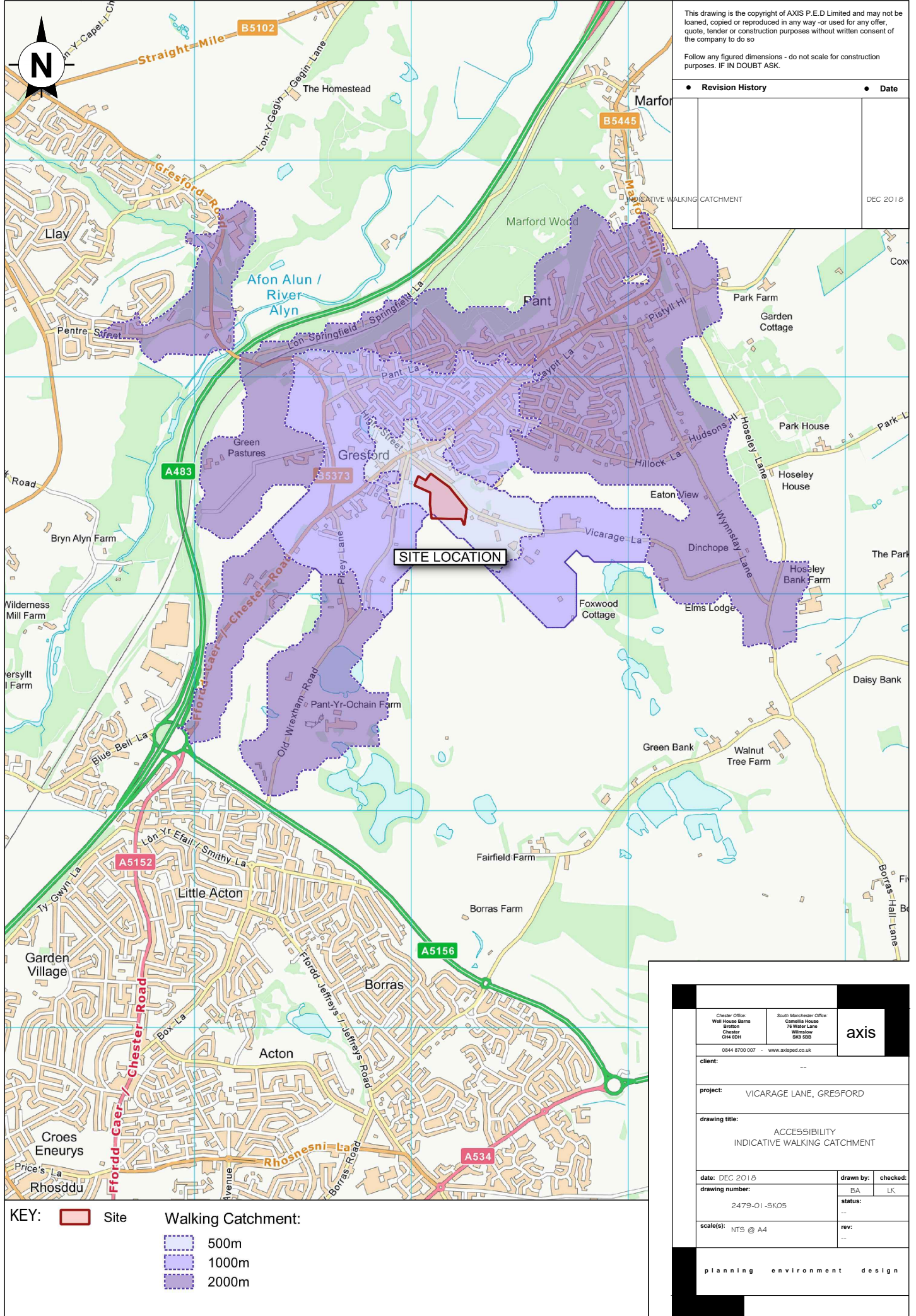
DOCUMENTS

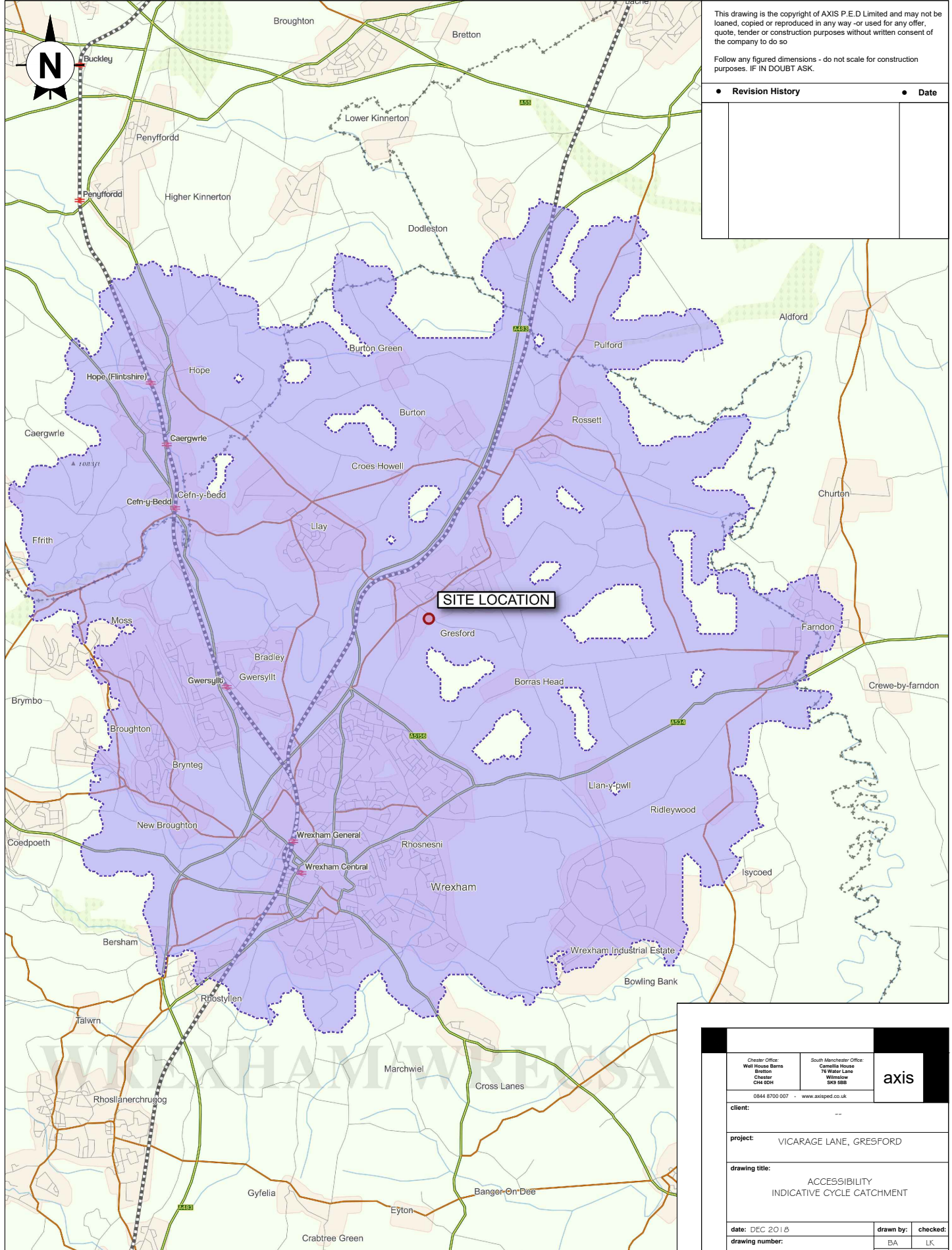
1. Council's letter of 23 September 2015 regarding the arrangements for the hearing.
2. List of suggested conditions submitted by the Council.
3. Copy of Policy EC1 of the Wrexham Unitary Development Plan.
4. Additional comments from the Ecology Officer on behalf of the Council.
5. Additional highway comments on behalf of the Council.
6. Plan showing the route of the gas pipeline.
7. Historical map of the site submitted by the Appellant.
8. Colour copy of the plan forming part of the Tree Preservation Order provided by the Council.

APPENDIX 5 – PLAN 2479-01-SK05 – WALK ISOCHRONE

PLAN 2479-01-SK06 – CYCLE ISOCHRONE

PLAN 2479-01-SK07 – PUBLIC TRANSPORT ISOCHRONE





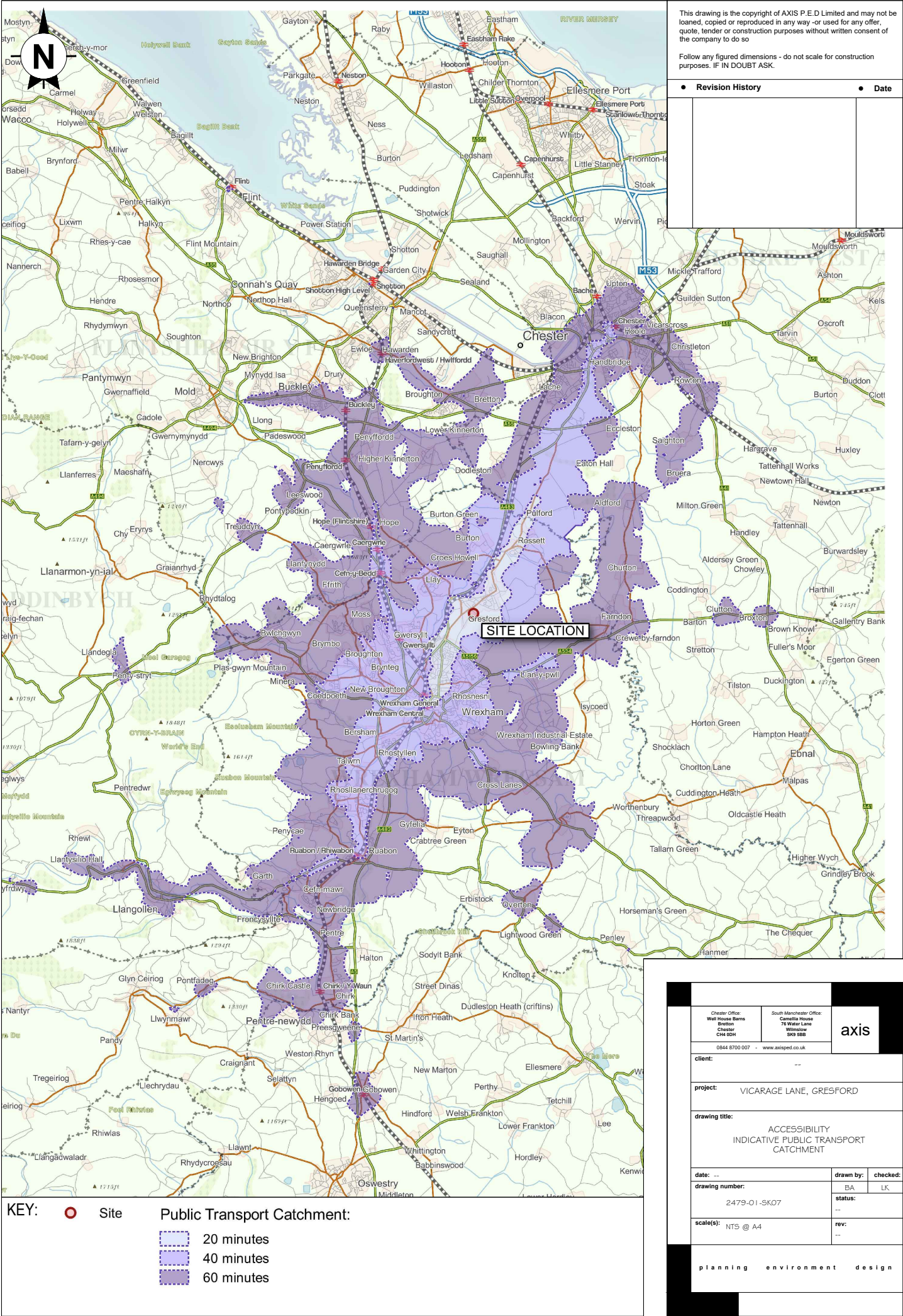
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Revision History	Date

KEY: ● Site Cycle Catchment:
 8000m

Cheshire Office: Well House Barns Bretton Cheshire CH4 5DH		South Manchester Office: Camellia House 76 Wilton Lane Wilmslow SK9 5SB	axis
0844 6700 007 - www.axisped.co.uk			
client: ---			
project: VICARAGE LANE, GRESFORD			
drawing title: ACCESSIBILITY INDICATIVE CYCLE CATCHMENT			
date: DEC 2018		drawn by:	checked:
drawing number: 2479-01-SK06		BA	LK
scale(s): NTS @A4		status: --	rev: --
planning environment design			

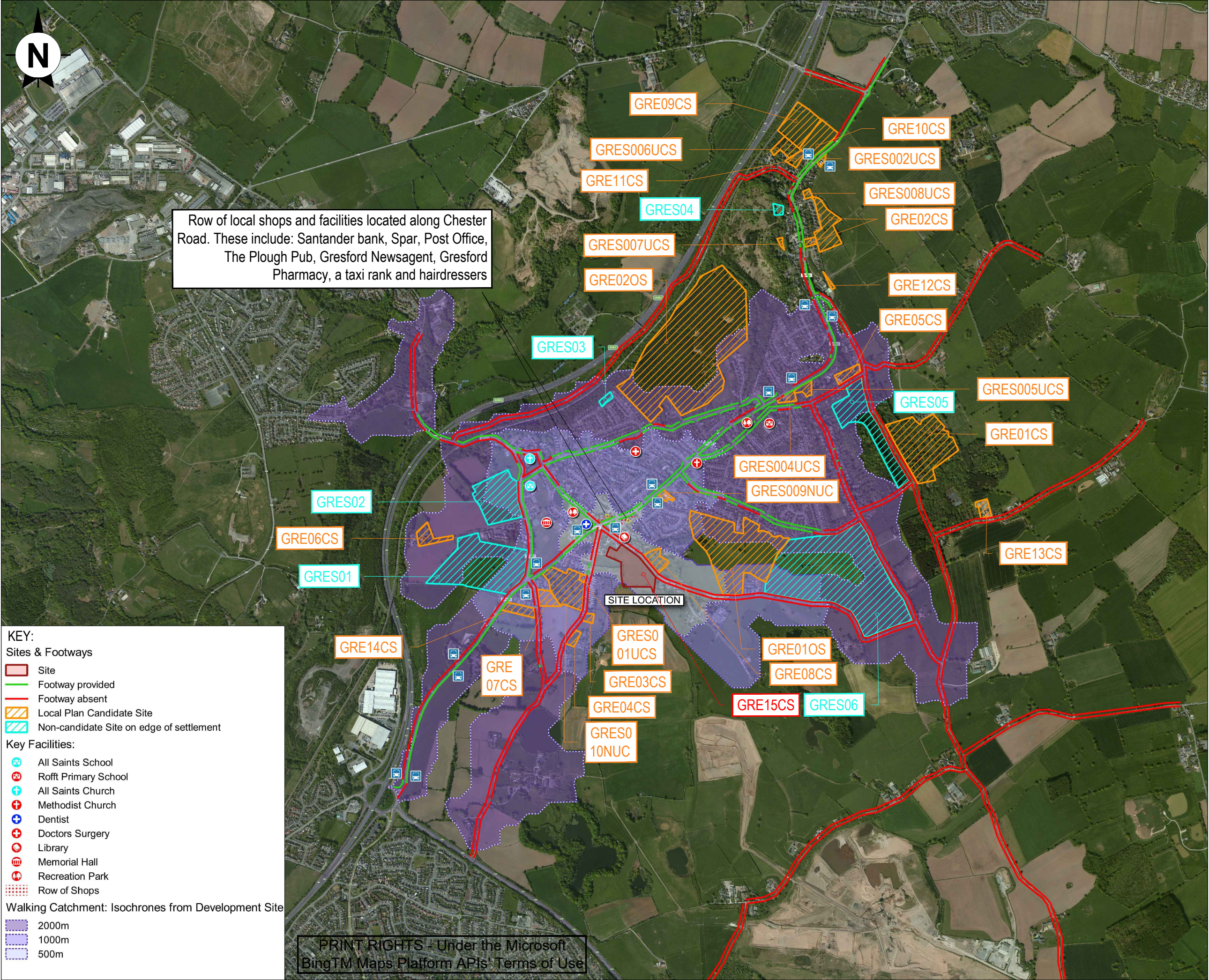


APPENDIX 6 -

PLAN 2479-01-SK04 – COMPARATOR SITES

APPRAISAL OF COMPARATOR SITES

LDP PLAN 3

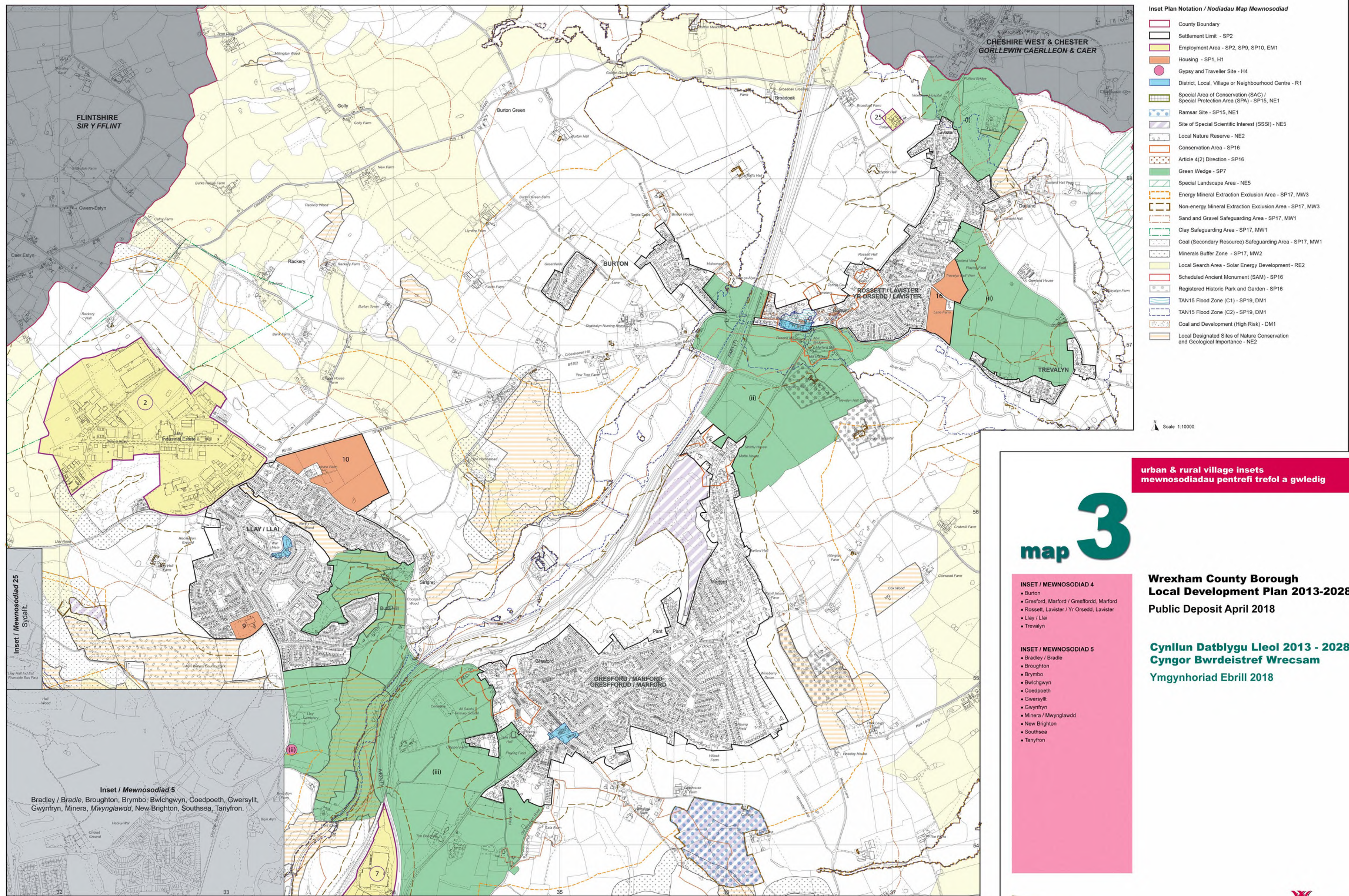


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Revision History		Date

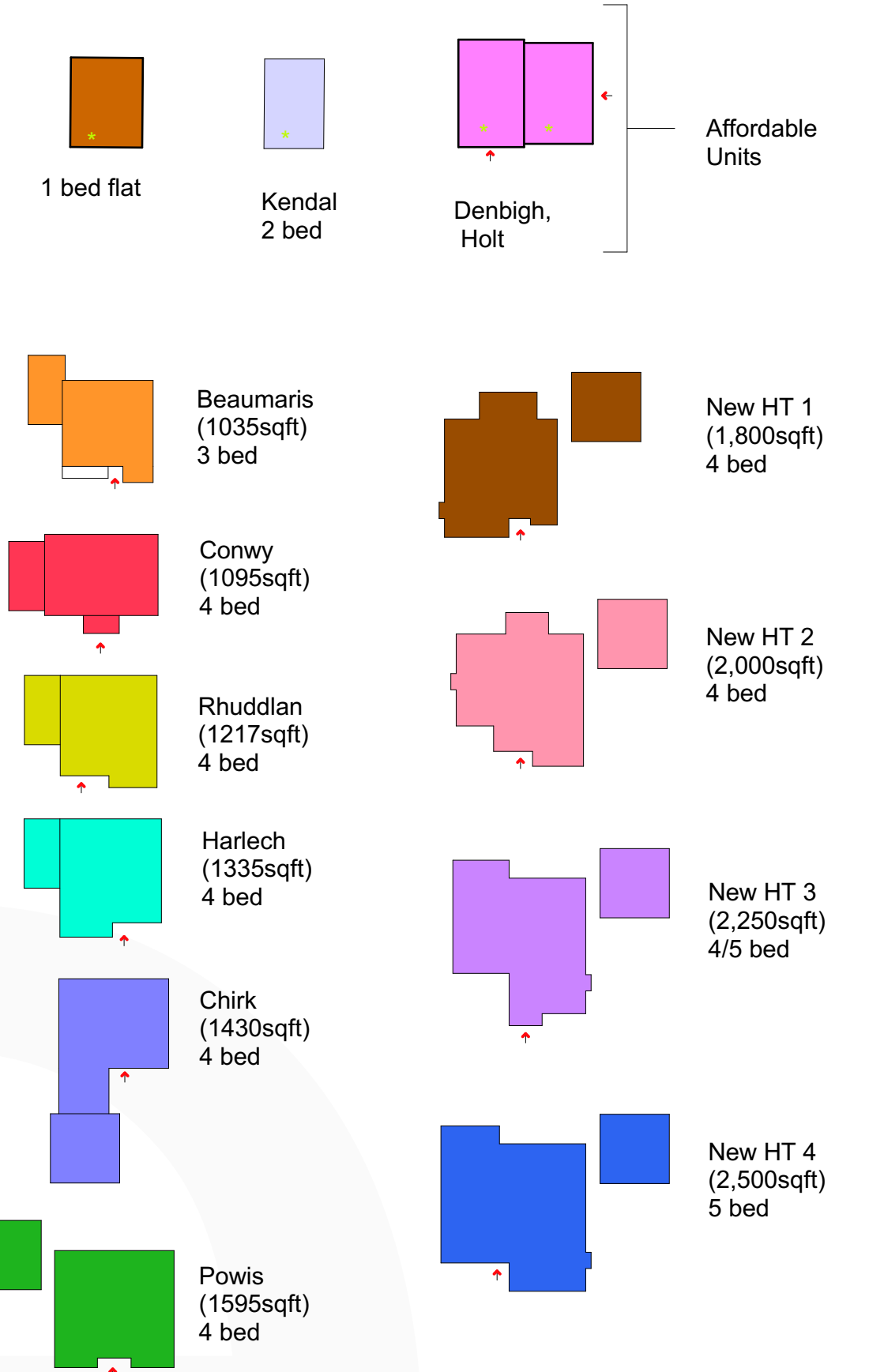
Cheshire Office: Well House Barns Reddish Chester CH4 5BH	South Manchester Office: Camilla House 74 Water Lane Worsley M55 9BB	axis
client: ---		
project: VICARAGE LANE, GRESFORD		
drawing title: SITE LOCATION IN RELATION TO OTHER POSSIBLE DEVELOPMENT SITES		
date: DEC 2018	drawn by: BA	checked: LK
drawing number: 2479-01-SK04	status: ---	
scale(s): 1:##@A3	rev: ---	
planning environment design		



APPENDIX 7 - PROPOSED SITE LAYOUT PLAN

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Accomodation Schedule



Site Boundary = 2.75 ha

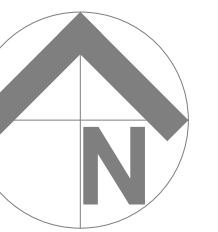
Affordable Housing Units = 11no. (25%)

Open Market Housing Units = 33no.

Total Units = 44no.

Development Density = 16no. units pha

Total POS = .041ha (16%)

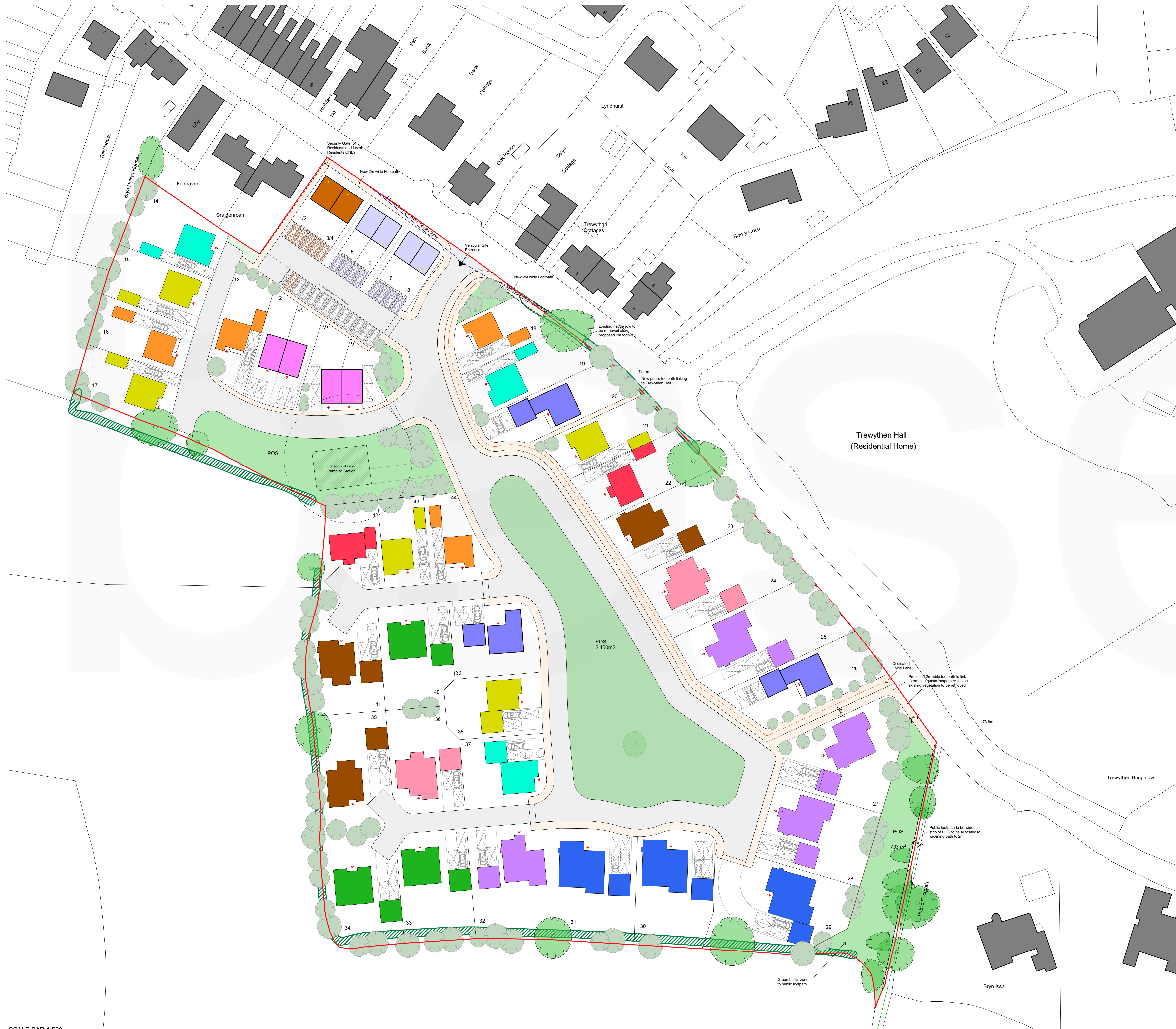


Rev. No.	Date.	Rev.	By.	Chk.

PLANNING

Scale.	1:500 @A1	Date.	13.12.2018	Drawn by.	AO	Chk.	HR
							
Project Title.		Proposed Housing Vicarage Lane, Gresford					
Client.		Gower Homes					
Drawing Title.		Proposed Masterplan					
Project No.		Drawing No.		Revision.			
BA1858		PL-002		-			

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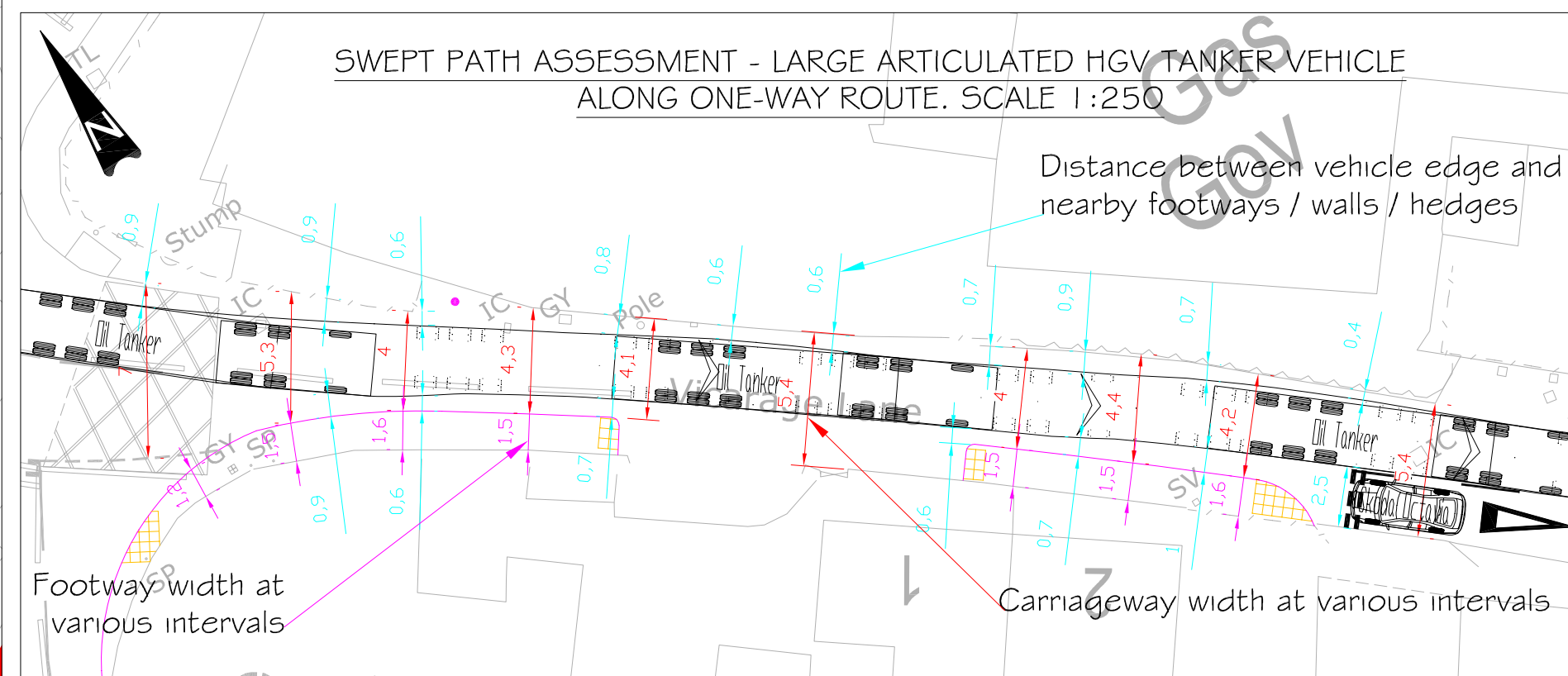
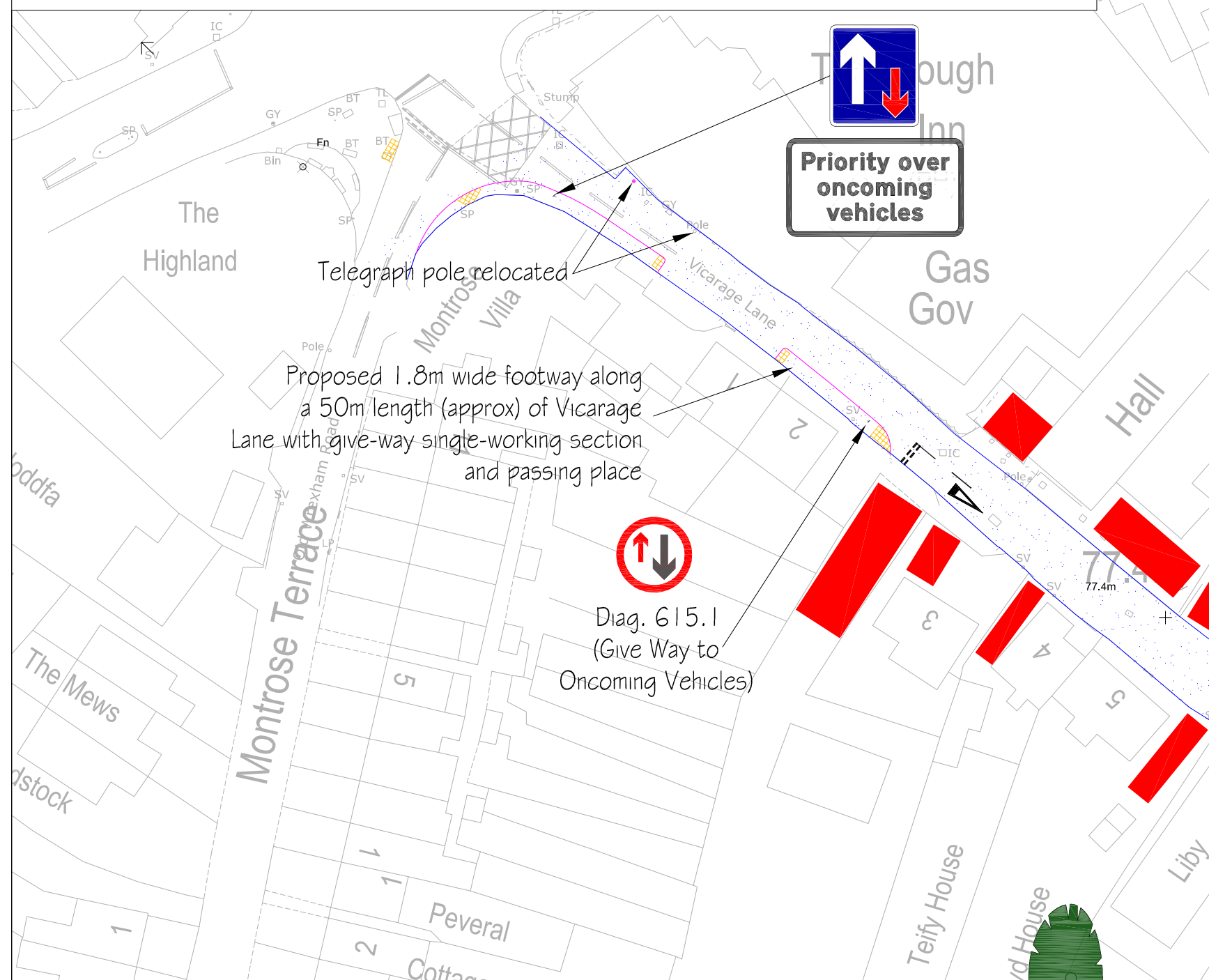
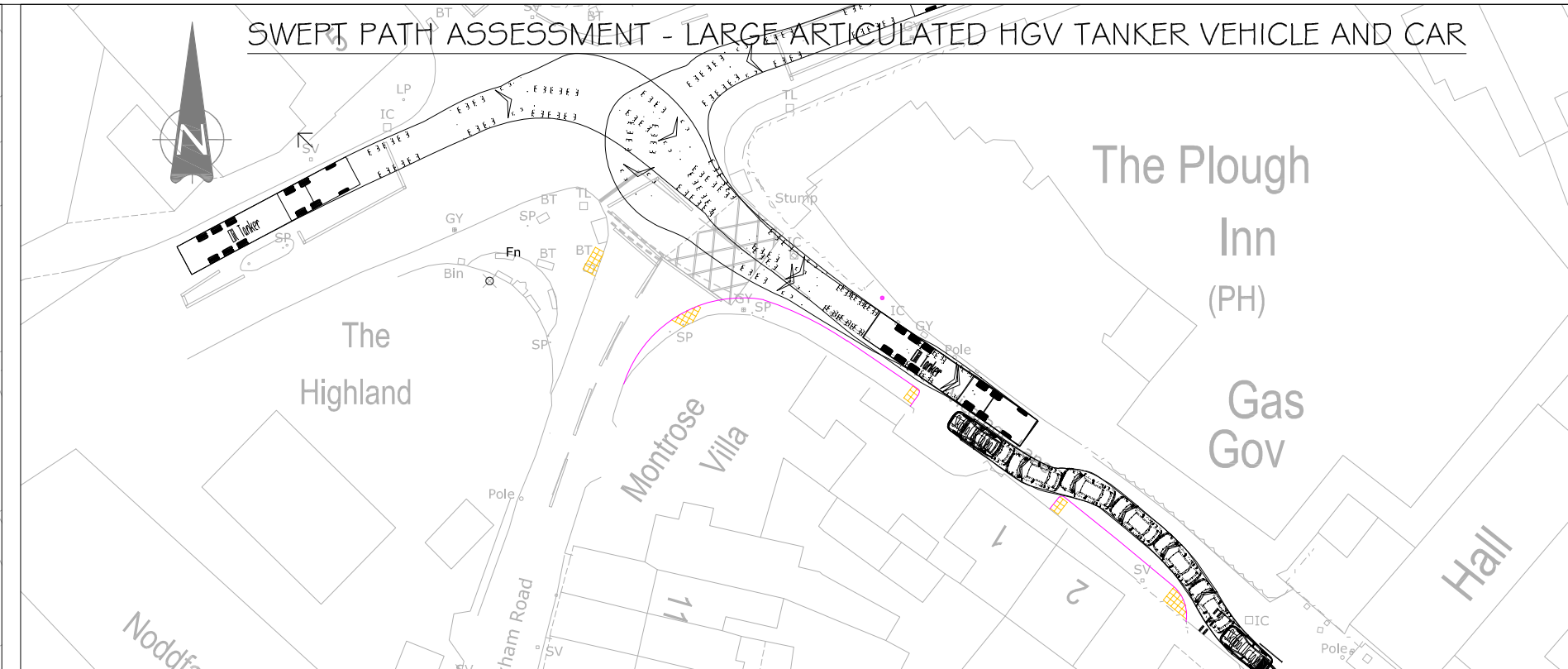
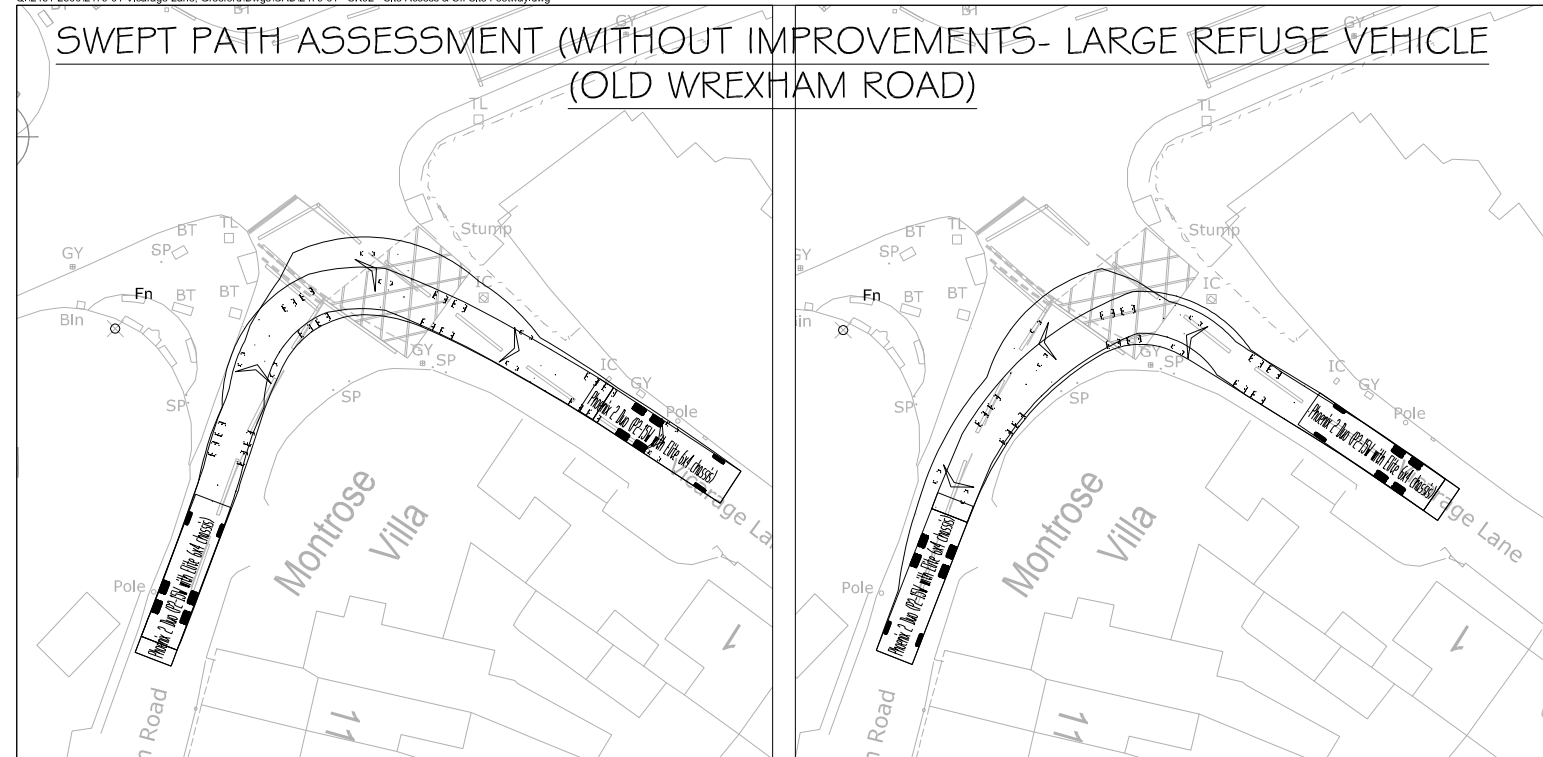


SCALE BAR 1:500



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**APPENDIX 8 – PLAN 2479-01-SK02 – PROPOSED SITE ACCESS AND OFF-SITE
FOOTWAY IMPROVEMENT SCHEME**



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● Revision History	● Date

KEY

 EXISTING DRIVEWAY LOCATION

 EXTENT OF ADOPTED HIGHWAY BOUNDARY

DESIGN VEHICLES

Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	
Overall Length	1,200mm
Overall Width	2,530mm
Overall Body Height	3,751mm
Min Body Ground Clearance	0,304mm
Track Width	2,500mm
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9,500mm

Technical drawing of a truck chassis showing dimensions and axle configurations:

- Overall Length:** 11.34
- Front Overlap:** 6.215
- Wheelbase (Axle Spacing):** 4.895, 4.795, 4.795
- Chassis Configuration:** Max 90° Horiz, Max 10° Vert
- Dimensions at Front:** 1.418, 1.418
- Dimensions at Rear:** 5.04, 5.04, 1.5

Oil Tanker	
Overall Length	15.289m
Overall Width	2.500m
Overall Body Height	2.704m
Min Body Ground Clearance	0.419m
Track Width	2.450m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.670m

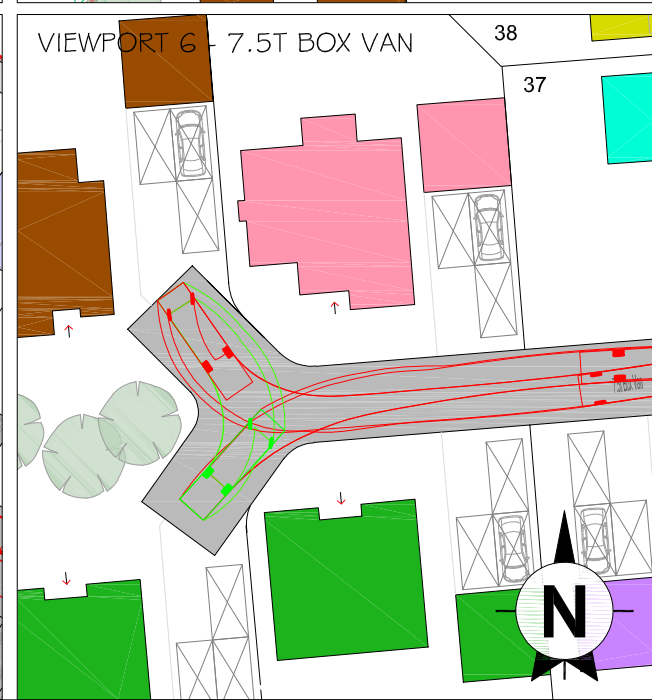
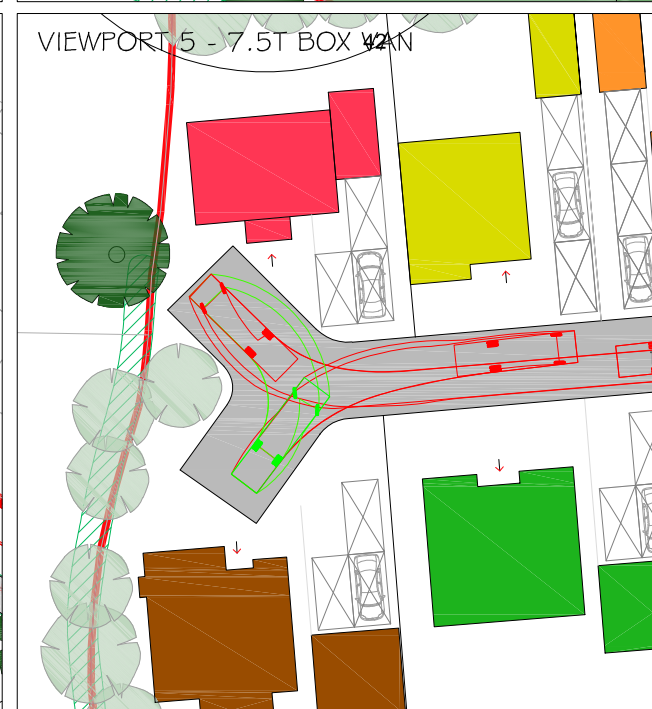
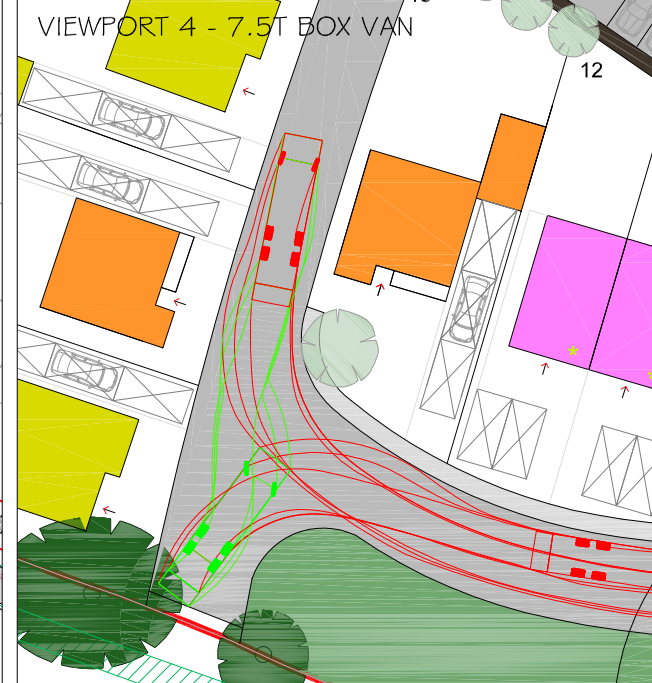
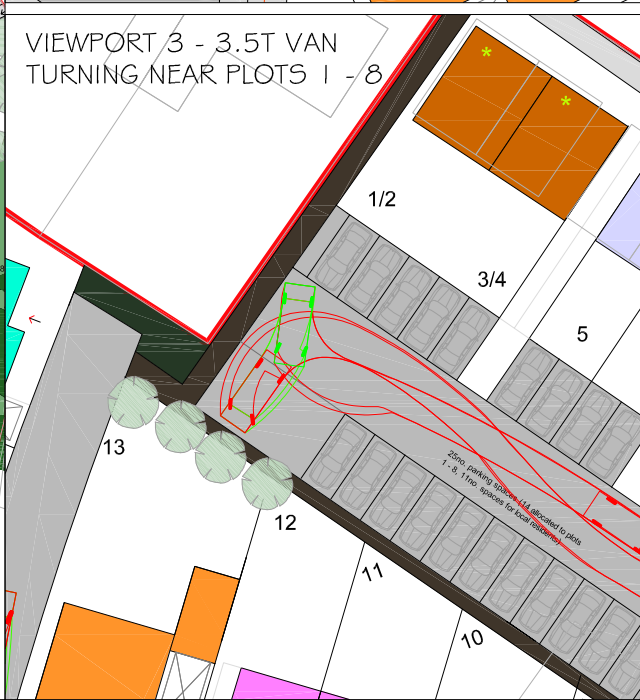
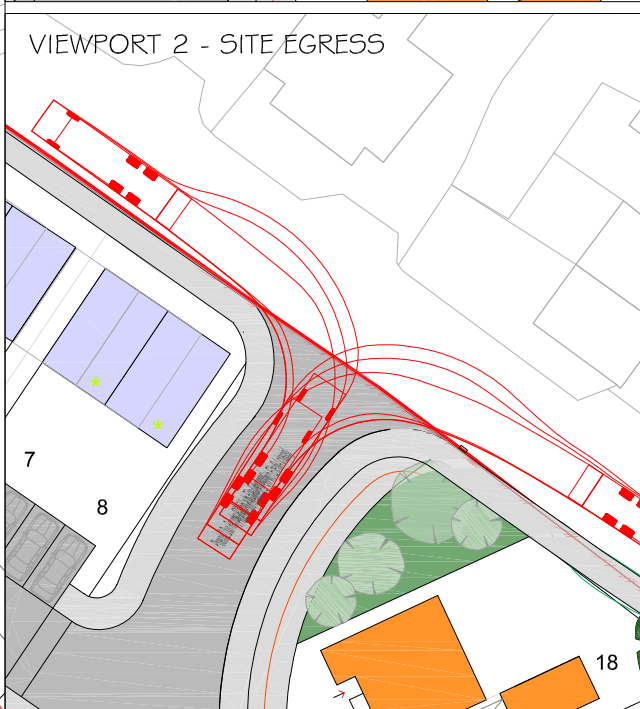
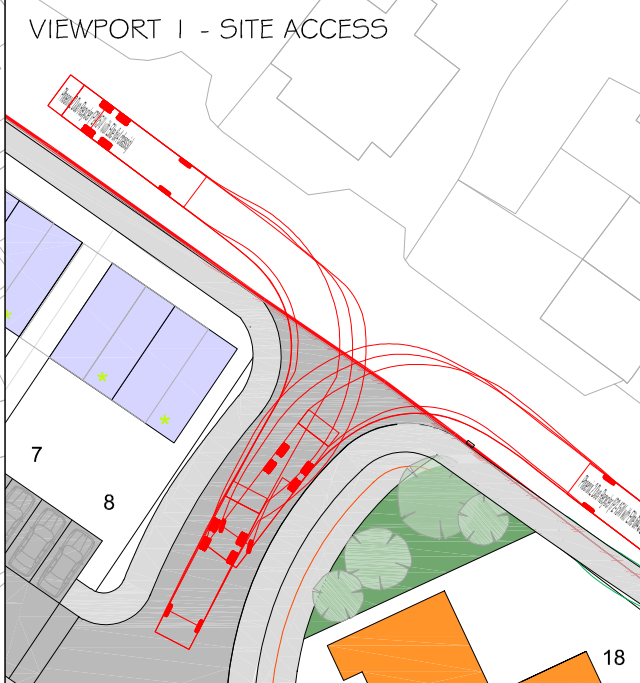
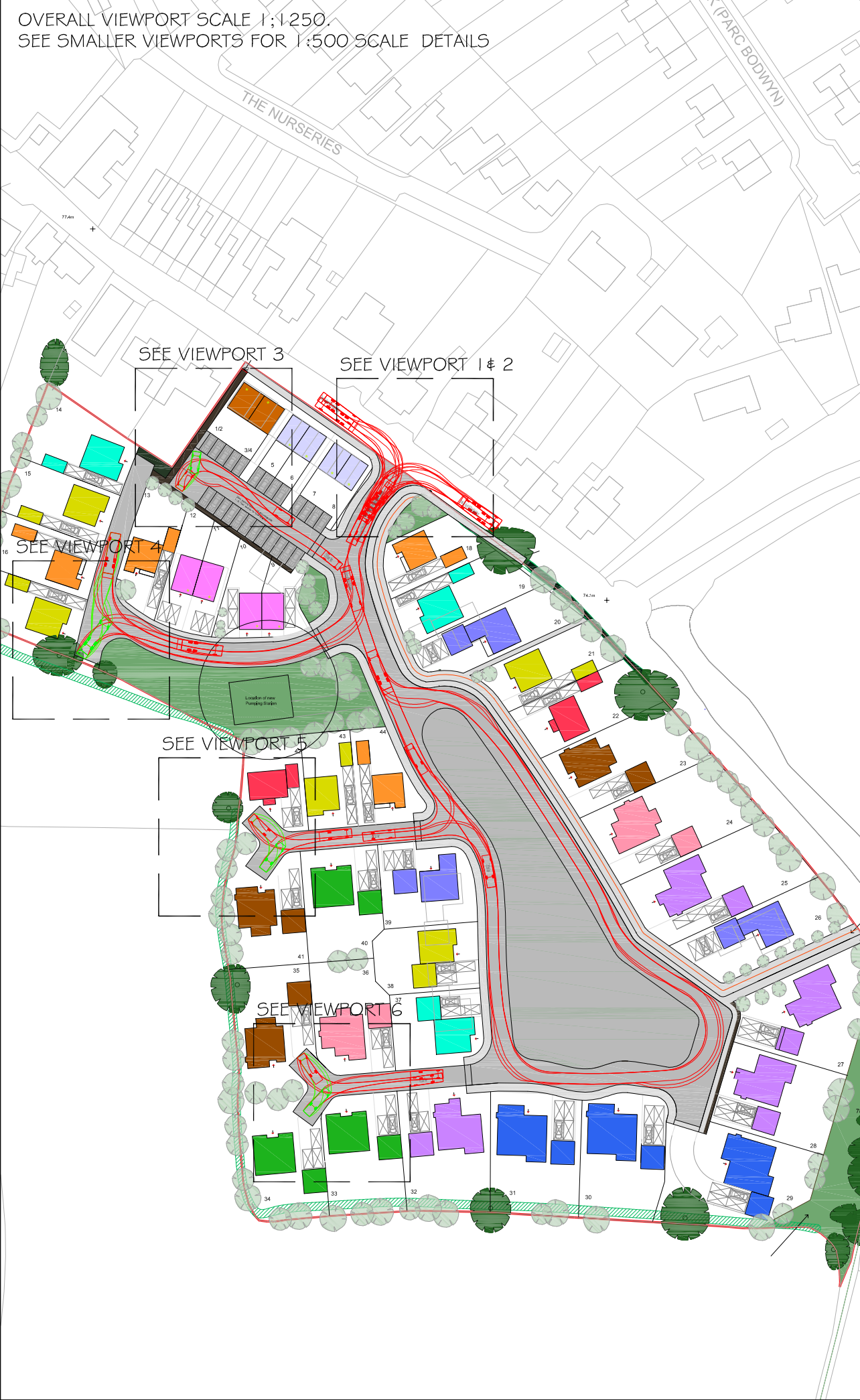
A diagram showing a car on a bridge. The bridge has a width of 4.572 m and a height of 0.91578 m. The car is positioned on the bridge, and its width is indicated as 1.578 m.

Skoda Octavia	
Overall Length	4.572m
Overall Width	1.769m
Overall Body Height	1.488m
Min Body Ground Clearance	0.249m
Max Track Width	1.713m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.100m

Cluster Office: Webb House Farms Erection Cluster CH1 6DH	South Manchester Office: Canalville House 76 Water Lane Wyndolow S19 6BB	axis
0844 8700 007 - www.axispec.co.uk		
client:		
project: VICARAGE LANE, GRESFORD		
drawing title: PROPOSED SITE ACCESS AND AND OFF-SITE FOOTWAY IMPROVEMENT SCHEME		
date: DEC 2018	drawn by: checked	
drawing number: 2479-01-SK02	status: LK LK	
	scale(s): 1:500@A2 - UNLESS STATED rev: --	
p l a n n i n g e n v i r o n m e n t d e s i g n		

APPENDIX 9 – PLAN 2479-01-SK03 – SWEPT PATH ANALYSIS PLAN

OVERALL VIEWPORT SCALE 1:1250.
SEE SMALLER VIEWPORTS FOR 1:500 SCALE DETAILS



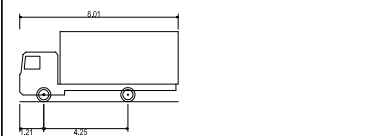
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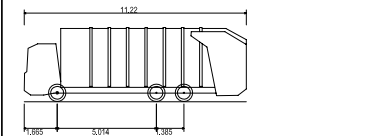
Revision History	Date
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3.5T Panel Van
Overall Length 5.339m
Overall Width 1.986m
Overall Body Height 2.535m
Min Body Ground Clearance 0.338m
Track Width 1.986m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 6.400m



7.5T Box Van
Overall Length 8.010m
Overall Width 2.100m
Overall Body Height 3.556m
Min Body Ground Clearance 0.351m
Track Width 2.100m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.400m



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)
Overall Length 11.220m
Overall Width 2.530m
Overall Body Height 3.750m
Min Body Ground Clearance 0.309m
Track Width 2.530m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 11.550m

Client Officer: Well House Barrs Bretton Cire 0201	South Manchester Office: Cannella House 75 Water Lane Widnes CH48 1BB	axis
0844 9700 007 - www.axisped.co.uk		
client: ---		
project: VICARAGE LANE, GRESFORD		
drawing title: SWEPT PATH ANALYSIS		
date: DEC 2018		
drawing number: 2479-01-SK03		drawn by: BA checked: LK
scale(s): 1:500 @A3 UNLESS STATED		status: --- rev: ---
planning environment design		

APPENDIX 10 – TRICS OUTPUTS

Calculation Reference: AUDIT-339901-181209-1232

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON	
	HO HOUNSLOW	2 days
02	SOUTH EAST	
	HC HAMPSHIRE	1 days
	KC KENT	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	2 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	DH DURHAM	1 days
10	WALES	
	PS POWYS	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
	HI HIGHLAND	1 days
	PK PERTH & KINROSS	1 days
12	CONNAUGHT	
	MA MAYO	1 days
	RO ROSCOMMON	2 days
14	LEINSTER	
	WX WEXFORD	1 days
15	GREATER DUBLIN	
	DL DUBLIN	2 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	1 days

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

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Secondary Filtering selection:

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

Parameter: Number of dwellings
 Actual Range: 22 to 82 (units:)
 Range Selected by User: 22 to 88 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 27/11/17

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

Selected survey days:

Monday	9 days
Tuesday	7 days
Wednesday	5 days
Thursday	5 days
Friday	3 days

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

Selected survey types:

Manual count	29 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	6
Suburban Area (PPS6 Out of Centre)	23

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

Selected Location Sub Categories:

Development Zone	1
Residential Zone	27
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

C3	29 days
----	---------

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

Population within 1 mile:

1,001 to 5,000	5 days
5,001 to 10,000	7 days
10,001 to 15,000	4 days
15,001 to 20,000	6 days
20,001 to 25,000	2 days
25,001 to 50,000	4 days
50,001 to 100,000	1 days

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

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Secondary Filtering selection (Cont.):

Population within 5 miles:

5,000 or Less	1 days
5,001 to 25,000	6 days
25,001 to 50,000	4 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
125,001 to 250,000	6 days
250,001 to 500,000	2 days
500,001 or More	3 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	7 days
1.1 to 1.5	19 days
1.6 to 2.0	2 days

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

Travel Plan:

Yes	3 days
No	26 days

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

PTAL Rating:

No PTAL Present	27 days
2 Poor	1 days
3 Moderate	1 days

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

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LIST OF SITES relevant to selection parameters

1	AN-03-A-07 CASTLE WAY ANTRIM	SEMI DETACHED / TERRACED HOUSING	ANTRIM
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 55 Survey date: TUESDAY 20/12/11 Survey Type: MANUAL		
2	CA-03-A-05 EASTFIELD ROAD PETERBOROUGH	DETACHED HOUSES	CAMBRIDGESHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 28 Survey date: MONDAY 17/10/16 Survey Type: MANUAL		
3	CB-03-A-05 MACADAM WAY PENRITH	DETACHED / TERRACED HOUSING	CUMBRIA
	Edge of Town Centre Residential Zone Total Number of dwellings: 50 Survey date: TUESDAY 21/06/16 Survey Type: MANUAL		
4	DH-03-A-01 GREENFIELDS ROAD BISHOP AUCKLAND	SEMI DETACHED	DURHAM
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 50 Survey date: TUESDAY 28/03/17 Survey Type: MANUAL		
5	DL-03-A-07 CASTLE DAWSON DUBLIN BLACKROCK	SEMI DET. / TERRACED	DUBLIN
	Edge of Town Centre Residential Zone Total Number of dwellings: 56 Survey date: MONDAY 26/09/11 Survey Type: MANUAL		
6	DL-03-A-08 CASTLE PARK ROAD DUBLIN DALKEY	VARIOUS HOUSES	DUBLIN
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 36 Survey date: MONDAY 26/09/11 Survey Type: MANUAL		
7	DV-03-A-01 BRONSHILL ROAD TORQUAY	TERRACED HOUSES	DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 37 Survey date: WEDNESDAY 30/09/15 Survey Type: MANUAL		
8	DV-03-A-03 LOWER BRAND LANE HONITON	TERRACED & SEMI DETACHED	DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 70 Survey date: MONDAY 28/09/15 Survey Type: MANUAL		
9	FA-03-A-01 MANDELA AVENUE FALKIRK	SEMI-DETACHED / TERRACED	FALKIRK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 37 Survey date: THURSDAY 30/05/13 Survey Type: MANUAL		

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LIST OF SITES relevant to selection parameters (Cont.)

10	HC-03-A-19 CANADA WAY LIPHOOK	HOUSES & FLATS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 62 Survey date: MONDAY 27/11/17 Survey Type: MANUAL		
11	HI-03-A-14 KING BRUDE ROAD INVERNESS SCORGUIE	SEMI-DETACHED & TERRACED	HIGHLAND
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 40 Survey date: WEDNESDAY 23/03/16 Survey Type: MANUAL		
12	HO-03-A-01 THORNBURY ROAD OSTERLEY	MIXED HOUSING	HOUNSLOW
	Suburban Area (PPS6 Out of Centre) Development Zone Total Number of dwellings: 82 Survey date: TUESDAY 16/09/14 Survey Type: MANUAL		
13	HO-03-A-02 HIBERNIAN ROAD HOUNSLOW	MIXED HOUSES	HOUNSLOW
	Edge of Town Centre Residential Zone Total Number of dwellings: 50 Survey date: MONDAY 29/06/15 Survey Type: MANUAL		
14	KC-03-A-03 HYTHE ROAD ASHFORD WILLESBOROUGH	MIXED HOUSES & FLATS	KENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 51 Survey date: THURSDAY 14/07/16 Survey Type: MANUAL		
15	LC-03-A-30 WATSON ROAD BLACKPOOL	SEMI-DETACHED	LANCASHIRE
	Edge of Town Centre Residential Zone Total Number of dwellings: 24 Survey date: FRIDAY 14/06/13 Survey Type: MANUAL		
16	LN-03-A-03 ROOKERY LANE LINCOLN BOULTHAM	SEMI DETACHED	LINCOLNSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 22 Survey date: TUESDAY 18/09/12 Survey Type: MANUAL		
17	LN-03-A-04 EGERTON ROAD LINCOLN	DETACHED & SEMI-DETACHED	LINCOLNSHIRE
	Edge of Town Centre Residential Zone Total Number of dwellings: 30 Survey date: MONDAY 29/06/15 Survey Type: MANUAL		
18	MA-03-A-01 N26 STATION ROAD BALLINA	SEMI-DET. & TERRACED	MAYO
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 74 Survey date: FRIDAY 15/07/11 Survey Type: MANUAL		

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LIST OF SITES relevant to selection parameters (Cont.)

19	NF-03-A-01	SEMI DET. & BUNGALOWS	NORFOLK
	YARMOUTH ROAD		
	CAISTER-ON-SEA		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	27	
	Survey date: TUESDAY	16/10/12	Survey Type: MANUAL
20	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
21	NY-03-A-12	TOWN HOUSES	NORTH YORKSHIRE
	RACECOURSE LANE		
	NORTHALLERTON		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	47	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
22	PK-03-A-01	DETAC. & BUNGALOWS	PERTH & KINROSS
	TULLYLUMB TERRACE		
	PERTH		
	GORNHILL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	36	
	Survey date: WEDNESDAY	11/05/11	Survey Type: MANUAL
23	PS-03-A-02	DETACHED / SEMI-DETACHED	POWYS
	GUNROG ROAD		
	WELSHPOOL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	28	
	Survey date: MONDAY	11/05/15	Survey Type: MANUAL
24	RO-03-A-02	SEMI DET. & BUNGALOWS	ROSCOMMON
	SLIGO ROAD		
	BALLAGHADERREEN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	31	
	Survey date: THURSDAY	14/07/11	Survey Type: MANUAL
25	RO-03-A-04	SEMI DET. & BUNGALOWS	ROSCOMMON
	EAGLE COURT		
	ROSCOMMON		
	ARDNANAGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	39	
	Survey date: FRIDAY	26/09/14	Survey Type: MANUAL
26	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	DONCASTER		
	BENTLEY RISE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL

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LIST OF SITES relevant to selection parameters (Cont.)

27	WL-03-A-02	SEMI DETACHED		WILTSHIRE
	HEADLANDS GROVE			
	SWINDON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		27	
	Survey date: THURSDAY		22/09/16	Survey Type: MANUAL
28	WS-03-A-05	TERRACED & FLATS		WEST SUSSEX
	UPPER SHOREHAM ROAD			
	SHOREHAM BY SEA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		48	
	Survey date: WEDNESDAY		18/04/12	Survey Type: MANUAL
29	WX-03-A-01	SEMI-DETACHED		WEXFORD
	CLONARD ROAD			
	WEXFORD			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of dwellings:		34	
	Survey date: THURSDAY		25/09/14	Survey Type: MANUAL

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.064	29	44	0.266	29	44	0.330
08:00 - 09:00	29	44	0.161	29	44	0.437	29	44	0.598
09:00 - 10:00	29	44	0.165	29	44	0.201	29	44	0.366
10:00 - 11:00	29	44	0.129	29	44	0.155	29	44	0.284
11:00 - 12:00	29	44	0.139	29	44	0.138	29	44	0.277
12:00 - 13:00	29	44	0.162	29	44	0.162	29	44	0.324
13:00 - 14:00	29	44	0.181	29	44	0.175	29	44	0.356
14:00 - 15:00	29	44	0.156	29	44	0.190	29	44	0.346
15:00 - 16:00	29	44	0.230	29	44	0.168	29	44	0.398
16:00 - 17:00	29	44	0.319	29	44	0.184	29	44	0.503
17:00 - 18:00	29	44	0.351	29	44	0.194	29	44	0.545
18:00 - 19:00	29	44	0.266	29	44	0.151	29	44	0.417
19:00 - 20:00	1	50	0.280	1	50	0.200	1	50	0.480
20:00 - 21:00	1	50	0.320	1	50	0.240	1	50	0.560
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	2.923			2.861			5.784		

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

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

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Parameter summary

Trip rate parameter range selected:	22 - 82 (units:)
Survey date date range:	01/01/10 - 27/11/17
Number of weekdays (Monday-Friday):	29
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.002	29	44	0.002	29	44	0.004
08:00 - 09:00	29	44	0.003	29	44	0.004	29	44	0.007
09:00 - 10:00	29	44	0.006	29	44	0.005	29	44	0.011
10:00 - 11:00	29	44	0.004	29	44	0.005	29	44	0.009
11:00 - 12:00	29	44	0.004	29	44	0.002	29	44	0.006
12:00 - 13:00	29	44	0.002	29	44	0.004	29	44	0.006
13:00 - 14:00	29	44	0.002	29	44	0.002	29	44	0.004
14:00 - 15:00	29	44	0.002	29	44	0.002	29	44	0.004
15:00 - 16:00	29	44	0.001	29	44	0.002	29	44	0.003
16:00 - 17:00	29	44	0.001	29	44	0.001	29	44	0.002
17:00 - 18:00	29	44	0.001	29	44	0.000	29	44	0.001
18:00 - 19:00	29	44	0.000	29	44	0.000	29	44	0.000
19:00 - 20:00	1	50	0.000	1	50	0.000	1	50	0.000
20:00 - 21:00	1	50	0.000	1	50	0.000	1	50	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.029			0.057

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

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.006	29	44	0.023	29	44	0.029
08:00 - 09:00	29	44	0.002	29	44	0.030	29	44	0.032
09:00 - 10:00	29	44	0.005	29	44	0.010	29	44	0.015
10:00 - 11:00	29	44	0.006	29	44	0.005	29	44	0.011
11:00 - 12:00	29	44	0.002	29	44	0.004	29	44	0.006
12:00 - 13:00	29	44	0.004	29	44	0.009	29	44	0.013
13:00 - 14:00	29	44	0.005	29	44	0.003	29	44	0.008
14:00 - 15:00	29	44	0.007	29	44	0.008	29	44	0.015
15:00 - 16:00	29	44	0.022	29	44	0.005	29	44	0.027
16:00 - 17:00	29	44	0.029	29	44	0.012	29	44	0.041
17:00 - 18:00	29	44	0.023	29	44	0.005	29	44	0.028
18:00 - 19:00	29	44	0.010	29	44	0.009	29	44	0.019
19:00 - 20:00	1	50	0.020	1	50	0.000	1	50	0.020
20:00 - 21:00	1	50	0.020	1	50	0.000	1	50	0.020
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.161			0.123			0.284

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

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.023	29	44	0.088	29	44	0.111
08:00 - 09:00	29	44	0.049	29	44	0.239	29	44	0.288
09:00 - 10:00	29	44	0.072	29	44	0.093	29	44	0.165
10:00 - 11:00	29	44	0.056	29	44	0.078	29	44	0.134
11:00 - 12:00	29	44	0.063	29	44	0.052	29	44	0.115
12:00 - 13:00	29	44	0.075	29	44	0.060	29	44	0.135
13:00 - 14:00	29	44	0.070	29	44	0.081	29	44	0.151
14:00 - 15:00	29	44	0.074	29	44	0.072	29	44	0.146
15:00 - 16:00	29	44	0.178	29	44	0.095	29	44	0.273
16:00 - 17:00	29	44	0.162	29	44	0.083	29	44	0.245
17:00 - 18:00	29	44	0.151	29	44	0.086	29	44	0.237
18:00 - 19:00	29	44	0.110	29	44	0.067	29	44	0.177
19:00 - 20:00	1	50	0.420	1	50	0.320	1	50	0.740
20:00 - 21:00	1	50	0.220	1	50	0.180	1	50	0.400
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		1.723			1.594				3.317

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

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.001	29	44	0.045	29	44	0.046
08:00 - 09:00	29	44	0.003	29	44	0.042	29	44	0.045
09:00 - 10:00	29	44	0.004	29	44	0.017	29	44	0.021
10:00 - 11:00	29	44	0.006	29	44	0.010	29	44	0.016
11:00 - 12:00	29	44	0.009	29	44	0.012	29	44	0.021
12:00 - 13:00	29	44	0.014	29	44	0.016	29	44	0.030
13:00 - 14:00	29	44	0.009	29	44	0.005	29	44	0.014
14:00 - 15:00	29	44	0.015	29	44	0.010	29	44	0.025
15:00 - 16:00	29	44	0.020	29	44	0.013	29	44	0.033
16:00 - 17:00	29	44	0.027	29	44	0.009	29	44	0.036
17:00 - 18:00	29	44	0.032	29	44	0.005	29	44	0.037
18:00 - 19:00	29	44	0.038	29	44	0.005	29	44	0.043
19:00 - 20:00	1	50	0.140	1	50	0.060	1	50	0.200
20:00 - 21:00	1	50	0.060	1	50	0.000	1	50	0.060
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.378			0.249			0.627

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

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.109	29	44	0.488	29	44	0.597
08:00 - 09:00	29	44	0.248	29	44	0.954	29	44	1.202
09:00 - 10:00	29	44	0.276	29	44	0.391	29	44	0.667
10:00 - 11:00	29	44	0.232	29	44	0.312	29	44	0.544
11:00 - 12:00	29	44	0.242	29	44	0.245	29	44	0.487
12:00 - 13:00	29	44	0.300	29	44	0.307	29	44	0.607
13:00 - 14:00	29	44	0.314	29	44	0.318	29	44	0.632
14:00 - 15:00	29	44	0.307	29	44	0.330	29	44	0.637
15:00 - 16:00	29	44	0.595	29	44	0.332	29	44	0.927
16:00 - 17:00	29	44	0.692	29	44	0.365	29	44	1.057
17:00 - 18:00	29	44	0.696	29	44	0.375	29	44	1.071
18:00 - 19:00	29	44	0.529	29	44	0.294	29	44	0.823
19:00 - 20:00	1	50	0.900	1	50	0.600	1	50	1.500
20:00 - 21:00	1	50	0.680	1	50	0.440	1	50	1.120
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	6.120			5.751			11.871		

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

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

Axis 76 Water Lane Wilmslow

Licence No: 339901

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL Servicing Vehicles

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	29	44	0.001	29	44	0.001	29	44	0.002
08:00 - 09:00	29	44	0.001	29	44	0.000	29	44	0.001
09:00 - 10:00	29	44	0.001	29	44	0.002	29	44	0.003
10:00 - 11:00	29	44	0.002	29	44	0.002	29	44	0.004
11:00 - 12:00	29	44	0.003	29	44	0.002	29	44	0.005
12:00 - 13:00	29	44	0.002	29	44	0.003	29	44	0.005
13:00 - 14:00	29	44	0.002	29	44	0.002	29	44	0.004
14:00 - 15:00	29	44	0.001	29	44	0.001	29	44	0.002
15:00 - 16:00	29	44	0.001	29	44	0.001	29	44	0.002
16:00 - 17:00	29	44	0.001	29	44	0.000	29	44	0.001
17:00 - 18:00	29	44	0.002	29	44	0.003	29	44	0.005
18:00 - 19:00	29	44	0.000	29	44	0.000	29	44	0.000
19:00 - 20:00	1	50	0.040	1	50	0.020	1	50	0.060
20:00 - 21:00	1	50	0.000	1	50	0.020	1	50	0.020
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.057			0.057			0.114

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

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

APPENDIX 11 – ATC RESULTS FROM KENSINGTON GROVE, WREXHAM

Weekly Vehicle Counts

WeeklyVehicle-958

Site:

06071805.0.1WE

Description:

Kensington Grove From Box Lane

Filter time:

00:00 07 July 2018 => 00:00 14 July 2018

Scheme:

Vehicle classification (Euro13)

Filter:

Cls(1-13) Dir(E) Sp(6,99) Headway(>0) Span(0 - 100) Lane(0-16)

('OUT')

Hour	Sat 07 Jul	Sun 08 Jul	Mon 09 Jul	Tue 10 Jul	Wed 11 Jul	Thu 12 Jul	Fri 13 Jul	Averages 1 - 5	1 - 7
0000-0100	1	0	0	0	1	0	0	0.2	0.3
0100-0200	1	1	0	1	0	1	0	0.4	0.6
0200-0300	0	1	0	0	0	0	0	0.0	0.1
0300-0400	0	0	0	0	1	0	0	0.2	0.1
0400-0500	0	0	0	0	0	1	1	0.4	0.3
0500-0600	0	0	2	3	4	2	2	2.6	1.9
0600-0700	2	1	4	4	2	6	2	3.6	3.0
0700-0800	2	2	14	15	15	13	14	14.2	10.7
0800-0900	10	2	12	13	23	19	14	16.2	13.3
0900-1000	11	12	9	7	10	11	10	9.4	10.0
1000-1100	5	9	8	7	4	6	8	6.6	6.7
1100-1200	12	11	12	5	4	8	5	6.8	8.1
1200-1300	10	16	5	5	4	6	8	5.6	7.7
1300-1400	11	6	8	6	6	5	7	6.4	7.0
1400-1500	12	9	15	12	7	4	9	9.4	9.7
1500-1600	7	5	6	7	9	9	5	7.2	6.9
1600-1700	8	5	14	5	10	9	7	9.0	8.3
1700-1800	7	3	12	7	13	7	5	8.8	7.7
1800-1900	5	9	7	11	6	12	10	9.2	8.6
1900-2000	2	2	2	5	5	5	9	5.2	4.3
2000-2100	3	3	0	1	4	7	2	2.8	2.9
2100-2200	1	0	0	6	8	2	1	3.4	2.6
2200-2300	2	0	0	2	2	3	3	2.0	1.7
2300-2400	1	0	0	1	1	0	2	0.8	0.7
Totals									
0700-1900	100	89	122	100	111	109	102	108.8	104.7
0600-2200	108	95	128	116	130	129	116	123.8	117.4
0600-0000	111	95	128	119	133	132	121	126.6	119.9
0000-0000	113	97	130	123	139	136	124	130.4	123.1
AM Peak	1100	0900	0700	0700	0800	0800	0800	489.6	
	12	12	14	15	23	19	14		
PM Peak	1400	1200	1400	1400	1700	1800	1800		
	12	16	15	12	13	12	10		

* - No data.

5 day
34 dwellings

259 LH
34
76
7 day
34 dwellings

(Two 34 dwellings)

Peak hour	Trip Rate		Trip Counts	
	Arr	Dep	Arr	Dep
AM	0.124	0.476	4	16
PM	0.482	0.259	16	9

Weekly Vehicle Counts

WeeklyVehicle-957

Site:

06071805.0.1WE

Description:

Kensington Grove To Box Lane

Filter time:

00:00 07 July 2018 => 00:00 14 July 2018

Scheme:

Vehicle classification (Euro13)

Filter:

Cls(1-13) Dir(W) Sp(6,99) Headway(>0) Span(0 - 100) Lane(0-16)

CIN

	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Averages	
	07 Jul	08 Jul	09 Jul	10 Jul	11 Jul	12 Jul	13 Jul	1 - 5	1 - 7
Hour									
0000-0100	2	0	0	1	0	0	0	0.2	0.4
0100-0200	0	1	0	1	0	1	0	0.4	0.4
0200-0300	0	1	0	0	1	0	0	0.2	0.3
0300-0400	0	0	0	0	1	0	0	0.2	0.1
0400-0500	0	0	0	0	0	1	0	0.2	0.1
0500-0600	1	1	1	0	1	1	0	0.6	0.7
0600-0700	1	1	1	0	0	2	1	0.8	0.9
0700-0800	1	1	3	5	4	2	3	3.4	2.7
0800-0900	2	2	3	2	3	8	5	4.2	3.6
0900-1000	6	3	5	6	7	7	7	6.4	5.9
1000-1100	3	11	11	5	3	7	3	5.8	6.1
1100-1200	9	9	8	7	5	9	9	7.6	8.0
1200-1300	13	15	8	4	4	7	5	5.6	8.0
1300-1400	10	4	7	8	6	3	8	6.4	6.6
1400-1500	14	13	13	4	10	8	9	8.8	10.1
1500-1600	10	11	9	8	13	13	9	10.4	10.4
1600-1700	7	6	10	17	16	14	14	14.2	12.0
1700-1800	5	2	19	11	24	16	12	16.4	12.7
1800-1900	7	6	11	15	11	9	13	11.8	10.3
1900-2000	6	3	9	6	14	10	8	9.4	8.0
2000-2100	6	3	3	9	3	11	4	6.0	5.6
2100-2200	1	2	2	7	5	2	3	3.8	3.1
2200-2300	4	2	2	2	3	7	4	3.6	3.4
2300-2400	2	1	1	2	1	2	5	2.2	2.0
Totals									
0700-1900	87	83	107	92	106	103	97	101.0	96.4
0600-2200	101	92	122	114	128	128	113	121.0	114.0
0600-0000	107	95	125	118	132	137	122	126.8	119.4
0000-0000	110	98	126	120	135	140	122	128.6	121.6
AM Peak	1100	1000	1000	1100	0900	1100	1100	477.4	
	9	11	11	7	7	9	9		
PM Peak	1400	1200	1700	1600	1700	1700	1600		
	14	15	19	17	24	16	14		

* - No data.

5 day

7 day

MetroCount Traffic Executive Weekly Vehicle Counts

amended sheet

WeeklyVehicle-993 -- English (ENG)

Datasets:

Site: [06071805] Kensington Grove
Attribute:
Direction: 6 - West bound A>B, East bound B>A. Lane: 0
Survey Duration: 00:00 07 July 2018 => 15:57 14 July 2018,
Zone:
File: 06071805 0 2018-07-14 1557.EC0 (Plus)
Identifier: S8464Y8F MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.08)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 00:00 07 July 2018 => 00:00 14 July 2018 (7)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 6 - 99 mph.
Direction: East (bound), P = East, Lane = 0-16
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (Euro13)
Units: Part metric (metre, mi, m/s, mph, kg, tonne)
In profile: Vehicles = 862 / 1767 (48.78%)

OUT

MetroCount Traffic Executive Weekly Vehicle Counts

amended sheet-

WeeklyVehicle-992 -- English (ENG)

Datasets:

Site: [06071805] Kensington Grove
Attribute:
Direction: 6 - West bound A>B, East bound B>A. **Lane:** 0
Survey Duration: 00:00 07 July 2018 => 15:57 14 July 2018,
Zone:
File: 06071805 0 2018-07-14 1557.EC0 (Plus)
Identifier: S8464Y8F MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.08)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 00:00 07 July 2018 => 00:00 14 July 2018 (7)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 6 - 99 mph.
Direction: West (bound), P = East, Lane = 0-16
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (Euro13)
Units: Part metric (metre, mi, m/s, mph, kg, tonne)
In profile: Vehicles = 851 / 1767 (48.16%)

*()
IN*

APPENDIX 12 – INCIDENCE OF OPPOSING TRAFFIC CALCULATIONS

This sheet provides an estimation of the chances of two vehicles meeting along the proposed single-track section of Vicarage Lane in the worst-case peak hours.

Firstly, it is important to establish the length of time that a journey through the proposed give-way feature might take:-

If the average vehicle speed =	20.8	mph
this equals	9.298432	metres per second
If the proposed give-way feature =	50	m in length
then each journey along it takes	5.38	seconds

Using the above figures, it is important to establish the chances in any given second of an hour of a single vehicle movement occurring through the proposed give-way feature. This equals the number of seconds in an hour divided by the time it takes for a single vehicle to pass through the give-way feature:-

This =	3600	/	5.38
which =	a one in	669.487104	chance, per second

If the following traffic movements are predicted to occur along Vicarage Lane (base + development traffic) during each peak hour:-

WEEKDAY AM PEAK (08:00 - 09:00)		WEEKDAY PM PEAK (17:00 - 18:00)	
Westbound	Eastbound	Westbound	Eastbound
50	52	74	48

(Note: the above flows include an allowance for: A) the existing daily traffic flows (weekday only) along Vicarage Lane, as derived from a recent automated traffic survey carried out between 01/07/2017 and 07/07/2017; and B) the additional traffic that might be generated by the proposed development has been derived using trip rates from the industry-standard TRICS Database (note this assumes that 100% of development-related traffic would pass along the single-track section to / from Gresford vilage centre, for robustness):

Then the chances of a movement (in any given second) in each peak hour of a vehicle travelling through the give-way feature in each direction are as follows:-

	WEEKDAY AM PEAK (08:00 - 09:00)		WEEKDAY PM PEAK (17:00 - 18:00)		
	Westbound	Eastbound	Westbound	Eastbound	
A one in	13.4	12.9	9.0	13.8	chance

Therefore, the chances (in any given second) in each peak hour of two opposing vehicles meeting along the proposed feature are as follows:-

	WEEKDAY AM PEAK (08:00 - 09:00)		WEEKDAY PM PEAK (17:00 - 18:00)		
	Westbound	Eastbound	Westbound	Eastbound	
A one in	172.7		124.8		chance

If each journey through the give-way feature takes:-

5.38	seconds
------	---------

And the peak hour eastbound / westbound flows are forecast to be:-

Westbound	Eastbound	
50	52	vehicles in the AM peak hour, and
74	48	vehicles in the PM peak hour

Then volumetrically, a vehicle would be expected to arrive at each side of the proposed give way feature every:-

Westbound	Eastbound	
72.2	69.1	seconds, on average in the AM peak hour, and
48.6	74.3	seconds, on average in the PM peak hour

This would mean that, on average, the one-way section of working would be clear of westbound vehicles for:-

66.9	seconds out of every	72.2	seconds, on average in the AM peak hour, and
43.2	seconds out of every	48.6	seconds, on average in the PM peak hour

And the one-way section of working would be clear of eastbound vehicles for:-

63.7	seconds out of every	69.1	seconds, on average in the AM peak hour, and
68.9	seconds out of every	74.3	seconds, on average in the PM peak hour

Expressed as a percentage, this indicates that the give-way section would be clear of vehicles for:-

Westbound	Eastbound	
93%	92%	of the AM peak hour, and
89%	93%	of the PM peak hour

Based on the average westbound flow in the peak hours, the following average queue lengths might therefore be expected to form behind each single waiting westbound vehicle at the proposed give-way feature:-

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)	
0.07	0.11	vehicles

The proposed give-way feature is designed so that eastbound vehicles have priority over westbound vehicles. However, in the event that the vehicle priority were reversed (for illustrative purposes), and discounting the availability and potential usage of the proposed passing place half-way through the feature, based on the average eastbound flow in the peak hours, the following average queue lengths might therefore be expected to form behind each single waiting eastbound vehicle at the proposed give-way feature:-

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)	
0.08	0.07	vehicles

The above calculation is based on a uniform arrival rate for eastbound vehicles. In practice, eastbound vehicles may not arrive at the give-way feature in a uniform manner due to the traffic signals at Chester Road, and may occasionally instead arrive in platoons as queues are released by the signals. However, there is a 57 second signal cycle time observed to be in operation at the signals, and by dividing the number of eastbound vehicles by the number of cycles per hour, then the following maximum platoon size might be expected to arrive at the give-way feature at once:

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)	
0.91	0.85	vehicles

In other words, the level of eastbound demand flow per minute is less than a typical signal cycle time, and so 'platoons' of traffic are simply not forecast to occur as they might normally be understood in the traffic-engineering sense of that term. This calculation is corroborated by observations of video footage of the arrival profile of eastbound traffic at the constrained section of Vicarage Lane, which already operates in a de-facto give-way manner.

	Calculation to derive the likely incidence of conflict at the proposed give-way feature at Vicarage Lane (based on TRICS traffic forecasts)	Appendix 12a
	Proposed Residential Development, Vicarage Lane, Gresford	Project Ref: 2479-01
		Dec-18

This sheet provides an estimation of the chances of two vehicles meeting along the proposed single-track section of Vicarage Lane in the worst-case peak hours.

Firstly, it is important to establish the length of time that a journey through the proposed give-way feature might take:-

If the average vehicle speed =	20.8	mph
this equals	9.298432	metres per second
If the proposed give-way feature =	50	m in length
then each journey along it takes	5.38	seconds

Using the above figures, it is important to establish the chances in any given second of an hour of a single vehicle movement occurring through the proposed give-way feature. This equals the number of seconds in an hour divided by the time it takes for a single vehicle to pass through the give-way feature:-

This =	3600	/	5.38
which =		a one in	669.487104 chance, per second

If the following traffic movements are predicted to occur along Vicarage Lane (base + development traffic) during each peak hour:-

WEEKDAY AM PEAK (08:00 - 09:00)		WEEKDAY PM PEAK (17:00 - 18:00)	
Westbound	Eastbound	Westbound	Eastbound
52	50	77	54

(Note: the above flows include an allowance for: A) the existing daily traffic flows (weekday only) along Vicarage Lane, as derived from a recent automated traffic survey carried out between 01/07/2017 and 07/07/2017; and B) the additional traffic that might be generated by the proposed development has been derived using trip rates from the industry-standard TRICS Database (note this assumes that 100% of development-related traffic would pass along the single-track section to / from Gresford village centre, for robustness):

Then the chances of a movement (in any given second) in each peak hour of a vehicle travelling through the give-way feature in each direction are as follows:-

	WEEKDAY AM PEAK (08:00 - 09:00)		WEEKDAY PM PEAK (17:00 - 18:00)		
	Westbound	Eastbound	Westbound	Eastbound	
A one in	13.0	13.3	8.7	12.4	chance

Therefore, the chances (in any given second) in each peak hour of two opposing vehicles meeting along the proposed feature are as follows:-

	WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)	
A one in	172.3	107.4	chance

If each journey through the give-way feature takes:-

5.38	seconds
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And the peak hour eastbound / westbound flows are forecast to be:-

Westbound	Eastbound	
52	50	vehicles in the AM peak hour, and
77	54	vehicles in the PM peak hour

Then volumetrically, a vehicle would be expected to arrive at each side of the proposed give way feature every:-

Westbound	Eastbound	
69.8	71.3	seconds, on average in the AM peak hour, and
46.8	66.4	seconds, on average in the PM peak hour

This would mean that, on average, the one-way section of working would be clear of westbound vehicles for:-

64.5	seconds out of every	69.8	seconds, on average in the AM peak hour, and
41.4	seconds out of every	46.8	seconds, on average in the PM peak hour

And the one-way section of working would be clear of eastbound vehicles for:-

66.0	seconds out of every	71.3	seconds, on average in the AM peak hour, and
61.0	seconds out of every	66.4	seconds, on average in the PM peak hour

Expressed as a percentage, this indicates that the give-way section would be clear of vehicles for:-

Westbound	Eastbound
92%	92% of the AM peak hour, and
88%	92% of the PM peak hour

Based on the average westbound flow in the peak hours, the following average queue lengths might therefore be expected to form behind each single waiting westbound vehicle at the proposed give-way feature:-

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)
0.08	0.12 vehicles

The proposed give-way feature is designed so that eastbound vehicles have priority over westbound vehicles. However, in the event that the vehicle priority were reversed (for illustrative purposes), and discounting the availability and potential usage of the proposed passing place half-way through the feature, based on the average eastbound flow in the peak hours, the following average queue lengths might therefore be expected to form behind each single waiting eastbound vehicle at the proposed give-way feature:-

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)
0.08	0.08 vehicles

The above calculation is based on a uniform arrival rate for eastbound vehicles. In practice, eastbound vehicles may not arrive at the give-way feature in a uniform manner due to the traffic signals at Chester Road, and may occasionally instead arrive in platoons as queues are released by the signals. However, there is a 57 second signal cycle time observed to be in operation at the signals, and by dividing the number of eastbound vehicles by the number of cycles per hour, then the following maximum platoon size might be expected to arrive at the give-way feature at once:

WEEKDAY AM PEAK (08:00 - 09:00)	WEEKDAY PM PEAK (17:00 - 18:00)
0.89	0.95 vehicles

In other words, the level of eastbound demand flow per minute is less than a typical signal cycle time, and so 'platoons' of traffic are simply not forecast to occur as they might normally be understood in the traffic-engineering sense of that term. This calculation is corroborated by observations of video footage of the arrival profile of eastbound traffic at the constrained section of Vicarage Lane, which already operates in a de-facto give-way manner.

	Calculation to derive the likely incidence of conflict at the proposed give-way feature at Vicarage Lane (based on sensitivity test traffic forecasts)	Appendix 12b
	Proposed Residential Development, Vicarage Lane, Gresford	Project Ref: 2479-01
		Dec-18