

ashleyhelme

Land off Henthorn Road,
Clitheroe

APPEAL REF:
APP/T2350/W/19/3221189

Highways Evidence
of Simon Helme,
Ashley Helme Associates Ltd



April 2019

Report Reference 1616/5

Highways Evidence of Simon Helme, Land off Henthorn Road, Clitheroe

Report Ref: 1616/5
Status: Final
Date: April 2019

Ashley Helme Associates Ltd
76 Washway Road
SALE, Manchester
M33 7RE

Telephone
0161 972 0552

aha@ashleyhelme.co.uk
www.ashleyhelme.co.uk

COPYRIGHT

© 2019 by Ashley Helme Associates Ltd
No part of this publication may be reproduced by any means
Without the permission of Ashley Helme Associates Ltd

Highways Evidence of Simon Helme, Land off Henthorn Road, Clitheroe

Chapter	Page
1 Introduction	1
2 Third Party Areas of Concern	4
3 Existing Conditions	5
4 Site Access Arrangements	11
5 Traffic Impact	16
6 Summary & Conclusions	32

Drawings

1616/13/B Proposed Site Access Arrangements

Appendices

A TMS Stage 1 Road Safety Audit

1 Introduction

- 1.1 My name is Simon John Helme. I hold a Bachelor of Engineering Honours Degree in Civil Engineering and a Master of Science Degree in Transportation Engineering and Planning, and I am a Member of the Chartered Institution of Highways and Transportation.
- 1.2 I am a Director of Ashley Helme Associates Ltd (AHA), and have extensive experience of the analysis of traffic behaviour and performance of highway networks, with emphasis placed on providing appropriately for the needs of all road users, issues of capacity and highway safety and transport sustainability.
- 1.3 I have 25 years of experience covering a broad range of highways and transportation issues. I have provided advice to a wide range of clients including institutional funds, house builders, commercial property developers and private land owners. I am responsible for the preparation and submission of highways and transportation information to accompany planning applications. I have acted as an expert witness at numerous planning inquiries and hearings.
- 1.4 Appeal Proposal
- 1.4.1 I am appointed by Gladman Developments Ltd for the Appeal against the refusal of planning permission by the planning authority Ribble Valley Borough Council (RVBC) of the residential development proposed in the planning application ref 3/2018/08688. The Appeal development is on land off Henthorn Road, Clitheroe (henceforth referred to as the Appeal Site).
- 1.4.2 The development proposal comprises:
- “Outline planning application for the erection of up to 110 dwellings with public open space, landscaping and sustainable drainage system (suds) and vehicular access point from Henthorn Road. all matters reserved except for means of access. Land off **Henthorn Road, Clitheroe**”

1.5 Involvement

1.5.1 I was appointed by GDL in May 2018. I prepared a Transport Assessment Scoping Study Report (ref 1616/1, June 2018) and this was sent to highways officers at Lancashire County Council (LCC) on 21 June 2018. I received a response from LCC by email on 26 July 2018 (Appendix A). Taking into account the LCC response, I prepared the following documents to accompany the planning application:

- (i) Transport Assessment: ref 1616/2/B, August 2018 (CD 1.07),
- (ii) Travel Plan: ref 1616/3, July 2018 (CD 1.08).

1.6 Reason for Report

1.6.1 The RVBC decision notice does not include a reason for refusal relating to Appeal development traffic impact. However, I am aware that third parties have expressed concerns about the traffic impact of the proposed development. This evidence has been prepared to address those concerns.

1.7 Scope of Report

1.7.1 I have reviewed third party submissions and in Chapter 2 I set out what I consider are the main concerns.

1.7.2 To address third party concerns, I consider it important to present and discuss data that I have available/collected. This is set out in Chapter 3 of my evidence. This establishes baseline conditions against which the acceptability of the Appeal scheme can be examined.

1.7.3 The RVBC Decision Notice does not include a reason for refusal relating to the Appeal Site access arrangements. However, third party concern has been raised regarding vehicle speeds on Henthorn Road in location of the proposed Appeal Site access. Chapter 4 sets out the data I have collected and the process I have undertaken for deriving a suitable Site access junction.

- 1.7.4 Most third party concerns relate to the traffic impact of the Appeal scheme on the local highway network. In Chapter 5, I set out the process that I have followed to assess the effect of traffic generated by the proposed development.
- 1.7.5 My conclusions are presented in Chapter 6.
- 1.8 Endorsement
 - 1.8.1 The evidence which I have prepared and provide for this Appeal reference APP/T2350/W/19/3221189 (in this proof of evidence) is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

2 Third Party Areas of Concern

2.1 Although traffic impact does not form a reason for refusal, I am aware of third party concerns relating to:

- (i) Site access,
- (ii) Site access location and cul-de-sac length,
- (iii) Width roads comprising the surrounding road network,
- (iv) Speeds along Henthorn Road,
- (v) Heavy goods vehicles,
- (vi) Capacity of junctions,
- (vii) Traffic count,
- (viii) Committed developments,
- (ix) Trip distribution,
- (x) Henthorn Road/Thorn Street junction,
- (xi) Eshton Terrace railway crossing.

I consider these issues in Chapters 3, 4 and 5.

2.2 Other concerns are raised by local residents, such as accessibility to local services. I deal with these points in my Accessibility Evidence.

3 Existing Conditions

3.1 INTRODUCTION

3.1.1 With respect to the traffic impact of the proposed development, I consider it relevant to form a clear understanding of:

- (i) Carriageway widths of local roads,
- (ii) Traffic flows along Henthorn Road,
- (iii) Traffic composition along Henthorn Road,
- (iii) Traffic speeds for Henthorn Road,
- (iv) Accident records.

3.2 CARRIAGEWAY WIDTHS

3.2.1 Based on my audit of local roads (refer Figure 2 of my evidence), I have recorded the following average carriageway widths:

- | | | |
|-------|---|-------|
| (i) | Henthorn Road: | 6.6m, |
| (ii) | Garnett Road/Lancaster Road: | 6.6m, |
| (iii) | Ennerdale Road: | 5.2m, |
| (iv) | Siddows Avenue: | 6.4m, |
| (v) | Thorn Street/Eshton Terrace/Greenacre Street: | 7.3m, |
| (vi) | Bawdlands/Parsons Lane/Moor Lane: | 6.6m, |
| (vii) | Station Road: | 7.6m. |

All of these carriageway widths are capable of supporting two-way working.

3.3 TRAFFIC FLOWS

3.3.1 The TA report (ref 1616/2/B, CD1.07) sets out AM & PM peak hour traffic count data for the local highway network in the vicinity of the Appeal Site.

3.3.2 A classified turning traffic count was undertaken on 5 June 2018 at the junction of Henthorn Road/Thorn Street junction, which is SJ6 of the TA study network A review of

the traffic count (refer Figure B1, Appendix B, AHA TA report 1616/2/B, CD1.07), shows that the AM and PM peak hour flows immediately to the south of the junction are:

- (i) AM: Northbound = 392 vehicles Southbound = 155 vehicles,
- (ii) PM: Northbound = 229 vehicles Southbound = 337 vehicles.

3.3.3 I have available an ATC survey for Henthorn Road. This involved the installation of pneumatic tubes on Henthorn Road, about 70m north-east of Kenilworth Drive, between 4 and 10 July 2018. The results for this survey are included in Appendix B of my Accessibility Evidence. A review of these results identifies the following average 5-day (ie Monday-Friday) AM & PM peak hour flows:

- (i) AM: Northbound = 223 vehicles Southbound = 91 vehicles,
- (ii) PM: Northbound = 120 vehicles Southbound = 220 vehicles.

3.3.4 The highest recorded flows on Henthorn Road were recorded to the south of the Thorn Street junction (ie towards the north-east end of Henthorn Road).

3.3.5 Highway Capacity: Henthorn Road

3.3.5.1 I am satisfied that the traffic data is representative of typical flow patterns along Henthorn Road. Based on these flows, I have undertaken an assessment of the traffic capacity of Henthorn Road in the vicinity of the Henthorn Road/Thorn Street junction. The capacity assessment is undertaken in line with the DfT Design Manual for Roads and Bridges (DMRB) TA 79/99 'Traffic Capacity of Urban Roads' document. The document sets out the capacity of different types of urban roads. The road assessed corresponds most closely to the UAP3 category (Table 1, TA 79/99, extract in my Appendix C of my Accessibility Evidence). From Table 2 of TA 79/99 (also in Appendix C) the one-way hourly capacity of the roads assessed is about 1100 vehicles, (this is based on a 6.75m wide carriageway, which is the closest match to the average width of Henthorn Road). Based on this selection, the two-way hourly capacity of Henthorn Road is about 1833 vehicles.

3.3.5.2 Based on the above, the existing traffic flows expressed as a percentage of the theoretical capacity of the road are:

- (i) AM Peak Hour: 29.8%,
- (ii) PM Peak Hour: 30.9%.

This confirms that existing peak hour traffic volumes on Henthorn Road are significantly below the capacity of the road. It is worth pointing out that these relate to peak hour flows and traffic flows at other times of the day will be lower.

3.4 TRAFFIC COMPOSITION

3.4.1 I have reviewed the ATC data for Henthorn Road (Appendix B of my Accessibility Evidence). This shows that the total percentages of HGV movements collected over the full survey period (4-10 July 2018) are:

- (i) Northbound: 1.49%
- (ii) Southbound: 0.62%

3.4.2 The DfT Road Use Statistics (2016) set out that the national average is 5% HGV content. Based on this, it is reasonable to conclude that the HGV content for Henthorn Road is significantly lower than the national average.

3.5 VEHICLE SPEEDS

3.5.1 I have available an ATC survey for Henthorn Road. This involved the installation of pneumatic tubes on Henthorn Road, about 70m north of Kenilworth Road, between 4 and 10 July 2018. The results for this survey are included in Appendix B. A review of these results identifies the following:

- (i) Northbound: Average speed = 25.3mph,
- (ii) Southbound: Average speed = 25.2mph,

The ATC data confirms that average vehicle speeds are above the 20mph speed limit but are still well below 30mph.

3.6 ACCIDENT RECORDS

3.6.1 I have purchased accident records from Lancashire Constabulary (LC) for study junctions SJ1-SJ12. The LC five-year accident records for the period 01.05.13 to 30.04.18 are reviewed. The LC accident data is included in Appendix D of my Accessibility Evidence.

3.6.2 Distribution of Accidents

3.6.2.1 A summary of the Lancashire Constabulary accident data is set out below:

	2013 (from 01/05)	2014	2015	2016	2017	2018 (to 30/04)	TOTAL
Henthorn Road (near Site)	-	-	-	-	-	-	-
SJ1	-	-	-	-	1	-	1
SJ2	-	-	-	-	-	-	0
SJ3	-	-	-	-	-	-	0
SJ4	1	-	-	-	-	-	1
SJ5	-	-	-	-	-	-	0
SJ6	-	-	-	-	-	-	0
SJ7	1	-	-	-	-	-	1
SJ8	1	2	1	1	-	1	6
SJ9	2	-	-	-	-	-	2
SJ10	-	1	-	1	-	-	2
SJ11	-	-	-	-	1	-	1
SJ12	-	1	2	1	1	1	6
TOTAL	5	4	3	3	3	2	20

3.6.3 Severity

3.6.3.1 The severity of the recorded accidents is as follows:

	SLIGHT	SERIOUS	FATAL
Henthorn Road (near Site)	-	-	-
SJ1	1	-	-

SJ2	-	-	-
SJ3	-	-	-
SJ4	1	-	-
SJ5	-	-	-
SJ6	-	-	-
SJ7	1	-	-
SJ8	4	2	-
SJ9	2	-	-
SJ10	1	1	-
SJ11	-	1	-
SJ12	5	1	-
TOTAL	15	5	0

3.6.3.2 It is clear that the majority of recorded accidents are classified as slight. SJ8 and SJ12 has the highest occurrence of accidents of the TA study junctions over a 5-year period.

3.6.3.3 AHA has reviewed the accident records for SJ8. There are six recorded accidents and five involve a pedestrian. The descriptions of each accident involving a pedestrian are as follows;

- (i) V1 (car) driving slowly past parked bus, in the process of dropping passengers off at bus stop. V1 involved with collision with pedestrian who ran into carriageway from the front of the bus without looking,
- (ii) Children playing by the side of the road. One child jumps back, away from friends, and into path of car,
- (iii) V1 (car) has negotiated roundabout intending to turn right. On leaving roundabout, V1 involved with collision at slow speed with pedestrian,
- (iv) Pedestrian gets out of taxi and crosses road running into front offside of approaching vehicle,
- (v) Child has walked into the road while taxi (V1) has pulled away from the side of the road. Child has stopped and turned in the road and in doing so has been struck by V1 at slow speed.

3.6.3.4 Although the majority of accidents at SJ8 involve pedestrians it is clear that these tend to be as a result of pedestrian error and the traffic generated by the proposed

development is unlikely to change this accident type. Consequently, mitigation measures are not proposed at SJ8.

3.6.3.5 AHA has also reviewed the accident descriptions at SJ12 and there is no recurring accident cause or type at SJ12.

3.6.4 Summary

3.6.4.1 It is concluded that whilst all accidents are regrettable, there is no accident pattern at the TA study junctions that gives rise to the need for accident remediation measures.

4 Site Access Arrangements

4.1 The planning application submitted sought that all matters be reserved with the single exception of vehicular access.

4.2 The RVBC Decision Notice (CD 2.21) does not include a reason for refusal relating to the Appeal Site access arrangements. However, I am aware of local comments suggesting that vehicles routinely travel at high speeds along the section of Henthorn Road where the proposed access is to be formed.

4.3 SITE ACCESS STRATEGY

4.3.1 The proposed access strategy for vehicles, cyclists and pedestrians is:

- (i) Vehicles: Henthorn Road
- (ii) Cycles: Henthorn Road, and
- (iii) Pedestrians: Henthorn Road.

4.4 DESIGN CONSIDERATIONS

4.4.1 Design Guidance

4.4.1.1 The design guidance considered includes Manual for Streets 1 (MfS1), MfS2 and the Design Manual for Roads and Bridges (DMRB).

4.4.1.2 MfS2 states that:

"...most MfS advice can be applied to a highway regardless of speed limit. It is therefore recommended that as a starting point for any scheme affecting non-trunk roads, designers should start with MfS." (para 1.3.2)

Henthorn Road is not a trunk road.

4.4.1.3 MfS continues in para 1.3.3:

“Where designers do refer to DMRB for detailed technical guidance on specific aspects, for example on strategic inter-urban and non-trunk roads, it is recommended that they bear in mind the key principles of MfS, and apply DMRB in a way that respects local context. It is further recommended that DMRB or other standards and guidance is only used when the guidance contained in MfS is not sufficient or where particular evidence leads a designer to conclude that MfS is not applicable.”

4.5 SITE ACCESS DESIGN CRITERIA

4.5.1 Speed Survey

4.5.1.1 In the vicinity of the Appeal Site, Henthorn Road is subject to a 20mph speed limit.

4.5.1.2 To assist with the design of the Site access junction, the appellant commissioned an Automatic Traffic Count (ATC) survey on Henthorn Road in the vicinity of the Appeal Site. This involved the installation of pneumatic tubes across Henthorn Road. The survey was undertaken between 4 and 10 July 2018 (inclusive) and recorded data over the full 24-hour period of each survey day.

4.5.2 Vehicle Speeds: Average

4.5.2.1 The recorded 7-day average speeds are:

- (i) Northbound: = 28.4 mph;
- (ii) Southbound: = 27.5 mph.

This confirms that the vehicles are travelling at a higher speed than the speed limit but are still below 30mph.

4.5.3 Vehicle Speeds: 85th Percentile

4.5.3.1 The recorded 7-day 85th percentile speeds are:

- (i) Northbound: = 35.0 mph;
- (ii) Southbound: = 33.4 mph.

4.5.4 Design Speed

4.5.4.1 For access junctions on existing roads, the design speed should be based on 85%ile wet weather journey speeds. A review of the weather records for Clitheroe for the survey period (4-10 July 2018) shows that there was no rainfall on all of the survey days. Therefore, the ATC surveys coincided with a dry period. Consequently, 4kph (2.5mph) can be deducted from the average 85%ile survey speeds, which follows the advice contained in the DfT DMRB Advice Note TA22/81 'Vehicle Speed Measurement on All Purpose Roads'.

4.5.4.2 The consequent Design Speeds for the proposed Site access are:

- (i) Northbound = 32.5 mph;
- (ii) Southbound = 30.9 mph.

4.5.5 Stopping Sight Distance

4.5.5.1 The visibility standards in MfS and MfS2 are based on Stopping Sight Distance (SSD). This is derived from the design speed together with assumptions regarding driver perception/reaction times and rate of deceleration. In more recent times there have been significant advances in motor vehicle design, particularly in braking, and these changes are recognised in MfS2, which assumes:

- (i) Driver perception/reaction time: 1.5 seconds, and
- (ii) Deceleration rate: 4.41 m/s².

4.5.5.2 Based on the identified design speeds the calculated SSDs are:

DIRECTION	DESIGN SPEED (mph & m/s)		SSD(m)
Northbound	32.5	14.5288	46
Southbound	30.9	13.8135	42.

4.5.5.3 The appropriate levels of visibility to be provided at the proposed Site Access/Henthorn Road junction are:

- (i) Visibility to the left: 2.4m x 42m, and
- (ii) Visibility to the right: 2.4m x 46m.

4.6 SITE ACCESS ARRANGEMENTS

4.6.1 The proposed Site access on Henthorn Road is shown on Drg No 1616/13/B.

4.6.2 The key features of the proposed Drg No 1616/13/B Site Access/Henthorn Road arrangements, and associated highway works, include:

- (i) Introduce new Site access, forming a 'T' junction with Areley Common;
- (ii) Access junction to operate under priority (give-way) control;
- (iii) Provide 2.0m wide footway on both sides of new Site access road;
- (iv) Provide 2.0m wide footway on west side of Henthorn Road between the proposed Site access and existing footway infrastructure to the north (total distance of 100m),
- (v) Provide 2.4m x 42m visibility splay to the left for vehicles emerging from Site,
- (vi) Provide 2.4m x 46m visibility splay to the right for vehicles emerging from Site.

4.6.3 I am satisfied that I have a good understanding of vehicle speeds at the location of the proposed Site access. I am also satisfied that I have identified access arrangements that meet the appropriate standards for visibility. This provides strong support to suggest that the access arrangements should operate in a safe manner.

4.6.3 LCC have not raised any concerns regarding the proposed Site access arrangements.

4.7 ROAD SAFETY AUDIT

4.7.1 An independent Stage 1 Road Safety Audit has been undertaken of the proposed Appeal Site Access arrangements. The RSA report is included in Appendix A of this Evidence. The RSA identifies seven areas of concern. I have reviewed the RSA recommendations and consider that there are no issues that are no technical issues that are insurmountable. All of the items are routinely raised in an RSA and I am satisfied that all can be dealt with at the subsequent detailed design stage.

4.8 CUL-DE-SAC LENGTH

- 4.8.1 The Appeal Site lies at the southern end of Henthorn Road. There are a number of residential side roads that form connections with Henthorn Road. Lancaster Drive/Garnett Road provides a connection between Henthorn Road and Edisford Road. Therefore, there are at least two ways of accessing the wider Clitheroe road network from the junction of Henthorn Road/Garnett Road. There are a series of loops road formed by Mytton View/Kemple View/Conway Avenue/Windsor Avenue/Balmoral Avenue/Kenilworth Drive on the southeast side of Henthorn Road. This means that there are alternative ways of a vehicle getting to the Kenilworth Road/Henthorn Road junction in the unlikely event that a section of Henthorn Road to the north of Kenilworth Drive is completely blocked.
- 4.8.2 The distance between Kenilworth Drive/Henthorn Road junction and the Blakewater Road/Kenilworth Drive junction is only 200m. There are only about 20 properties that front this section of Henthorn Drive and all benefit from off-road parking provision. Consequently, I consider that there is no obvious reason why this section of Henthorn Road should be so constrained by parked vehicles as to impair its function, on a sustained basis. LCC have not raised a concern about this section of Henthorn Road.

5 Traffic Impact

5.1 LCC is responsible for the local highway network.

5.2 PLANNING APPLICATION REPORTS

5.2.1 The planning application was supported by the following transport documents prepared by AHA:

- (i) Transport Assessment: ref 1616/2/B, August 2018 (CD 1.07),
- (ii) Travel Plan: ref 1616/3, July 2018 (CD 1.08).

5.3 TRAFFIC FLOWS

5.3.1 Study Network

5.3.1.1 The TA study network that is agreed with LCC comprises:

REF	JUNCTION	CONTROL
SJ1	Lancaster Drive/Edisford Road	Priority control
SJ2	Seedall Avenue/Edisford Road	Priority control
SJ3	Faraday Avenue/Edisford Road	Priority control
SJ4	Thorn Street/Bawdlands	Priority control
SJ5	Henthorn Road/Bawdlands	Priority control
SJ6	Henthorn Road/Eshton Terrace/Thorn Street	Priority control
SJ7	Station Road/Parson Lane	Mini-roundabout
SJ8	Lowergate/Moor Lane/Woone Lane	Mini-roundabout/priority control
SJ9	Castle View/Parson Lane	Priority control
SJ10	Greenacre Street/Woone Lane/Eshton Terrace	Priority control
SJ11	Whalley Road/Greenacre Street	Priority control
SJ12	Primrose Road/A671 Whalley Road	Priority control.

5.3.2 Traffic Counts

5.3.2.1 It is agreed that the times when the traffic generated by the Appeal developments is greatest are the weekday AM & PM peak hours.

5.3.2.2 The AHA TA report (ref 1616/2/B CD 1.07) includes traffic count information. AHA undertook traffic counts at all of the TA study junctions on 5 June 2018. Queue surveys were undertaken at the same time.

5.3.2.3 Analysis of the traffic count data identifies the peak hours for traffic flows at the study junctions as:

- (i) AM: 0800-0900, and
- (ii) PM: 1700-1800.

5.3.2.4 LCC has not raised any concerns about the validity of the traffic count data or the adoption of the identified peak hours.

5.3.3 Queue Surveys

5.3.3.1 Queues were recorded on all external approach arms at the study junctions. Data was collected at the same time as the AM & PM peak period traffic count surveys (ie on 5 June 2018).

5.3.3.2 The survey recorded queues in 5-minute intervals. The survey recorded the queue on each arm at the 5-minute mark (eg at 0800, 0805, 0810, etc). To assist with PICADY validation, the survey also recorded the maximum queue during the 5-minute interval.

5.3.3.3 The queue surveys provide a useful indicator as to the current level of performance of the junction.

5.3.4 Future Assessment Years

5.3.4.1 It is usual practice to examine the traffic impact of a development proposal for a future year when the scheme is expected to be fully complete and operational. The AHA TA

report (ref 1616/2/B, CD 1.07) assumes that the development will be fully constructed and operational by year 2023. It is also LCC policy to request assessment for 5 years after development opening. In this specific case that is 2028.

5.3.5 Growth Factors

5.3.5.1 The National Transport Model (NTM) TEMPRO is used as a basis for deriving local growth factors. The NTM growth factors adopted to estimate year 2023 and 2028 traffic flows, from the 2018 count data. The growth factors are set out in Technical File Note 1 (Appendix C, AHA TA report 1616/2/B, CD 1.07).

5.3.6 Committed Development Traffic

5.3.6.1 I am aware of the following major committed developments near to the Appeal Site:

- (i) 3/2014/0597: Land off Waddington Road (275 dwellings),
- (ii) 3/2012/0942: Higher Standen Farm/Littlemoor Farm (1040 dwellings),
- (iii) 3/2013/0035: Land off Henthorn Road (270 dwellings),
- (iv) 3/2013/0711: Land off Henthorn Road (140 dwellings),
- (v) 3/2015/0879: Land north and west of Littlemoor (48 dwellings).

5.3.6.2 I am also aware of small residential scheme on Henthorn Road (ref app3/2017/0433), near to the Appeal Site. This comprises only 24 dwellings. During the preparation of the AHA TA report (1616/2/B, CD 1.07), AHA reviewed the transport information that supported the application. This does not include any assessment of traffic impact on the local highway network due to the small-scale nature of the scheme. I am satisfied that the very small level of traffic generated by the scheme is adequately covered in the growth applied to the count data using NTM TEMPRO. Consequently, no further assessment of this scheme was undertaken in the AHA TA report.

5.3.6.3 During the preparation of the AHA TA report (1616/2/B, CD 1.07), AHA reviewed the TA/TS reports that accompanied the planning applications for the committed schemes. The scheme at Higher Standen Farm/Littlemoor Farm (ref 3/2012/0942) assumes that 60% of development generated traffic will travel to/from the A59 corridor. The TA assumes that 40% of development generated traffic will travel

towards Clitheroe centre. However, the study network adopted in Higher Standen Farm/Littlemoor Farm TA does not overlap with the TA study network in for the Appeal scheme. Therefore, no further consideration was given to traffic generated by the Higher Standen Farm/Littlemoor Farm committed development.

5.3.6.4 The scheme of 270 dwellings at land off Henthorn Road (ref 3/2013/0035) is now fully complete and occupied. Therefore, the traffic generated by this scheme is included in the June 2018 traffic counts.

5.3.6.5 The scheme of 140 dwellings, at land off Henthorn Road (ref 3/2013/0711), is partially constructed and occupied. Therefore, the traffic generated by the completed houses is included in the June 2018 traffic counts. Estimates of the traffic generated by the houses which are not constructed are included in the TA.

5.3.6.6 The committed development traffic flows are presented on the following figures in the AHA TA report (1616/2/B, CD 1.07):

- (i) Figures B4: Land off Waddington Road (275 dwellings),
- (ii) Figures B5: Land off Henthorn Road (140 dwellings),
- (iii) Figures B6: Land north and west of Littlemoor (48 dwellings),
- (iv) Figures B7: Total Committed Development Traffic.

I am satisfied that this represents a comprehensive list of schemes that are likely to generate traffic on the study network adopted to test the traffic impact of the Appeal development. This is not disputed by with highways officers at LCC.

5.3.7 Base Situation: 2023 and 2028

5.3.7.1 Figures B8 and B9, Appendix B (AHA TA report 1616/2/B, CD 1.07) presents the year 2023 and 2028 Base flows at the TA study network junctions. This is derived by the combination of year 2023 and 2028 factored flows (Figures B2 and B3) and the traffic generated by the permitted developments (Figure B7). This is agreed with highways officers at LCC.

5.3.8 Development Generated Traffic

5.3.8.1 The trip rates adopted in the AHA TA report (ref 1616/2/B, CD 1.07) are presented below.

	ARR	DEP	2-WAY
AM	0.140	0.445	0.585
PM	0.437	0.226	0.663.

The trip rates set out above are agreed with LCC highways officers.

5.3.8.2 The resultant agreed trip generations for the proposed 110 dwellings scheme are:

	ARR	DEP	2-WAY
AM	15	49	64
PM	48	25	73.

The AM & PM peak hour generated traffic estimates set out above are agreed with LCC highways officers.

5.3.9 Assignment of Development Generated Traffic

5.3.9.1 The Appeal scheme is located west of a residential site under construction by Story Homes. Given that both sites are located in the same area of Clitheroe and propose a similar level of residential development, the approach adopted in the AHA TA report (ref 1616/2/B, CD 1.07) is to use the % distribution adopted for TA prepared for the Story Homes development. The distribution is agreed with LCC highways officers.

5.3.9.2 Figure B10, Appendix B in the AHA TA report (ref 1616/2/B, CD 1.07) presents the % distribution of Appeal development generated traffic.

5.3.10 Summary

5.3.10.1 It is necessary to test the ability of the local highway network to accommodate traffic generated by the Appeal development. In this respect, I am satisfied that:

- (i) The recorded traffic flows are representative of typical conditions;
- (ii) The use of future analysis years 2023 and 2028 is appropriate;
- (iii) The combination of traffic generated by committed developments and NTM growth provide suitable estimates of traffic for years 2023 and 2028;
- (iv) The estimates of development generated traffic are reasonable;
- (v) The assignment of development generated traffic on the local highway network is consistent with the approach adopted for other schemes near the Appeal Site.

5.4 TRAFFIC IMPACT

5.4.1 The National Planning Policy Framework (NPPF), February 2019, sets out in paragraph 109 that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impact on the road network would be severe.”

5.4.2 There is no precise definition of what constitutes a “severe” impact. The starting point for assessment is to determine the level of AM & PM peak hour traffic the proposed development is expected to generate and how it will be distributed across the local highway network. The Appeal traffic should then be tested for future assessment years. I am satisfied that this exercise has been completed and is agreed with LCC highways officers.

5.4.3 It is common practice to complete a detailed assessment of the performance of a junction where the development is predicted to increase traffic by more than 30 vehicles in either the AM or PM peak hours. If the increase is less than 30 vehicles this is often referred to as not being material and it follows that this would not be a severe impact. In the case of the Appeal development, nine of the twelve study junctions are not expected to receive an increase of more than 30 vehicles if the development proceeds. Therefore, it is reasonable to conclude that the impact at these nine study junctions is not severe.

5.4.4 Three TA study junctions are predicted to receive an increase of 30 vehicles or more. These are:

- (i) SJ6: Henthorn Road/Thorn Street,
- (ii) SJ10: Greenacre Street/Woone Lane/Eshton Terrace, and
- (iii) SJ11: Whalley Road/Greenacre Street.

5.5 HENTHORN ROAD/THORN STREET JUNCTION

5.5.1 Existing Situation

5.5.1.1 The Henthorn Road/Thorn Street junction is SJ6 of the TA study network and is located about 1.0km north-east of the Appeal Site. The junction operates as a priority-controlled crossroads junction. The Thorn Street (E) and (W) arms form the minor arms of the junction. Drg No 1616/06 in the AHA TA report (ref 1616/2/B, CD 1.07) presents the existing layout of the junction.

5.5.1.2 AHA has purchased and reviewed accident data, from Lancashire Constabulary, for the period 1 May 2013 to 30 April 2018 (ie 5-year period). This confirms that there have been no recorded accidents at junction. This indicates that the junction is presently operating in a safe manner.

5.5.2 Junction Assessment

5.5.2.1 A queue survey was undertaken at SJ6 at the same time as the traffic count. A review of the SJ6 queue survey data show that the mean of the recorded maximum and spot queues are:

APPROACH	MEAN MAX QUEUE (Vehs)		MEAN SPOT QUEUE (Vehs)	
	AM	PM	AM	PM
Henthorn Road (N)	0.0	0.0	0.0	0.0
Eshton Terrace	3.8	7.6	0.6	1.1
Henthorn Road (S)	2.0	0.1	0.0	0.0

Thorn Street	0.8	1.7	0.3	0.1.
--------------	-----	-----	-----	------

5.5.2.2 The queue survey confirms that small queues were recorded on the 5-minute interval marks. This means that any queues that form within the 5-minute interval period are clearing. The survey results provide clear evidence that SJ6 is presently operating in an acceptable manner. This is not disputed by LCC highways officers.

5.5.2.3 A PICADY model was constructed for SJ6. A process of model validation was completed whereby model queue outputs were compared to recorded queues. This provides assurance that the model is suitable to test the future year scenarios of 2023 and 2028.

5.5.2.4 The results of the PICADY modelling for SJ6 are included in Table 2 of the AHA TA report (ref 1616/2/B, CD 1.07). The PICADY modelling of the SJ6 confirms that the junction is predicted to operate in an acceptable manner in year 2023. By year 2028, the PICADY model indicates that Thorn Street (E) arm of the junction is being to experience some 'stress'. However, this occurs only in the PM peak hour. The results indicate for part of the peak hour the development may add about 5 vehicles to the Thorn Street (E) queue with an associated increase in delay of about 34 seconds. All other arms at the junction are predicted to be working with a high level of spare capacity and small queues/delays in the 2028 PM peak hour situation. I am satisfied that the traffic impact of the Appeal development at SJ6 does not lead to a deterioration in performance that could reasonably be described as severe.

5.5.3 LCC Consultation Response

5.5.3.1 This conclusion is endorsed by LCC in their Consultation Response (5 October 2018, Appendix J in my Accessibility Evidence), which states:

"... taking into account committed developments in the area and future growth in 2023 and 2028 shows that of the junctions identified above only junction 1 above (Henthorn Road / Eshton Terrace shows any sign of becoming stressed but to a level which would not be considered "severe" in respect of the NPPF It is accepted that certain elements of the road network have localised issues notably Eshton Terrace /

Henthorn Road and Whalley Road / Greenacre Street but it was evident during a number of visits to the site that these were effectively managed by the courteous nature of drivers which allowed traffic flows to be maintained through these junctions." (my emphasis).

5.5.3.2 The LCC Consultation Response (dated 5 October 2018, Appendix J in my Accessibility Evidence) refers to the '**courteous nature**' of drivers using SJ6. It is common on highway networks for junctions to operate in a different manner to the format of the junction. The layout of SJ6 gives motorists on Henthorn Road priority over users on Thorn Street (E) and (W). However, site observation suggests that Henthorn Road drivers regularly slow/stop to allow vehicles on the Thorn Street arms to complete turning movements. This is at odds with the format of the junction. This type of operation is similar to some new residential schemes which include crossroad junctions that have no markings and, therefore, no user has priority over another user. This fosters an environment where a resident is cooperative (or courteous) with other residents and this leads to slower through speeds and a safer operation.

5.5.3.3 It should be borne in mind that the junction modelling software used to test the performance of SJ6 does not include a 'courteous nature' setting. The PICADY program assumes that vehicles follow the format of the junction, eg vehicles on the minor arm give-way to vehicles on the major arm. The modelling of SJ6 confirms that the junction will operate in an acceptable manner if the proposed development is implemented.

5.6 GREENACRE STREET/WOONE LANE/ESHTON TERRACE

5.6.1 Existing Situation

5.6.1.1 Greenacre Street/Woone Lane/Eshton Terrace is SJ10 in the AHA TA report (ref 1616/2/B, CD 1.07). SJ10 is a 4-arm priority-controlled crossroads junction. The permitted movements at the junction are as follows:

- (i) Greenacre Street: one-way westbound (ie towards junction),
- (ii) Woone Lane (S): northbound and southbound (ie no restriction),
- (iii) Eshton Terrace: eastbound and westbound (ie no restriction),

- (iv) Woone Lane (N): one-way northbound (ie away from junction).

Woone Lane (S) is controlled by a stop line at the junction. The existing junction arrangements are shown on Drg No 1616/10 in the AHA TA report (ref 1616/2/B, CD 1.07).

- 5.6.1.2 The junction is subject to a 20mph speed limit. There is footway around all of the junction and the junction benefits from street lighting.

- 5.6.1.3 AHA has purchased and reviewed accident data, from Lancashire Constabulary, for the period 1 May 2013 to 30 April 2018 (ie 5-year period). This confirms that there have been only 2 recorded accidents at junction. This indicates that the junction is presently operating in a safe manner.

5.6.2 Traffic Impact

- 5.6.2.1 The predicted increase in traffic, attributable to the Appeal development, at SJ10 is +27 vehicles in the AM Peak hour. In the PM peak hour, the increase is 36 vehicles. The PM increase is only slightly above the 30-vehicle threshold.

5.6.3 Junction Assessment

- 5.6.3.1 A queue survey was undertaken at SJ10 at the time of the traffic survey. A review of the SJ10 queue survey data show that the mean of the recorded maximum and spot queues are:

APPROACH	MEAN MAX QUEUE (Vehs)		MEAN SPOT QUEUE (Vehs)	
	AM	PM	AM	PM
Woone Lane (N)	0.0	0.0	0.0	0.0
Greenacre Street	1.4	1.7	0.0	0.2
Woone Lane (S)	2.6	1.8	0.0	0.5
Eshton Terrace	4.1	2.1	0.0	0.0.

- 5.6.3.2 The queue survey confirms that small queues were recorded on the 5-minute interval marks. This means that any queues that form within the 5-minute interval period are clearing. The survey results provide clear evidence that SJ10 is presently operating in an acceptable manner.
- 5.6.3.3 Table 3 in the AHA TA report (ref 1616/2/B, CD 1.07) presents the results of the PICADY modelling for SJ10 for years 2023 and 2028. A review of Table 3 shows that the existing SJ10 priority-controlled junction is predicted to operate with a high degree of spare capacity and with small queues/delays in the 2023 and 2028 AM & PM peak hour Base situations. Review of Table 3 shows that, in 2023 and 2028, the Appeal Development does not materially affect junction performance.
- 5.6.3.4 I am satisfied that the traffic impact of the Appeal Development at SJ10 in assessment years 2023 and 2028 is acceptable.
- 5.7 WHALLEY ROAD/GREENACRE STREET
- 5.7.1 Existing Situation
- 5.7.1.1 The junction of Whalley Road/Greenacre Street is SJ11 in the AHA TA report (ref 1616/2/B, CD 1.07). SJ11 is approximately 150m east of SJ10 and is a 3-arm 'T' junction. Greenacre Street forms the minor arm of the junction and operates in a one-way westbound direction (ie away from the junction). The existing junction arrangements are shown on Drg No 1616/11 the AHA TA report (ref 1616/2/B, CD 1.07).
- 5.7.1.2 There are 'No Waiting' restrictions at SJ11. There is footway around all of the junction. To the south of Greenacre Street, there is a puffin crossing on Whalley Road (S).
- 5.7.1.3 AHA has purchased and reviewed accident data, from Lancashire Constabulary, for the period 1 May 2013 to 30 April 2018 (ie 5-year period). This confirms that there have been only 1 recorded accident at junction. This indicates that the junction is presently operating in a safe manner.

5.7.2 Traffic Impact

- 5.7.2.1 The predicted increase in traffic, attributable to the Appeal development, at SJ11 is +23 vehicles in the AM Peak hour. In the PM peak hour, the increase is 31 vehicles. The PM increase is only very slightly above the 30-vehicle threshold.

5.7.3 Junction Assessment

- 5.7.3.1 A queue survey was undertaken at SJ11 at the time of the traffic survey. A review of the SJ11 queue survey data show that the mean of the recorded maximum and spot queues are:

APPROACH	MEAN MAX QUEUE (Vehs)		MEAN SPOT QUEUE (Vehs)	
	AM	PM	AM	PM
Whalley Road (N)				
Straight ahead	0.8	0.6	6.2	5.4
Right	0.1	0.3	2.6	2.5
Whalley Road (S)				
	0.0	0.0	1.4	2.5.

- 5.7.3.2 The queue survey confirms that small queues were recorded on the 5-minute interval marks. This means that any queues that form within the 5-minute interval period are clearing. The survey results provide clear evidence that SJ11 is presently operating in an acceptable manner.
- 5.7.3.3 Table 4, in the AHA TA report (ref 1616/2/B, CD 1.07), presents the results of the PICADY modelling for SJ11 for years 2023 and 2028.
- 5.7.3.4 Review of Table 4 shows that the existing SJ11 priority-controlled junction is predicted to operate with a high degree of spare capacity and with small queues/delays in the 2023 and 2028 AM & PM peak hour Base situations.
- 5.7.3.5 Review of Table 4 shows that, in 2023 and 2028, the Appeal Development does not materially affect junction performance.

- 5.7.3.6 I am satisfied that the traffic impact of the Appeal Development at SJ11 in assessment years 2023 and 2028 is acceptable.
- 5.8 RAILWAY LEVEL CROSSING
- 5.8.1 To the east of SJ6, Thorn Street changes name to Eshton Terrace at a railway level crossing. There is full barrier/camera control of the crossing.
- 5.8.2 Clitheroe to Manchester Rail Corridor Improvement Works
- 5.8.2.1 Improvement works have taken place on the Clitheroe-Manchester rail corridor on the section between Blackburn and Bolton. These improvement works have enabled a half hourly frequency of rail journeys from Blackburn towards Manchester.
- 5.8.3 Rail Services: Existing Situation
- 5.8.3.1 Currently, Northern Rail operates an hourly frequency rail service from Clitheroe to Rochdale. This service includes travel to destinations including Blackburn, Bolton, Salford and Manchester. At present, Northern Rail also operates 2 trips on Sundays (one in each direction) from Preston to Carlisle. This service includes a stop in each direction at Clitheroe Rail Station. From December 2018, this service will change to 4 trips on Sundays (2 in each direction) from Preston to Hellifield. This service will include 2 stops in each direction at Clitheroe Rail Station.
- 5.8.4 Level Crossing Survey
- 5.8.4.1 AHA commissioned a survey at the level crossing on 5 June 2018 between periods 0730-0930 and 1600-1815. The surveys recorded the following:
- (i) Times when the level crossing barriers were closed,
 - (ii) Times when the level crossing barriers opened,
 - (iii) Length of time they were closed, and
 - (iv) Length of queues that formed when the barriers were closed.

- 5.8.4.2 The level crossing barriers were down on 2no occasions during the AM peak hour (0800-0900). The barriers were down for an average of 1 minute 45 seconds in the AM peak hour. The maximum recorded queue on the eastbound approach was 19 vehicles, which occurred at 08:24:29. The maximum recorded queue on the westbound approach was 13 vehicles, which also occurred at 08:24:29.
- 5.8.4.3 The level crossing barriers were down on 3no occurrences in the PM peak hour (1700-1800). The barriers were down for an average of 2 minutes 3 seconds in the PM peak hour (1700-1800). The maximum recorded queue on the eastbound approach was 18 vehicles, which occurred at 17:51:48. The maximum recorded queue on the westbound approach was 25 vehicles, which also occurred at 17:51:48.
- 5.8.5 Planned Improvements
- 5.8.5.1 Based on a review of Ribble Valley Borough Council Committee reports, it is understood that discussions have been held over the possibility of extending the half hourly rail services from Blackburn to Clitheroe.
- 5.8.5.2 AHA understand that more evening services from Clitheroe towards Manchester could be introduced, however the frequency of this proposed service is currently unknown. Moreover, it is believed that discussions have taken place concerning additional services on the Hellifield line which would restore links from Clitheroe to Leeds and Lancaster, for example. However, due to economic implications, it is understood that it would take a significant amount of research and time before this comes into fruition.
- 5.8.6 Impact on Thorn Street/Eshton Terrace
- 5.8.6.1 Based upon the AHA survey results, if a half hourly service was to be implemented from Clitheroe, the number of level crossing barriers closures could increase from 2 to 4 during the AM peak hour (0800-0900). In the PM peak hour (1700 – 1800) the number of level crossing barrier closures could increase from 3 to 5.
- 5.8.6.2 In the AM peak hour, the barriers were down for an average of 1 minute 45 seconds. Hence, with the implementation of a half hourly service from Clitheroe towards Manchester, during the AM peak period the barrier will be down for a total of 7

minutes. This equates to 11.67% of the total AM peak hour period. Or, in other words, Thorn Street/Eshton Terrace would function as an unhindered highway for 88.33% of the peak hour.

5.8.6.3 In the PM peak hour, the barriers were down for an average 2 minutes 3 seconds. Therefore, with the introduction of the aforementioned half hourly service, during the PM peak period, the barrier will be down for a total of 10 minutes 15 seconds. This equates to 17.08% of the total PM peak hour period. Or, in other words, Thorn Street/Eshton Terrace would function as an unhindered highway for 82.92% of the peak hour.

5.8.6.4 This demonstrates that during both the AM peak hour and PM peak hour periods, the level crossing barriers will not impact traffic flow movement over 80% of the time and would not affect the overall performance of Thorn Street/Eshton Terrace or the surrounding local highway network.

5.8.7 LCC Response

5.8.7.1 LCC provided comment on the railway level crossing. Their Consultation Response (5 October 2018, Appendix J in my Accessibility Evidence) states:

"One issue that cannot be managed in this manner is the effect of the level crossing. Again during visits to the site the effects of a closed level crossing were observed and as expected traffic queues built up but not to an extent that they had a severe impact on the network and these queues cleared quickly once the crossing reopened." (AHA emphasis).

5.9 LCC & PLANNING INSPECTORATE

5.9.1 LCC Position

5.9.1.1 The LCC Consultation Response (5 October 2018) confirms that:

"the modelling submitted with the application has not shown that the impact of the existing and predicted traffic flows are such that it could be construed as being

"severe" in respect of the NPPF and on this basis I am satisfied that the proposed development will not have a detrimental effect on the functioning of the highway network".

5.9.2 Planning Inspectorate

5.9.2.1 This position is consistent with the decision of the inspector for the GDL scheme for 270 dwellings (ref: APP/T2350/A/11/2161186), which states:

"From the evidence that is before me, including the video evidence, it is clear that the Appeal proposal would have no material traffic impact on the operation of the key traffic junctions of Henthorn Road/Bawdlands or the Henthorn Road/Thorn Street junctions. This is the position agreed by LCC. Similarly, on the basis of the Appellant's survey work including the video evidence, the Appeal proposal would have no material impact on Eshton Terrace and the railway crossing. I have not identified any material detrimental impacts of the Appeal proposal elsewhere in Clitheroe. In short, there is clear objective evidence before me that the traffic concerns raised by the Council and other interested persons are not warranted, for all that there may be a genuinely held perception on the part of some. I conclude on the second issue that traffic generated by the Appeal proposal would not lead to unacceptable highway conditions particularly on Woone Lane".

5.10 SUMMARY & CONCLUSIONS

5.10.1 Paragraph 109 of NPPF states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe." (my emphasis).

5.10.2 I am satisfied that traffic generated by the Appeal development can be accommodated by the local highway network. I conclude that there is no justifiable reason why planning permission should be withheld for the reason of traffic impact.

6 Summary and Conclusions

6.1 I am satisfied that the TA report that accompanied the planning application provides a suitable assessment of the:

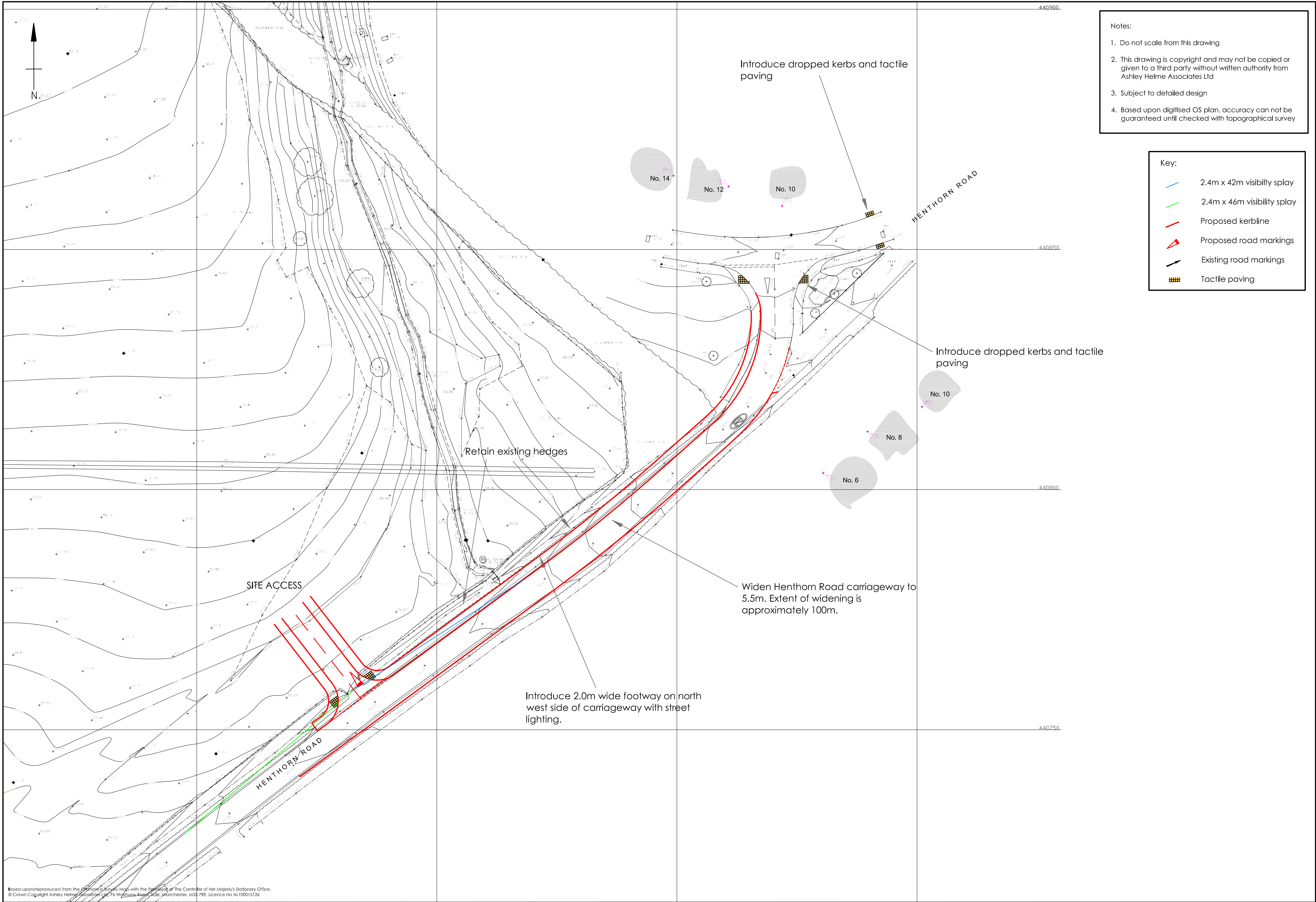
- (i) existing conditions that prevail on local roads in the vicinity of the Appeal Site;
- (ii) expected level of traffic that will generated by the Appeal scheme and its assignment to local roads;
- (iii) performance of local junctions.

6.2 Paragraph 109 of NPPF states that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.” (my emphasis).

6.3 I am satisfied that traffic generated by the Appeal development can be accommodated by the local highway network and that it does not have an unacceptable impact on highway safety or the functioning of the network. I conclude that there is no justifiable reason why planning permission should be withheld for the reason of traffic impact.

Drawings



Project HENTHORN ROAD, CLITHEROE		Title PROPOSED ACCESS ARRANGEMENTS	 76 washway road, sale, manchester, m33 7re e: aha@ashleyhelme.co.uk t: 0161 972 0552 f: 0161 972 0553 #447001	Dwg No 1616/13	Rev B
Client GLADMAN DEVELOPMENTS				Date JULY 2018	Scale 1:500@A2

A Road Safety Audit



safer roads for everyone

Land off Henthorn Road, Clitheroe, Lancashire

Road Safety Audit Stage 1

on behalf of Ashley Helme Associates

TMS reference no: 14848

Date: 22nd March 2019

Land off Henthorn Road, Clitheroe, Lancashire

Road Safety Audit Stage 1

1. Introduction

1.1 This report describes a Stage 1 Road Safety Audit carried out land off Henthorn Road in Clitheroe Lancashire, on behalf of Ashley Helme Associates. The audit was carried out on 21st March 2019 in the offices of TMS Consultancy.

1.2 The audit team members were as follows:

Audit Team Leader

Robert Cyples - BSc (Hons), MIHE, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
Senior Road Safety Consultant, TMS Consultancy

Audit Team Member

Richard Cook - BA (Hons)
Graduate Engineer, TMS Consultancy

1.3 The audit comprised an examination of the documents listed in **Appendix A**. Information not available at the time of the audit was swept path analysis.

1.4 The site was visited by the Audit Team on Wednesday 20th March 2019 at 1pm. The weather was cloudy and dry. Traffic flows were very low. Pedestrian and cycle flows were very low.

1.5 The terms of reference of the Road Safety Audit are as described in GG 119 (GG 119 superseded HD 19/15 in November 2018). The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.6 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence.

1.7 A scheme drawing is included in **Appendix B**, where the locations of specific problems are referenced. A location plan of the scheme is also included in this Appendix.

- 1.8 The scheme consists of a simple priority junction accessing a proposed development of 110 dwellings off Henthorn Road in Clitheroe. Uncontrolled pedestrian crossings are also proposed at the junction of Blakewater with Henthorn road and across Blakewater Road.

1.9 Road Safety Audit Response Report

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated
- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.

2. Items resulting from this Stage 1 Audit

2.1 PROBLEM

Location – General; lighting

Summary: Increased risk of darkness related collisions

There is no existing street lighting along Henthorn Road. A lack of suitable lighting will increase the risk of darkness related collisions occurring.



RECOMMENDATION

Street lighting should be provided along Henthorne Road as part of the detailed design.

2.2 PROBLEM

Location – General; swept path analysis

Summary: Potential risk of vehicle collisions

No swept path analysis has been provided as part of the audit. A lack of suitable geometry for likely vehicle type usage could increase the risk of vehicles overrunning the proposed kerbs and colliding with pedestrian users of the footway or may inadvertently steer into the path of opposing road users.

RECOMMENDATION

Swept path analysis should be undertaken for likely vehicle usage and the geometry adjusted as necessary to reduce the likely of conflicts between users at the junction.

2.3 PROBLEM

Location – General; existing 20mph speed limit

Summary: Increased risk of higher severity injuries

The supplied vehicle speeds along Henthorn Road give 85th percentile speeds of 33.4mph and 35mph in the northbound and southbound directions respectively. These speeds are in great excess of the posted 20mph speed limit. The proposed widening of Henthorn Road could further increase these speeds. Collisions at vehicle speeds in excess of posted 20mph speed limit will result in higher severity injuries being sustained in the event of the collision.

RECOMMENDATION

Additional speed reducing measures should be incorporated into the design of the scheme to govern vehicle speeds to 20mph.

2.4 PROBLEM

Location – Junction of Blakemore Road with Henthorn Road

Summary: Increased risk of collisions involving visually impaired pedestrians

There are existing dropped kerb pedestrian crossings to the south of those proposed within the junction of Blakemore Road with Henthorn Road. Visually paired pedestrians may inadvertently enter the carriageway via these dropped kerbs and collide with other road users.



RECOMMENDATION

The existing dropped kerbs should be removed as part of the works.

2.5 PROBLEM

Location – Junction of Blakemore Road with Henthorn Road

Summary: Increased risk of pedestrian trips and falls

There is an existing road gully located within the proposed western side pedestrian crossing point across the junction. Pedestrians who walk across the wide-open grate gully may trip and fall.



RECOMMENDATION

The position of the pedestrian crossing should be relocated way from the gully.

2.6 PROBLEM

Location – Blakemore Road; southern side footway and pedestrian crossing

Summary: Increased risk of pedestrian trips and falls

The southern side footway and pedestrian crossing point has an excessive cross-fall. Pedestrians, in particular the mobility impaired, may trip and fall whilst using the footway and crossing point.



RECOMMENDATION

The levels should be adjusted to ensure that suitable gradients can be provided along the southern side footway and crossing point.

2.7 PROBLEM

Location – Blakemore Road; pedestrian crossing

Summary: Increased risk of pedestrian collisions

Visibility to the right at the northern side crossing point is restricted by the horizontal alignment and existing hedge row. This together with the high vehicle speeds recorded within the existing 20mph speed limit could increase the risk of pedestrians stepping out from the crossing into the path of approaching road users.



RECOMMENDATION

It should be ensured that suitable visibility can be provided for the actual vehicle speeds at the crossing. This may require adjusting the location of the crossing or providing traffic calming measures to govern vehicle speeds to acceptable levels.

3. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in GG 119 (formerly HD 19/15).

Audit Team Leader

Robert Cyples - BSc (Hons), MIHE, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
Senior Road Safety Consultant, TMS Consultancy

Signed 

Date 22nd March 2019

Audit Team Member

Richard Cook - BA (Hons)
Graduate Engineer, TMS Consultancy

Signed 

Date 22nd March 2019

TMS Consultancy

Unit 1b, Sovereign Court 2,
University of Warwick Science Park
Sir William Lyons Road
Coventry,
CV4 7EZ



+ 44 (0)24 7669 0900



info@tmsconsultancy.co.uk



www.tmsconsultancy.co.uk

Appendix A

Documents Examined:

- 1616-13-B
- Fig 1

Other Information Provided:

- 1616 RSA1 (Prelim Design) Audit Brief
- Client Results - 6037 Henthorn Road, Clitheroe - ATC 1 (Henthorn Rd S)

Appendix B

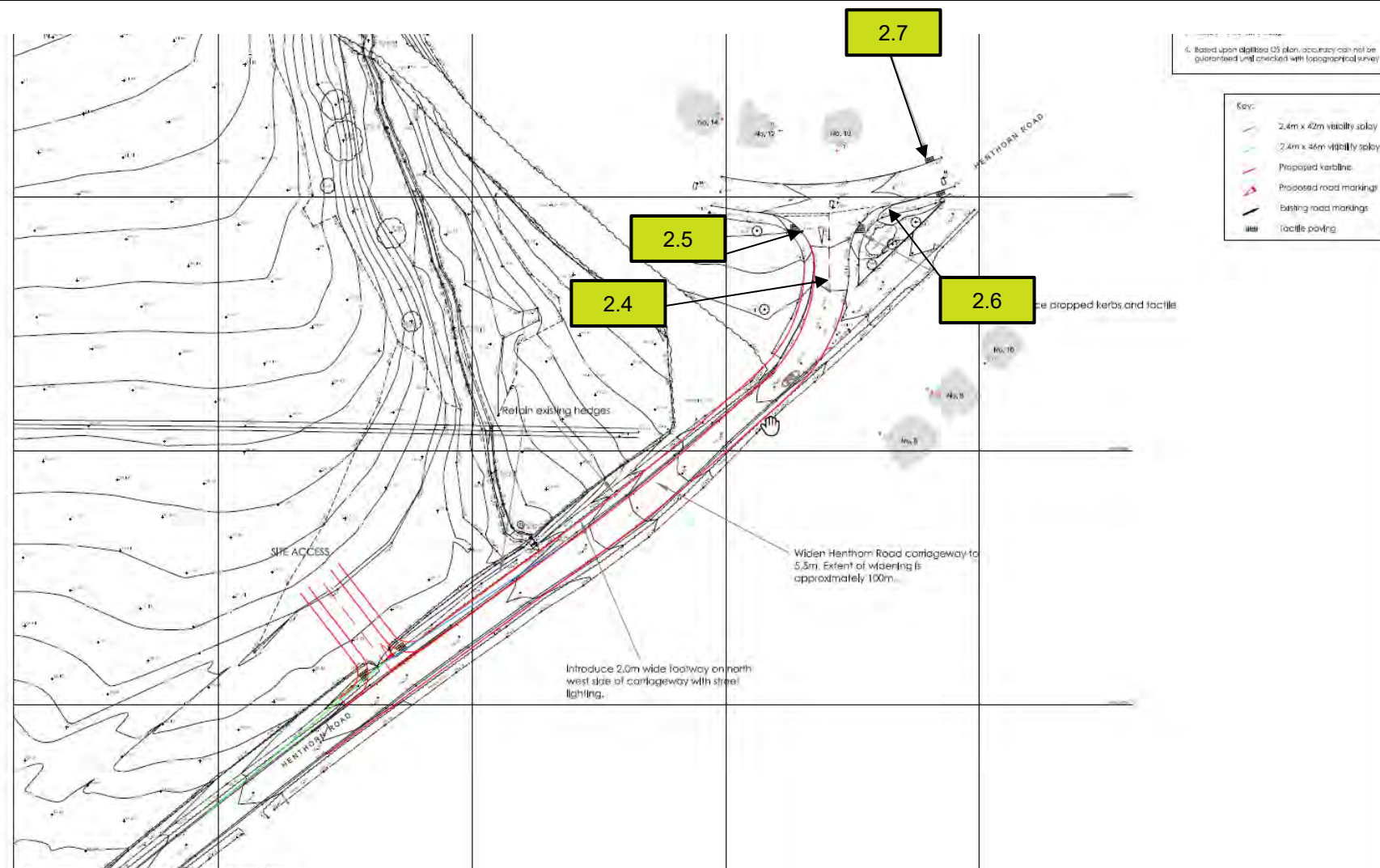
Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:



Client: Ashley Helme Associates

Scheme: Land off Henthorn Road, Clitheroe, Lancashire



ashleyhelme
associates

76 washway road
sale, manchester, m33 7re
tel 0161 972 0552
fax 0161 972 0553

