

Proposed Residential Development
Hillock Lane, Gresford

NORRIS JONES DEVELOPMENTS

Transport Assessment

May 2020





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1 INTRODUCTION

1.1 Preamble

- 1.1.1 Croft have been instructed by Norris Jones Developments to advise on the traffic and transportation issues relating to a proposed residential development on land to the south of Hillock Lane in Gresford.
- 1.1.2 The report will form supplementary information to assist in the determination of a forthcoming outline planning application on the site for up to 110 residential dwellings, with associated car parking and landscaping.
- 1.1.3 The Highway Authority and the Planning Authority responsible for Gresford is Wrexham County Borough Council (WCBC).
- 1.1.4 A Framework Travel Plan has also been prepared to ensure that travel to and from the site by sustainable modes is maximised.
- 1.1.5 Due to the location of the site close to Gresford and all it's services and facilities, the proposed development will help deliver much needed housing in a sustainable location which is well integrated and connected to local facilities and employment opportunities.

1.2 Structure of Report

- 1.2.1 Following this introduction, Section 2 of the Report will detail the existing site conditions and describe the adjacent highway, while Section 3 will set out the development proposals, including vehicular access.



- 1.2.2 Section 4 will consider relevant national policy, while Section 5 will consider the accessibility of the site by non-car modes, including walking, cycling and public transport.
- 1.2.3 Section 6 will consider the trip generation and traffic impact assessment of the local highway network. A review of road safety and personal injury accidents in the vicinity of the site over the last 3 years will be detailed in Section 7.
- 1.2.4 Section 8 will contain details of the Framework Travel Plan and Section 9 will draw together the Report's findings and conclusions.
- 1.2.5 The scope of this document has been discussed and agreed with local highways officers at Wrexham Borough Council (WBC).



2 EXISTING CONDITIONS

2.1 Introduction

- 2.1.1 This section will detail the existing site and surroundings and provide details about the existing highway network.

2.2 Site Location

- 2.2.1 The application site is located approximately 1 kilometre west of the centre of Gresford. The location of the site in relation to the surrounding area is presented in **Plan 1**.
- 2.2.2 The site is bounded to the east, south and west by undeveloped land and to the north by Hillock Lane and residential houses.

2.3 Existing Site Information

- 2.3.1 The site is currently undeveloped and so has no formal point of access at present, other than an access track for agricultural purposes.
- 2.3.2 However, a Public Right of Way (MAR/5) runs through the site from Hillock Lane to the north to Vicarage Lane to the south of the application site.



2.4 Local Highway Network

- 2.4.1 Hillock Lane which bounds the site to the north runs in an east to west alignment in the vicinity of the site. It is subject to a 30 mph speed limit and has a minimum width of approximately 3.2 metres along the frontage of the site and there are currently no footways to the immediate north of the site. However, a footway of around 2 metres in width is located on the northern side of Hillock Lane at the Hillock Lane/Stancliffe Avenue junction.
- 2.4.2 To the west of the application site, Hillock Lane has a carriageway width of around 5.6 metres between the application site and the B5445 Chester Road/Hillock Lane priority controlled junction.
- 2.4.3 To the north west of the site provides the major arm of the B5445 Chester Road/Hillock Lane priority controlled junction. The B5445 Chester Road runs in an approximate north east/south west alignment, linking Gresford to Rossett in the north, and northern areas of Wrexham in the south.
- 2.4.4 The B5445 Chester Road offers footways on both sides of the carriageway, is subject to a 30mph speed limit and is lit with street lighting.
- 2.4.5 There are bus laybys situated within 100 metres of the B5445 Chester Road/Hillock Lane priority junction, complete with shelters. A combination of advisory/off road cycle provision also extends along the carriageway throughout areas of Gresford.
- 2.4.6 To the east of the site Hillock Lane runs in an approximate east-west alignment for a distance of approximately 165 metres until it provides the minor arm of the Wynnstay Lane/Hillock Lane priority controlled junction.



3 DEVELOPMENT PROPOSALS

3.1 Introduction

- 3.1.1 The following paragraphs will describe the development proposals and report on proposed access arrangements and car parking.

3.2 Proposed Development

- 3.2.1 The applicant is seeking outline planning permission to develop the site for up to 110 residential dwellings, with associated car parking, landscaping and public open space.

3.3 Vehicular Access

- 3.3.1 It is proposed that vehicular access into the site will be provided for in the form of a new priority controlled junction off Hillock Lane which bounds the site to the north. This junction will incorporate the existing Stancliffe Avenue junction which is located on the northern side of the Hillock Lane carriageway.
- 3.3.2 As previously stated, Hillock Lane is subject to a 30mph speed limit, therefore visibility splays of 2.4 metres by 43 metres have been provided in each direction in accordance with guidance contained within MfS.
- 3.3.3 As part of the provision of the vehicular access arrangements Hillock Lane to the west of the application will also be widened to a width of at least 6 metres for a distance of 22 metres. This is an improvement on the existing carriageway which has a minimum width of 3.3 metres at present.



- 3.3.4 During pre-application discussions with the highway's officers at WBC, comments were raised regarding the level of visibility that can currently be achieved from the Stancliffe Avenue arm of the roundabout. At present visibility splays of 2.4 metres by 18 metres (centreline) and 2.4 metres by 40 metres (centreline) can be achieved to the east and west respectively.
- 3.3.5 Although the existing junction does not have poor highway safety record, as a part of the provision of the site access junction, the Stancliffe Avenue arm give-way line has been relocated south to enable visibility splays of 2.4 metres by 43 metres in each direction to be achieved. This is a substantial improvement in visibility when compared to the existing arrangement. As part of the improvement scheme the existing 'Slow Markings' on Hillock Lane will be retained but relocated by approximately 70 metres east of its current location.
- 3.3.6 During pre-application discussions with WBC, it was requested that consideration be given to the provision of a right-turn lanes on Hillock Lane to assist right-turn movements into the site and Stancliffe Avenue.
- 3.3.7 However, as previously stated Hillock Lane is subject to a 30mph and does not form part of the Trunk Road network, therefore, applying the guidance and criteria contained with the recently released DMRB GG 123 are not appropriate for this section of the local highway network. Highway Design guidance for roads with speed limits under 40mph is found in the Manual for Streets document and this does not provide a threshold of vehicle movements at which a right-turn lane is required. In fact, paragraph 9.4.7 states the following regarding right-turn lanes;

"TD 42/95 recommends that consideration should be given to providing a right turning lane at priority junctions where the side road flow exceeds 500 vehicles per day, but this advice relates to trunk roads, where there is an emphasis on providing an unimpeded route for



through traffic. It is a relatively low flow, and junctions without right-turn lanes will often be able to cater for higher levels of turning traffic without resulting in significant congestion.”

- 3.3.8 Based on this, given the levels of traffic on Hillock Lane and quantum of development there are no highway capacity or safety reasons requiring the provision of a right-turn arrangement. Therefore, the proposed site access arrangement is a standard priority controlled arrangement.
- 3.3.9 At present no footway provision is provided on the southern side of the Hillock Lane carriageway along the application sites northern boundary. As part of the proposed development, footway provision in the form a 2 metre footway will be provided along the frontage of the site which will link with the proposed internal layout.
- 3.3.10 To link the proposed footway with the existing pedestrian footway provision on the northern side of Hillock Lane it is proposed to provide a priority give-way arrangement at the western end of the site’s frontage. This arrangement will reduce the carriageway width to 3.7 metres, which will enable emergency/service vehicles to travel through safely and efficiently whilst also reducing the crossing distance for pedestrians.
- 3.3.11 The proposed arrangement will include dropped kerbs and tactile paving to enable safe pedestrian movement for all users to the existing pedestrian provision located on the northern side of the Hillock Lane carriageway.
- 3.3.12 The proposed vehicular access arrangements are displayed in **Plan 2**.



3.4 Emergency Access

- 3.4.1 As a general principle there are no prevailing design standards or guidance that we are aware of that would warrant a residential development of this size to feature more than a single point of access. Manual for Streets (MfS) advises in paragraph 6.7.3 (below) that no length limits or dwelling number limit should be placed on a residential development, but moreover the fire service should be consulted to ensure they are able to respond quickly and effectively to any emergency on a particular development;

"the length of cul-de-sacs or the number of dwellings have been used by local authorities as criteria for limiting the size of a development served by a single access route. Authorities have often argued that the larger the site, the more likely it is that a single access could be blocked for whatever reason. The fire services adopt a less numbers-driven approach and consider each application based on a risk assessment for the site, and response time requirements."

- 3.4.2 With this in mind it is therefore considered that 2 points of vehicular access (inclusive of emergency access) are not required as part of this planning application. To assist the local authority with their consideration of the planning application, discussions have been held with North Wales Fire Brigade, who have confirmed that the provision of a single vehicular access is acceptable. Correspondence with North Wales Fire Brigade is contained within **Appendix 1**.
- 3.4.3 Notwithstanding the above, to address the concerns of the local highway authority the access road will be widened to 8 metres for a distance of approximately 15 metres. This will enable emergency vehicles to enter/exit the site, in the unlikely event that a vehicle breaks down at the site access junction.



- 3.4.4 In addition, the pedestrian/cycle access on Hillock Lane has been designed to have a width of 3.7 metres to enable this to be used by emergency vehicles in the unlikely event that the site access junction is blocked. This access will be bollard controlled and is in accordance with the guidance contained within the MfS documents.

3.5 Car Parking and Internal Layout

- 3.5.1 Car parking across the site will comply with the Council's current car parking standards which are as follows;

- 1 bedroom units – 1.5 spaces per unit;
- 2 bedroom units – 2 spaces per unit;
- 3-4 bedroom units – 3 spaces;
- 5 or more bedrooms – 4 spaces.

- 3.5.2 A summary of the car parking provision is shown on **Plan 2**, but it can be confirmed that the development proposals are in accordance with the local authority car parking standards. It should be noted that the provision relates to external parking provision only as the local authority standards exclude the use of garage as spaces.

3.6 Servicing

- 3.6.1 The internal layout will be designed to accommodate waste and delivery vehicles to enter the site, turn around and exit in a forward gear.
- 3.6.2 Swept Path Analysis to be included when layout available – 11.2metres as requested by the local highway authority. A swept path analysis has been undertaken and this is displayed in **Plan 4**. The swept path analysis demonstrates that the proposed layout can



accommodate the required refuse vehicle and is in accordance with standards contained within Manual for Standards.

3.7 Pedestrian and Cycle Access

- 3.7.1 The main point of pedestrian and cycle access will be from the main site access point off Hillock Lane.
- 3.7.2 As part of the development proposals it is proposed to provide a footway with a width of 2 metres along the southern side of Hillock Lane.
- 3.7.3 As previously stated, this footway will extend to the west for a distance of approximately 55 metres, at this point a build-out which includes associated dropped kerbs and tactile paving is to be provided to facilitate safe pedestrian movement across Hillock Lane to the existing footway located on the northern side of the carriageway and will provide access to the existing facilities located within Gresford.
- 3.7.4 The proposed pedestrian crossing facilities are shown with the vehicular access arrangements on **Plan 2**.
- 3.7.5 In addition, a traffic free pedestrian/cycle access is to be provided on to Hillock Lane approximately 60 metres west of the proposed site access junction. This links with proposed pedestrian facilities on Hillock Lane.



4 RELEVANT PLANNING POLICY

4.1 Introduction

4.1.1 The national policy presented in this document focuses on the Planning Policy Wales document which was first published in November 2012 and Edition 10 was published in November 2018 and sets out the Welsh Assembly's planning policies for achieving sustainable development.

4.1.2 In addition to the above, further reference has been made to the following documents;

- Technical Advice Note 18: Transport' and North Wales Regional Transport Plan;
- North Wales Regional Transport Plan, TAITH 2009; and
- North Wales Regional Transport Plan, Walking & Cycling Strategy.

4.1.3 Local planning policy is taken from the Wrexham Unitary Development Plan (UDP) which was adopted in February 2005. In future this will be replaced by the Wrexham Local Development Plan. This section will briefly outline the pertinent policies relating to the proposed development.

4.2 National Policy

Planning Policy Wales

4.2.1 The 'Planning Policy Wales' (PPW) document sets out the planning policies on the delivery of sustainable development through the planning system. With regard to transport policy it aims to extend choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change.



4.2.2 Within the Transport chapter of the PPW it states that land-use and transport must be integrated and the planning system must ensure it enables the following integration;

- within and between different types of transport;
- between transport measures and land use planning;
- between transport measures and policies to protect and improve the environment; and
- between transport measures and policies for education, health, social inclusion and wealth creation.

Transport Advice Note 18 (TAN 18) - Transport

4.2.3 The 'TAN 18 Transport' document which was published in March 2007 provides transport guidance on how the objectives of the PPW should be achieved. In terms of guidance specifically related to the proposed development, it states that;

"Development in rural locations should embody sustainable principles, balancing the need to support the rural economy, whilst maintaining and enhancing the environmental, social and cultural quality of rural areas".

4.2.4 The site's accessibility credentials are detailed in Section 4, but in summary, the site is well placed to provide residents a choice about how they travel with good opportunities for sustainable travel. The proposed upgraded junction and new footpath links in the vicinity of the site will assist in delivering this goal and improve general walking opportunities within the local area.



- 4.2.5 TAN 18 discusses the general importance of promoting the integration between transport and land use planning, so as to contribute to the delivery of the key objective of sustainability. In order to facilitate better integration, TAN 18 discusses the importance of managing parking provision and ensuring that new development appropriately provides for pedestrians and cyclists. As already stated above, Section 4 of this TA discusses access to the proposed site via different modes of transport and details the proposed improvements to pedestrian infrastructure.
- 4.2.6 Section 6 of TAN 18 explains that it is imperative that local councils take walking and cycling into consideration when assessing planning applications. This will be addressed in Sections 4 of this Transport Assessment and the implementation of the Travel Plan will allow the use of sustainable travel modes to be encouraged and maximised, thus assisting to deliver a highly sustainable development.
- 4.2.7 Section 9 of TAN 18 confirms the need for Transport Assessments (TA) to be produced when a development is likely to result in significant trip generation. As such, the preparation of this TA to accompany the planning application is fully compliant with these requirements.

North Wales Regional Transport Plan, TAITH 2009

- 4.2.8 The North Wales Regional Transport Plan (NWRTP) was adopted in September 2009 and outlines the strategic vision for transport of six Local Authorities in the North Wales area; namely Anglesey, Conwy, Denbighshire, Gwynedd, Flintshire and Wrexham Councils.
- 4.2.9 The document outlines the local authorities' transport strategy for the next 25 years in the context of national policy as well as the social and economic aspirations of the six local authorities.



4.2.10 The overall vision of the NWRTP is summed up as follows:

"TAITH will deliver safe, sustainable and efficient transport networks to support the economic and social activities of North Wales' diverse communities and businesses having regard to its strategic European role".

4.2.11 The document includes seven main objectives, two of which are directly relevant to the proposed development and are to:

- *"Optimise accessibility to employment, education, health and services for all the diverse communities in North Wales".* This TA demonstrates that the proposed site is suitably located for residents to access local facilities, services and areas of employment in the local area.
- *"Provide, promote and improve sustainable forms of transport and infrastructure to minimise the negative impacts of transport on the local and global environment".* The TP submitted in conjunction with this TA helps to support this objective by actively promoting and encouraging the use of sustainable modes of transport to travel to and from the site.

North Wales Regional Transport Plan, Walking & Cycling Strategy

4.2.12 The overall aim of the strategy is to encourage more people to walk or cycle for journeys, such as the commute to work and school, trips to local shops, leisure and health facilities and for leisure activities.



- 4.2.13 The document discusses '*smarter choices*' which are defined as '*imaginative ways of encouraging efficient and sustainable ways of travel*'. The Travel Plan submitted in support of this application proposes a variety of measures that may be implemented to support sustainable transport choices and, in turn, support the overall aim of the NW RTP walking and cycling strategy.
- 4.2.14 The document states that "*the facilitation of the needs of pedestrian and cyclists should be given priority over those of other road users for local trips and it should never be something that is just considered as an after-thought*". Again, the Travel Plan demonstrates a commitment to promoting the use of cycle and pedestrian access to the site.
- 4.2.15 One of the objectives of the strategy is to "*Encourage modal shift to healthier forms of transport to contribute towards climate change targets and reduction in Co2 emissions*". Section 4 of the TP considers a modal shift target for the proposed development.

4.3 Local Policy

- 4.3.1 Local Transport Policy for the area is contained within the Wrexham Unitary Development Plan (UDP), adopted February 2005. The following highway related policies from the UDP are considered to be relevant to the proposed development.

"Policy T6 The design of road improvement schemes; the implementation of traffic management proposals; and the control of development adjacent to the primary and core highway network will have regard to the need to ensure the free and safe flow of traffic. Routes forming the primary and core network will take precedence over other routes and there will be limitations on access, parking, crossing and turning movements. The primary and core network is defined below."



"Policy T9 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."

4.4 Planning Policy Summary

4.4.1 The proposed development accords with national and local policy for the following reasons:

- The proposals will create additional footpaths within and through the site to improve walking opportunities within the local area.
- The site is located in close proximity to a range of public transport opportunities which will facilitate non-car travel to and from the proposed development.
- Reference to national guidance has helped to establish that the site is well related to the surrounding area and will contribute towards the creation of a sustainable development.
- A Travel Plan for residents will be implemented to ensure the use of non-car modes is maximised while reducing dependence on the private car.

4.4.2 In conclusion, it is considered that the proposals conform to both National and Local transport planning policy and will assist in delivering the policies contained within.



5 ACCESSIBILITY BY NON-CAR MODES

5.1 Introduction

5.1.1 The Welsh Government aims to extend choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change 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. This will be achieved through integration:

- *within and between different types of transport;*
- *between transport measures and land use planning;*
- *between transport measures and policies to protect and improve the environment; and*
- *between transport measures and policies for education, health, social inclusion and wealth creation".*

5.1.2 Land use planning can help to achieve the Welsh Government's objectives for transport through:

- *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;*
- *promoting sustainable transport options for freight and commerce;*
- *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.*

5.1.3 New proposals should attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current national and local planning policy.

5.1.4 The accessibility of the proposed site has been considered by the following modes of transport:

- Accessibility on foot.
- Accessibility by cycle.
- Accessibility by bus.



- Accessibility by rail.

5.2 Accessibility on Foot

- 5.2.1 It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life.
- 5.2.2 This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.
- 5.2.3 The nearest footways to the site are located approximately 90 metres north from the centre on the site, on the northern side of the Hillock Lane/Stancliffe Avenue. However, as previously stated footway provision on Hillock Lane to link with the existing provision is to be provided as part of the development proposals. These arrangements are displayed in **Plan 3**. The provision of these facilities will provide safe and convenient pedestrian links to the extensive pedestrian infrastructure located in this area of Gresford.
- 5.2.4 This provides pedestrian links throughout Gresford and provides direct linkages to the nearby day to day amenities within the settlement.
- 5.2.5 The CIHT document 'Planning for Walking' from 2015 states, in paragraph 2.1, that in 2012 that 79% of all journeys made in the UK of less than a mile (1.6 kilometres) are carried out on foot.
- 5.2.6 Within the Institution of Highways and Transportation (IHT) document, entitled "Guidelines for Providing for Journeys on Foot", Table 2.2 suggests distances for desirable, acceptable and preferred maximum walks to 'town centres', 'commuting/schools' and 'elsewhere'. The 'preferred maximum' distances are shown below in Table 5.1.



Suggested Preferred Maximum Walk		
Town Centre	Commuting/School	Elsewhere
800m	2,000m	1,200m

Table 5.1 – IHT 'Providing for Journeys on Foot' Walk Distances

- 5.2.7 Reference to the 2,000 metre walk distance is also made in the now superseded Planning Policy Guidance (PPG) Note 13 which advised that 'walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km'.
- 5.2.8 Manual for Streets (MfS) continues the theme of the acceptability of the 2,000 metre distance in paragraph 4.4.1. This states that '*walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPS13 states that walking offers the greatest potential to replace short car trips, particularly those under 2 km'.*
- 5.2.9 Table 5.2 below summarises this guidance in tabular form.

'Comfortable' Walk	'Preferred Maximum' Walk
800m	2,000m

Table 5.2 – Manual for Streets Walk Distances



- 5.2.10 More specific guidance on the distances that children will walk to school is found in the July 2014 document published by the Department for Education (DfE) entitled 'Home to School Travel and Transport' statutory guidance document. This suggests that the maximum walking distance to schools is 2 miles (3.2 kilometres) for children under 8 and 3 miles (4.8 kilometres) for children over the age of 8. This is summarised below in Table 5.3.

Children under 8 Walk Distance	Children over 8 Walk Distance
3,200m	4,800m

Table 5.3 – DfE Walk Distances to Schools

- 5.2.11 Further evidence that people will walk further than the suggested 'preferred maximum' distances in the IHT 'Providing for Journeys on Foot' is contained in a WYG Report entitled 'Accessibility – How Far do People Walk and Cycle'. This report refers to National Travel Survey (NTS) data for the UK as a whole, excluding London, identifying the following 85th percentile walk distances:

- All journey purposes – 1,950 metres.
- Commuting – 2, 400 metres.
- Shopping – 1,600 metres.
- Education – 3,200 or 4,800 metres.
- Personal business – 1,600 metres.



- 5.2.12 Overall, in Table 5.1, the document states that 1,950 square metres is the 85th percentile distance for walking as the main mode of travel. Table 5.4 below summarises the various 85th percentile walk distances suggested as guidelines in the WYG Study.

All Journeys	85 th Percentile Walk Distances				Overall Preferred Max
	Commuting	Shopping	Education	Personal	
1,950m	2,100m	1,600m	3,200/4,800m	1,600m	1,950m

Table 5.4 – WYG Report/NTS Data Walk Distances

- 5.2.13 In summary, it is considered that the distance of 1,950 metres, or around 2 kilometres, represents an acceptable maximum walking distance for the majority of land uses although clearly the DfE guidance for walking to school is up to 3.2 kilometres.
- 5.2.14 Section 3.1 of the CIHT guidance 'Planning for Walking' mentioned earlier in this report provides a useful reminder of the health benefits of walking. This states that:
- 'A brisk 20 minute walk each day could be enough to reduce an individual's risk of an early death'.*
- 5.2.15 A 20 minute walk equates to a walking distance of around 1,600 metres.
- 5.2.16 In light of the above review, a pedestrian catchment of 2 kilometres from the centre of the site, using all available pedestrian routes, has been provided in **Plan 3** and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.



- 5.2.17 In addition, to the pedestrian catchment plan, a review of the proximity of local facilities such as community facilities, restaurants and local shops/retail outlets has been undertaken and the location of these is also shown in **Plan 3**.
- 5.2.18 The 2,000 metre pedestrian catchment illustrates that the whole of Gresford can be accessed along with various amenities such as The Rofft School, Co-operative food store, Gresford Library, Gresford Village Recreational Club, All Saints' Gresford School, Alyn Family Doctors, Texaco Petrol Station, The Plough Public House and a Spar convenience store. The facilities can be accessed via the footway provision provided on Hillock Lane and the B5445 Chester Road.
- 5.2.19 Table 5.5 below, shows the walking distance from the centre of the site to the local amenities in the vicinity of the site. The table also confirms whether or not the particular amenity is within the 'preferred maximum' walk distances using the above guideline criteria:



Local Amenity	Distance	Guidance Criteria	Meets with Guidance?
The Rofft School	800m	3,200m	YES
Co-operative food store	940m	1,600m	YES
Alyn Family Doctors	1,170m	1,600m	YES
Spar convenience store	1,210m	1,600m	YES
The Plough Public House	1,290m	1,600m	YES
Gresford Library	1,400m	1,600m	YES
Texaco Petrol Station	1,430m	1,600m	YES
All Saints' Gresford School	1,900m	3,200m	YES

Table 5.5 - Distance from Site to Local Facilities

- 5.2.20 As can be seen in the above table, the site is located within close proximity to a number of local amenities including primary services as well as leisure facilities.
- 5.2.21 It is therefore considered that the existing and proposed pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and local destinations.

5.3 Accessibility by Cycle

- 5.3.1 An alternative mode of travel to the site could be achieved by bicycle.
- 5.3.2 A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass Rossett, Gresford, Gwersyllt and areas of Wrexham.



- 5.3.3 The site can therefore be considered as being accessible by cycle.

5.4 Accessibility by Bus

- 5.4.1 The nearest bus stops are located to the west of the site on Chester Road with an approximate walking distance of around 900 metres from the centre of the site. All the nearest bus stops to the site are shown on **Plan 3**. These bus stops can be accessed via the existing and proposed footway provision on Hillock Lane and Chester Road.
- 5.4.2 A summary of the services available from the nearest bus stops from the development site is provided in Table 5.6 below.

Service No	Route	Monday – Friday Frequency per hour				Sat	Sun
		AM Peak	Midday	PM Peak	Eve		
1	Wrexham – Chester	4	4	4	2	4	2

Table 5.6 - Existing Bus Services Operating Past the Site

- 5.4.3 As can be seen from Table 5.6, the nearest bus stops to the site provides services to and from Wrexham and Chester which likely to be the main area of employment for potential residents of the development.
- 5.4.4 This bus service to Wrexham from Gresford from Monday to Friday start at 07:03 hours, this service arrives into Wrexham at around 0714. The last bus to depart Wrexham towards Gresford on a weekday is at 2250 hours.



5.4.5 Therefore, even with walking time of around 13 minutes to the bus stop from the site, it can be concluded that the local bus service provides an appropriate option for commute trips to and from Wrexham, which are the main areas of employment for potential residents of the development.

5.4.6 It is therefore concluded that the proposed development site is accessible by bus.

5.5 Accessibility by Rail

5.5.1 Chester train station and Wrexham train station are both accessible from the site. Although these stations are located outside of the 2 kilometre pedestrian catchment, they can both be accessed via a bus journey.

5.5.2 Chester train station can be accessed via a 32 minute bus journey on service 1 from the site. This train station is managed by Transport for Wales and has 7 platforms, offering 15 services per hours to destinations such as Liverpool, Manchester, London and Leeds.

5.5.3 Additionally, Wrexham Central train station is accessible via a 13 minute bus journey from the site on service 1 to Wrexham bus station and then a short walk, equating to a combined journey time of approximately 16 minutes. This station is also managed by Transport for Wales and has 1 platform, offering 1 service per hour to Bidston.

5.5.4 This provides excellent opportunities to travel to and from the site by rail.



5.6 Accessibility Summary

- 5.6.1 The proposals have been considered in terms of accessibility by non-car modes for the proposed residential development.
- 5.6.2 The following conclusions can be drawn from this section of the Report:
- The site is accessible on foot and these provisions will be improved as part of the works on the development site.
 - The services from the bus stops on Chester Road, travelling to Wrexham and Chester, demonstrates that the proposed development can be accessed by bus.
 - The site is accessible via rail with Wrexham and Chester train stations located just a short bus journey from the site.
- 5.6.3 In light of the above, it is considered the site is highly accessible by non-car modes and will cater for needs of the development's residents and assist in promoting a choice of travel modes other than the private car.



6 TRAFFIC IMPACT ANALYSIS

6.1 Introduction

6.1.1 Having established that the development site is accessible by modes of transport other than the private car and would be in general accordance with land use and transport policies, the following section considers the traffic impact of the development proposals on the local highway network.

6.2 Assessment Criteria

6.2.1 Given the proposed residential land use, it is assumed reasonable to consider the AM and PM weekday peak hours, as being those with the greatest impact on the local highway network.

6.3 Traffic Survey Data

6.3.1 In order to assess the impact of the proposed development on the local highway network traffic surveys were undertaken at the following locations;

- B5445 Chester Road/Hillock Lane priority controlled junction;
- Hillock Lane (Link Count) to west of Hillock Lane/Stancliffe Avenue priority controlled junction.
- Hillock Lane/Stancliffe Avenue priority controlled junction;
- Wynnstay Lane/Hillock Lane priority controlled junction.

6.3.2 The surveys were undertaken on Tuesday 11th June 2019 and Wednesday 26th February 2020 between 0730 and 0930 hours in the morning and between 1630 and 1830 hours in the evening.



- 6.3.3 In addition, a 7 day Automated Traffic Count (ATC) was commissioned on Hillock Lane to the east of the Hillock Lane/Stancliffe Avenue priority controlled junction between Wednesday 26th February 2020 and Tuesday 3rd March 2020.
- 6.3.4 The full traffic survey data is contained within **Appendix 2**.
- 6.3.5 The peak hours were identified as 0815 to 0915 hours and 1700 to 1800 hours, for the AM and PM peaks respectively.
- 6.3.6 The 2019/2020 surveyed flows for the peak hours converted into Passenger Car Units (PCU's) are shown in **Figures 1** and **2**.
- 6.3.7 For the purposes of this analysis, the recorded ATC data for the 7 day period have been compared with the turning count data collected at the Hillock Lane/Stancliffe Avenue junction. This exercise concluded that the ATC results collected on Thursday 27th February 2020 were around 9% higher than those on Wednesday 26th February 2020.
- 6.3.8 Therefore, for the purposes of this analysis the turning proportions for each junction in the study area have been factored up by 9%. This provides a robust assessment as the turning proportions at the other junctions may already be peak flows for that week.
- 6.3.9 The result 2019/2020 Factored Surveyed Flows are contained within **Figures 3** and **4** for the weekday peak hours.

6.4 Growthed Traffic Flows

- 6.4.1 As requested by the local highway officer, assessments have been undertaken for the years of 2025, 2030 and 2035 i.e. 5, 10 and 15 year post submission of the application this provides an extremely robust assessment of the local highway network.



6.4.2 Growth factors for the assessment years have been derived using National Traffic Model (NTM) factors adjusted by using the Trip End Model Program (TEMPO) for the Wrexham 020 Middle Super Output Area (MSOA 020).

6.4.3 Table 6.1 below summarises the NTM adjusted growth factors used for the purposes of this traffic impact analysis.

Peak Period	2019- 2025	2020- 2025	2019- 2030	2020- 2030	2019 - 2035	2020- 2035
AM Peak Hour	1.056	1.044	1.098	1.085	1.144	1.131
PM Peak Hour	1.056	1.043	1.098	1.085	1.144	1.130

Table 6.1 - Summary of NTM Adjusted Growth Factor for Wrexham 020 MSOA

6.4.4 The resultant 2025, 2030 and 2035 growthed traffic flows are shown in **Figures 5** and **10** for the AM and PM peak periods.

6.5 Committed Development

6.5.1 It is our understanding that there are no major committed developments within the vicinity of the site that need to be included within this traffic impact analysis. As such, the growthed flows represent the base traffic flows.



6.6 Trip Distribution

- 6.6.1 During pre-application discussions, consideration was given to the use of Census Journey to Work data for deriving the proposed trip distribution. However, following detailed consideration of this data and also the traffic count data collected in February 2020. The trip distribution for this traffic impact analysis has been derived based on observed traffic movements on the local highway network.
- 6.6.2 When compared to the Census Journey to Work data this approach reflects the existing distribution of traffic during the peak periods. Mainly due to the fact that the Census data deals solely with origin and destination of employment and no other reasons for travel in peak periods i.e. school run.
- 6.6.3 Therefore, the trip distribution has been derived using the inbound and outbound traffic proportions at the B5445 Chester Road/Hillock Lane and Wynnstay Lane/Hillock Lane junctions located at either end of the study network. To provide a robust assessment of traffic flows on Hillock Lane it has been assumed that no development traffic will use Stancliffe Avenue to the north. In addition, it should be noted that using observed turning movements also provides a robust assessment as it results in the greater levels of development traffic being added onto the already heaviest traffic movements.
- 6.6.4 The resultant trip distribution for the weekday AM and PM peak periods is displayed in **Figures 11 and 12.**



6.7 Proposed Development

- 6.7.1 As previously stated, it is proposed to develop the site for up to 110 dwellings.
- 6.7.2 In order to establish the number of trips which the proposed residential element is forecast to generate, the highways officers at WBC have requested that the trip rates submitted by WBC for the Bryn ISA Section 78 Planning Appeal be utilised (P/2018/1063). These trip rates were derived using traffic counts commissioned by WBC on Kensington Grove in the Acton area of Wrexham. Details on these trip rates are contained within **Appendix 3**.
- 6.7.3 Table 6.2 below summarises WBC trip rates and the forecast traffic generation based on the 110 residential units.

Peak Period	Person Trip Rate (per Unit)		Number of Vehicular Trips	
	Arr	Dep	Arr	Dep
AM Peak Hour	0.124	0.476	14	52
PM Peak Hour	0.482	0.259	53	28

Table 6.2 – Summary of Vehicular Trip Rates and Traffic Generation (110 Units)

- 6.7.4 As can be seen in Table 6. 2, using the WBC trip rates the proposed development is forecast to result in 66 two-way trips in the weekday AM peak and 82 two-way trips in the weekday PM peak period.



6.7.5 The proposed development flows have been assigned to the local highway network using the trip distribution contained within Figures 11 and 12. The resultant proposed development flows are displayed in **Figures 13** and **14** for the weekday AM and PM peak periods respectively.

6.8 With Development Flows

6.8.1 In order to calculate the 'With Development' flows, the development flows contained within Figures 13 to 14 have been added to the growthed flows contained within Figures 5 and 10.

6.8.2 The resulting 'With Development' Flows are presented in **Figures 15** and **20** respectively for the AM and PM peak hours.

6.9 Capacity Assessments

6.9.1 The following section of the Transport Assessment will provide a detailed analysis of the following areas of the local highway network;

- Hillock Lane/Stancliffe Avenue/Site Access Priority Controlled Junction;
- B5445 Chester Road/Hillock Lane Priority Controlled Junction;
- Wynnstay Lane/Hillock Lane Priority Controlled Junction;
- Eastern section of Hillock Lane.



Hillock Lane/Stancliffe Avenue/Site Access Priority Controlled Junction

- 6.9.2 The proposed residential site access off Hillock Lane will be a priority controlled junction and so has been assessed using PICADY using the proposed site access arrangement displayed in **Plan 3**.
- 6.9.3 The operation of the Hillock Lane/Stancliffe Avenue/Site Access junction has been assessed in the 2025, 2030 and 2035 assessment scenarios. The results for the 'With Development' flow scenario for the 2030 and 2035 scenarios are summarised within Table 6.2 below, with the full results contained within **Appendix 4**.

Arm	2030 With Development Flows				2035 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Site Access	0.10	0	0.06	0	0.10	0	0.06	0
Hillock Lane (E)	0.00	0	0.01	0	0.00	0	0.01	0
Stancliffe Avenue	0.04	0	0.01	0	0.04	0	0.01	0
Hillock Lane (W)	0.02	0	0.07	0	0.02	0	0.07	0

Table 6.2 - Summary of PICADY Results for Hillock Lane/Stancliffe Avenue/Site Access Junction



6.9.4 As can be seen above, the results show the new site access junction serving the development will operate efficiently in both the AM and PM peak hours in all of the 'With Development' scenarios.

6.9.5 The above demonstrates that the proposed access is suitable in terms of its geometric layout and design and will provide a safe point of access into the site.

B5445 Chester Road/Hillock Lane Priority Controlled Junction

6.9.6 The B5445 Chester Road/Hillock Lane junction is a priority controlled junction and so has been assessed using PICADY.

6.9.7 The results for the Base and 'With Development' flow scenarios for 2025, 2030 and 2035 are summarised within Tables 6.3 to 6.5 with the full results contained within **Appendix 5**.

Arm	2025 Base Flows				2025 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.26	0	0.15	0	0.37	1	0.20	0
B5445 Chester Road (S)	0.04	0	0.09	0	0.05	0	0.13	0

Table 6.3 - Summary of PICADY Results for B5445 Chester Road/Hillock Lane – 2025 Base and With Development Scenarios



Arm	2030 Base Flows				2030 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.27	0	0.15	0	0.38	1	0.21	0
B5445 Chester Road (S)	0.04	0	0.09	0	0.05	0	0.13	0

Table 6.4 - Summary of PICADY Results for B5445 Chester Road/Hillock Lane – 2030 Base and With Development Scenarios

Arm	2035 Base Flows				2035 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.29	0	0.16	0	0.40	1	0.22	0
B5445 Chester Road (S)	0.04	0	0.09	0	0.05	0	0.13	0

Table 6.5 - Summary of PICADY Results for B5445 Chester Road/Hillock Lane – 2035 Base and With Development Scenarios

- 6.9.8 As can be seen above, the results show the junction is forecast to operate within its theoretical capacity in all of Base scenarios with minimal queuing forecast on all arms. With the addition of the proposed development traffic, there is forecast to be minimal increases in the RFC and queuing with no right-turn queuing forecast on the B5445 Chester Road south of the arm.



- 6.9.9 Based on this it can be concluded that the proposed development will have a minimal impact on the operation of the B5445 Chester Road/Hillock Lane priority controlled junction in all of the assessment's scenarios.
- 6.9.10 During pre-application discussion, the highways officers at WBC requested that consideration be given to the requirement for a right-turn lane on the B5445 Chester Road. The B5445 Chester Road is not a Trunk Road and is subject to a 30 mph speed limit. Therefore, the use of the design guidance contained within the Manual for Streets document is appropriate and that there is no requirement to apply the standards contained within the DMRB GG123.
- 6.9.11 As previously stated, the Manual for Streets documents don't provide a threshold of vehicle movements at which a right-turn lane is required. However, paragraph 9.4.8 of Manual for Streets 2 (Mfs2) states the following;
- "Right turning lanes make it more difficult for pedestrians to cross major road and lead to higher traffic speeds and authorities should therefore consider careful all of the effects before deciding to provide them."*
- 6.9.12 The above junction analysis has demonstrated that the junction operates well within capacity in all of the Base scenarios, with no vehicle queuing associated with the right-turning vehicles off the B5445 Chester Road. With the addition of the proposed development traffic there is forecast to be no increase in vehicle queuing on the B5445 Chester Road. Therefore, there is no highway capacity justification for the provision of a right-turn lane.



- 6.9.13 In addition, consideration of the accident data which is covered in Section 7 of this report has indicated that there has been one reported accident at the B5445 Chester Road/Hillock Lane during the 5 year study period. This accident was a result of a vehicle colliding with the rear of right-turning vehicle which occurred in 2016. However, given that this is just a single accident in the 5 year study period it can be concluded that the accident does not have a poor highway safety record.
- 6.9.14 Based on the above, it is concluded there is no highway design, capacity or safety justification for the provision of a right-turn lane in this location which out way the potential negative impact on vehicle speeds and pedestrian connectivity detailed in the Mfs2.

Wynnstay Lane/Hillock Lane Priority Controlled Junction

- 6.9.15 The Wynnstay Lane/Hillock Lane junction is a priority controlled junction and its operation has been assessed using PICADY.
- 6.9.16 The results for the Base and 'With Development' flow scenarios for 2025, 2030 and 2035 are summarised within Tables 6.6 to 6.8 with the full results contained within **Appendix 6**.



Arm	2025 Base Flows				2025 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.07	0	0.03	0	0.09	0	0.04	0
Wynnstay Lane (n)	0.02	0	0.00	0	0.02	0	0.00	0

Table 6.6 - Summary of PICADY Results for Wynnstay Lane/Hillock Lane – 2025 Base and With Development Scenarios

Arm	2030 Base Flows				2030 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.07	0	0.03	0	0.09	0	0.04	0
Wynnstay Lane (n)	0.02	0	0.00	0	0.02	0	0.00	0

Table 6.7 - Summary of PICADY Results for Wynnstay Lane/Hillock Lane – 2030 Base and With Development Scenarios



Arm	2030 Base Flows				2030 With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Hillock Lane	0.07	0	0.03	0	0.10	0	0.04	0
Wynnstay Lane (n)	0.02	0	0.00	0	0.02	0	0.00	0

Table 6.8 - Summary of PICADY Results for Wynnstay Lane/Hillock Lane – 2035 Base and With Development Scenarios

6.9.17 As can be seen above, the results show the junction is forecast to operate within its theoretical capacity in all of Base scenarios with minimal queuing forecast on all arms. With the addition of the proposed development traffic, there is forecast to be minimal increases in the RFC and queuing.

6.9.18 Based on this it can be concluded that the proposed development will have a minimal impact on the operation of the Wynnstay Lane/Hillock Lane priority controlled junction in all of the assessment's scenarios.

6.9.19 During pre-application discussion, the highways officers at WBC have stated the following regarding the above junction;

"Access via this junction is poor. Visibility at the junction with Wynnstay Lane is inadequate in both directions.

Assuming typical speeds of 30mph, this junction would normally require splays of 2.4 x 43 metres in both directions in accordance with Manual for Streets. Visibility from the existing



junction is approximately 2.4 x 23m to the north (centreline) and 2.4 x 17m to the south (nearside edge)."

- 6.9.20 It is noted that the visibility at this junction is below what would be required, if a new junction were to be provided based on the guidance contained within the Manual for Streets document.
- 6.9.21 However, this is an existing junction and not a proposed new junction. The junction is currently used by traffic and therefore historic accident data can be used to ascertain whether the reduced visibility results in the junction having a poor highway safety record.
- 6.9.22 Therefore, accident data has been obtained from Crashmap website for the 5 year period from 2014 to 2018, further details on this analysis is contained within Section 7 of this report. Consideration of the accident data has demonstrated that the junction does not suffer from a poor safety record. Therefore, the existing junction layout and in particular the visibility that can be achieved at the junction does not impact on the highway safety.
- 6.9.23 The proposed development is forecast to result in an increase of just 13 two-way vehicles in the Weekday AM peak and 22 two-way vehicle movements in the Weekday PM peak. This equates to 1 additional vehicle at the junction around every 3 minutes. When consideration is given to the actual increase in turning movements out of Hillock Lane this is even lower, with 11 vehicles (additional vehicle every 5 minutes) in the AM peak and 4 vehicles (additional vehicle every 12 minutes).
- 6.9.24 Based on the above, given the minimal forecast increases in vehicle movements at the junction there is no evidence to suggest that the proposed development will impact on highway safety at the junction.



- 6.9.25 It is therefore concluded that the proposed development will have a minimal impact on the highway capacity and safety of the Wynnstay Lane/Hillock Lane priority controlled junction.

Eastern Section of Hillock Lane

- 6.9.26 During pre-application discussions with the highway's officers at WBC, concerns have been raised regarding the impact of the development proposals on the eastern section of Hillock Lane between its junctions with Stancliffe Avenue and Wynnstay Lane.
- 6.9.27 Hillock Lane is subject to a 30mph speed limit, however, the 7 day ATC recorded 85th percentile speeds of 23 mph and 25 mph for eastbound and westbound traffic respectively. It has a carriageway width of approximately 2.7 metres at its narrowest point which widens to 4.1 metres at its widest point (at its junction with Wynnstay Lane).
- 6.9.28 The section of Hillock Lane between Stancliffe Avenue and Wynnstay Lane is approximately 196 metres in length. On the whole the alignment of Hillock Lane is straight and acceptable levels of forward visibility can be achieved in each direction for the recorded vehicular speeds. It is however, noted that a left-hand bend in the alignment is located at the western end of this section of carriageway in the vicinity of No.51 Hillock Lane.
- 6.9.29 As detailed above, the ATC data recorded 85th percentile speeds 23 mph and 25 mph for eastbound and westbound traffic respectively. Using the SSD calculations contained within the Mfs 2 documents, the required SSD based on the observed speeds would be 30 metres and 33 metres for eastbound and westbound traffic respectively.



- 6.9.30 **Plan 6** shows that forward visibility for westbound traffic can be achieved but the required forward visibility for eastbound traffic cannot be achieved without requiring third party land. However, as part of the site access proposals, the alignment and width of this section will be amended and as can be seen in **Plan 7** the required forward visibility in each direction can be achieved which provides an overall improvement in the safety of this particular section of Hillock Lane.
- 6.9.31 Whilst it is acknowledged that that existing carriageway width does not enable to vehicles to pass each other on certain sections, the above section has demonstrated that visibility for vehicles travelling in each direction is acceptable and informal passing places are provided on this section of Hillock Lane in the form of end of driveways. However, the instances where two vehicles will meet on this section of Hillock Lane which is around 196 metres in length will be extremely rare.
- 6.9.32 The proposed development is forecast to result in minimal increases in vehicle movements on this section of Hillock Lane. Even during the peak periods, the proposed development is forecast to result in 1 additional vehicle every 5 minutes in the Weekday AM peak and an additional vehicle around every 3 minutes in the PM peak.
- 6.9.33 Such increases in traffic will not materially impact on the operation of this section of Hillock Lane and the and the instances where two vehicles would pass even during the peak periods would be extremely rare and not impact on the safe operation of the highway network.



6.9.34 It should also be noted that there have been no reported accidents on this section of Hillock Lane during the 5 year study period, and further consideration of the Crashmap website indicates that there have been no reported accidents since 2001. Therefore, the junction does not have a poor safety record at present and the minimal increases in traffic levels detailed previously, even in the peak periods, will have a not impact on its safe operation.

6.9.35 Based on the above it is concluded that proposed development will result in minimal increases in vehicle movements on this section of Hillock Lane even during the peak periods and will have a minimal impact on the operation of the eastern section of Hillock Lane and will not result in a detrimental impact on highway safety.

6.10 Capacity Assessments Summary

6.10.1 In summary, the capacity assessment undertaken as part of this traffic impact analysis has demonstrated the following:

- The Hillock Lane/Stancliffe Avenue/Site Access priority controlled junction has been designed to accord with highway design standards and will have sufficient capacity to accommodate the proposed development traffic.
- The B5445 Chester Road/Hillock Lane priority controlled junction will be able to accommodate the traffic likely to be generated by the proposed development
- The Hillock Lane/Wynnstay Lane priority controlled junction will adequately accommodate the traffic generated by the proposed development and does not give rise to any highway safety concerns.



- The proposed development will have a minimal impact on the operation of eastern section of the Hillock Lane carriageway.

6.10.2 It is therefore concluded that the development proposals will result in a minimal impact and can be accommodated on the local highway network.



7 ROAD SAFETY

7.1 Introduction

7.1.1 In order to consider the potential impact of the development on road safety, a brief review of the Crashmap website (www.crashmap.co.uk) has been undertaken. The information provided on the website covered the five-year period 2015 to 2019 in the vicinity of the development site. The CrashMap personal injury accident data is contained within **Appendix 7**.

7.2 Accident Review

7.2.1 The review of the accident data will consider the following junctions/sections of the local highway network;

- Hillock Lane/Stancliffe Avenue/Site Access Priority Controlled Junction;
- B5445 Chester Road/Hillock Lane Priority Controlled Junction;
- Wynnstay Lane/Hillock Lane Priority Controlled Junction;
- Eastern Section of Hillock Lane between Stancliffe Avenue and Wynnstay Lane

Hillock Lane/Stancliffe Avenue/Site Access Junction

7.2.2 There have been no reported accidents at this junction during the study period, notwithstanding this improvement to visibility are proposed at the junction as part of the development proposals.



B5445 Chester Road/Hillock Lane Junction

- 7.2.3 According to the crashmap data provided there has been one recorded accident within the study area, which resulted in slight injuries.
- 7.2.4 According to the data, the accident took place in September 2016 on a wet or damp surface in the rain. The incident occurred when a vehicle failed to notice the vehicle in front in the act of turning right and collided with the rear of the turning vehicle. A driver and a passenger sustained slight injuries in the accident. The data suggests the incident was result of driver error.

Wynnstay Lane/Hillock Lane Junction

- 7.2.5 There were no reported accidents at this junction during the study period.

Eastern Section of Hillock Lane between Stancliffe Avenue and Wynnstay Lane

- 7.2.6 A review of the Crashmap website has indicated that there have been no reported accidents on this section of the local highway network during the 5 year study period.

7.3 Accident Summary

- 7.3.1 The data reviewed has not identified any untypical accidents.
- 7.3.2 The evidence shows that there are no particular engineering issues or problems with the road network or junction layouts.
- 7.3.3 The data reviewed has demonstrated that there are no particular road safety issues in the vicinity of the site.



- 7.3.4 It is not considered that the proposals for a residential development will unduly change the characteristics or nature of the surrounding highway network and as such will not have a detrimental impact on overall road safety.



8 PROMOTING SMARTER CHOICES VIA TRAVEL PLANS

8.1 Introduction

- 8.1.1 In order to manage the travel by residents at the new development, the applicant wishes to offer a Travel Plan to encourage travel to the site by non-car modes.
- 8.1.2 It includes a range of measures and incentives to reduce and mitigate impact and enhance the accessibility of the site by non-car modes.

8.2 Travel Planning Guidance

- 8.2.1 The preparation and adoption of a Travel Plan is an important element of managing the demand for travel to all modern developments. The Department for Transport (DfT) have produced guidance on the preparation of Travel Plans. The document, entitled '*Good Practice Guidelines: Delivering Travel Plans through the Planning Process*' was published in August 2009.
- 8.2.2 The guidance explains how *"we often need to meet the demands of population and economic growth whilst simultaneously reducing our impact on the environment"* and identifies that *"The benefits of increases in sustainable travel, in particular cycling and walking, can extend beyond reduction in CO₂ emissions and climate impacts, and include tackling congestion, tackling obesity and health issues, reducing social exclusion and improving quality of life"*.
- 8.2.3 The document sets out an overview of the process and delivery of Travel Plans and states that *"A Travel Plan is a long-term management strategy for an occupier or site that seeks to deliver sustainable transport objectives through positive action and is articulated in a document that is regularly reviewed."*



- 8.2.4 The Guidance states that *"Travel Plans should involve the development of agreed explicit outcomes linked to an appropriate package of measures aimed at encouraging more sustainable travel, with an emphasis on reducing single occupancy car use..."* and;
- "A Travel Plan should seek to establish clear outcomes to be achieved in relation to access and set out all the measures to be implemented in detail, including an action plan, timescales, targets and responsibilities for implementation, monitoring and review".*
- 8.2.5 It is made clear in the document that Travel Plans should focus on achieving the lowest practical level of single occupancy vehicle trips to or from a site and widening the use of other travel modes and assist in the wider aims of encouraging sustainable travel, improving health, reducing congestion, energy consumption and pollution. The Travel Plan, it advises *"needs to address all the journeys that may be made to and from a site"*.
- 8.2.6 The guidance also specifies that *"It is important to note that Travel Planning should be developed as one of the means of delivering an area's sustainable transport strategy. Travel Planning should feature in the policy framework and implementation programmes of Regional Spatial Strategies and Local Development Frameworks"*.
- 8.2.7 Further guidance relating specifically to residential Travel Plans is presented in the DfT document entitled *"Making Residential Travel Plans Work"* published in June 2007.
- 8.2.8 The document states that:
- "Travel Planning is one of a range of measures known as smarter choices which have been found to be effective on reducing traffic and improving accessibility in residential areas"*.
- 8.2.9 A Residential Travel Plan is a package of measures designed to reduce car use originating from new housing by supporting alternative forms of transport and reducing the need to travel in the first place.



- 8.2.10 They are an important tool to help deliver accessible, sustainable communities and offer clear benefits to all the parties involved – public, private and the community. They involve meeting the access needs of residents in a new way and require partnerships between developers, local authorities, local communities and new residents.
- 8.2.11 The value of Travel Plans in reducing car use to workplaces and schools is widely recognised and many local authorities and developers have experience in their design and implementation. However, until recently, little attention has been given to tackling the origins of journeys from people's homes. Now, forward-thinking developers and local authorities are developing packages of smarter choices to both reduce the traffic generated by new housing developments and increasing the travel choices available to residents. These smarter choices are being set out in Residential Travel Plans.

8.3 Residential Travel Plan

- 8.3.1.1 The objective of a Residential Travel Plan is the delivery of the objectives of the Planning Policy Wales i.e. to encourage residents to travel to work by bus, on foot and by bicycle.
- 8.3.2 The Framework Residential Travel Plan outlines physical and management measures that are designed to achieve this objective.
- 8.3.3 However, the principle measure will consist of a Resident's Travel Pack containing relevant material to promote non-car modes of travel and the provision of certain physical measures.
- 8.3.4 The Travel Pack will contain information to inform residents of the existing long-term strategy for reducing the dependence of residents and visitors on travel by private car.



- 8.3.5 The site has been demonstrated to benefit from excellent non-car accessibility and it should, therefore, be expected that the adoption of a Travel Plan would be particularly effective.
- 8.3.6 A Residential Travel Plan has been prepared and is contained within **Appendix 8**.



9 CONCLUSIONS

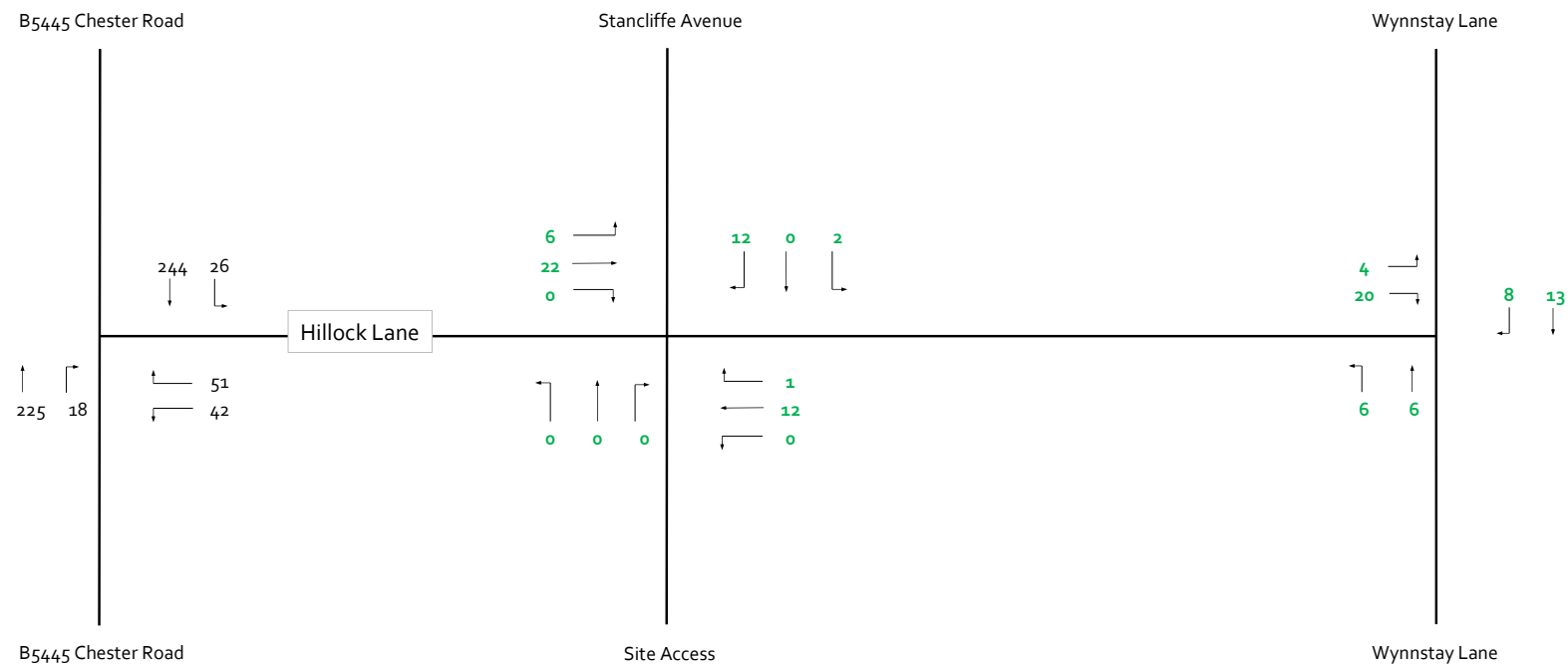
9.1.1 Croft have been instructed to advise on the traffic and transport aspects of a proposed residential development on land to the south of Hillock Lane in Gresford.

9.1.2 The following conclusions can be drawn with regard to the proposed development:

- The application site is accessible by non-car travel modes, such as walking and cycling.
- The site is also accessible by public transport with bus stops within easy walking distance of the site, offering direct services to a range of destinations including Wrexham and Chester.
- The site can be accessed in a safe and efficient manner off Hillock Lane and the access point has been designed in accordance with current design guidelines.
- The impact of the proposals has been assessed using the traffic generation provided by the WBC and the assessments undertaken has shown that the proposals will not have a material impact or give rise to any highways related issues. It can therefore be concluded that the proposed development would be able to be accommodated onto the local highway network.
- There is no evidence to suggest that the proposals would have an adverse effect on road safety or the number of accidents in the vicinity.
- The provision of a Travel Plan for the site will assist in reducing impact and help to create a wider choice of travel to residents and visitors.

9.1.3 In conclusion, the proposals will provide a sustainable development in transport terms and planning permission should be granted in accordance with the National Planning Policy.

FIGURES

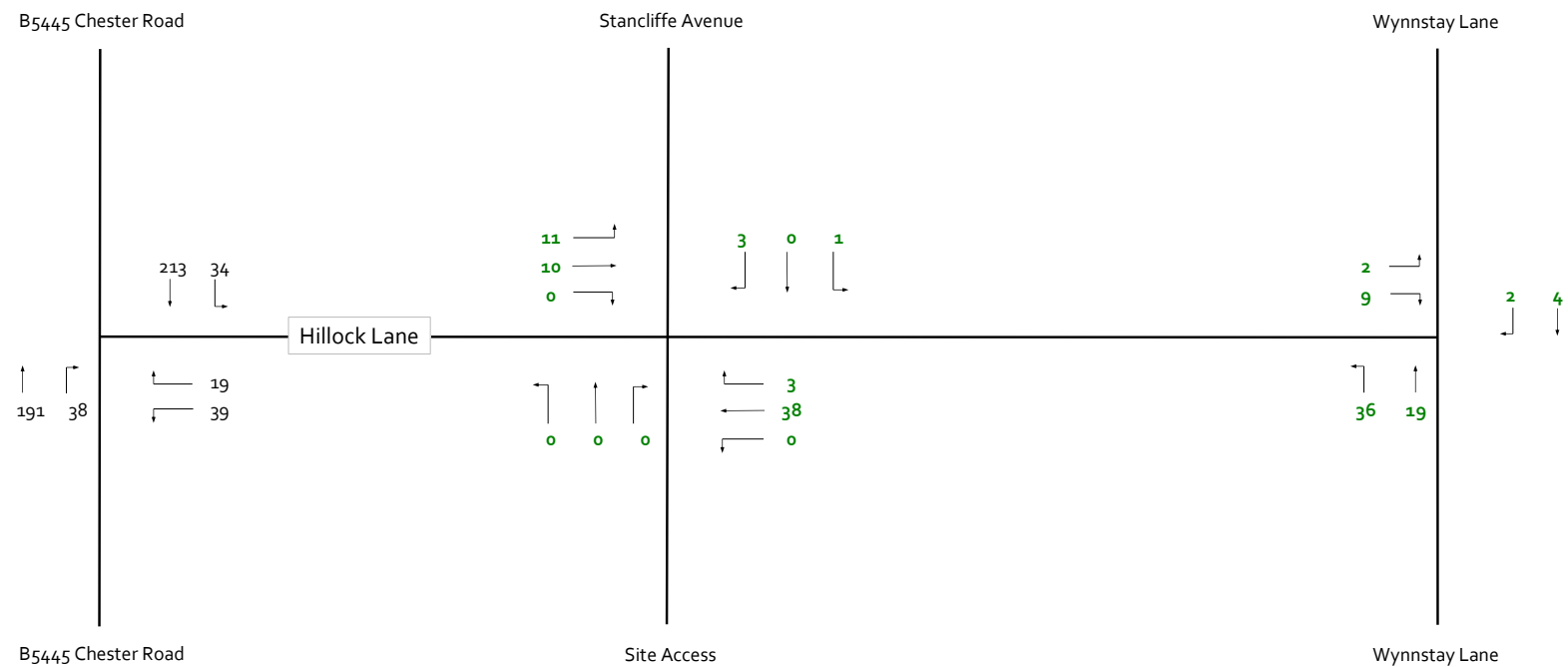


 2019 Surveyed Flows
 2020 Surveyed Flows

Figure 1 2019/2020 Surveyed Flows - AM Peak (0815 - 0915)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

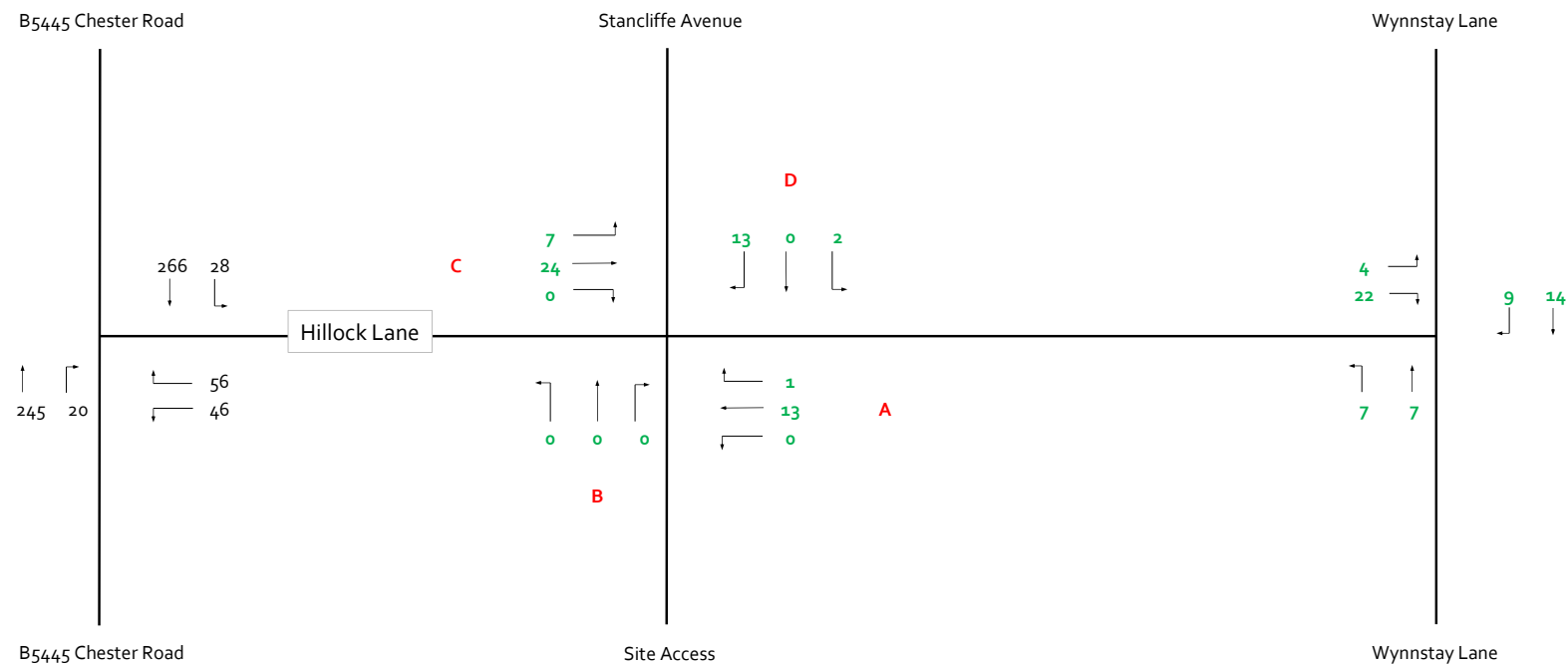


 2019 Surveyed Flows
 2020 Surveyed Flows

Figure 2 2019/2020 Surveyed Flows - PM Peak (1700 - 1800)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

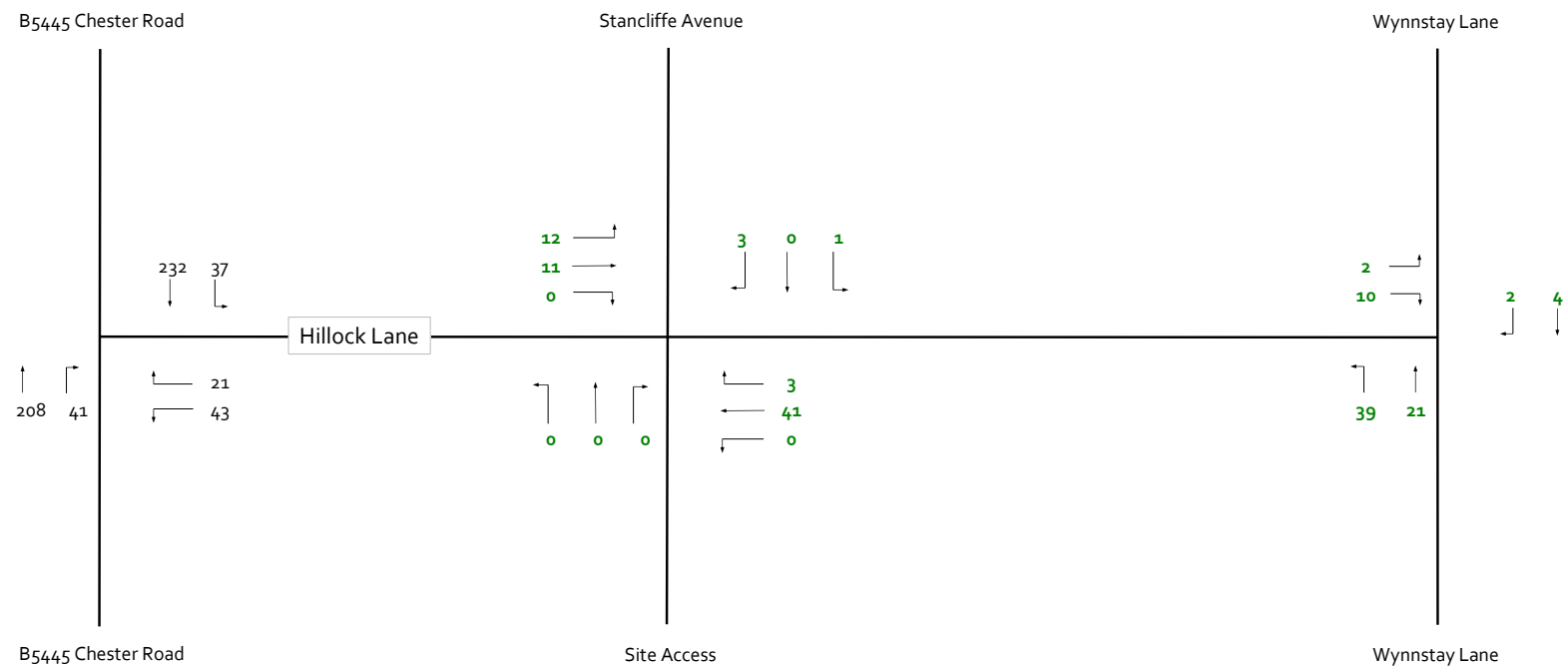


2019 Surveyed Flows 9%
 2020 Surveyed Flows

Figure 3 Factored 2019/2020 Surveyed Flows - AM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY



2019 Surveyed Flows 9%
 2020 Surveyed Flows

Figure 4 Factored 2019/2020 Surveyed Flows - PM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

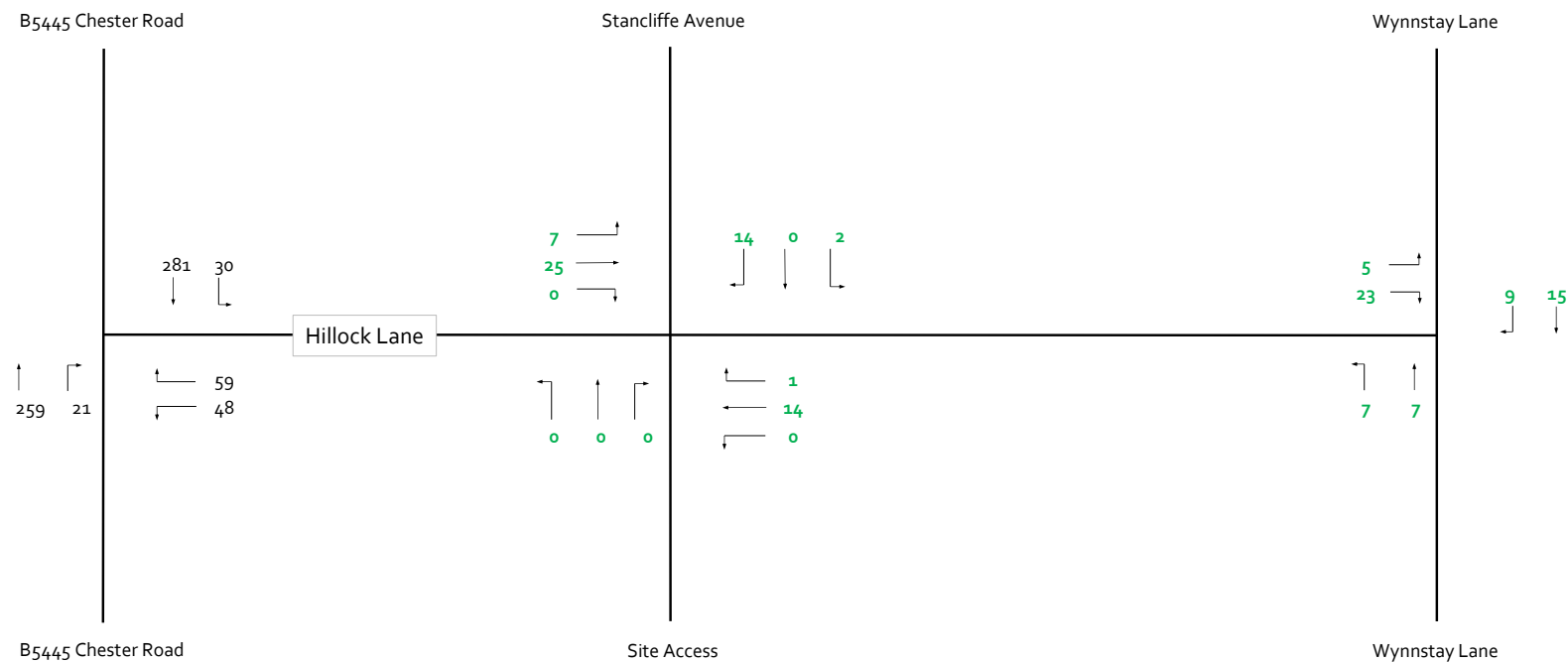
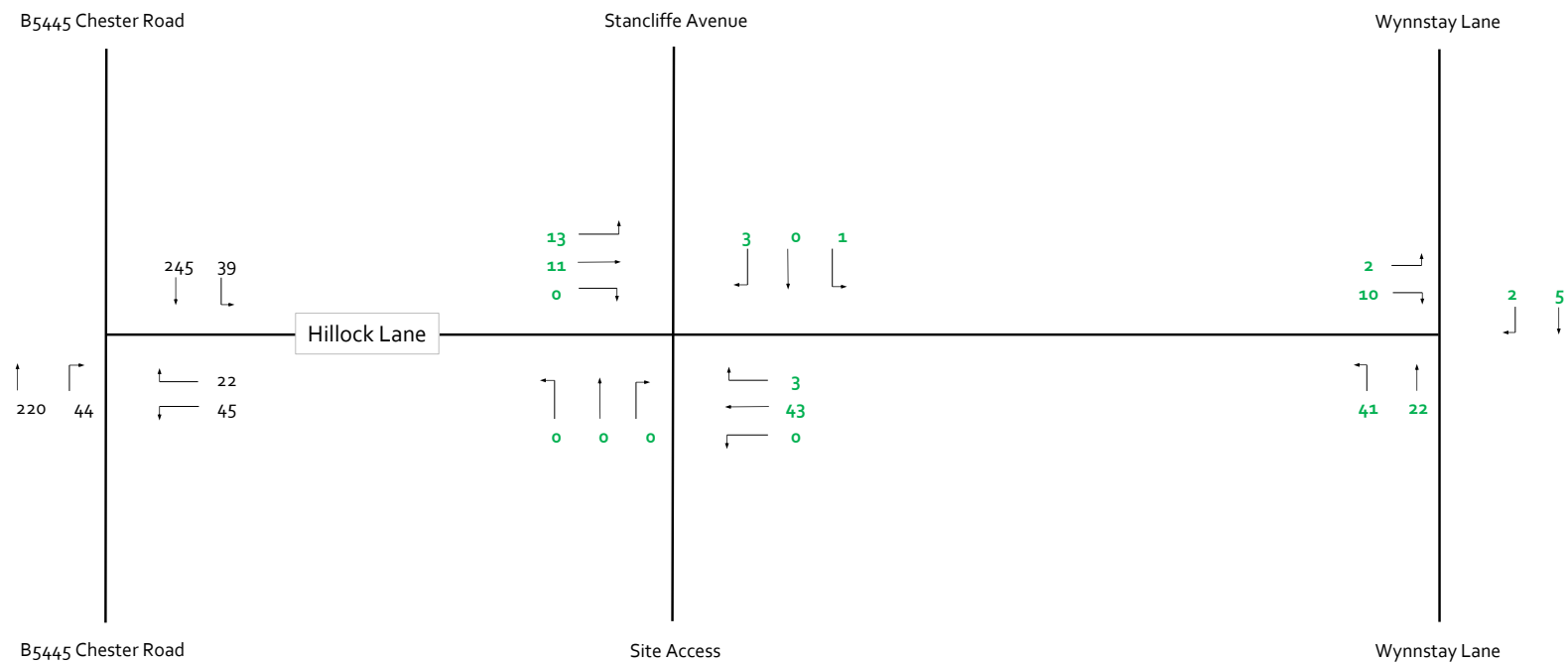


Figure 5 2025 Growthed Flows - AM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY



NTM Adjusted Growth Factor 2019-2025 1.056
 NTM Adjusted Growth Factor 2020-2025 1.043

Figure 6 2025 Growthed Flows - PM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

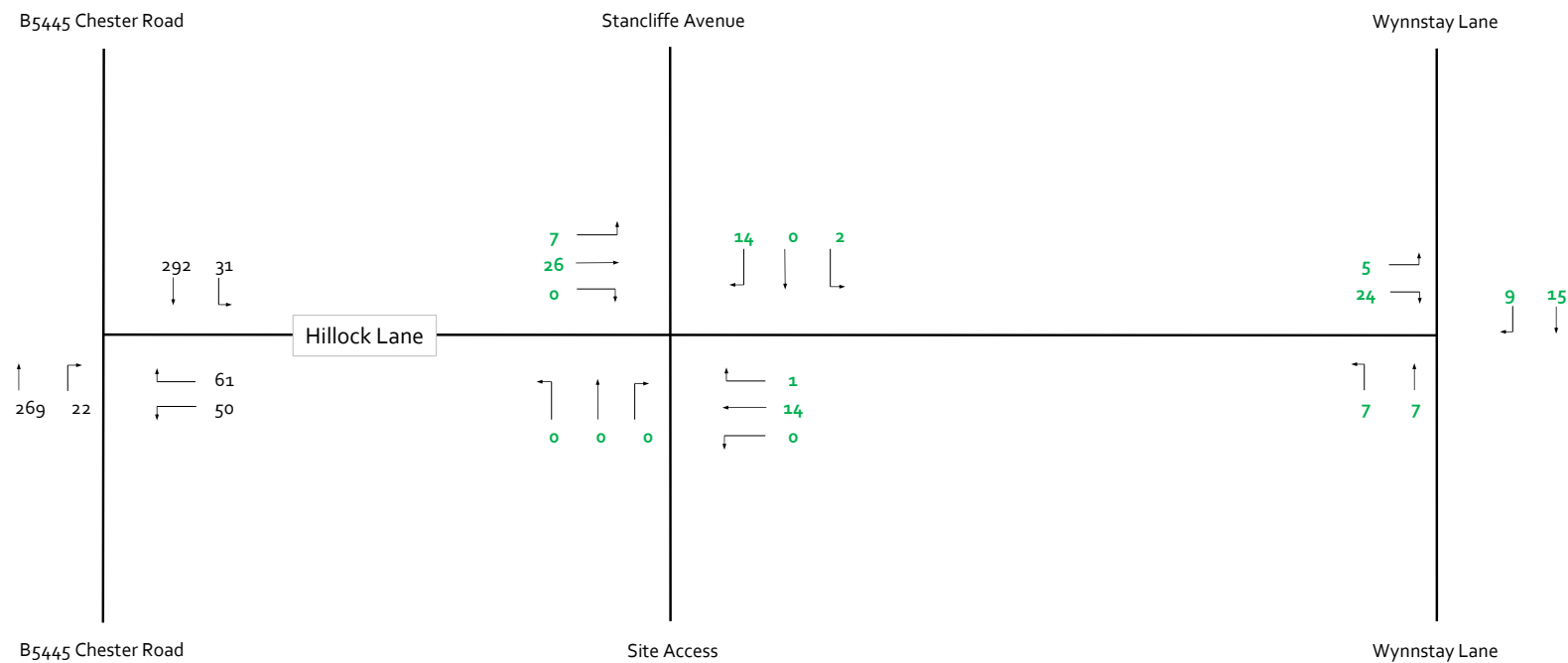
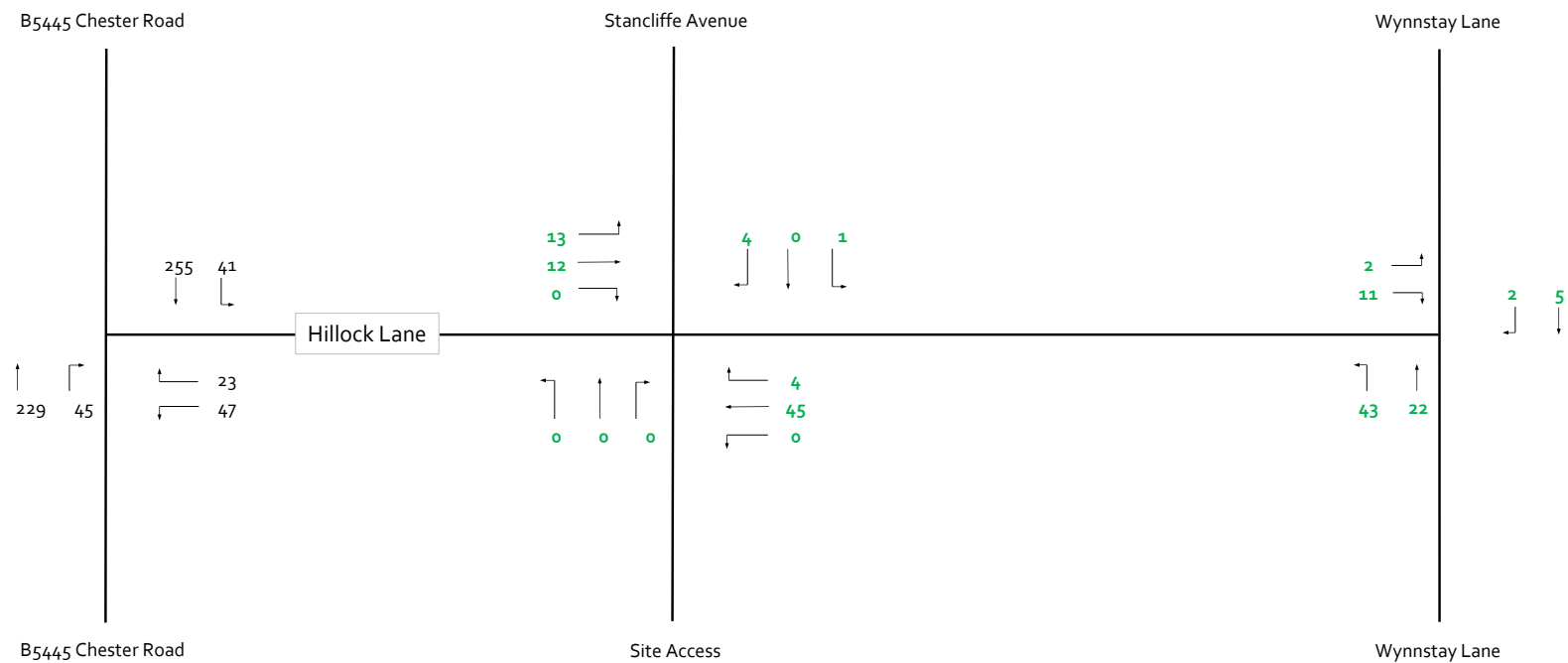


Figure 7 2030 Growthed Flows - AM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY



NTM Adjusted Growth Factor 2019-2030 1.098
 NTM Adjusted Growth Factor 2020-2030 1.085

Figure 8 2030 Projected Flows - PM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

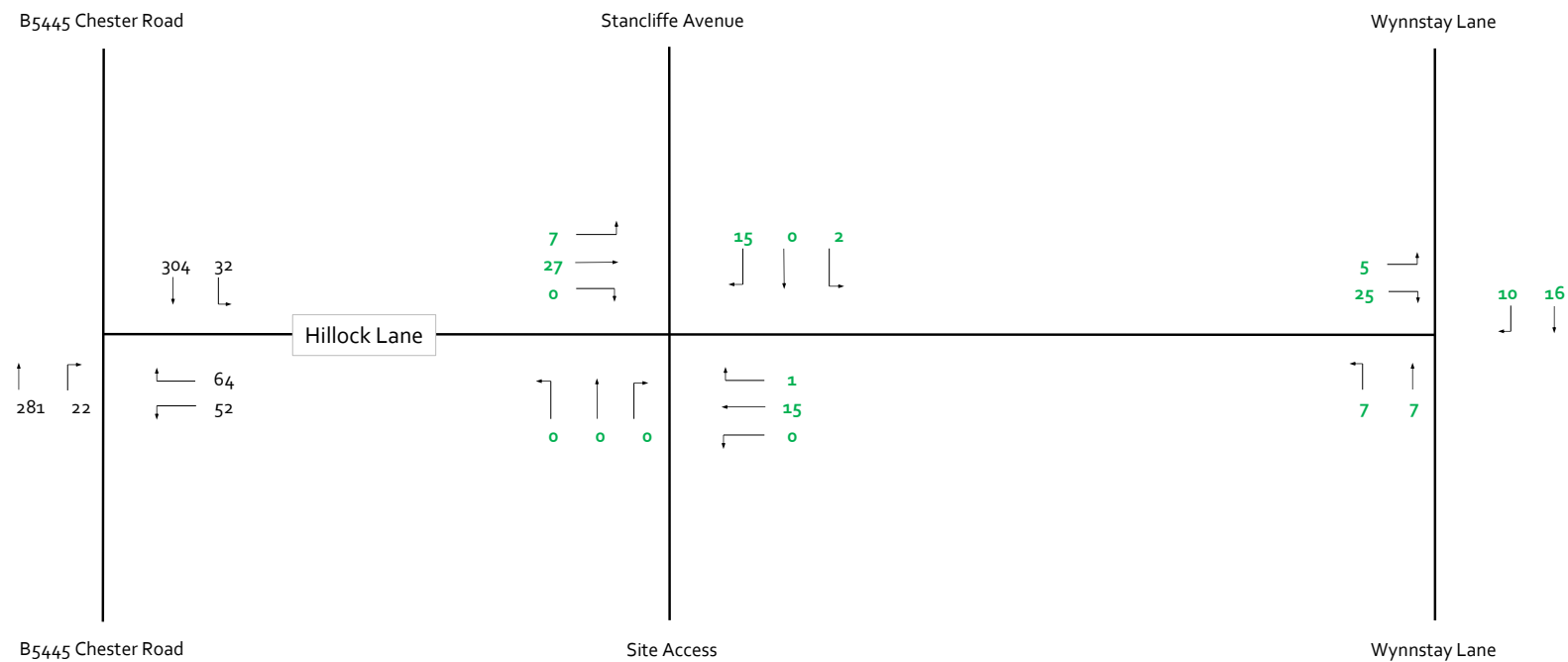
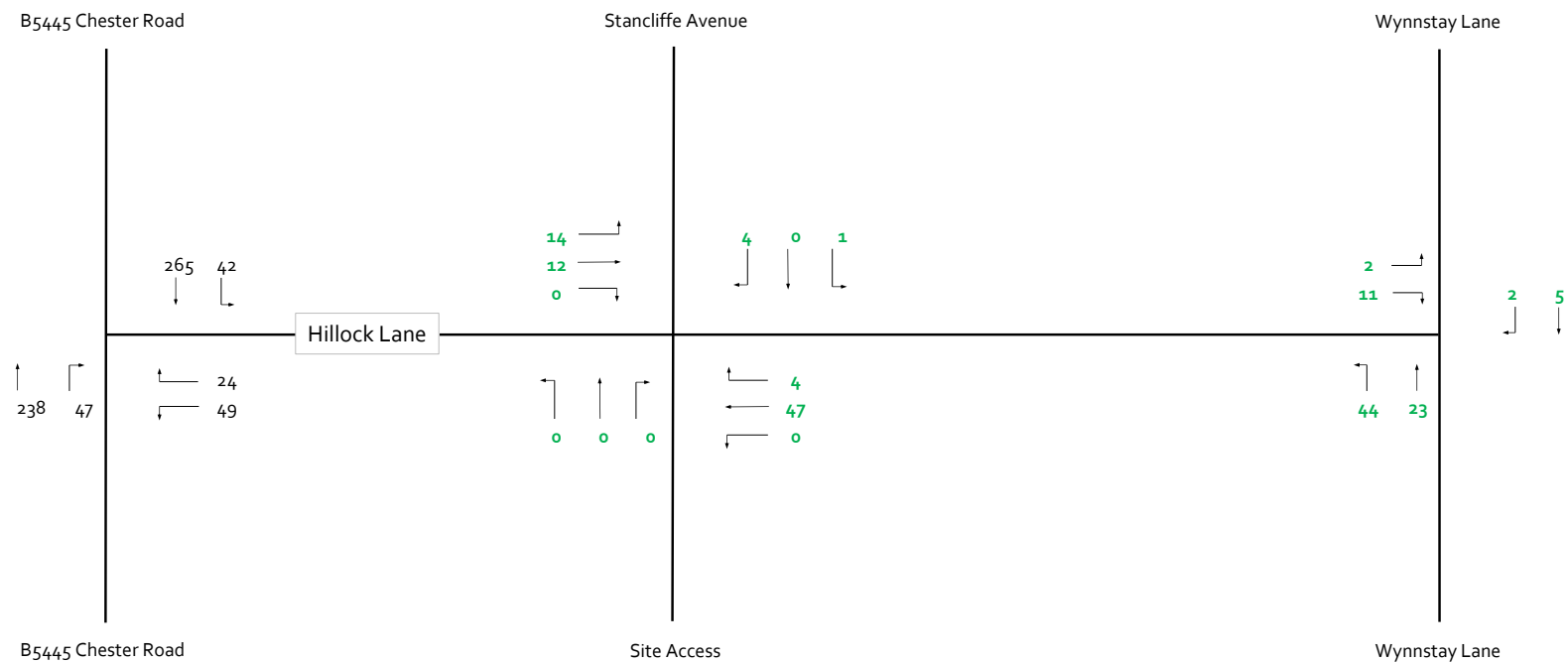


Figure 9 2035 Grownth Flows - AM Peak



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY



NTM Adjusted Growth Factor 2019-2035 1.144
 NTM Adjusted Growth Factor 2020-2035 1.130

Figure 10 2035 Growth Flows - PM Peak



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

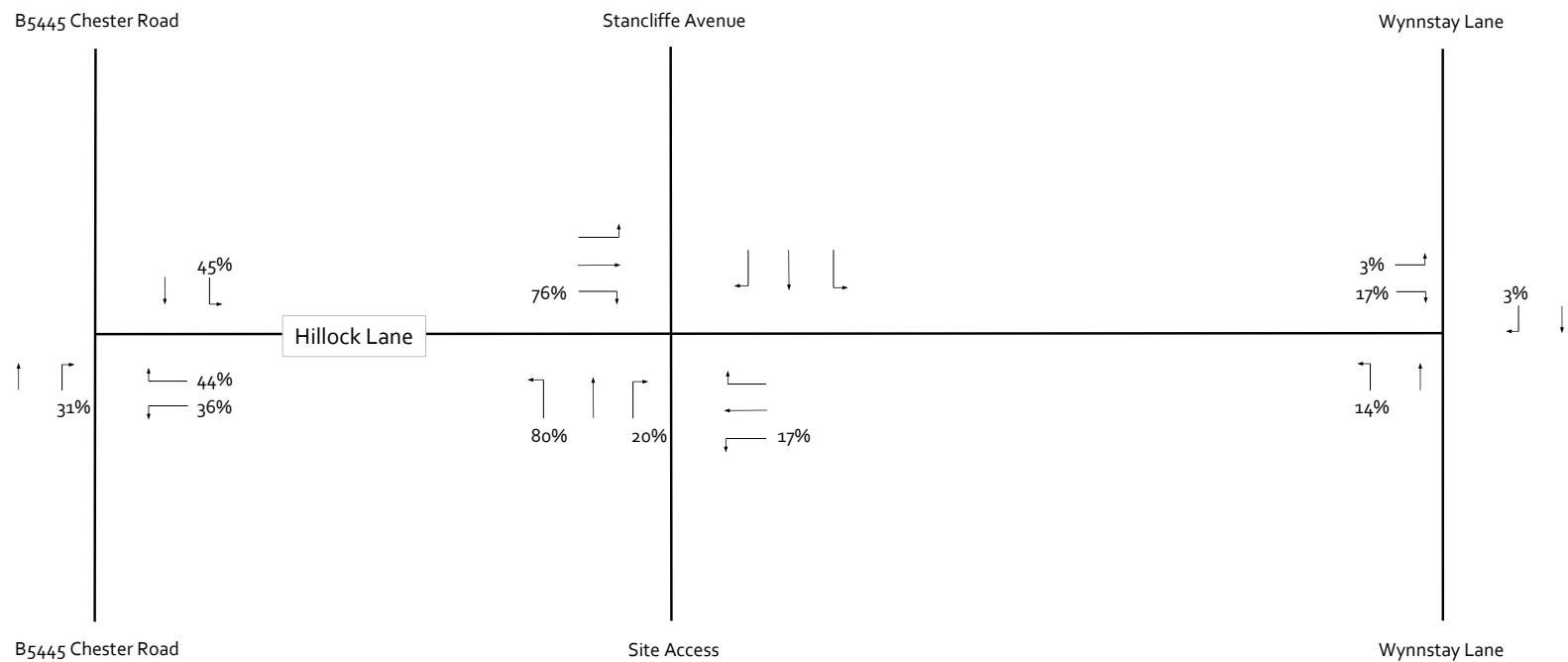


Figure 11 Trip Distribution - AM Peak (0815 - 0915)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

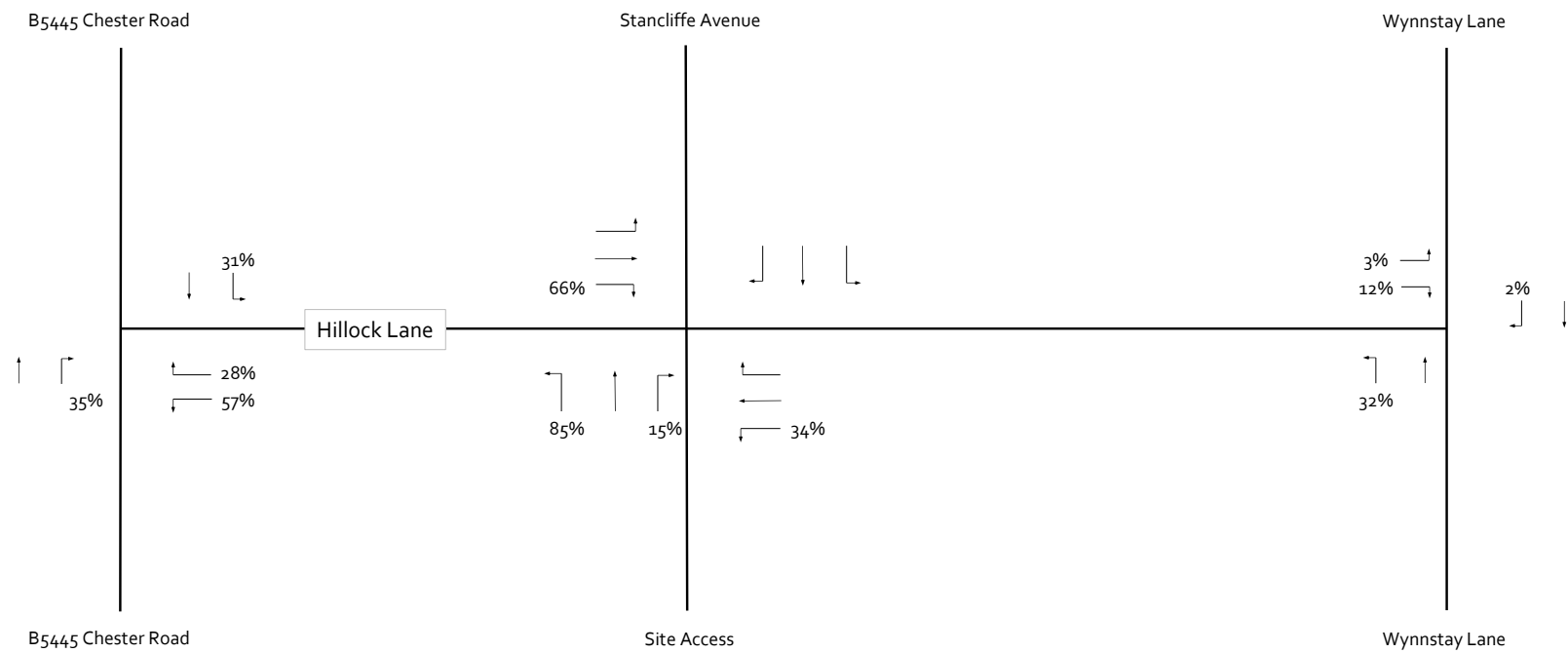
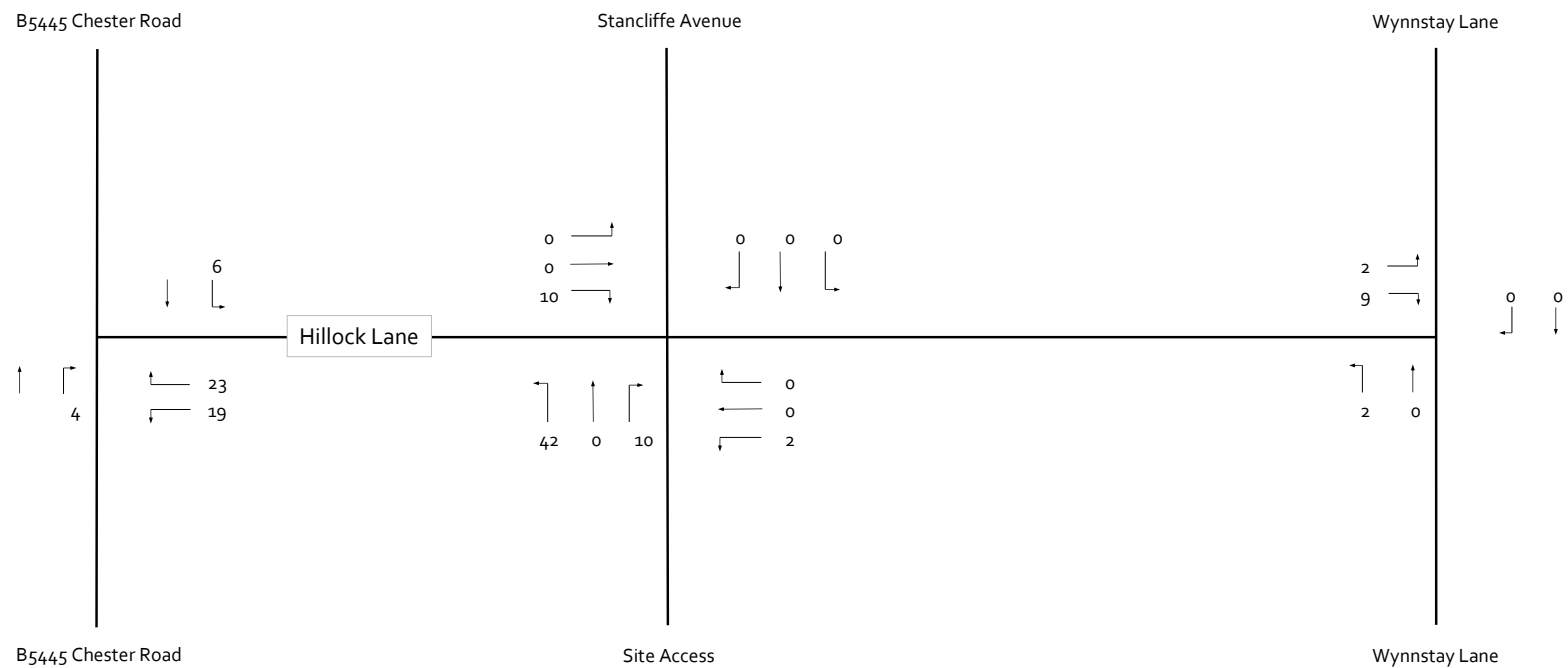


Figure 12 Trip Distribution - PM Peak (1700 - 1800)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

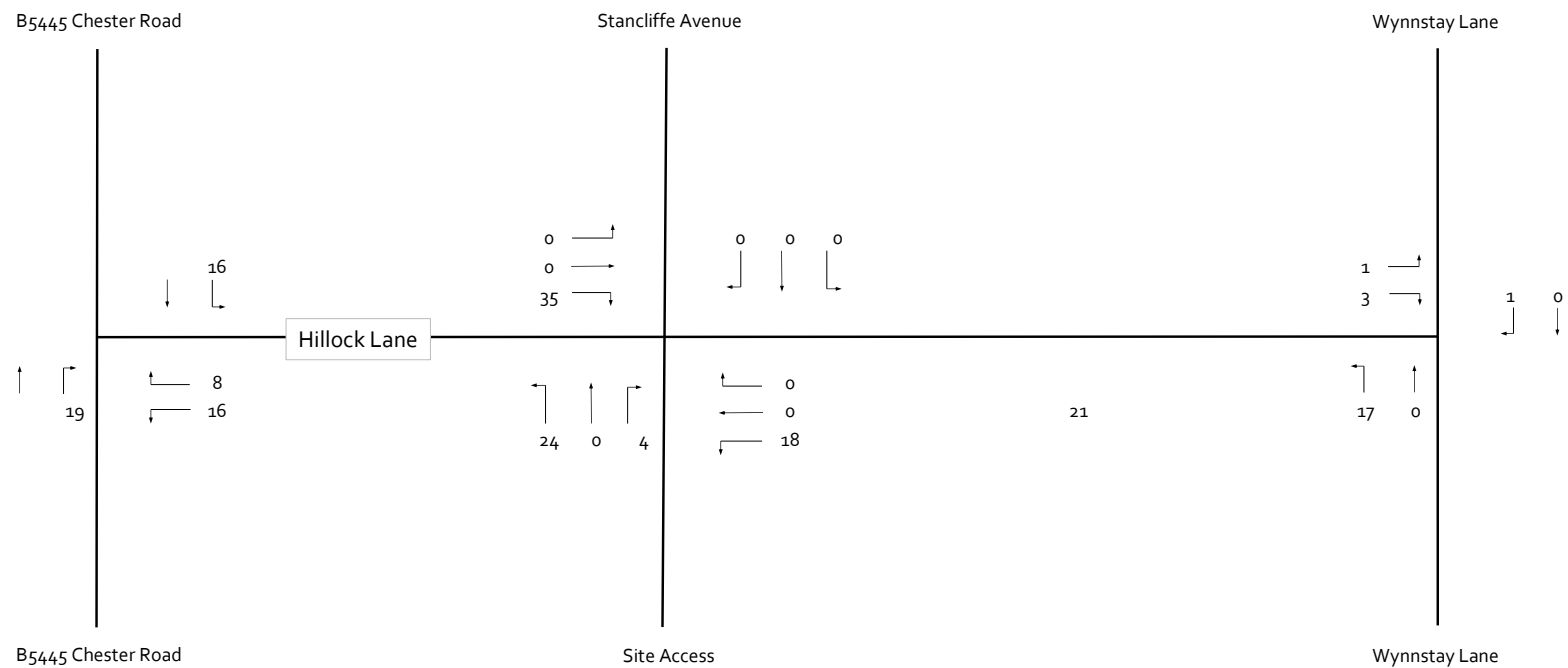


ARR 14
DEP 52

Figure 13 Proposed Development Flows - AM Peak (0815 - 0915)



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY



ARR 53
DEP 28

Figure 14 Proposed Development Flows - PM Peak (1700 - 1800)



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

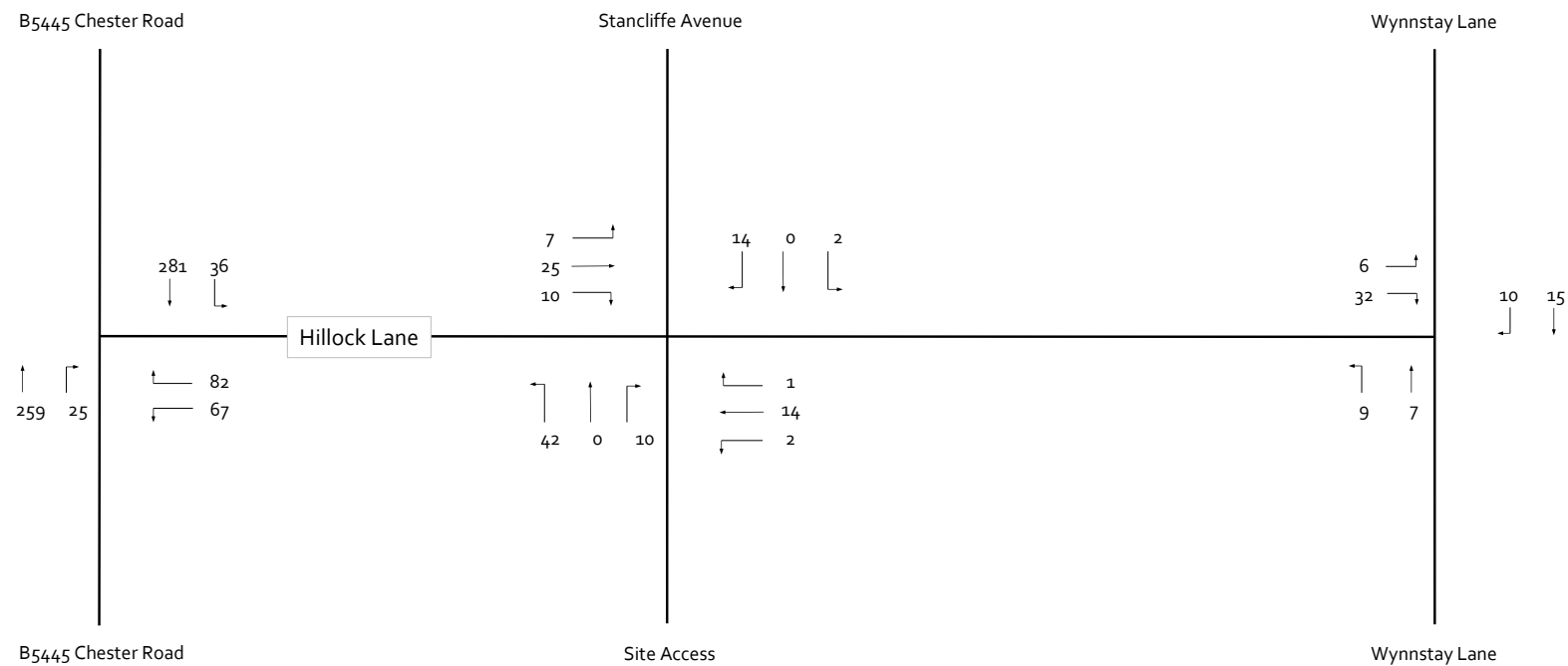


Figure 15 2025 With Development - AM Peak (0815 - 0915)



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

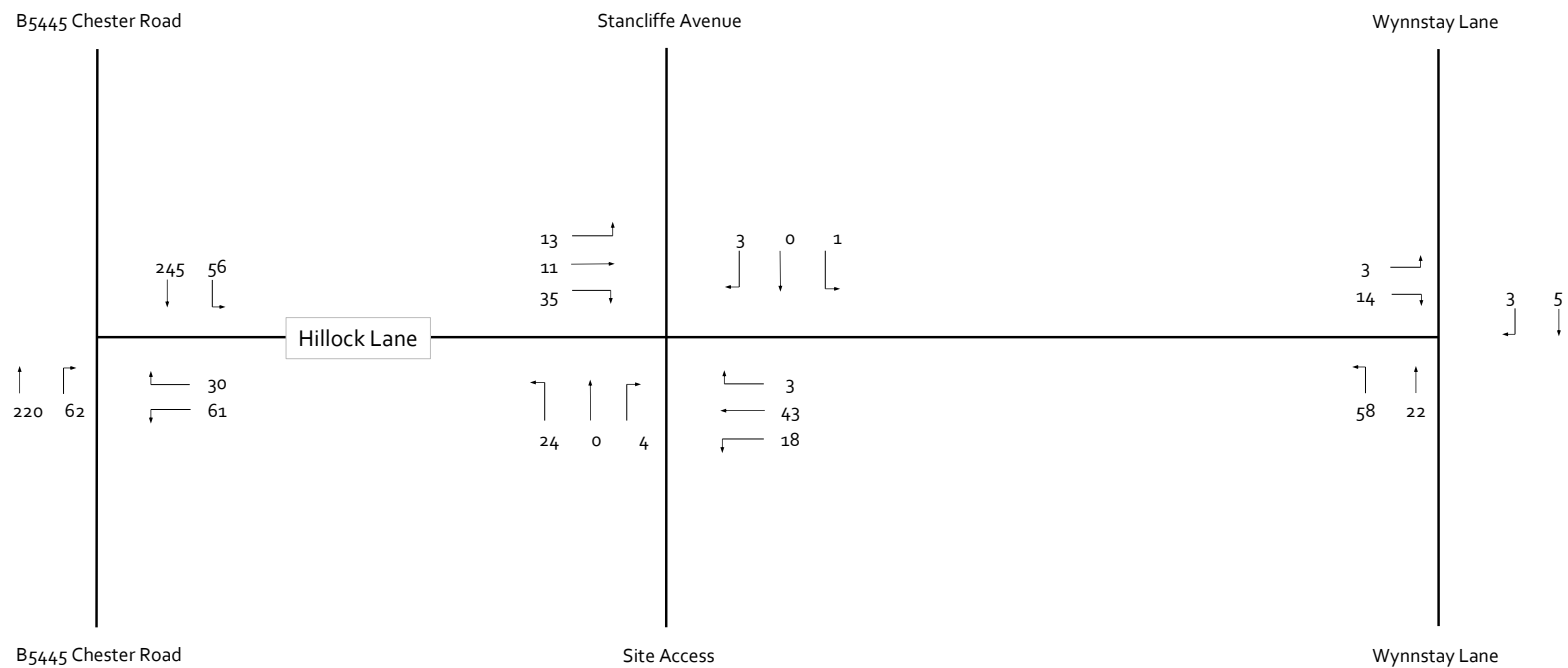


Figure 16 2025 With Development - PM Peak (1700 - 1800)



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

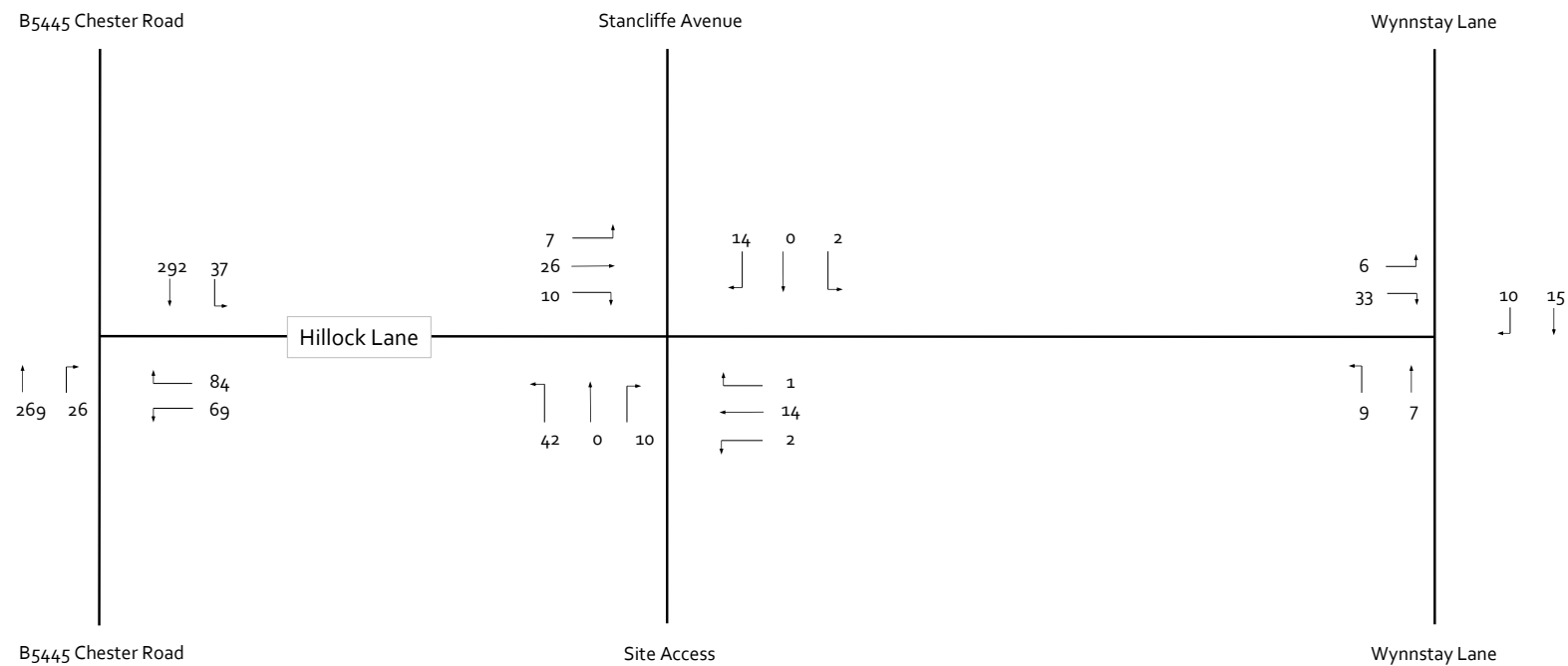


Figure 17 2030 With Development - AM Peak (0815 - 0915)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

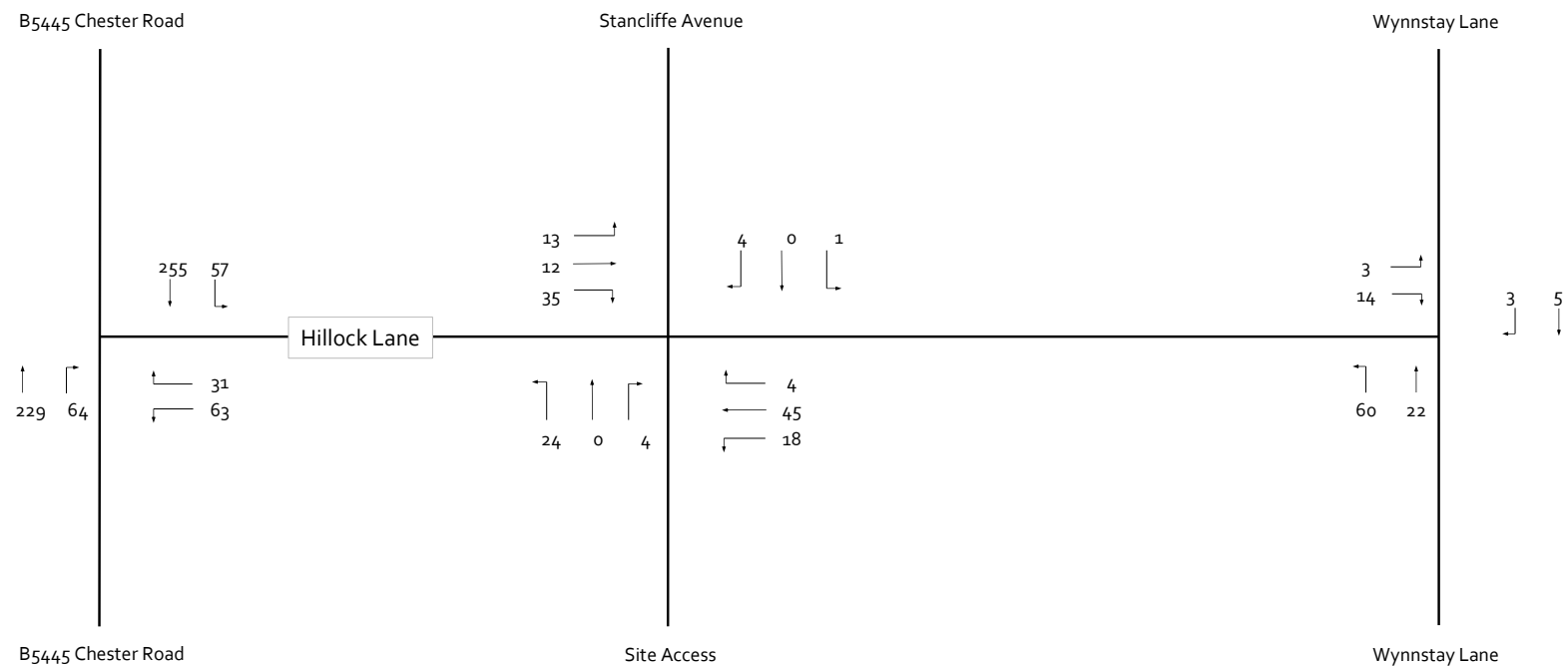


Figure 18 2030 With Development - PM Peak (1700 - 1800)



Croft Transport Planning & Design
 Hill Quays
 9 Jordan Street
 Manchester
 M15 4PY

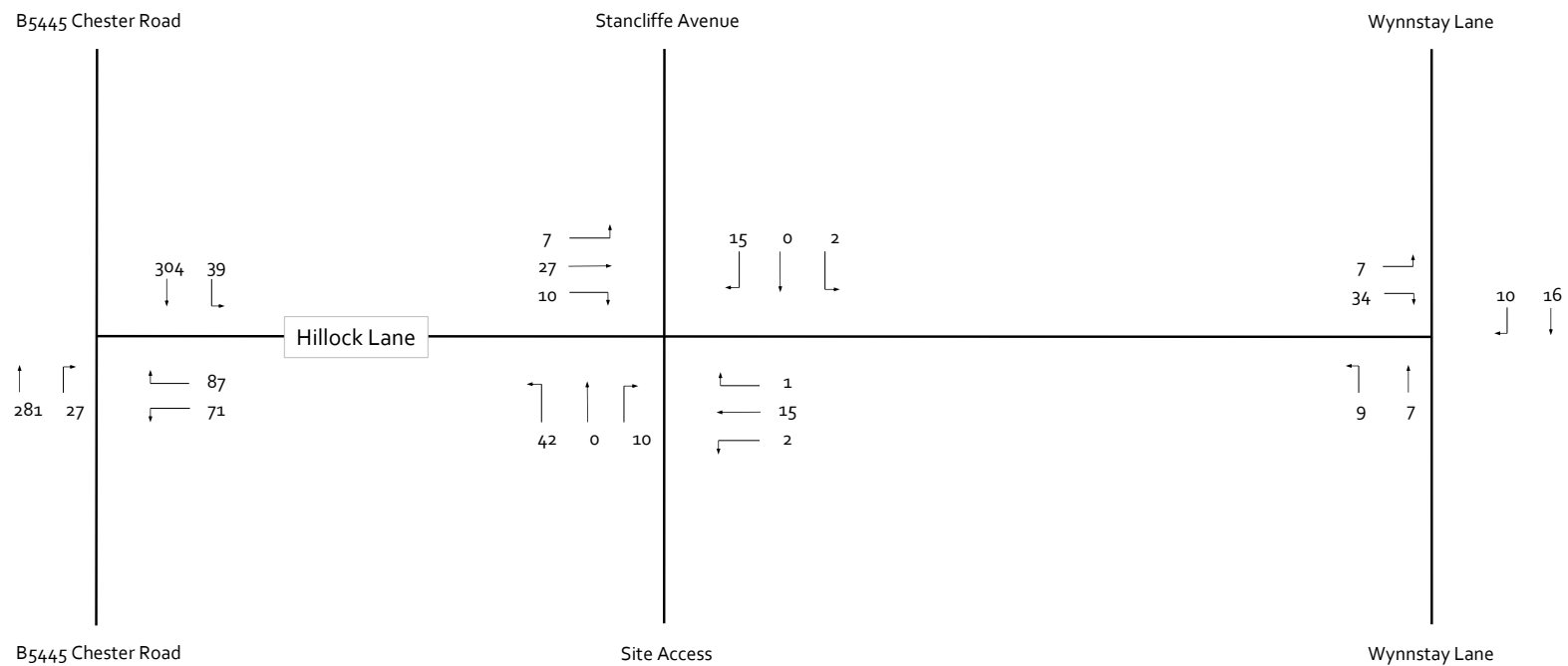


Figure 19 2035 With Development - AM Peak (0815 - 0915)



Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

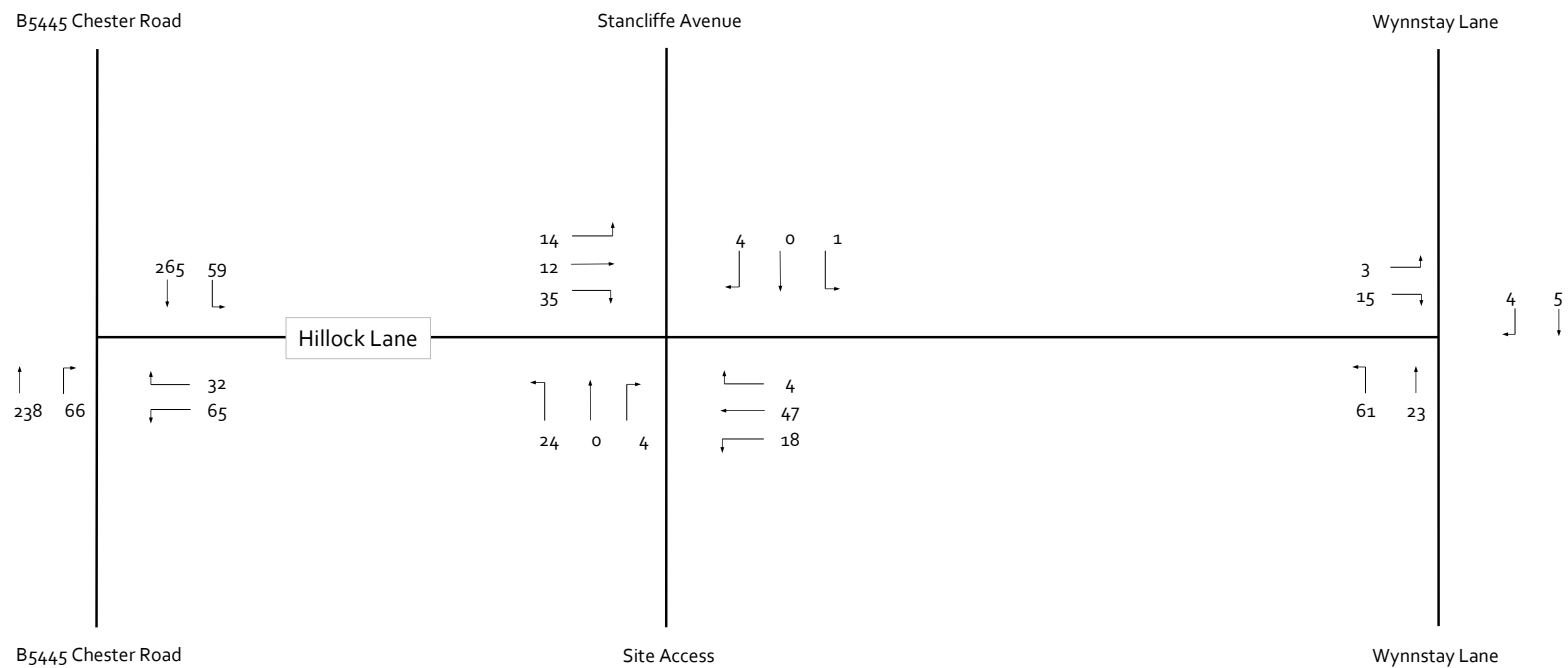
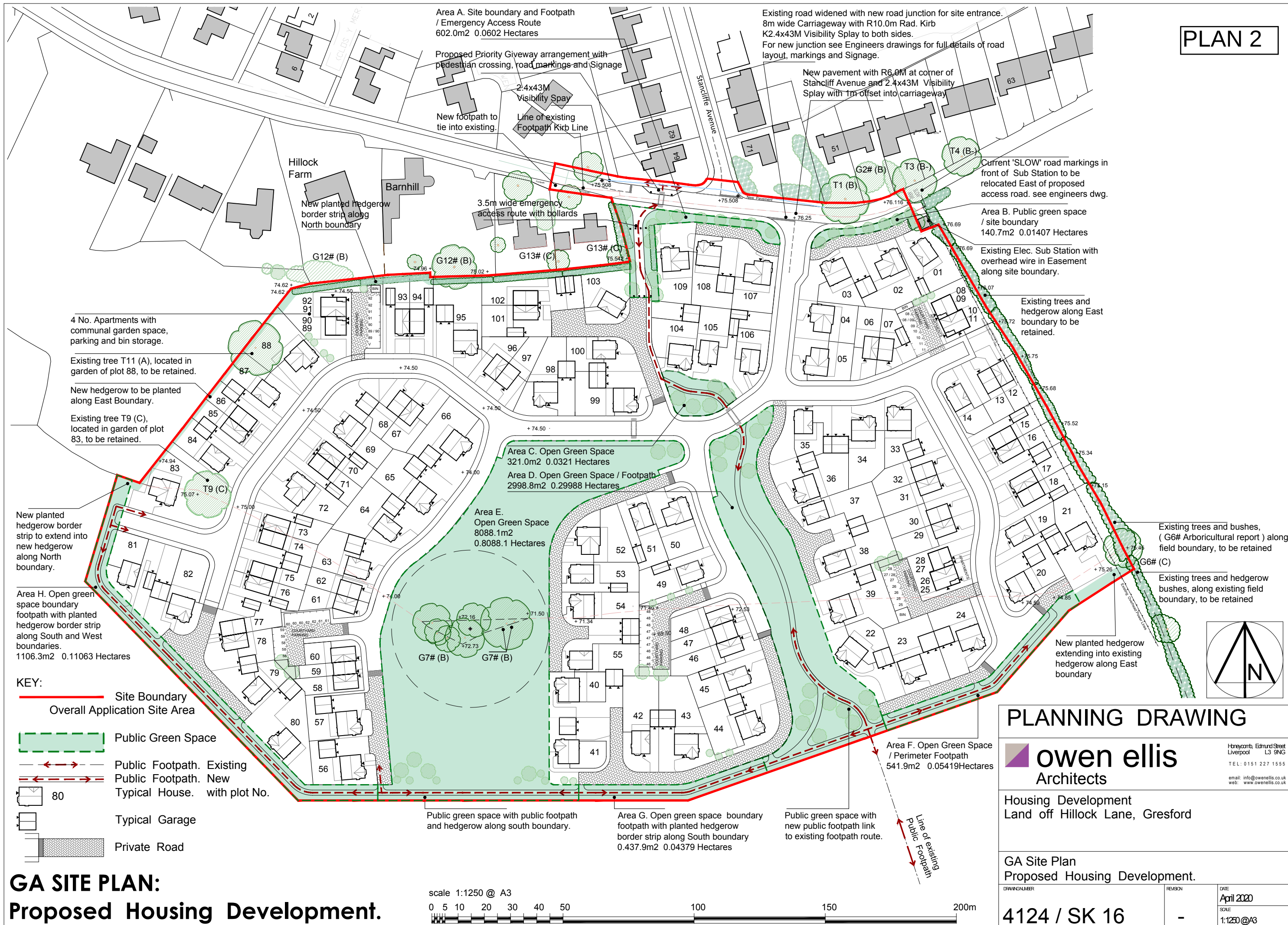


Figure 20 2035 With Development - PM Peak (1700 - 1800)



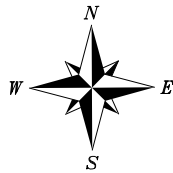
Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

PLANS

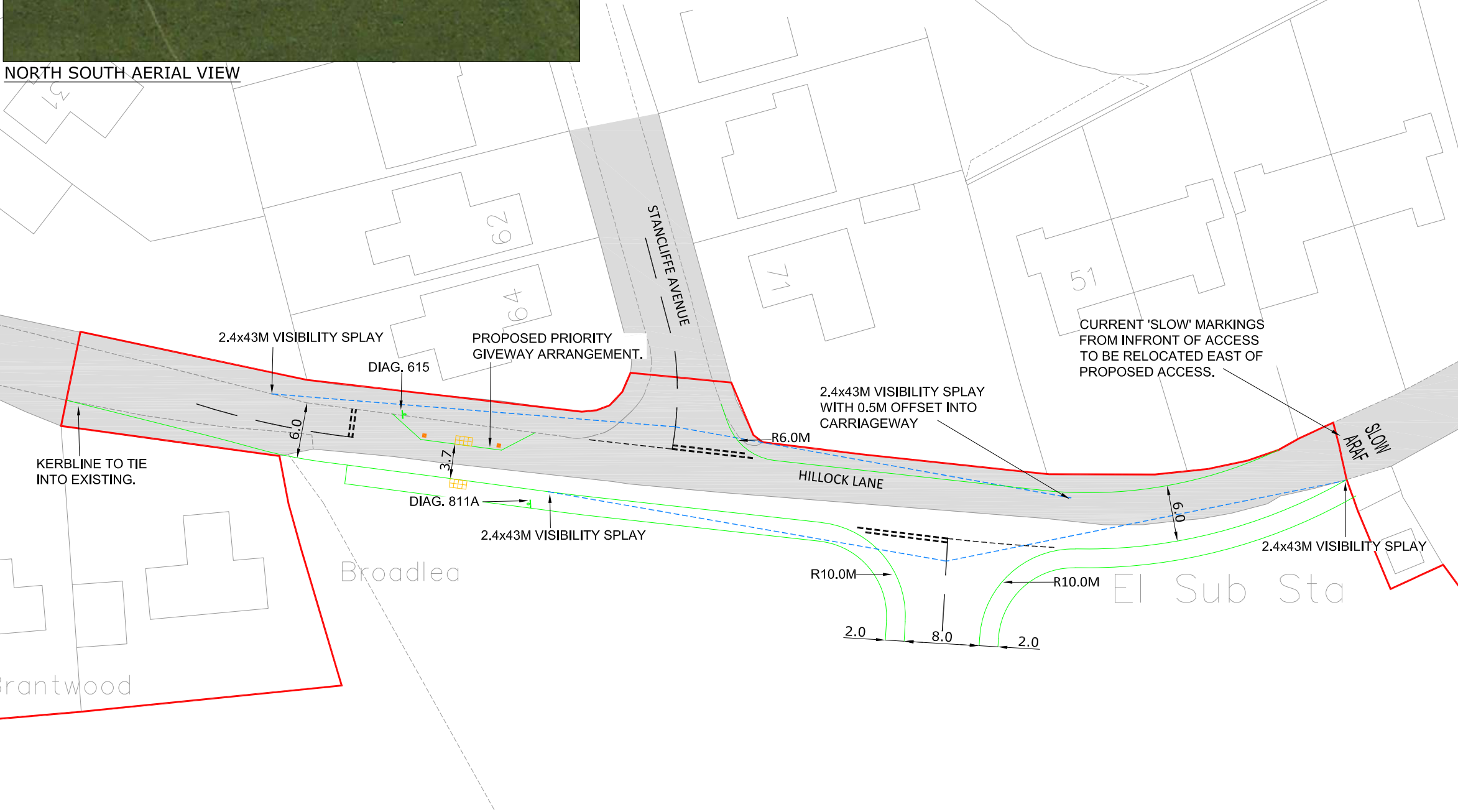




NORTH SOUTH AERIAL VIEW



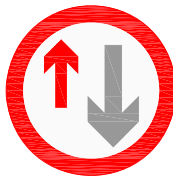
PLAN 4



NOTES

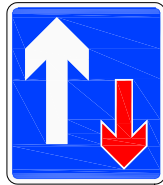
THIS IS NOT A CONSTRUCTION DRAWING AND IS FOR INDICATIVE PURPOSES ONLY.
THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

- INDICATIVE SITE BOUNDARY
- DENOTES NEW KERBS
- EXISTING ADOPTED HIGHWAY
- LAND REQUIRED TO EXTEND FOOTWAY TO TIE INTO EXISTING FOOTWAY PROVISION



Ildiwch i gerbydau yn dod atoch
Give way to oncoming vehicles

DIAG. 615



Blaenoriaeth dros gerbdau yn dod atoch
Priority over oncoming vehicles

DIAG. 811A

B A	PRIORITY GIVEWAY ARRANGEMENT MINOR DESIGN AMENDMENT	LB LB	JC JC	FEB 20 FEB 20
REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
NORRIS JONES PROJECTS

PROJECT:
HILLOCK LANE, GRESFORD

DRAWING TITLE:
PROPOSED SITE ACCESS ARRANGEMENT

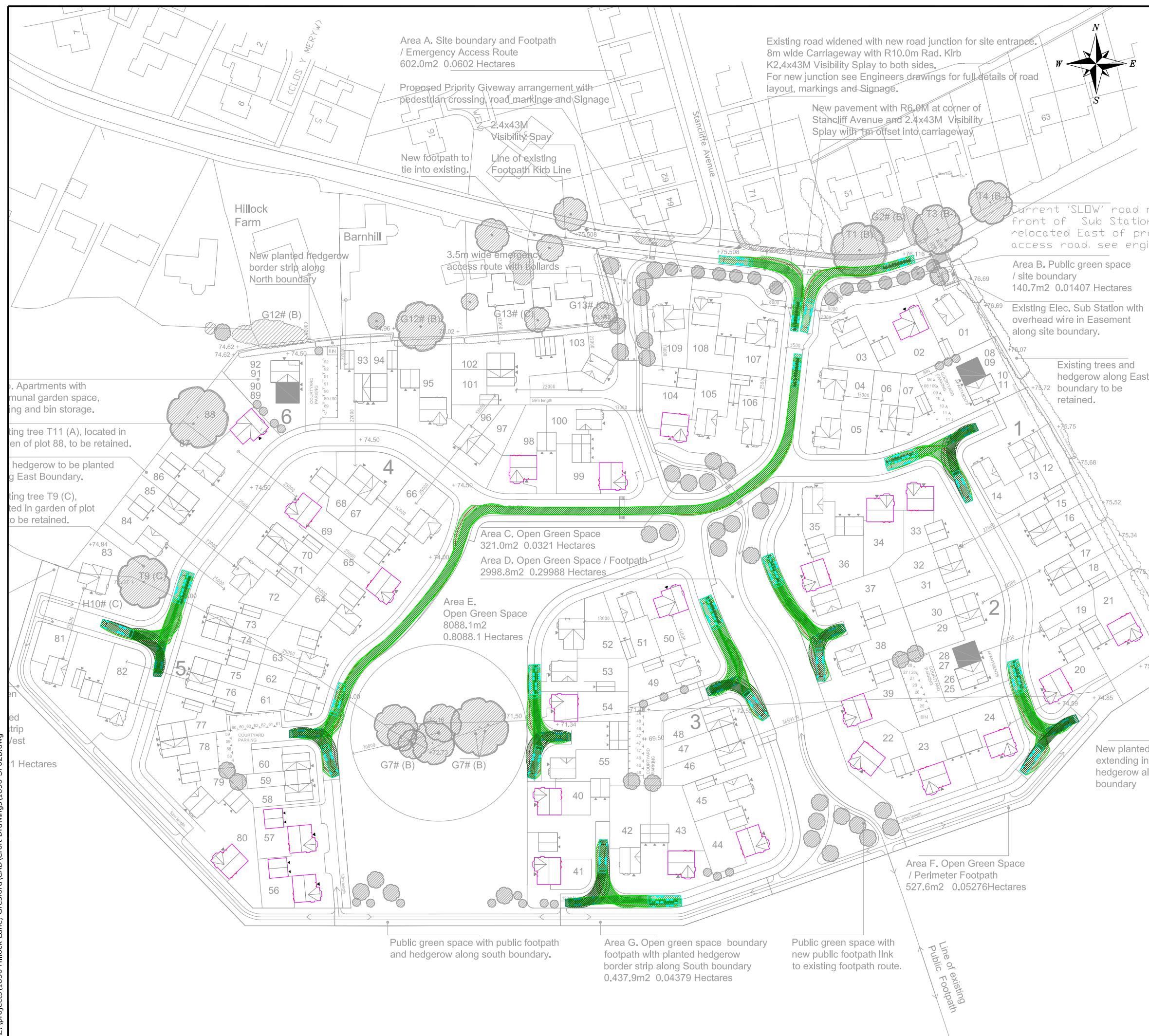
SCALES:
1:500 @ A3

DRAWN: LB	CHECKED: JC	DATE: JAN 20
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Croft Transport Planning & Design
340 Deansgate
Manchester
M3 4LY

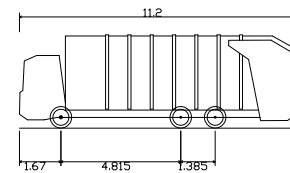
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.crofts.co.uk

DRAWING NUMBER: 1856-F02	REVISION: E	
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NOTES

PLAN 4



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	
Overall Length	11.200m
Overall Width	3.730m
Overall Body Height	2.951m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

-	-	-	-	-
REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

NORRIS JONES
PROJECTS

PROJECT:

HILLOCK LANE, GRESFOLD

DRAWING TITLE:

SWEPT PATH ANALYSIS

SCALES:

1:1250 @ A3

DRAWN: DG

CHECKED:	GM
----------	----

DATE: MAY 20

Croft Transport Planning & Design
340 Deansgate
Manchester
M3 4LY

Email: info@croftts.co.uk
Tel: 0161 837 7380
Web: www.croftts.co.uk

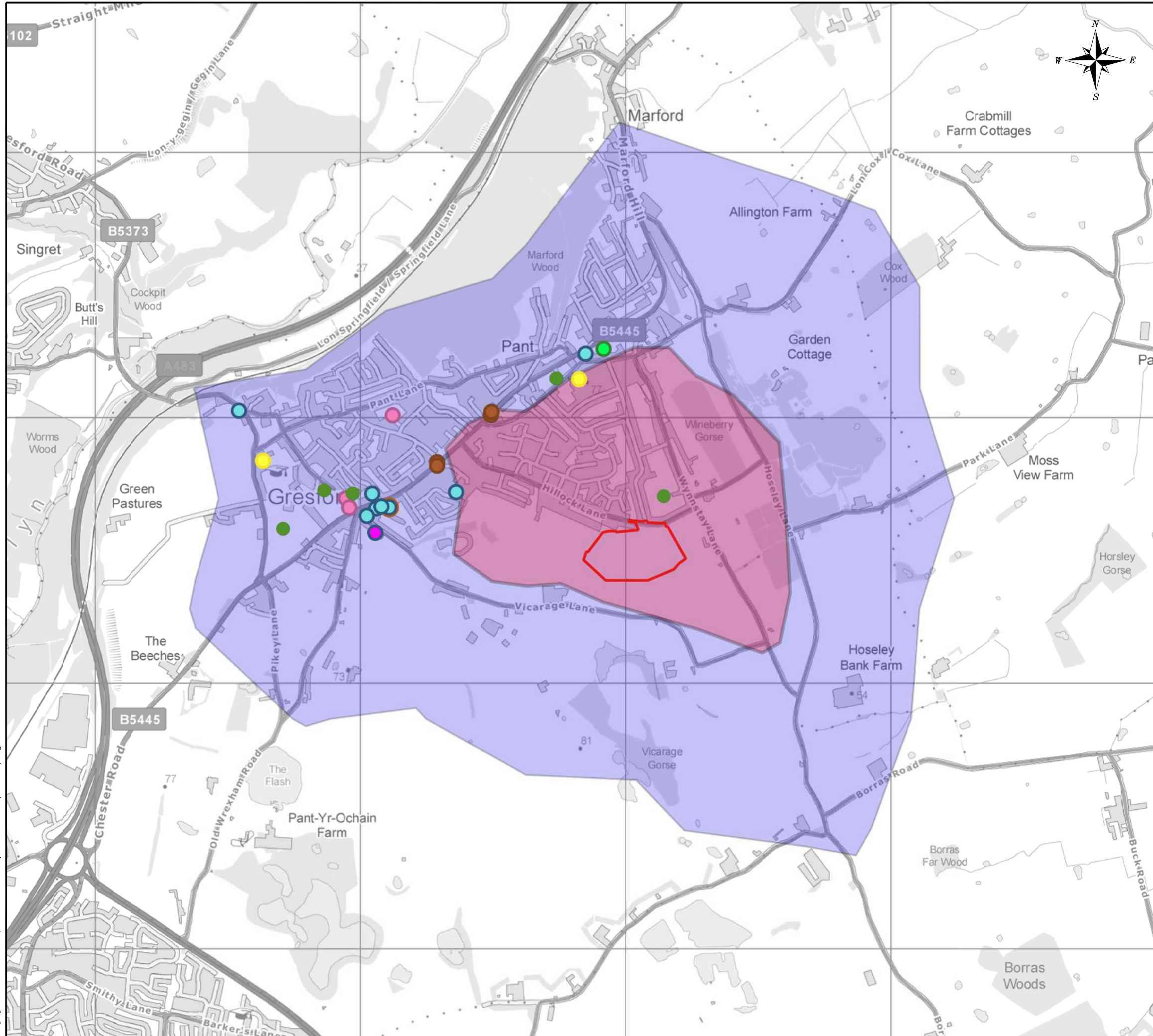
DRAWING NUMBER:

1856-SP02

REVISION:

B





NOTES

- Site Location
- 800m Pedestrian Catchment
- 2km Pedestrian Catchment
- Nearest Bus Stops
- Cafe/Takeaway/Public House
- Community Facilities
- Education
- Healthcare/Medical
- Leisure/Sport
- Post Office
- Retail

PLAN 5

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

NORRIS JONES
PROJECTS

PROJECT:

PROPOSED RESIDENTIAL
DEVELOPMENT, HILLOCK LANE,
GRESFORD

DRAWING TITLE:

800M & 2KM PEDESTRIAN
CATCHMENT WITH AMENITIES

SCALES:

NTS @ A3

DRAWN:	CHECKED:	DATE:
DG	TSB	MAY 20

Croft Transport Planning & Design
Hill Quays
9 Jordan Street
Manchester
M15 4PY

Email: info@crofts.co.uk
Tel: 0161 667 3746
Web: www.crofts.co.uk

DRAWING NUMBER:

1856-03

REVISION:

-



NORTH SOUTH AERIAL VIEW



NOTES

THIS IS NOT A CONSTRUCTION DRAWING AND IS FOR INDICATIVE PURPOSES ONLY.
THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

EXISTING ADOPTED HIGHWAY

PLAN 6

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT: **NORRIS JONES PROJECTS**

PROJECT: **HILLOCK LANE, GRESFORD**

DRAWING TITLE: **FORWARD VISIBILITY SPLAYS ON EXISTING ARRANGEMENT**

SCALES: **1:500 @ A3**

DRAWN: SM	CHECKED: TSB	DATE: APR 20
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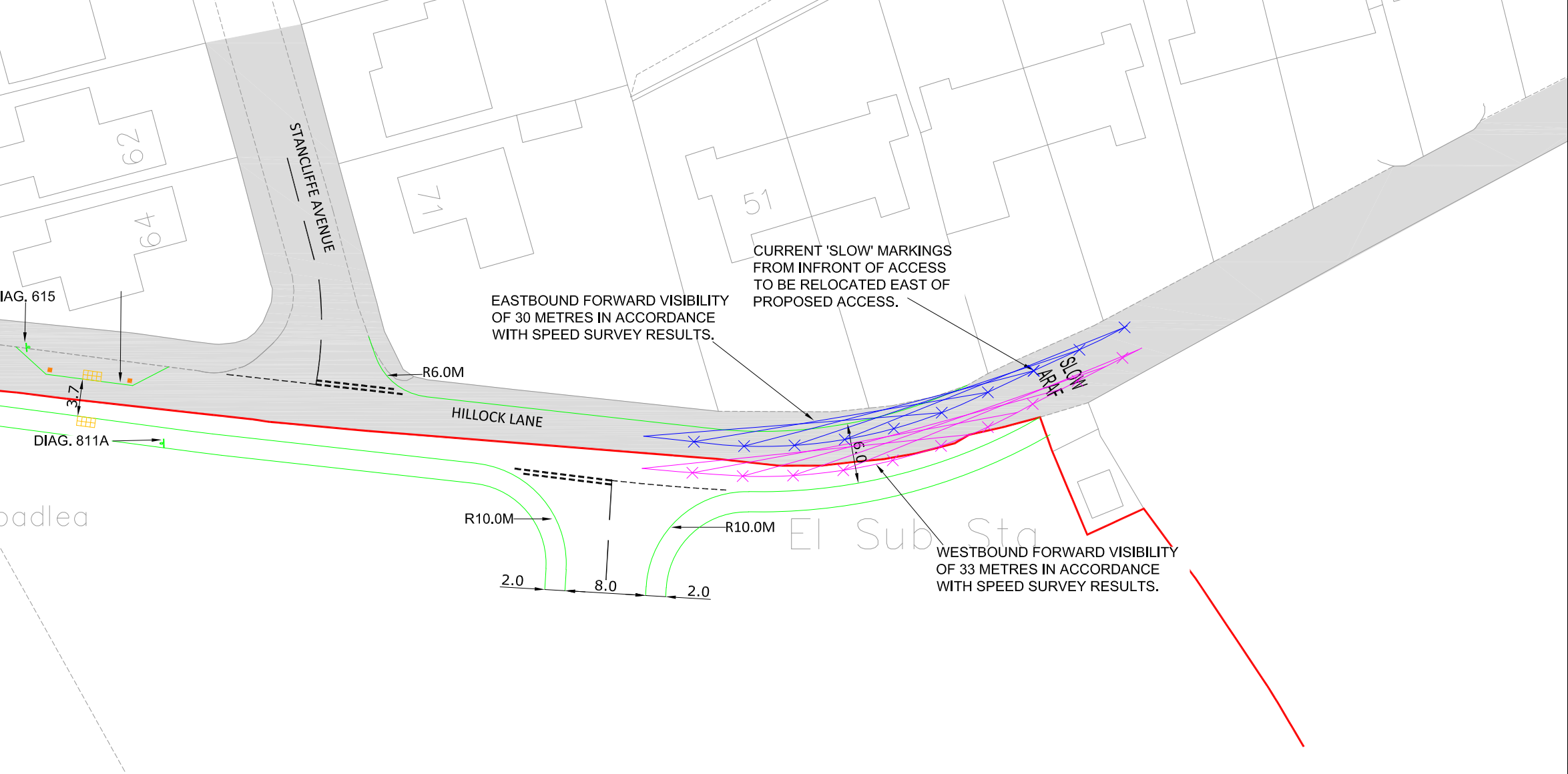
Croft Transport Planning & Design
340 Deansgate
Manchester
M3 4LY
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.crofts.co.uk



DRAWING NUMBER: 1856-04	REVISION: .
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NORTH SOUTH AERIAL VIEW



NOTES

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THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

- INDICATIVE SITE BOUNDARY
- DENOTES NEW KERBS
- EXISTING ADOPTED HIGHWAY

PLAN 7

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT: **NORRIS JONES PROJECTS**

PROJECT: **HILLOCK LANE, GRESFORD**

DRAWING TITLE: **FORWARD VISIBILITY SPLAYS ON PROPOSED ARRANGEMENT**

SCALES: **1:500 @ A3**

DRAWN: SM	CHECKED: TSB	DATE: APR 20
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Croft Transport Planning & Design
340 Deansgate
Manchester
M3 4LY
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.crofts.co.uk



DRAWING NUMBER: 1856-03	REVISION: .
--------------------------------	--------------------

APPENDICES

APPENDIX 1

Correspondence with North Wales Fire Brigade

From: [Sharon Bouckley](#)
To: [Tom Bentley](#)
Cc: [Lee Williams](#)
Subject: FW: Proposed Residential Development - Hillock Lane, Gresford
Date: 29 April 2020 12:06:56
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image009.png](#)
[120042910464901141.png](#)
[We sent you safe versions of your files.msg](#)
[1856-F02E.pdf](#)
[4124_SK17 GA Proposed Site Plan. 2109.12.02.pdf](#)

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This Message originated outside your organization.

Hi Tom

I have copied in the Business Fire Safety Compliance Manager for Flintshire and Wrexham, Lee Williams, to my response as he is also a Flexi Duty Manager who could also potentially respond operationally in the event of an incident.

With regards to single access point to an estate, this in itself does not present an issue, and you have alluded in your email that the entrance point has been widened to 8 m to accommodate fire appliances in the event of a vehicle blocking the access. I think it is quite common to only have the one access, particularly in an urban area as it prevents the estate being a potential "rat run" for vehicles. I live on a very large housing estate with only one access, and there have never been any reports of issues relating to this.

I would ask if a swept path analysis has been undertaken to show that an emergency vehicle can service the proposed development site and not have to resort to difficult manoeuvres, as there are a couple of bends in the main estate road.

The Road surfaces paved/tarmac leading to properties should consist of solid surface material, able to take the weight of an emergency vehicle (up to 14 tonnes recommended). This particularly relates to the long shared driveways that the fire appliance may need access to. General requirements are - There should be a minimum carriageway width of 3.7m between kerbs, there should be vehicle access for a pump appliance within 60m of all points within the dwelling house (as presumably all houses are sprinkler protected).

I notice that all cul-de-sacs have the appropriate hammerhead for manoeuvring purposes.

Sharon Bouckley

Rheolwr Wylfa Diogelwch Tân/Fire Safety Watch Manager

Symudol/Mobile 07787 578387

*Rydym yn croesawu galwadau yn y Gymraeg a'r Saesneg.
We welcome calls in Welsh and English.*

Sharon.bouckley@gwastan-gogcymru.org.uk Sharon.bouckley@nwales-fireservice.org.uk

Rydym yn croesawu gohebiaeth a galwadau yn y Gymraeg a'r Saesneg -

byddwn yn ymateb yn gyfartal i'r ddwy ac yn ateb yn eich dewis iaith heb oedi. We welcome correspondence and calls in Welsh and English - we will respond equally to both and will reply in your language of choice without delay.

Gwnewch yn siwr eich bod yn profi'ch larwm mwg yn rheolaidd. Os nad oes gennych larwm, neu os ydy'ch larwm wedi torri, ffoniwch 0800 169 1234, anfonwch e-bost i dfc@gwastan-gogcymru.org.uk neu ewch i www.gwastan-gogcymru.org.uk am gyngor ynglyn â beth i'w wneud nesaf.

Please make sure that you regularly check your smoke alarm. If you do not have one, or find that the one that you do have is not working, call 0800 169 1234, e-mail cfs@nwales-fireservice.org.uk or visit www.nwales-fireservice.org.uk for advice on what to do next.

From: Tom Bentley <tom.bentley@eddisons.com>

Sent: 29 April 2020 10:47

To: Sharon Bouckley <sharon.bouckley@nwales-fireservice.org.uk>

Subject: Proposed Residential Development - Hillock Lane, Gresford

Sharon,

I hope you are well and I was wondering whether you assist with the following. We are currently advising a client who is looking at residential development off Hillock Lane in Gresford for up to 116 units (I have attached the latest layout but this is subject to change).

As part of the proposals it is proposed to provide a single vehicular access into the site, during pre-app discussions with the highways officers at Wrexham Borough Council comments have been raised regarding the requirement for an emergency access.

As a general principle there are no prevailing design standards or guidance that we are aware of that would warrant a residential development of this size to feature more than a single point of access. Manual for Streets (MfS) advises in paragraph 6.7.3 (below) that no length limits or dwelling number limit should be placed on a residential development, but moreover the fire service should be consulted to ensure they are able to respond quickly and effectively to any emergency on a particular development;

"the length of cul-de-sacs or the number of dwellings have been used by local authorities as criteria for limiting the size of a development served by a single access route. Authorities have often argued that the larger the site, the more likely it is that a single access could be blocked for whatever reason. The fire services adopt a less numbers-driven approach and consider each application based on a risk assessment for the site, and response time requirements."

It is our view that an emergency access is not required for the site as long as the internal layout can accommodate fire tenders and the appropriate distances for hoses. However, to alleviate the concerns of the local highway authority we have widened the proposed vehicular access off Hillock Lane to 8 metres this would enable an emergency vehicle to enter the site if in the unlikely occurrence that a vehicle broke down at the access point. Beyond this point the emergency vehicle would be able to access the entire site. This is something that we have provided at other residential sites to address similar comments.

Would you be able to provide your thoughts on the above and confirm whether this approach would be acceptable to the North Wales Fire Service.

If you have any queries please do not hesitate to contact me.

Kind Regards

APPENDIX 2

Traffic Count Data

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

Produced by Road Data Services Ltd.

Junction: (1) Chester Road / Hillock Lane

Approach: Chester Road (North)

TIME	Left to Hillock Lane								Ahead to Chester Road (South)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	1	1	0	0	0	2	0	0	21	5	0	0	1	27
0745 - 0800	0	0	3	1	0	0	0	4	1	0	31	2	0	0	1	35
Hourly Total	0	0	4	2	0	0	0	6	1	0	52	7	0	0	2	62
0800 - 0815	0	0	10	2	0	0	0	12	0	0	39	8	0	1	1	49
0815 - 0830	0	0	2	1	0	0	0	3	0	0	34	3	0	1	3	41
0830 - 0845	0	0	8	1	0	0	0	9	0	0	41	10	0	0	1	52
0845 - 0900	0	0	12	1	0	0	0	13	0	0	56	5	0	0	1	62
Hourly Total	0	0	32	5	0	0	0	37	0	0	170	26	0	2	6	204
0900 - 0915	0	0	1	0	0	0	0	1	0	0	64	10	0	1	1	76
0915 - 0930	0	0	8	3	0	0	0	11	0	0	34	4	0	0	2	40
Hourly Total	0	0	9	3	0	0	0	12	0	0	98	14	0	1	3	116
Session Total	0	0	45	10	0	0	0	55	1	0	320	47	0	3	11	382
1630 - 1645	0	0	8	0	0	0	0	8	0	0	48	2	0	0	3	53
1645 - 1700	0	0	13	0	0	0	0	13	0	0	57	3	0	0	1	61
Hourly Total	0	0	21	0	0	0	0	21	0	0	105	5	0	0	4	114
1700 - 1715	0	0	4	1	0	0	0	5	0	0	40	1	0	0	1	42
1715 - 1730	0	0	12	1	0	0	0	13	1	0	47	4	0	1	2	55
1730 - 1745	0	0	10	0	0	0	0	10	0	0	40	4	0	2	1	47
1745 - 1800	0	0	6	0	0	0	0	6	0	0	48	5	0	1	1	55
Hourly Total	0	0	32	2	0	0	0	34	1	0	175	14	0	4	5	199
1800 - 1815	0	0	8	0	0	0	0	8	0	0	32	0	0	1	1	34
1815 - 1830	0	0	8	1	0	0	0	9	0	0	33	2	0	0	1	36
Hourly Total	0	0	16	1	0	0	0	17	0	0	65	2	0	1	2	70
Session Total	0	0	69	3	0	0	0	72	1	0	345	21	0	5	11	383

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

Produced by Road Data Services Ltd.

Junction: (1) Chester Road / Hillock Lane

Approach: Hillock Lane

TIME	Left to Chester Road (South)								Right to Chester Road (North)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	8	2	0	0	0	10	0	0	10	0	0	0	0	10
0745 - 0800	0	0	16	3	0	0	0	19	0	0	9	0	0	0	0	9
Hourly Total	0	0	24	5	0	0	0	29	0	0	19	0	0	0	0	19
0800 - 0815	0	0	15	3	0	0	0	18	0	0	7	1	0	0	0	8
0815 - 0830	0	0	16	0	0	0	0	16	0	0	6	3	0	0	0	9
0830 - 0845	0	0	10	1	0	0	0	11	0	0	13	0	0	0	0	13
0845 - 0900	0	0	7	0	0	1	0	8	0	0	16	1	0	0	0	17
Hourly Total	0	0	48	4	0	1	0	53	0	0	42	5	0	0	0	47
0900 - 0915	0	0	4	1	0	0	0	5	0	0	10	2	0	0	0	12
0915 - 0930	0	0	6	0	0	0	0	6	0	0	5	1	0	0	0	6
Hourly Total	0	0	10	1	0	0	0	11	0	0	15	3	0	0	0	18
Session Total	0	0	82	10	0	1	0	93	0	0	76	8	0	0	0	84
1630 - 1645	0	0	4	1	0	0	0	5	0	0	5	1	0	0	0	6
1645 - 1700	0	0	8	0	0	0	0	8	0	0	3	1	0	0	0	4
Hourly Total	0	0	12	1	0	0	0	13	0	0	8	2	0	0	0	10
1700 - 1715	0	0	6	1	0	0	0	7	0	0	1	2	0	0	0	3
1715 - 1730	0	0	11	1	0	0	0	12	0	0	7	0	0	0	0	7
1730 - 1745	0	0	10	1	0	0	0	11	0	0	2	0	0	0	0	2
1745 - 1800	0	0	8	1	0	0	0	9	0	0	7	0	0	0	0	7
Hourly Total	0	0	35	4	0	0	0	39	0	0	17	2	0	0	0	19
1800 - 1815	0	0	12	2	0	0	0	14	0	0	7	0	0	0	0	7
1815 - 1830	0	0	5	0	0	0	0	5	0	0	4	3	0	0	0	7
Hourly Total	0	0	17	2	0	0	0	19	0	0	11	3	0	0	0	14
Session Total	0	0	64	7	0	0	0	71	0	0	36	7	0	0	0	43

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

Produced by Road Data Services Ltd.

Junction: (1) Chester Road / Hillock Lane

Approach: Chester Road (South)

TIME	Ahead to Chester Road (North)								Right to Hillock Lane							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	26	2	0	1	1	30	0	0	4	0	0	0	0	4
0745 - 0800	0	0	33	7	0	0	2	42	0	0	2	1	0	0	0	3
Hourly Total	0	0	59	9	0	1	3	72	0	0	6	1	0	0	0	7
0800 - 0815	0	0	22	7	0	0	3	32	0	0	5	4	0	0	0	9
0815 - 0830	0	0	35	6	0	1	2	44	0	0	6	1	0	0	0	7
0830 - 0845	0	0	34	6	0	0	2	42	0	0	4	0	0	0	0	4
0845 - 0900	0	0	51	5	0	1	2	59	0	0	4	0	0	0	0	4
Hourly Total	0	0	142	24	0	2	9	177	0	0	19	5	0	0	0	24
0900 - 0915	0	0	47	7	0	2	3	59	0	0	3	0	0	0	0	3
0915 - 0930	1	0	34	3	1	0	1	40	0	0	5	0	1	0	0	6
Hourly Total	1	0	81	10	1	2	4	99	0	0	8	0	1	0	0	9
Session Total	1	0	282	43	1	5	16	348	0	0	33	6	1	0	0	40
1630 - 1645	1	0	31	5	0	0	2	39	0	0	3	1	0	0	0	4
1645 - 1700	0	0	32	3	0	0	1	36	0	0	7	1	0	0	0	8
Hourly Total	1	0	63	8	0	0	3	75	0	0	10	2	0	0	0	12
1700 - 1715	0	0	46	2	0	0	2	50	0	0	11	1	0	0	0	12
1715 - 1730	1	0	37	3	0	0	1	42	0	0	9	1	0	0	0	10
1730 - 1745	0	0	37	3	0	0	0	40	0	0	7	1	0	0	0	8
1745 - 1800	0	0	47	3	0	0	2	52	0	0	8	0	0	0	0	8
Hourly Total	1	0	167	11	0	0	5	184	0	0	35	3	0	0	0	38
1800 - 1815	0	0	39	8	0	0	1	48	0	0	11	0	0	0	0	11
1815 - 1830	0	1	31	2	0	0	1	35	0	0	8	0	0	0	0	8
Hourly Total	0	1	70	10	0	0	2	83	0	0	19	0	0	0	0	19
Session Total	2	1	300	29	0	0	10	342	0	0	64	5	0	0	0	69

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

Produced by Road Data Services Ltd.

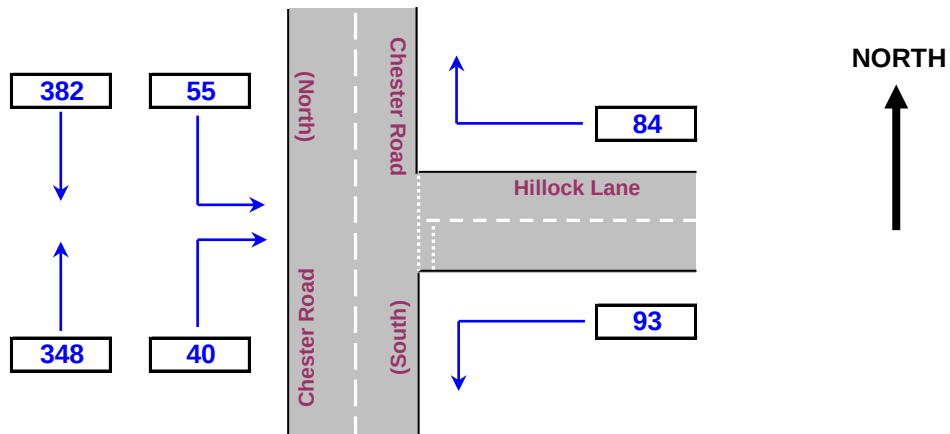
Junction: (1) Chester Road / Hillock Lane

Vehicle Class: ALL CLASSES ▼

Start Time: 1) 0730 ▼

End Time: 1) 0930 ▼

☐ Peak Hour



Note: The above diagram represents the Junction surveyed, although may not be the exact layout of the actual location.

Important This spreadsheet & Interactive Vehicle Flow Diagram was produced based on specific

Note: parameters. Consequently, alteration to the spreadsheet format or it's properties may result in malfunction.

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

Produced by Road Data Services Ltd.

Approach: Hillock Lane

	Eastbound								Westbound							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	6	3	0	0	0	9	0	0	5	0	0	0	0	5
0745 - 0800	0	0	5	3	0	0	0	8	0	0	9	1	0	0	0	10
Hourly Total	0	0	11	6	0	0	0	17	0	0	14	1	0	0	0	15
0800 - 0815	0	0	8	5	1	0	0	14	0	0	8	3	0	0	0	11
0815 - 0830	0	0	10	0	0	0	0	10	0	0	9	0	0	1	0	10
0830 - 0845	0	0	12	2	0	0	0	14	0	0	5	0	0	0	0	5
0845 - 0900	0	0	9	0	0	0	0	9	0	0	6	3	0	1	0	10
Hourly Total	0	0	39	7	1	0	0	47	0	0	28	6	0	2	0	36
0900 - 0915	0	0	2	1	0	0	0	3	0	0	6	1	0	0	0	7
0915 - 0930	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0
Hourly Total	0	0	6	2	0	0	0	8	0	0	6	1	0	0	0	7
Session Total	0	0	56	15	1	0	0	72	0	0	48	8	0	2	0	58
1630 - 1645	0	0	2	0	0	0	0	2	0	0	8	1	0	0	0	9
1645 - 1700	0	0	3	0	0	0	0	3	0	0	7	2	0	0	0	9
Hourly Total	0	0	5	0	0	0	0	5	0	0	15	3	0	0	0	18
1700 - 1715	0	0	3	0	0	0	0	3	0	0	13	0	0	0	0	13
1715 - 1730	0	0	3	0	0	0	0	3	0	0	11	3	0	0	0	14
1730 - 1745	0	0	7	0	0	0	0	7	0	0	6	1	0	0	0	7
1745 - 1800	0	0	3	1	0	0	0	4	0	0	5	1	0	0	0	6
Hourly Total	0	0	16	1	0	0	0	17	0	0	35	5	0	0	0	40
1800 - 1815	0	0	2	0	0	0	0	2	0	0	4	0	0	0	0	4
1815 - 1830	1	0	5	0	0	0	0	6	0	0	11	0	0	0	0	11
Hourly Total	1	0	7	0	0	0	0	8	0	0	15	0	0	0	0	15
Session Total	1	0	28	1	0	0	0	30	0	0	65	8	0	0	0	73

Gresford - Manual Traffic Survey, Tuesday 11th June 2019

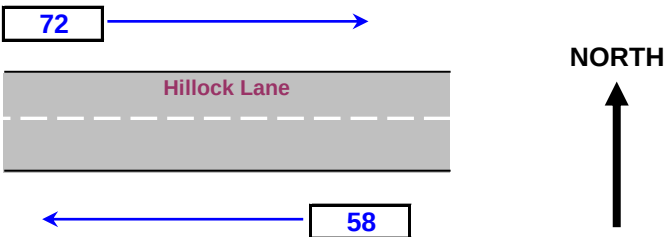
Produced by Road Data Services Ltd.

Vehicle Class: ALL CLASSES

Start Time: 1) 0730

End Time: 1) 0930

☐ Peak Hour



Note: The above diagram represents the Junction surveyed, although may not be the exact layout of the actual location.

Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

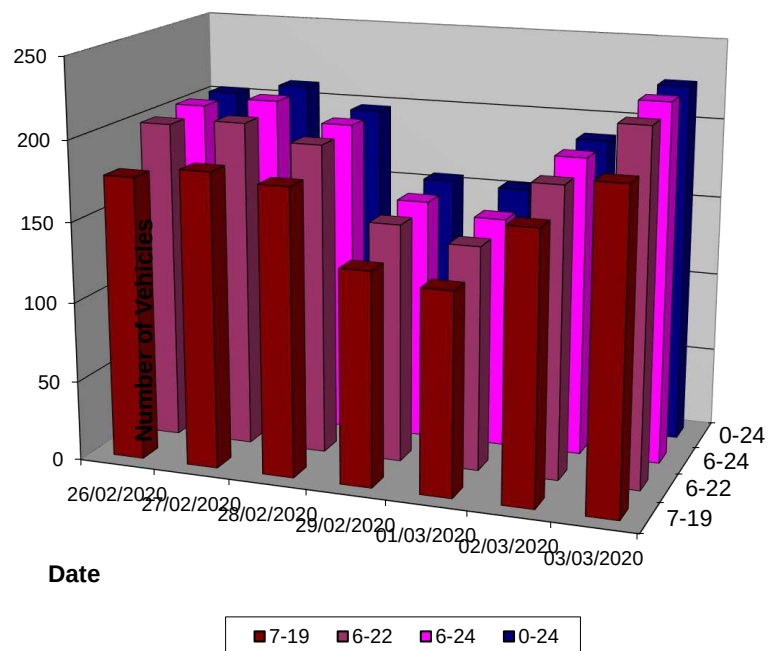
Channel 1 - Westbound

Vehicle Flow

Week 1

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday	5 Day Ave	7 Day Ave
1	0	1	0	0	4	0	0	0	1
2	0	0	0	0	2	1	0	0	0
3	0	0	0	0	1	0	0	0	0
4	0	0	0	1	0	0	1	0	0
5	0	0	0	2	0	0	0	0	0
6	0	0	0	0	1	0	0	0	0
7	6	3	5	0	0	2	1	3	2
8	10	9	9	5	0	7	10	9	7
9	8	6	9	6	3	9	8	8	7
10	13	13	9	6	8	9	9	11	10
11	8	11	9	12	13	11	12	10	11
12	8	13	13	24	16	6	14	11	13
13	11	12	15	11	12	12	12	12	12
14	15	10	15	15	15	9	12	12	13
15	10	16	20	11	15	14	10	14	14
16	11	19	16	5	6	11	18	15	12
17	29	28	24	14	17	28	36	29	25
18	37	29	28	12	14	32	34	32	27
19	17	18	12	12	7	19	21	17	15
20	10	7	4	7	8	6	10	7	7
21	4	9	3	5	2	4	6	5	5
22	3	1	3	4	4	2	6	3	3
23	3	3	2	3	4	5	5	4	4
24	0	2	1	0	1	1	0	1	1
7-19	177	184	179	133	126	167	196	181	166
6-22	200	204	194	149	140	181	219	200	184
6-24	203	209	197	152	145	187	224	204	188
0-24	203	210	197	155	153	188	225	205	190

Vehicle Flow (Channel 1)



Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

Channel 1 - Westbound

Average Speed

Week 1

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
1	-	15.7	-	-	21.2	-	-
2	-	-	-	-	22.3	21.2	-
3	-	-	-	-	19.5	-	-
4	-	-	-	13.2	-	-	16.8
5	-	-	-	24.2	-	-	-
6	-	-	-	-	21.6	-	-
7	20.9	18.5	21.9	-	-	20.4	19.2
8	18.5	19.9	18.8	23.2	-	20.6	19.7
9	18.9	19.8	17.9	20.8	21.4	18.2	15.5
10	18.4	17.2	17.1	19.3	16.6	19.2	19.7
11	18.2	17.2	17.5	18.5	16.0	19.7	17.2
12	18.7	16.7	18.5	16.7	18.6	15.9	16.3
13	16.5	18.7	16.3	16.0	16.2	18.2	17.2
14	14.9	18.6	18.7	21.3	20.2	15.6	19.9
15	17.9	15.3	16.6	16.5	18.4	18.9	19.0
16	18.3	17.0	18.2	18.7	19.2	15.7	18.0
17	18.0	18.1	18.2	16.3	17.0	17.9	18.2
18	17.8	19.3	16.3	16.5	18.2	17.3	19.4
19	18.4	17.6	21.3	18.0	22.1	19.8	18.2
20	19.7	21.5	19.2	21.6	19.1	22.5	20.9
21	15.7	18.4	20.0	20.5	28.5	21.3	20.6
22	21.8	20.3	17.1	22.7	20.4	21.2	17.4
23	23.8	23.9	22.4	19.0	25.0	17.6	19.7
24	-	20.3	37.0	-	23.2	34.6	-
10-12	18.5	16.9	18.1	17.3	17.4	18.4	16.7
14-16	18.1	16.2	17.3	17.2	18.6	17.5	18.3
0-24	18.1	18.1	18.1	18.4	18.8	18.5	18.5

Average

18.3

Channel 1 - Westbound

85th Percentile

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
1	-	-	-	-	23.6	-	-
2	-	-	-	-	22.7	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	25.5	-	-	-
6	-	-	-	-	-	-	-
7	22.5	19.5	24.4	-	-	22.1	-
8	24.9	21.6	22.5	25.7	-	25.4	22.4
9	23.0	25.0	22.0	24.0	24.8	20.8	17.7
10	23.0	20.8	18.2	21.7	20.3	22.2	22.6
11	21.7	20.9	21.3	22.0	20.5	24.1	20.9
12	20.9	20.2	22.1	20.3	23.1	19.0	20.8
13	19.3	22.2	24.4	20.7	22.4	20.6	21.9
14	19.0	22.5	21.5	24.0	24.0	20.1	24.6
15	20.8	18.5	20.3	21.6	23.3	21.9	23.8
16	21.9	21.7	22.0	20.5	23.4	19.8	22.0
17	22.6	21.8	23.3	19.1	22.8	22.2	21.7
18	21.3	21.8	20.3	19.6	23.1	21.0	23.0
19	21.3	21.6	24.3	21.8	23.7	24.4	23.8
20	22.9	25.9	22.3	26.6	21.4	26.7	27.4
21	19.3	23.0	21.3	23.4	29.8	24.3	23.1
22	24.6	-	19.2	25.5	23.8	27.4	22.9
23	27.5	27.3	23.2	20.2	29.8	22.5	27.7
24	-	25.4	-	-	-	-	-
10-12	21.6	20.2	21.8	21.3	20.9	23.4	20.9
14-16	21.4	20.5	21.1	21.1	23.3	21.7	23.5
0-24	22.5	22.0	22.6	22.7	23.3	23.0	22.8

85th %ile

22.8

Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

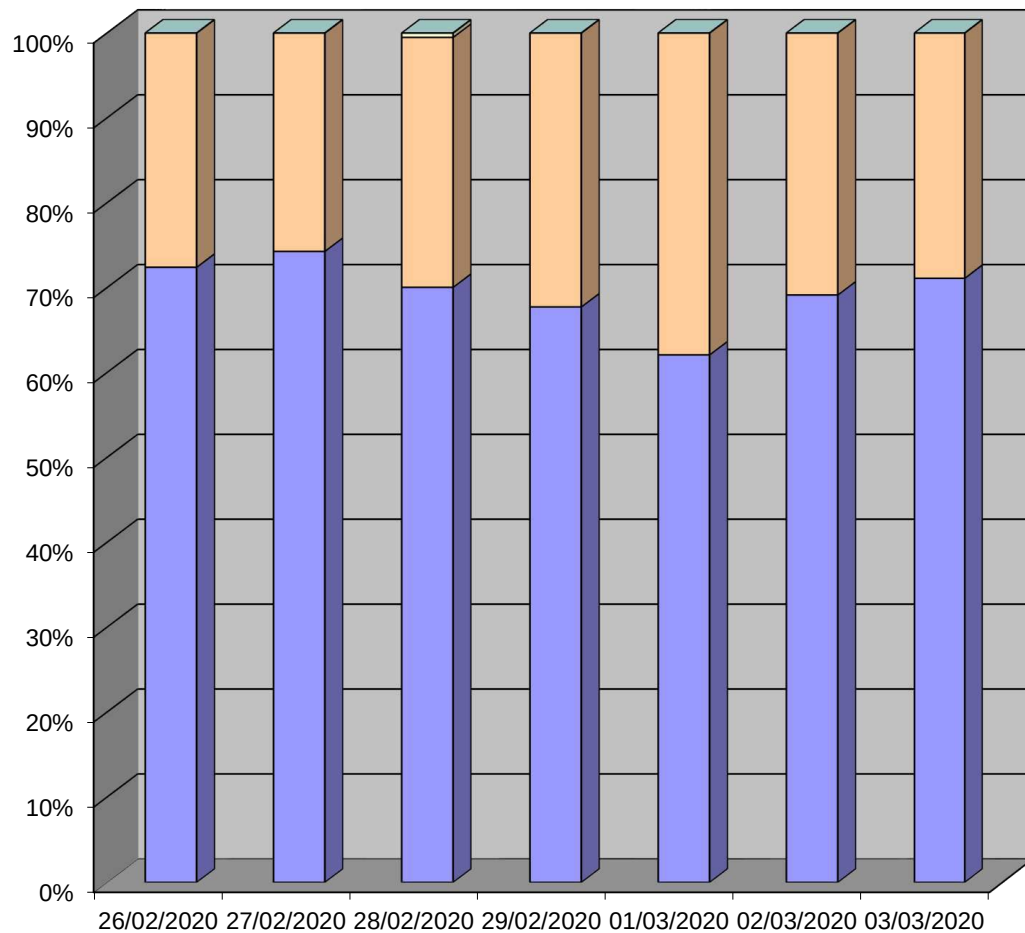
Channel 1 - Westbound

Speed Summary

Week 1

Speed (MPH)	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
0-20	147	156	138	105	95	130	160
21-35	56	54	58	50	58	58	65
36-50	0	0	1	0	0	0	0
51+	0	0	0	0	0	0	0
TOTAL	203	210	197	155	153	188	225

Speed Summary (MPH)



Date

0-20

21-35

36-50

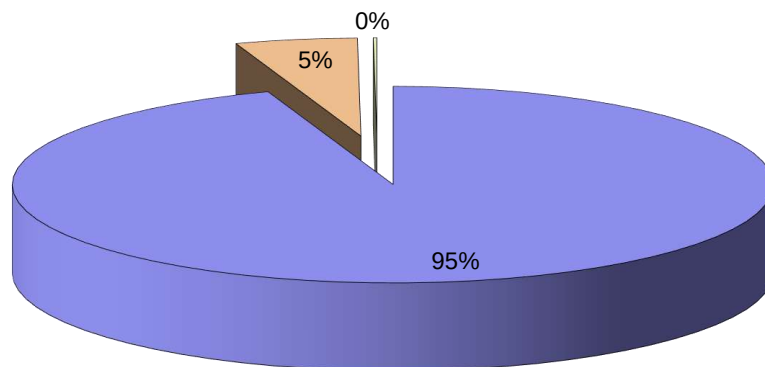
51+

Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

Channel 1 - Westbound		Vehicle Class		Week 1
Classes Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
26/02/2020				
7-19	166	11	0	177
6-22	187	13	0	200
6-24	190	13	0	203
0-24	190	13	0	203
27/02/2020				
7-19	174	10	0	184
6-22	192	12	0	204
6-24	197	12	0	209
0-24	198	12	0	210
28/02/2020				
7-19	163	16	0	179
6-22	177	17	0	194
6-24	180	17	0	197
0-24	180	17	0	197
29/02/2020				
7-19	129	4	0	133
6-22	145	4	0	149
6-24	148	4	0	152
0-24	150	5	0	155
01/03/2020				
7-19	124	2	0	126
6-22	137	3	0	140
6-24	142	3	0	145
0-24	150	3	0	153
02/03/2020				
7-19	160	6	1	167
6-22	172	8	1	181
6-24	178	8	1	187
0-24	179	8	1	188
03/03/2020				
7-19	186	9	1	196
6-22	208	10	1	219
6-24	212	11	1	224
0-24	213	11	1	225
Average				
7-19	157	8	0	166
6-22	174	10	0	184
6-24	178	10	0	188
0-24	180	10	0	190

Total Vehicle Class Distribution



Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

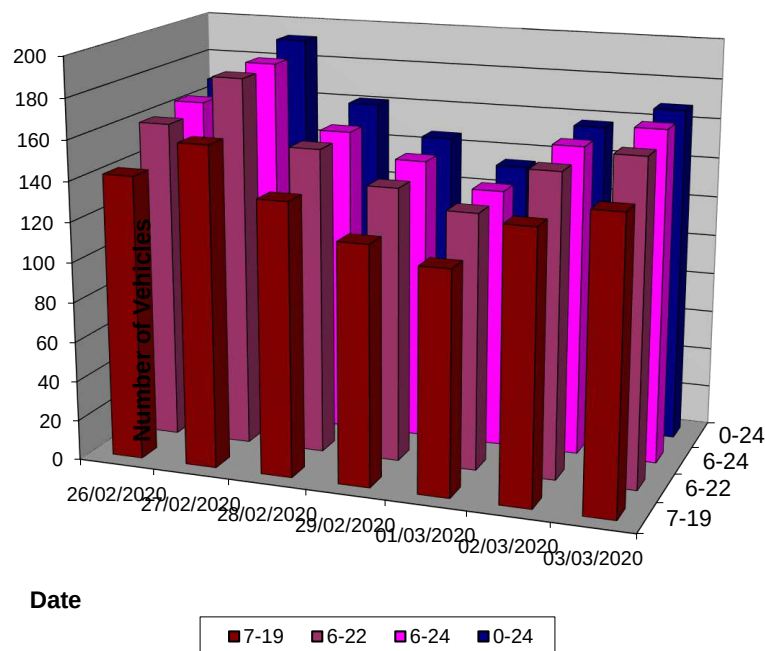
Channel 2 - Eastbound

Vehicle Flow

Week 1

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday	5 Day Ave	7 Day Ave
1	0	1	1	2	0	0	0	0	1
2	0	0	0	0	1	0	0	0	0
3	0	0	0	0	1	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	1	1	1	1	0	0	1	1	1
6	4	4	5	1	2	2	1	3	3
7	4	4	5	1	1	5	4	4	3
8	19	15	18	1	1	12	20	17	12
9	24	36	21	6	6	25	19	25	20
10	10	14	13	7	11	8	6	10	10
11	7	8	7	11	7	7	6	7	8
12	9	14	7	15	12	9	15	11	12
13	9	6	10	11	13	8	10	9	10
14	8	7	12	11	7	13	8	10	9
15	11	9	5	14	15	7	15	9	11
16	12	16	7	8	18	7	12	11	11
17	12	15	12	12	8	13	11	13	12
18	14	11	15	13	7	17	14	14	13
19	7	9	9	10	6	8	8	8	8
20	8	11	7	8	7	5	6	7	7
21	5	5	2	4	4	4	2	4	4
22	1	5	3	5	5	3	5	3	4
23	3	0	0	3	2	2	5	2	2
24	1	1	1	2	0	2	0	1	1
7-19	142	160	136	119	111	134	144	143	135
6-22	160	185	153	137	128	151	161	162	154
6-24	164	186	154	142	130	155	166	165	157
0-24	169	192	161	146	134	157	168	169	161

Vehicle Flow (Channel 2)



Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

Channel 2 - Eastbound

Average Speed

Week 1

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
1	-	11.1	25.4	25.4	-	-	-
2	-	-	-	-	18.1	-	-
3	-	-	-	-	19.7	-	-
4	-	-	-	-	-	-	-
5	24.4	24.1	21.1	22.5	-	-	21.6
6	21.4	19.1	16.6	21.6	24.3	22.1	23.3
7	14.0	14.2	19.6	26.2	24.7	20.1	18.8
8	22.2	22.5	20.4	21.3	20.4	20.3	19.8
9	22.9	21.8	20.5	19.5	22.8	20.8	21.2
10	22.2	20.1	21.5	20.4	21.0	19.0	19.0
11	18.3	20.6	17.6	21.9	21.4	19.1	15.4
12	19.9	17.6	18.0	19.0	15.4	21.6	19.1
13	19.2	18.7	18.2	17.7	17.9	16.6	16.7
14	19.5	19.6	20.3	18.9	19.7	18.5	19.8
15	20.5	20.1	22.0	18.3	18.1	18.1	19.5
16	20.0	17.3	18.2	20.1	18.6	17.4	20.5
17	20.7	20.1	19.4	21.4	19.6	21.6	17.7
18	17.0	20.9	19.6	20.1	20.2	18.9	22.0
19	20.6	22.6	20.9	20.5	21.1	18.3	19.3
20	18.3	22.0	19.5	22.1	19.5	19.1	20.7
21	19.7	15.8	23.2	20.0	18.3	19.3	23.1
22	24.6	23.0	19.9	22.4	26.8	14.2	26.4
23	26.6	-	-	20.7	19.9	19.8	22.0
24	20.5	25.5	21.3	18.3	-	17.6	-
10-12	19.2	18.7	17.8	20.2	17.6	20.5	18.1
14-16	20.3	18.3	19.7	19.0	18.4	17.8	20.0
0-24	20.5	20.3	19.8	20.1	19.5	19.4	19.9

Average

20.0

Channel 2 - Eastbound

85th Percentile

Hr Ending	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
1	-	-	-	25.8	-	-	-
2	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	23.2	23.7	24.3	-	25.9	22.6	-
7	16.0	16.7	22.5	-	-	25.3	24.7
8	26.3	28.6	23.6	-	-	25.5	24.3
9	25.5	25.7	23.8	23.3	27.2	23.9	24.7
10	25.0	24.4	25.5	24.0	25.1	22.5	23.0
11	24.7	24.7	20.8	24.7	23.8	21.1	20.5
12	24.7	22.0	23.6	22.8	19.2	22.7	23.5
13	23.8	23.6	22.0	20.4	20.9	19.3	21.1
14	25.7	23.5	23.7	23.1	22.7	21.7	24.7
15	22.7	23.9	25.2	24.3	22.8	21.8	24.7
16	24.1	21.8	22.5	23.5	22.5	19.8	26.2
17	25.3	24.0	23.9	25.2	21.2	27.8	22.0
18	20.7	21.7	22.9	23.2	21.2	22.9	26.3
19	22.2	24.6	24.1	24.0	25.1	20.6	24.6
20	23.4	24.8	21.1	24.8	24.9	20.2	24.6
21	22.1	19.3	25.9	23.9	25.6	20.8	27.2
22	-	25.7	23.3	29.2	28.7	19.3	32.3
23	29.1	-	-	21.9	21.2	24.5	25.4
24	-	-	-	19.0	-	20.1	-
10-12	24.7	22.6	21.5	24.4	23.2	22.7	21.1
14-16	23.3	22.7	25.0	24.2	22.8	21.8	24.8
0-24	24.7	24.5	24.3	24.4	24.7	23.9	24.8

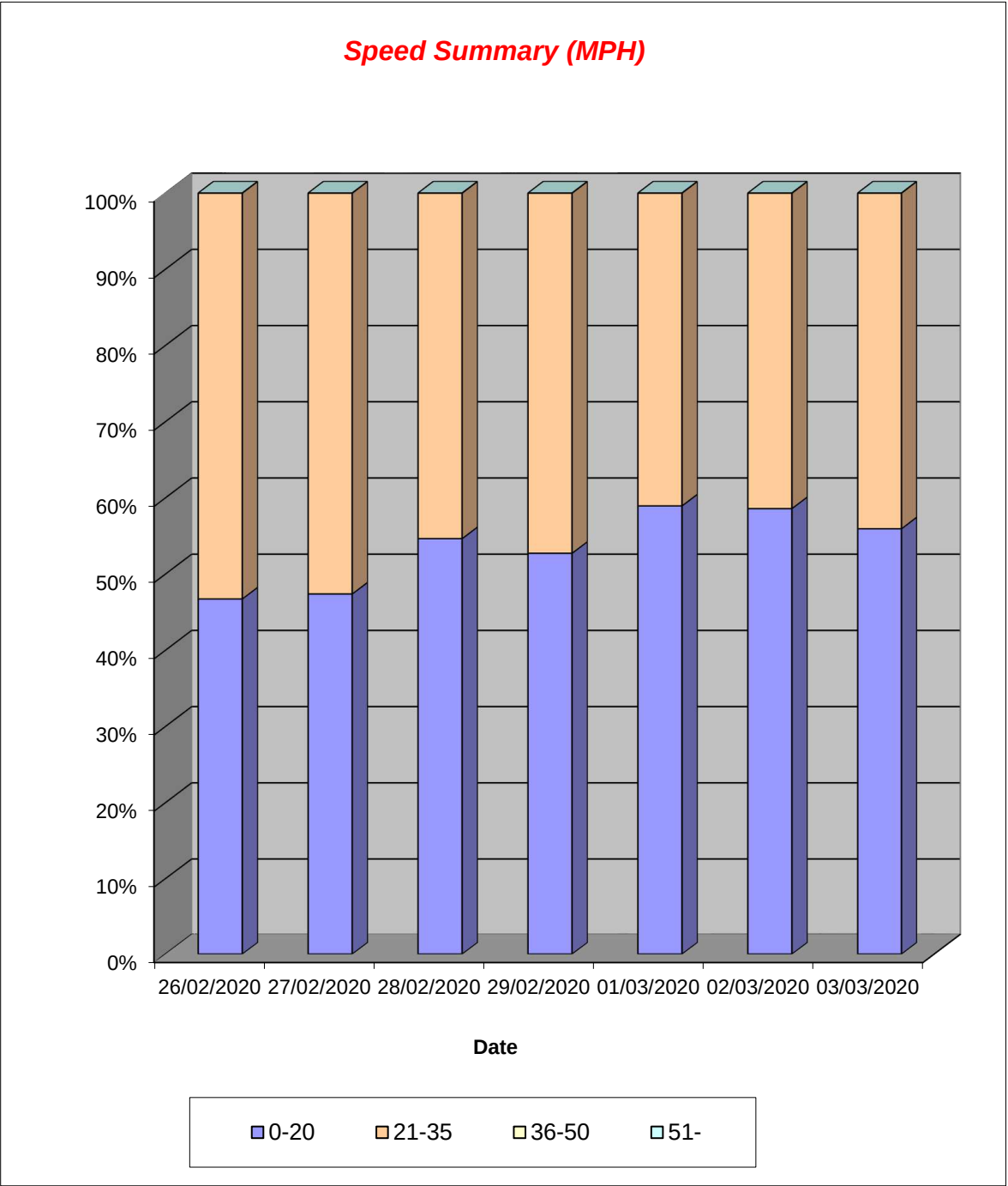
85th %ile

24.6

Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

Channel 2 - Eastbound				Speed Summary			Week 1
Speed (MPH)	26/02/2020 Wednesday	27/02/2020 Thursday	28/02/2020 Friday	29/02/2020 Saturday	01/03/2020 Sunday	02/03/2020 Monday	03/03/2020 Tuesday
0-20	79	91	88	77	79	92	94
21-35	90	101	73	69	55	65	74
36-50	0	0	0	0	0	0	0
51+	0	0	0	0	0	0	0
TOTAL	169	192	161	146	134	157	168



Gresford ATC, Hillock Lane

Produced by Road Data Services Ltd.

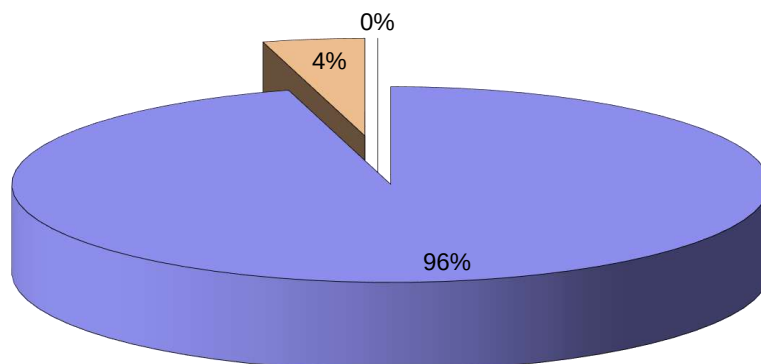
Channel 2 - Eastbound

Vehicle Class

Week 1

Classes Day / Time	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
26/02/2020				
7-19	135	7	0	142
6-22	152	8	0	160
6-24	156	8	0	164
0-24	161	8	0	169
27/02/2020				
7-19	149	11	0	160
6-22	173	12	0	185
6-24	174	12	0	186
0-24	180	12	0	192
28/02/2020				
7-19	128	8	0	136
6-22	143	10	0	153
6-24	144	10	0	154
0-24	151	10	0	161
29/02/2020				
7-19	116	3	0	119
6-22	134	3	0	137
6-24	139	3	0	142
0-24	142	4	0	146
01/03/2020				
7-19	110	1	0	111
6-22	127	1	0	128
6-24	129	1	0	130
0-24	133	1	0	134
02/03/2020				
7-19	130	4	0	134
6-22	146	5	0	151
6-24	149	6	0	155
0-24	151	6	0	157
03/03/2020				
7-19	138	6	0	144
6-22	153	8	0	161
6-24	158	8	0	166
0-24	160	8	0	168
Average				
7-19	129	6	0	135
6-22	147	7	0	154
6-24	150	7	0	157
0-24	154	7	0	161

Total Vehicle Class Distribution



Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (1) Stancliffe Avenue / Hillock Lane

Approach: Stancliffe Avenue

TIME	Left to Hillock Lane (East)				Right to Hillock Lane (West)			
	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	0	0	0	0	3	0	0	3
0745 - 0800	0	0	0	0	1	0	0	1
Hourly Total	0	0	0	0	4	0	0	4
0800 - 0815	0	0	0	0	4	0	0	4
0815 - 0830	1	0	0	1	0	0	0	0
0830 - 0845	1	0	0	1	2	0	0	2
0845 - 0900	0	0	0	0	7	0	0	7
Hourly Total	2	0	0	2	13	0	0	13
0900 - 0915	0	0	0	0	3	0	0	3
0915 - 0930	0	0	0	0	2	0	0	2
Hourly Total	0	0	0	0	5	0	0	5

Session Total	2	0	0	2	22	0	0	22
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1630 - 1645	0	0	0	0	3	0	0	3
1645 - 1700	0	0	0	0	1	0	0	1
Hourly Total	0	0	0	0	4	0	0	4
1700 - 1715	0	0	0	0	1	0	0	1
1715 - 1730	0	0	0	0	1	0	0	1
1730 - 1745	1	0	0	1	0	0	0	0
1745 - 1800	1	0	0	1	1	0	0	1
Hourly Total	2	0	0	2	3	0	0	3
1800 - 1815	0	0	0	0	2	0	0	2
1815 - 1830	1	0	0	1	1	0	0	1
Hourly Total	1	0	0	1	3	0	0	3

Session Total	3	0	0	3	10	0	0	10
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (1) Stancliffe Avenue / Hillock Lane

Approach: Hillock Lane (East)

TIME	W/B to Hillock Lane (West)				Right to Stancliffe Avenue			
	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	2	0	0	2	0	0	0	0
0745 - 0800	4	0	0	4	1	0	0	1
Hourly Total	6	0	0	6	1	0	0	1
0800 - 0815	0	0	0	0	0	0	0	0
0815 - 0830	2	0	0	2	0	0	0	0
0830 - 0845	2	0	0	2	1	0	0	1
0845 - 0900	3	0	0	3	0	0	0	0
Hourly Total	7	0	0	7	1	0	0	1
0900 - 0915	5	0	0	5	0	0	0	0
0915 - 0930	5	0	0	5	0	0	0	0
Hourly Total	10	0	0	10	0	0	0	0

Session Total	23	0	0	23	2	0	0	2
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1630 - 1645	5	0	0	5	0	0	0	0
1645 - 1700	9	0	0	9	1	0	0	1
Hourly Total	14	0	0	14	1	0	0	1
1700 - 1715	8	0	0	8	0	0	0	0
1715 - 1730	10	0	0	10	1	0	0	1
1730 - 1745	11	0	0	11	1	0	0	1
1745 - 1800	6	0	0	6	0	0	0	0
Hourly Total	35	0	0	35	2	0	0	2
1800 - 1815	4	0	0	4	0	0	0	0
1815 - 1830	7	0	0	7	0	0	0	0
Hourly Total	11	0	0	11	0	0	0	0

Session Total	60	0	0	60	3	0	0	3
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (1) Stancliffe Avenue / Hillock Lane

Approach: Hillock Lane (West)

TIME	Left to Stancliffe Avenue				E/B to Hillock Lane (East)			
	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	0	0	0	0	5	0	0	5
0745 - 0800	1	0	0	1	8	0	0	8
Hourly Total	1	0	0	1	13	0	0	13
0800 - 0815	0	0	0	0	5	0	0	5
0815 - 0830	2	0	0	2	5	0	0	5
0830 - 0845	0	0	0	0	6	0	0	6
0845 - 0900	0	0	0	0	7	0	0	7
Hourly Total	2	0	0	2	23	0	0	23
0900 - 0915	4	0	0	4	4	0	0	4
0915 - 0930	1	0	0	1	1	0	0	1
Hourly Total	5	0	0	5	5	0	0	5

Session Total	8	0	0	8	41	0	0	41
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1630 - 1645	2	0	0	2	5	0	0	5
1645 - 1700	2	0	0	2	2	0	0	2
Hourly Total	4	0	0	4	7	0	0	7
1700 - 1715	2	0	0	2	3	0	0	3
1715 - 1730	6	0	0	6	2	0	0	2
1730 - 1745	1	0	0	1	3	0	0	3
1745 - 1800	1	0	0	1	4	0	0	4
Hourly Total	10	0	0	10	12	0	0	12
1800 - 1815	2	0	0	2	2	0	0	2
1815 - 1830	1	0	0	1	1	0	0	1
Hourly Total	3	0	0	3	3	0	0	3

Session Total	17	0	0	17	22	0	0	22
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

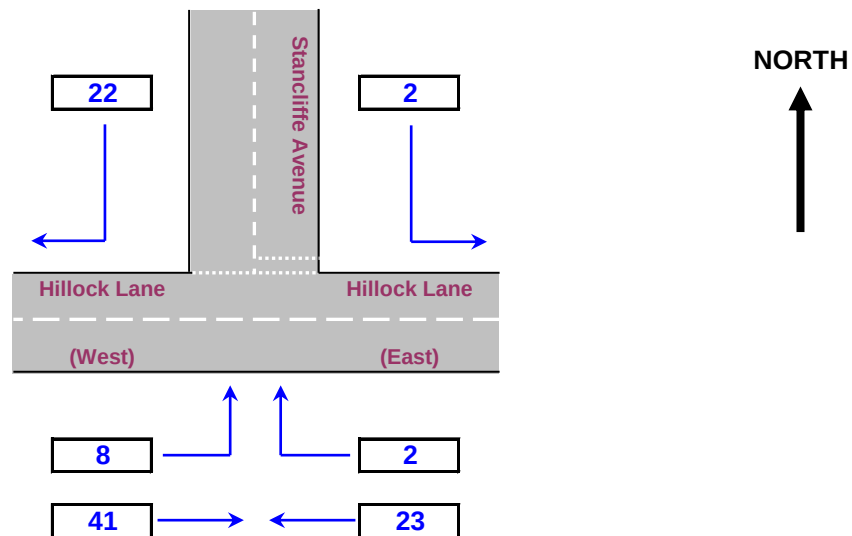
Junction: (1) Stancliffe Avenue / Hillock Lane

Vehicle Class: ALL CLASSES

Start Time: 1) 0730

End Time: 1) 0930

☐ Peak Hour



Note: The above diagram represents the Junction surveyed, although may not be the exact layout of the actual location.

Important This spreadsheet & Interactive Vehicle Flow Diagram was produced based on specific

Note: parameters. Consequently, alteration to the spreadsheet format or it's properties may result in malfunction.

Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (2) Wynnstay Lane / Hillock Lane

Approach: Wynnstay Lane (North)

	S/B to Wynnstay Lane (South)				Right to Hillock Lane			
TIME	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	5	0	0	5	2	0	0	2
0745 - 0800	3	0	0	3	4	0	0	4
Hourly Total	8	0	0	8	6	0	0	6
0800 - 0815	3	0	0	3	1	0	0	1
0815 - 0830	4	0	0	4	2	0	0	2
0830 - 0845	3	0	0	3	1	0	0	1
0845 - 0900	3	0	0	3	3	0	0	3
Hourly Total	13	0	0	13	7	0	0	7
0900 - 0915	3	0	0	3	2	0	0	2
0915 - 0930	1	0	0	1	3	0	0	3
Hourly Total	4	0	0	4	5	0	0	5

Session Total	25	0	0	25	18	0	0	18
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1630 - 1645	1	0	0	1	0	0	0	0
1645 - 1700	1	0	0	1	0	0	0	0
Hourly Total	2	0	0	2	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0
1715 - 1730	2	0	0	2	1	0	0	1
1730 - 1745	1	0	0	1	1	0	0	1
1745 - 1800	4	0	0	4	0	0	0	0
Hourly Total	7	0	0	7	2	0	0	2
1800 - 1815	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	2	0	0	2
Hourly Total	0	0	0	0	2	0	0	2

Session Total	9	0	0	9	4	0	0	4
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (2) Wynnstay Lane / Hillock Lane

Approach: Wynnstay Lane (South)

TIME	Left to Hillock Lane				N/B to Wynnstay Lane (North)			
	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	0	0	0	0	0	1	0	1
0745 - 0800	0	0	0	0	1	0	0	1
Hourly Total	0	0	0	0	1	1	0	2
0800 - 0815	0	0	0	0	1	0	0	1
0815 - 0830	1	0	0	1	1	0	0	1
0830 - 0845	1	0	0	1	2	0	0	2
0845 - 0900	2	0	0	2	2	0	0	2
Hourly Total	4	0	0	4	6	0	0	6
0900 - 0915	2	0	0	2	1	0	0	1
0915 - 0930	1	0	0	1	0	0	0	0
Hourly Total	3	0	0	3	1	0	0	1

Session Total	7	0	0	7	8	1	0	9
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1630 - 1645	6	0	0	6	3	0	0	3
1645 - 1700	8	0	0	8	3	0	0	3
Hourly Total	14	0	0	14	6	0	0	6
1700 - 1715	9	0	0	9	7	0	0	7
1715 - 1730	8	0	0	8	1	0	0	1
1730 - 1745	11	0	0	11	8	0	0	8
1745 - 1800	5	0	0	5	2	0	0	2
Hourly Total	33	0	0	33	18	0	0	18
1800 - 1815	6	0	0	6	4	0	0	4
1815 - 1830	3	0	0	3	3	0	0	3
Hourly Total	9	0	0	9	7	0	0	7

Session Total	56	0	0	56	31	0	0	31
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

Junction: (2) Wynnstay Lane / Hillock Lane

Approach: Hillock Lane

TIME	Left to Wynnstay Lane (North)				Right to Wynnstay Lane (South)			
	LIGHT	HGV	BUS	TOTAL	LIGHT	HGV	BUS	TOTAL
0730 - 0745	0	0	0	0	4	0	0	4
0745 - 0800	0	0	0	0	8	0	0	8
Hourly Total	0	0	0	0	12	0	0	12
0800 - 0815	0	0	0	0	6	0	0	6
0815 - 0830	1	0	0	1	5	0	0	5
0830 - 0845	1	0	0	1	7	0	0	7
0845 - 0900	0	0	0	0	6	0	0	6
Hourly Total	2	0	0	2	24	0	0	24
0900 - 0915	2	0	0	2	2	0	0	2
0915 - 0930	1	0	0	1	1	0	0	1
Hourly Total	3	0	0	3	3	0	0	3

Session Total	5	0	0	5	39	0	0	39
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1630 - 1645	1	0	0	1	3	0	0	3
1645 - 1700	0	0	0	0	2	0	0	2
Hourly Total	1	0	0	1	5	0	0	5
1700 - 1715	1	0	0	1	2	0	0	2
1715 - 1730	0	0	0	0	2	0	0	2
1730 - 1745	1	0	0	1	3	0	0	3
1745 - 1800	2	0	0	2	3	0	0	3
Hourly Total	4	0	0	4	10	0	0	10
1800 - 1815	0	0	0	0	2	0	0	2
1815 - 1830	1	0	0	1	1	0	0	1
Hourly Total	1	0	0	1	3	0	0	3

Session Total	6	0	0	6	18	0	0	18
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Gresford - Manual Traffic Survey, Wednesday 26th February 2020

Produced by Road Data Services Ltd

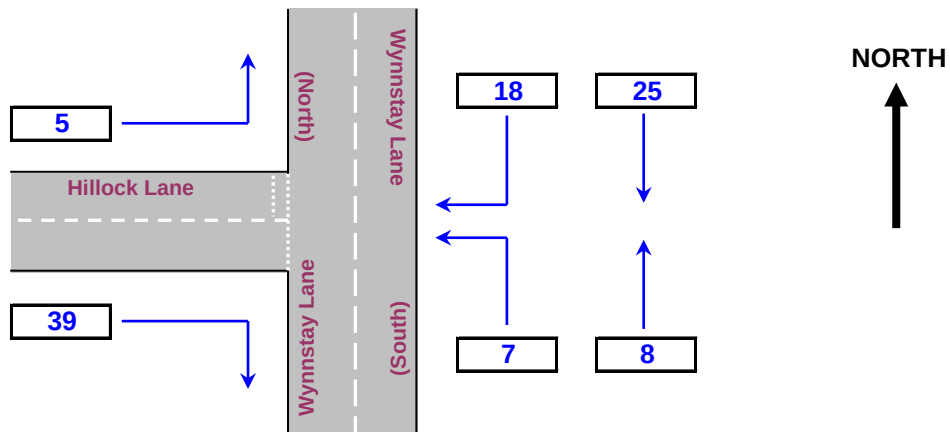
Junction: (2) Wynnstay Lane / Hillock Lane

Vehicle Class:

Start Time:

End Time:

☐ Peak Hour



Note: The above diagram represents the Junction surveyed, although may not be the exact layout of the actual location.

Important This spreadsheet & Interactive Vehicle Flow Diagram was produced based on specific

Note: parameters. Consequently, alteration to the spreadsheet format or it's properties may result in malfunction.

APPENDIX 3

Traffic Generation Information

MEMORANDUM

From: Chief Officer, Environment & Technical **To:** Chief Officer Planning & Regulatory
Our Ref: ET/DC/P/2018/1063 **Your Ref:** SW/P/2018/1063
Date: 9th January 2020

Town and Country Planning Act 1990

Section 78 Appeal – Land West of Bryn Isa, Vicarage Lane, Gresford, Wrexham.

I refer to your consultation / email dated 03/01/2020 in respect of the above and provide the following Highway Statement as follows:-

Highways Statement

The proposed development site is located on a classified road subject to a 30mph speed limit. 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. There is no scope to construct a new continuous / uninterrupted footway alongside the existing carriageway leading to the village centre given the limited available carriageway width between the existing properties along this section. Pedestrians (including children) would have to walk approximately 130m along Vicarage Lane without the benefit of any continuous / uninterrupted footway provision to reach existing footway provision at the junction with Chester Road

Although the additional footway provision along Vicarage Lane when considered in isolation would offer some minor improvement in respect of pedestrian safety, it is considered that the scheme will introduce new issues with the introduction of a priority working system and reduced carriageway width. The proposed scheme is not supported by WCBC Traffic Section or Road Safety Section for reasons highlighted previously and within this report and are considered totally unacceptable by local residents.

The development does not in our opinion meet Welsh Government Guidelines (TAN 18) which requires safe walking and cycling routes to local facilities and bus stops.

Given the nature of the vehicles that use this section of Vicarage Lane ie/ milk tankers, large tractors / trailers it is still remains a significant concern that pedestrians would have to walk to and from the village without an uninterrupted and continuous footway link. A significant percentage of the existing vehicle movements along Vicarage Lane can be attributed to HGVs throughout the week and on weekends as indicated by the previously submitted Transport Statement.

A 7 day traffic survey was carried out between 01/07/2017 and 07/07/2017. This survey indicated two way weekday traffic flows in the region of 956 vehicles. In terms of HGVs, on an average day, 58 HGV s travel along Vicarage Lane which is significant given the lack of footway provision leading to the village from the proposed development site.

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 considered to be dangerous. Although the submitted layout plan indicates the provision of additional off-street parking provision for visitors / residents along Vicarage Lane within the curtilage of the proposed site, visitors / residents quite commonly prefer to park directly outside their properties for security / convenience reasons so their vehicles are visible from their properties. There is no certainty that residents offered these on-site spaces would use them as opposed to parking directly outside their properties.

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 1.2 – 1.6m wide footway is considered likely to result in additional issues along this section of Vicarage Lane. The proposed scheme is indicated on amended plan (Drg. No. 2479-01-SK02 Rev B). My observations are as follows:-

- Vehicles travelling north west along Vicarage Lane may not see vehicles turning left off Chester Road or right off Old Wrexham Road into Vicarage Lane due to limited visibility 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 travelling on the opposite side of the carriageway. 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.

During a site visit on 08/01/2019, a large articulated milk tanker approached from the north off Chester Road turning left into Vicarage Lane. This vehicle was confronted by a car travelling north west towards the junction along Vicarage Lane and met alongside The Plough Inn. The car struggled to squeeze past the HGV almost coming to a stop. In the meantime, the HGV stopped right across the yellow box markings (which is an offence under the Highway Code) with a significant portion of the vehicle extending onto the busy Chester Road. This occurred even without the proposed footway being in place.

- Any cars visiting the properties along the restricted section of Vicarage Lane may park along this section and restrict the available carriageway width and availability of the proposed passing place.
- The submitted layout plan indicates a passing bay between the two sections of footway of 13.5m in length. The plan indicates details of a milk tanker of 15.3m in length and 2.5m wide. Vehicles of this size could not obviously fit within the passing place. The applicant has not provided any swept path details of such a vehicle accessing this passing bay but simply indicates access by a car. Even if the passing bay was increased in length, it is likely to require a length of at least 20m which would remove a significant portion of the proposed footway in this location. Milk tankers, refuse vehicles and tractor / trailers which frequent Vicarage Lane would struggle to access any passing bay in this area having their swept paths hindered by existing boundary walls along this section. This would result in vehicles jutting out significantly beyond the proposed footway kerb line leaving insufficient space for any other HGV to pass. This could well occur whilst pedestrians are trying to walk along this section of Vicarage Lane.

Any proposed signage for the proposed priority system will require Welsh over English detail.

Any such signs at either end of the scheme could well prove difficult to locate within the proposed footways given their restricted width and existing boundary walls. Any proposed signage requires a minimum 450mm clearance from the kerb edge to meet current standards. The positioning of any sign posts may well impede pedestrian movements along this section.

- The carriageway widths indicated on the submitted layout plan along this section of Vicarage Lane appear to have been measured boundary wall to boundary wall which is not considered to be realistic in terms of the useable carriageway space. It would seem more realistic to measure from the back edge of the double yellow lines on both sides of the road. For example – on the section running alongside the public house towards the passing bay, the actual useable width is 6m without the 1.5m footway (not 6.8m as shown). Further along towards the passing bay, the useable width is 4.5m (not 5.8m as shown).
- When cars turn left out of Old Wrexham Road onto Vicarage Lane and lights are on red, there is only sufficient space (6m) for a single car to sit clear of the stop line / box-markings. Any vehicle travelling north west along Vicarage Lane may have travelled past the build out / passing bay and have nowhere to sit as it approaches the junction without either blocking the carriageway or sitting illegally on the yellow box markings which is unacceptable. This situation is compounded in the event of larger HGVs turning into Vicarage Lane off Chester Road at the same time.
- The location of the footway on the corner of the Vicarage Lane / Old Wrexham Road is likely to make the turning maneuver of larger vehicles left into Old Wrexham Road more difficult and vehicles are likely to encroach further over the centreline of the road. This has the potential to increase vehicle conflict at this junction if vehicles are approaching the junction along Old Wrexham Road or entering Vicarage Lane off Chester Road at the same time.
- Anyone approaching / entering the access running alongside no. 2 Brynhyfryd Villa from the north west could well find their access is blocked by vehicles waiting at the priority system. This could comprise more than 1 vehicle and result in these vehicles preventing entry to the property and cause a blockage by the turning vehicle itself within the priority system which would be unacceptable.

Traffic Generation

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

TRICS Residential	Ave TRICS Trip Rates			Proposed Development Trips		
	Arrive	Depart	Total	Arrive	Depart	Total
AM (08:00-09:00)	0.161	0.347	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

The applicant previously submitted TRICS information suggesting that the development would generate between 24 - 26 two-way trips in either peak period or 254 two-way trips across a typical weekday. The submitted TRICS data indicates 5.8 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 at Kensington Grove, Acton, Wrexham. The results were as follows:-

TRICS Residential	Ave 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

This survey indicated typical weekday two-way flows of 7.6 movements per dwelling. In comparison, this would equate to around 335 total two-way weekday movements for the proposed site at Vicarage Lane.

Using these trip rates, 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 two way weekday traffic flows along this lane ie/ 956.

Since the application was refused at planning committee on 29/07/2019, another site, approximately 25m away was also refused by WCBC Planning Department. This application (ref: P/2019/0336) went to Welsh Government Appeal and was dismissed for reasons that were virtually identical to those reasons given for refusal in respect of the Vicarage Lane site (see below):-

Appeal Decision

Appeal Ref: APP/H6955/A/19/3234271 (see attached decision)

Land South of the Paddock, Old Wrexham Road, Gresford.

Inspector: Richard E Jenkins

Decision: The appeal is dismissed.

In comparison to the Vicarage Lane site, the above application was recently refused by Wrexham Council, appealed and dismissed for almost identical reasons.

The development proposed was an outline planning application for proposed residential development to form 8 no. mews style properties in two blocks of 4 units with central access point and associated parking to the rear.

The proposed development site is located on Old Wrexham Road which is a classified road subject to a 30mph speed limit.

The site proposed to provide a 2m wide footway along the site frontage. However, there was still a distance of 115m from the boundary of this site leading towards Gresford Village which had no footway provision.

This section of Old Wrexham Road has very similar characteristics to Vicarage Lane with a number of the existing properties having no off road parking provision or limited provision resulting in parked vehicles within the carriageway. Old Wrexham Road leads to the same junction with Chester Road to the north as Vicarage Lane.

WCBC Planning Department refused the application providing 4 reasons for refusal (see attached decision notice). The 3rd reason for refusal was:-

"Safe and satisfactory vehicular and pedestrian access has not been demonstrated and the increase in vehicular and pedestrian movement which would be generated by the residential development of this unsustainably located site would have a detrimental impact upon highway safety. The locality does not benefit from safe routes for residents to walk to local facilities and public transport stops etc. and the site is not integrated with the transport network to help reduce the need to travel or encourage the use of alternatives to car. To allow development would be contrary to Wrexham Unitary Development Plan Policies PS4, GDP1(d) and (e), T8 and T9".

The inspectors comments included within the appeal decision (see attached) relating to pedestrian / highway safety are as follows:-

Pedestrian and Highway Safety

13. The Council objects to the proposed development on the basis that safe and satisfactory vehicular access has not been demonstrated and that the development would therefore have a detrimental impact upon pedestrian and highway safety within the area. Nevertheless, having regard to the indicative Site Plan and the submitted speed survey, and bearing in mind the fact that access is a matter that is reserved for subsequent determination, I am satisfied that the appellant has demonstrated that access arrangements with satisfactory visibility distances could be provided without causing material harm to pedestrian or highway safety in the area. Achieving satisfactory visibility would however be reliant on significant works to the existing hedgerow that fronts the site. Such matters are considered elsewhere in this Decision.

14. Nevertheless, whilst the submitted Site Plan indicates that a pedestrian footway could be provided along the site frontage, it was clear at the time of my site inspection that, despite being located within relative close proximity to the centre of the village, there is not a convenient and uninterrupted pedestrian footway between the appeal site and Chester Road. Indeed, as set out above, a significant proportion of this section of Old Wrexham Road is not served by a pedestrian footway. It is also material to note that a number of the existing dwellings located along this route do not benefit from off-street parking, meaning that parked vehicles materially reduce the width of the carriageway and constitute an obstruction to pedestrians.

15. It is clear that Policy T9 of the adopted UDP states that development proposals will be required to provide, amongst other things, walking routes where feasible and appropriate. In this respect, I note the difficulties of retrofitting such a provision in this instance. Nevertheless, the appeal site would inevitably intensify the use of Old Wrexham Road by both vehicles and pedestrians and would therefore exacerbate the foregoing problems, to the detriment of pedestrian safety. It is on this basis that I find that the development would conflict with the general thrust of Policies PS4, GDP1(d)(e) of the adopted UDP and the principles of PPW and Technical Advice Note 18: Transport (TAN18). I note the LPA's objection on the grounds of Policy T8. However, as I have not seen any valid objection to the proposal on the grounds of parking provision, I do not find any policy conflict in this respect.

Vicarage Lane Video Survey Footage

The short video submitted by the applicant includes examples of how, on occasion vehicles choose not to pass simultaneously at the north western end of Vicarage Lane in order to maintain clearance between their vehicles and the boundary walls either side of the carriageway. Often vehicles choose to wait on the yellow box markings obstructing the junction with Old Wrexham Road and Chester Road. This situation is exacerbated when pedestrians walk along this section of Vicarage Lane from the village. Pedestrians typically appear to walk along the northerly side of Vicarage Lane which I assume is based on the fact that the majority of the existing properties up to Trewythen Hall are located on this side of the road. There is no guarantee that should a short section of footway be constructed on the southern side of the road towards Brynhyfryd Villas that pedestrians would actually use it particularly as it is only relatively short in length and not continuous.

The proposed development will result in a significant increase in vehicle and pedestrian movements along Vicarage Lane compared with existing movements. The establishment of such a development in this location would be incompatible with through traffic interests and a potential source of danger to road users and pedestrians.

Conclusion

This site / access in respect of Appeal Ref: APP/H6955/A/19/3234271 has almost identical similarities to the Vicarage Lane site except that the Vicarage Lane site proposes 44 dwellings compared with 8 dwellings off Old Wrexham Road. If a site of this limited size is considered inappropriate by an experienced inspector on highway / pedestrian grounds then the Vicarage Lane site must surely also be considered inappropriate based on the significantly higher vehicle and pedestrian movements and the size / frequency of movements of larger HGVs along Vicarage Lane

The proposed traffic management priority system including provision of 1.2 – 1.6m wide footway at the north western end of Vicarage Lane is considered likely to result in additional issues along this section of Vicarage Lane as previously highlighted and is not supported by the WCBC Traffic Section or Road Safety Section.

The reasons for refusal have therefore been validated by Welsh Government on a smaller site which does not have milk tankers / HGVs driving along it every single day.



²⁰ Chief Officer, Environment & Technical