



Transport Planning Consultant

Transport Statement

Proposed Residential Development

for 4 dwellings on land at

Knabbs Hall Farm,

Silkstone Common S75 4RD

**Prepared by:
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Ref: HDC/ENG /006



Client Commission

Client:	Peter Graydon	Date commissioned	July 2017
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HDC Support Quality Control

Job No	HDC / ENG/ 006	File Ref:	Proposed Residential Development for 4 dwellings on land at Knabbs Hall Farm, Silkstone Common, Near Barnsley.
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Introduction

Highways Development Control Support Ltd has been appointed to provide a Transport Statement to Barnsley Metropolitan Council in respect of a 4 house residential development on land at Knabbs Hall Farm, Silkstone Common S75 4RD, hereafter referred to as 'the site'.

This statement supports a detailed Planning Application made by Paul Matthews Architectural Ltd on behalf Mr Peter Graydon.

The Transport Statement will cover the following;

- The site and local highway network
- The current use of the site
- Existing vehicle movements associated with the site
- Vehicle speeds on Knabbs Lane
- The proposed use of the site
- Proposed access arrangements
- Traffic generation
- Accessibility of the site
- The impact of the development on the local highway network in relation to vehicular trips
- Summary and Conclusions

Policy Context

This statement will make reference to Department for Transport (DfT) publication "Manual for Streets" in relation to walkable neighbourhoods, Design Manual for Roads and Bridges (DMRB) in relation stopping sight distances, Barnsley Local Development Framework (LDF) and its Core Strategy Policy 26 and the National Planning Policy Framework.

Policy CSP 26 of the Barnsley LDF states

New development will be expected to be designed and built to provide safe, secure and convenient access for all road users.

If a development is not suitably served by the existing highway, or would create or add to highway safety problems or the efficiency of the highway for all road users, we will expect developers to take mitigating action or to make a financial contribution to make sure the necessary improvements go ahead. Any contributions will be secured through a planning obligation or planning condition.



National Planning Policy Framework

The NPPF sets out the Government’s planning policies for England and how these are expected to be applied. At the heart is a presumption in favour of sustainable development. Development proposals that accord with the development plan should be approved unless material considerations indicate otherwise. Where the development plan is absent, silent or relevant policies are out-of-date, permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework as a whole; or where specific policies in the Framework indicate development should be restricted or unless material considerations indicate otherwise.

Paragraphs of particular relevance to this application include:

Para 32: ‘Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe’

Para 49: ‘Housing applications should be considered in the context of the presumption in favour of sustainable development.

This statement considers the proposed development in terms of its access arrangement and how it relates to the above highways and planning policy and concludes the development is acceptable in terms of its impact on the local highway network.

The site and local highway network

The site is located at grid reference SE 28802 03817, and is accessed via a private farm track off the west of Knabbs Lane in Silkstone Common.

The site comprises of two barns and a derelict farm house along with several outbuildings.

The site is served by Knabbs Lane (B6449) heading north linking in with the village of Silkstone Common some 600m away and Coates Lane (B6449) to the south connecting Thurgoland and the A629 some 3km away and Penistone is 5km south west



Figure 1 – Aerial View of the Site

Knabbs Lane is a single lane carriageway measuring 7.3m wide within the vicinity of the site. Both lanes are 3.6m wide and separated by a centre line.

Knabbs Lane is flanked by a 1.5m wide footway on the western edge of the carriageway that links pedestrians with Silkstone Common to the north.



Photo 1 – Looking North along Knabbs Lane (B6449)



Photo 2 – Looking south along Coates Lane (B6449)

Traffic is subject to a national speed limit of 60mph at this location. There are no Traffic Regulation Orders or any street lighting within the vicinity of the site.

Bus stops are located in Silkstone Common to the north some 650 to the north. Bus services to Barnsley and Penistone can be caught from here.

Silkstone Common Railway Station is approximately 575m north of the site linking in with stations further afield such as Penistone, Sheffield and Huddersfield.

The farm track / site access leads into the grounds of Knabb Hall Farm west of Knabbs Lane whereby the historic building known as Knabb Hall a Grade 2 star listed building is situated. It is lived in by the owner of Knabb Hall Farm. There are 3 outbuildings and a number of derelict buildings on the site.

The access road is gated with a 3.8m wide opening post to post. The actual track itself is approximately 4.1m wide running along a tree lined route up towards Knabbs Hall where it narrows down to 2.8m along the frontage of the property. Beyond Knabbs Hall the access widens out leading to a number of outbuildings.

The access entrance is bounded by 600m high dry stone walls at its bell mouth with Knabbs Lane.



Photo 3 – Existing site access looking from Halifax Road.

Visibility measured 2.4m back from the kerb edge is 2.4m x 18m to the left looking north from the access and 2.4mm x 36m to the left looking south. In practice, given the height of the boundary walls, visibility is 90m to the north and approximately 60 m to the south.



The current use of the site

The house known as Knabbs Hall is occupied by the owner of the site who also operates two separate businesses in addition to works associated with a small holding / farming operation.

The primary business is the preparation of chickens from the local slaughter house whereby they are plucked and processed for the hotel and restaurant trade. This work is undertaken in the adjacent outbuildings within the site.

The business has been operating for over 10 years where originally, the chickens were reared on site. However, due to the owner now being in his eighties, the business has reduced somewhat from previous activities due to old age.

A secondary business “Premier Straw Services” operates from another outbuilding shredding straw from large farming bails into smaller packages for sale to the pet trade and private customers. This business is operated by the son of the Knabbs Hall owner.

The business requires the large bails to be collected by tractor and trailer from local farms in the area and processed into smaller sizes, then stored on site. The smaller packages are delivered to stables, other farmers and also to private individuals. There is also a retail element where customers collect hay from the site itself.

Existing vehicle movements associated with the site

Notwithstanding the existing residential traffic, the primary business of processing chickens generates a number of vehicle movements.

The chickens are collected by refrigerated van on a daily basis and brought back to be processed before 09.00hrs. The van then delivers during the morning and returns late morning early afternoon.

The business operates a general delivery round but also reacts to additional orders during the afternoon and early evening with Wednesday and Friday being the peak periods in terms of demand.

Table 1 shows the typical daily traffic movements of the chicken processing business Monday to Saturday.

Day	Outbound	Inbound	Total
Monday	5	5	10
Tuesday	5	5	10
Wednesday	8	8	16
Thursday	5	5	10
Friday	8	8	16
Saturday	7	7	14

Table 1 - Traffic movements associated with chicken processing.

The secondary business operates on site throughout the week processing straw to create bedding for animals, in particular horses and smaller pets associated with the pet industry such as rabbits and guinea pigs.

The straw is collected in the surrounding area by tractor and trailer and processed on site. It is then delivered to stables and pet shops over the South Yorkshire area to established customers throughout the day.

The traffic generated by this operation between Monday and Saturday is shown in table 2.

Day	Outbound	Inbound	Total
Monday	3	3	6
Tuesday	2	2	4
Wednesday	2	2	4
Thursday	3	3	6
Friday	6	6	12
Saturday	10	10	20

Table 2 - Traffic movements associated with straw shredding business.

The combined traffic movements for both businesses are shown below in table 3.

Day	Outbound	Inbound	Total
Monday	8	8	16
Tuesday	7	7	14
Wednesday	10	10	20
Thursday	8	8	16
Friday	8	8	16
Saturday	17	17	34
Average movements	10	10	20

Table 3 – Combined traffic movements associated with chicken processing and straw shredding business.

Vehicle speeds on Knabbs Lane

Two separate speed surveys were carried out in accordance with TA 22/81 "Vehicle Speed Measurements on all Purpose Roads" using a Pro Laser 3 Speed Gun on Friday 29th September 2017 to determine the 85th percentile speeds on Knabbs Lane.

A Speed Survey was undertaken for vehicles travelling northbound towards Silkstone Common and southbound towards Four Lane End and Thurgoland.

The results of the speed survey are shown below in table 4:

	Knabbs Lane Northbound travelling Silkstone Common	Knabbs Lane Southbound travelling towards Four Lane End
85 th % ile speed	58.25kmh	57.56kmh
Calculated Stopping Sight Distance	59.12m	59.61m
Visibility requirements (DMRB)	90m	90m

Table 4 – Speed Survey data

Full details of the survey data can be found in appendix A and B showing the collection of speeds, weather conditions and necessary calculations used in determining the stopping sight distances.

Visibility at the access measured 2.4m back from the carriageway edge remains the same as per the existing access arrangements; a reminder of the existing visibility is shown below in table 5.

Left looking north (towards Silkstone)	2.4m x 18m
Right looking south	2.4m x 36m

Table 5 – Visibility within applicant's control

Based on the Design Manual for Roads and Bridges and the 85TH % ile wet weather speeds identified by the speed surveys (just under 60kph), the preferred visibility is 90m.

The actual stopping sight distances using the calculation in Manual for Streets suggests a more appropriate stopping sight distance of just under 60m would be acceptable.

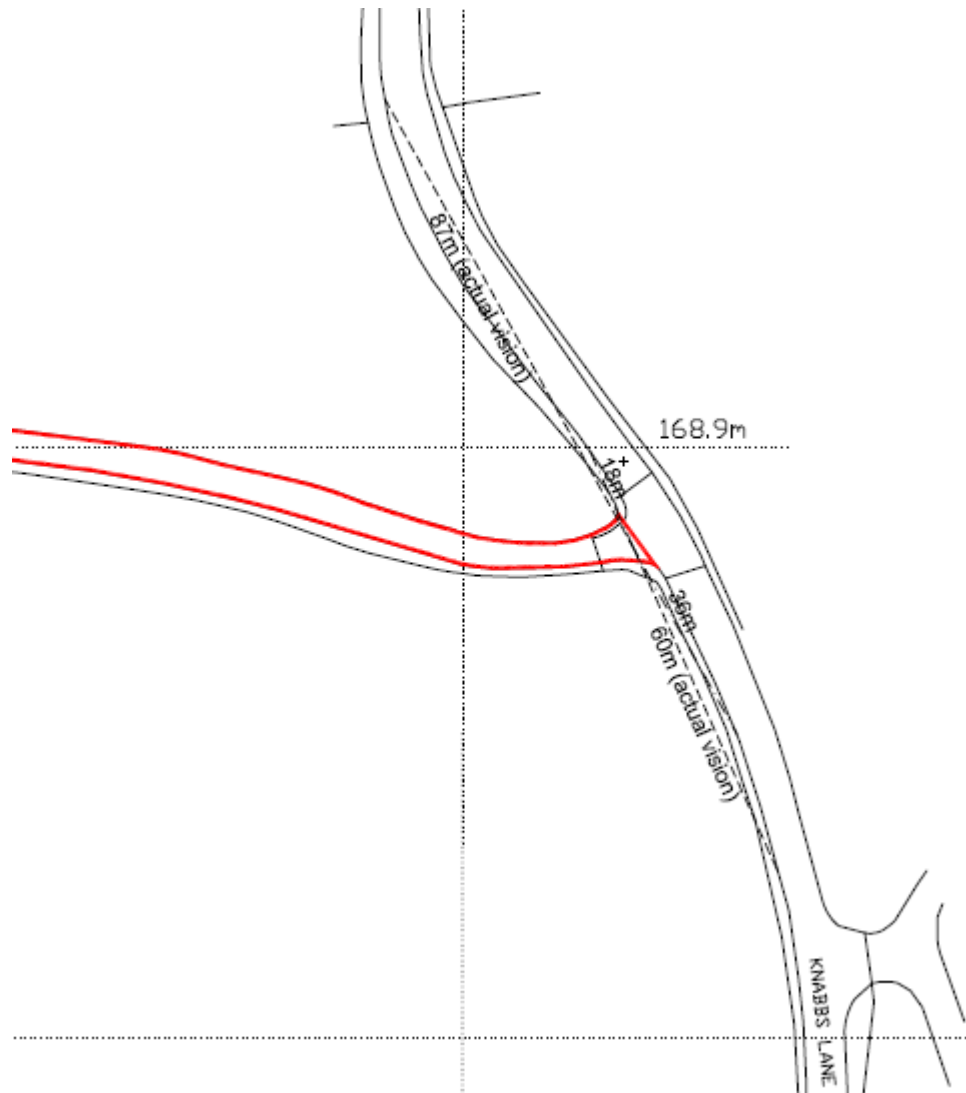
Existing visibility has been taken within the red line boundary however, in practice, visibility is significantly above this figure in both directions as the boundary walls fronting Knabbs Lane are approximately 600m high above carriageway level. This allows a driver exiting the access to see approximately 87m to the left (north) and 60m to the right (south) see table 6. Whilst it is acknowledged that sightlines are to be measured within the land that the applicant controls or is part of the public highway, it is a fact that drivers will see approaching vehicles looking over land outside of the applicants control.

Left looking north (towards Silkstone)	2.4m x 87m
Right looking south	2.4m x 60m

Table 6 – Actual visibility available over 3rd party land

Just as important it allows approaching drivers on the main road to react to vehicles pulling out of the access.

An extract of drawing no 16/373/01 c is shown on the following page showing the visibility within the applicants control and the actual available visibility. The full plan is shown in appendix D.



Extract 2 – visibility at access as shown on drawing no 16/373/01 c

Traffic generation

Typical traffic generation from a single dwelling is approximately 0.85 trips during the morning peak hour and a similar amount during evening peak hour. Peak hours are used when background traffic is at its highest and as a result, the impact is most noticeable in terms of congestion.

Based on 4 dwellings, this equates to 4 vehicles split of which 80% are travelling out and 20% inbound during the morning peak hour (8.00hrs – 9.00hrs). During the evening peak hour (17.00hrs- 18.00hrs) the traffic flows are reversed with approximately 80% returning home and 20% heading out.

Throughout the day each dwelling is not expected to generate any more than 8 vehicles movements per day; 4 dwellings would therefore generate in the region of 32 movements throughout a 24 hour period.

Table 7 below highlights the typical traffic generations in more detail and a morning and evening peak hour turning movement diagram is highlighted in appendix E and F of this statement.

Peak Hour	Trip Rate per unit		Traffic generation 4 units		Total trips
	Departures	Arrival	Departures	Arrival	Total trips
08.00 – 09.00	0.68	0.17	3	1	4
17.00 – 18.00	0.17	0.68	1	3	4
Daily (24hrs)	4.0	4.0	16	16	32

Table 7 – Traffic generated by the residential development.

As said previously, the existing business operations would cease when netted off, this would reduce the amount of additional traffic actually generated by the new development.

The commercial businesses regularly depart and return to the site throughout the day, particularly during the morning peak hour between 08.00 – 09.00hrs.

During the evening peak (17.00 – 18.00hrs) both businesses still generate movements but these maybe either before 17.00 hrs within or after 18.00hrs.

Nevertheless, the movements are a material consideration and therefore have been used as part of the discounting exercise.

Taking in to account the business operation, it is reasonable to assume each business generates a departure and arrival during the morning peak hour.

A similar movement occurs during the evening peak with the remaining traffic throughout the day.

Table 8 highlights the net increase in traffic once the businesses have been deducted.

Peak Hour	Trips (Business)		Trips (Residential)		Additional Trips	
	Departures	Arrival	Departures	Arrival	Departures	Arrival
08.00 – 09.00	-2	-2	+3	+1	+1	-1
17.00 – 18.00	-2	-2	+1	+3	-1	+1
Daily (24hrs)	-10 (average)	-10 (average)	+16	+16	+6	+6

Table 8 – overall traffic generated by development

The additional traffic generated by the development in the morning peak once the businesses cease is 1 vehicle movement departing the site outbound and a reduction inbound.

In terms of the evening peak hour there is one less vehicle movement departing the site but an additional vehicle entering the site.

Over a 24 hour period the additional traffic are approximately 6 vehicles departing the site and 6 vehicles arriving. These figures are based on an average of 10 business vehicle movements determined from table 3.

It is argued therefore that the actual traffic generation is immaterial and the cumulative impact is definitely not severe; as a result the development complies with paragraph 32 of the NPPF.



Accessibility of the site

The development site is located 0.5km south of Silkstone Common and 5.0km south west of Penistone.

Silkstone Common Railway Station is located some 550m to the north representing a 5 minute walk with trains operating Monday to Saturday hourly each way towards Huddersfield and Barnsley/Sheffield; a two-hourly frequency operates on Sundays.

The Station Inn Public House is located next door the railway station.

Silkstone Common Infant and Junior School is 1 km north east of the site and a small bakery some 800m north east of the site.

Manual for Streets refers to acceptable walking distances.

It states ***“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 walking offers the greatest potential to replace short car trips, particularly those under 2km. Manual for Streets encourages a reduction in the need to travel by car through the creation of mixed use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents”***

The site is located to the south of local amenity but well within the 2 km catchment as referred to above and therefore compliments the aspirations of Manual for Streets.

Cycling is more accessible and affordable than the car and there are health benefits to the uptake of cycling as a whole. Cycling allows people to reach destinations like Penistone town centre as opposed to using a private car particularly if the trip is under 5km.

In terms of local bus services, there are two bus services that pass the site on Knabbs Lane; these are service 21 and 21A that travel between Barnsley Interchange and Crow Edge and Barnsley return.

Bus service number 21 operates during the week in both directions Monday to Friday and provides a service every 60 minutes between 09.00hrs and 17.50hrs. Earlier services occur from Barnsley to Crow edge calling at Silkstone Common Railway Station at 06.47hrs and 07.24hrs (school days) or 07.27hrs (school holidays).

After 19.00hrs, services continue with varying frequency every 30 minutes up until 20:15hrs then every 60 minutes with the last service at 23.15hrs.

Bus Service number 21a also operates in both directions Monday to Friday from 17.20hrs onwards with 4 buses stopping in Silkstone until 22.31hrs.

The services available to residents are listed below in table 9

Bus Service	Route	Frequency
21	Barnsley Interchange to Crow Edge return Barnsley Interchange, Pogmoor, Dodworth, Silkstone, Silkstone Common, Oxspring, Spring Vale, Penistone, Millhouse Green, Hazelhead, Crow Edge.	Mon - Fri 1 every 60 minutes Sat 1 every 60 minutes Sun No service replaced by 21a
21a	Barnsley Interchange to Crow Edge return Barnsley Interchange, Pogmoor, Dodworth, Silkstone, Silkstone Common, Oxspring, Spring Vale, Penistone, Millhouse Green, Hazelhead, Crow Edge.	Mon – Fri 1 every 90 minutes Sat 1 every 90 minutes Sun 1 every 60 mins

Table 9 – Bus timetable for services 21 and 21a

The site is therefore located in a sustainable location with access to local amenity and public transport links to the benefit of future residents: as a result the housing development complements NPPF para 49.



The impact of the development on the local highway network in relation to vehicular trips

Policy CSP 26 states

New Development and Highway Improvement

New development will be expected to be designed and built to provide safe, secure and convenient access for all road users.

If a development is not suitably served by the existing highway, or would create or add to highway safety problems or the efficiency of the highway for all road users, we will expect developers to take mitigating action or to make a financial contribution to make sure the necessary improvements go ahead. Any contributions will be secured through a planning obligation or planning condition.

The amount of additional traffic movements as a result of the development is not considered to be significant or material when netting off the traffic movements associated with the business movements.

Whilst it is acknowledged that not all the business movements are within the morning or evening peak hours, it is a material consideration when considering the trips from an existing situation.

It is also acknowledged that the sightlines from the access on Knabbs Lane are below the calculated threshold or the preferred distances in DMRB but in practice, vision is considered acceptable when looking over the stone walls that front onto the main road.

The development provides adequate off street parking and turning within the site. There will be no increase in refuse vehicle collection as this service already calls at Knabbs Hall.

It is therefore the view that the development is safe and convenient for all road users and based on the netting off of business movements, the development traffic would not create or add to highway safety problems and compliments Policy SCP 26.



Summary and Conclusions

The site is currently home to a single detached dwelling known as Knabbs Hall with associated outbuildings with a farm track / private access connecting the site with the B6449 Knabbs Lane.

The development comprises the conversion of 3 outbuildings and construction of one new dwelling.

The proposed development will be served off an existing access directly from Knabbs Lane. The existing gate and posts that front onto Knabbs Lane will be removed.

The access road in front of Knabbs Hall will remain at 2.8m but will utilise signage allowing priority for inbound vehicles.

The access road and internal layout will remain private but will provide internal turning for a refuse vehicle.

Each dwelling will be designed with three off street parking spaces.

Visibility at the site access onto Knabbs Lane is 2.4m x 18m to the left (north) and 2.4m x 36 to the right (south).

Vehicle speed surveys were undertaken in both directions highlighting the 85th % ile wet weather speeds to be in the region of 58.25kph for northbound traffic and 57.56kph for southbound traffic.

Based on the Design Manual for Roads and Bridges and referring to the design speed of the major road (60kph), the "y" Visibility distance is 90m in each direction.

Notwithstanding the above, the calculated stopping sight distances are just under 60m in both directions.

Whilst the access does not meet the DMRB standards, in practical terms drivers exiting the site can see in excess of the required stopping sight distances which are 87m to the left (north) and 60m to the right (south).

The development is forecasted to generate in the region of 4 trips during both the morning and evening peak hours which is considered to be below the daily fluctuations of traffic that will use Knabbs Lane.

The existing businesses that are currently in operation will both cease. Both businesses generate a number of vehicle movements not dissimilar to the proposed traffic from the residential development. As a result, the actual peak hour traffic increase in the peak hours is no more than 1 – 2 vehicles at the most.



It is argued therefore that the actual traffic generation is immaterial and the cumulative impact is definitely not severe; as a result the development complies with paragraph 32 of the NPPF.

The development site is located 500m south of Silkstone Common where bus stops and a railway station are easily accessible on foot.

Silkstone Common also accommodate a Public House, small bakery / convenience store and Infant and Junior School.

The site is therefore located in a sustainable location with access to local amenity to the benefit of future residents: as a result the housing development complements NPPF para 49.

It is concluded that the proposed development complies with the appropriate national and local Highways and Planning related policies.

As a result, there are no highway related reasons why the development should not be granted planning approval.

Tim Robinson

June 2018

Appendices

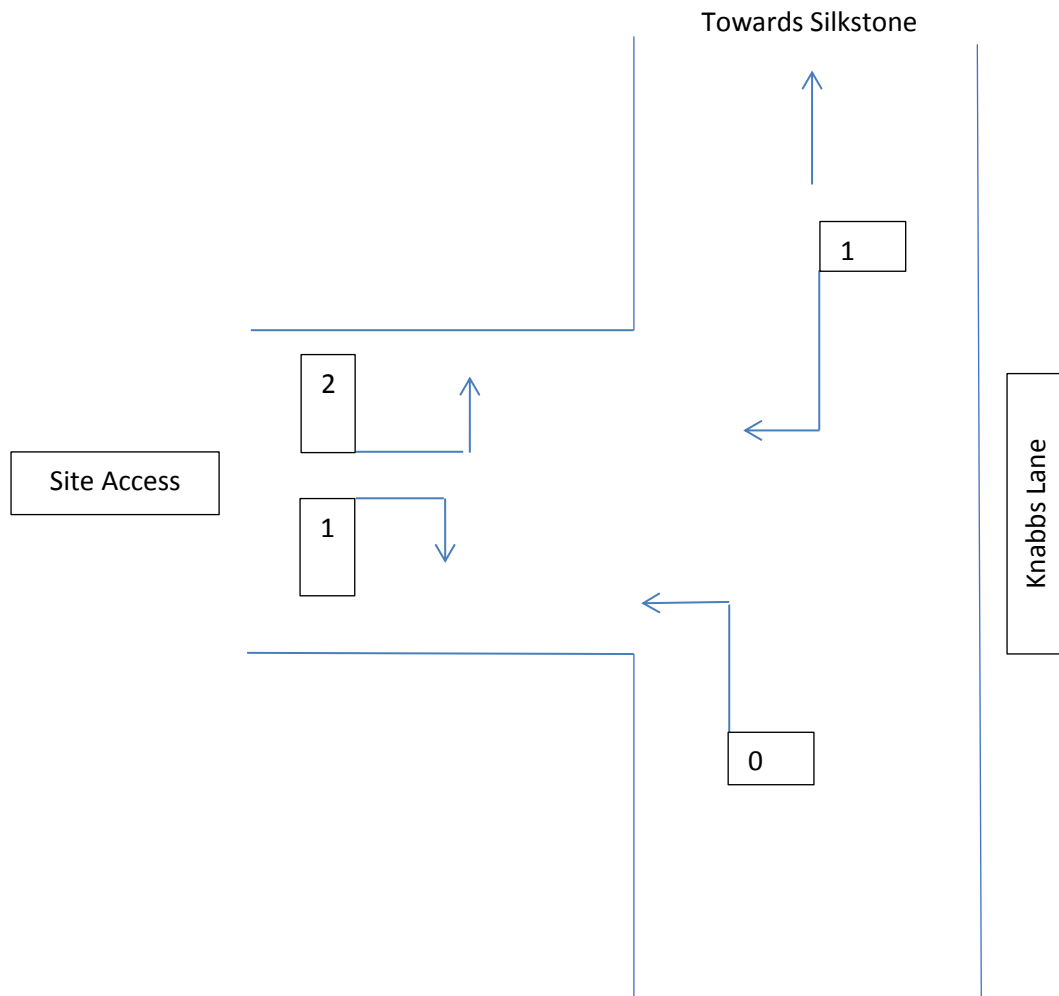
Appendix A - Speed Survey Data Knabbs Lane (northbound)

Speed Survey Results		Summary Statistics			
Speed (mph)	Frequency	Value	mph	kph	(m/s)
23	0	Mean	35.37	56.92	15.81
25	1	Median	34.52	55.56	15.43
26	4	85th Percentile	38.69	62.27	17.30
27	1	15th Percentile	31.35	50.46	14.02
28	1	Standard Deviation	4.13	6.65	1.85
29	4	Stopping Sight Distance Parameters			
30	1	Parameter	Value		
31	9	v	17.30	v = speed (m/s)	
32	11	t	1.5	t = driver perception/reaction time (seconds)	
33	26	d	4.41	d = deceleration (m/s ²)	
34	14	a	1	a = longitudinal gradient [%]	
35	21	Calculated SSD(m)	59.12		
36	18	Wet Weather speed 85th (mph)	36.19		
37	8	Wet Weather speed 85th (kph)	58.25		
38	11	MfS Visibility Requirement (m)	n/a		
39	16	DMRB Visibility Requirement	90		
40	6				
41	3				
42	3				
43	2				
44	1				
45	0				
46	2				
47	1				
48	1				
49	1				
50	0				
Total Measurements	166				
Survey Details					
Time:	14.08 - 16.00hrs				
Date:	29.09.17				
Road /Location	Coates Lane				
Direction:	Northbound towards A628				
Weather:	Dry and cloudy				
Surveyor	Tim Robinson				
Speed Limit	NATIONAL				

Appendix B - Speed Survey Data Knabbs Lane (southbound)

Speed Survey Results		Summary Statistics			
Speed (mph)	Frequency	Value	mph	kph	(m/s)
23	1	Mean	34.65	55.77	15.49
25	1	Median	33.97	54.67	15.19
26	1	85th Percentile	38.27	61.58	17.11
27	1	15th Percentile	30.32	48.80	13.56
28	8	Standard Deviation	3.95	6.36	1.77
29	6	Stopping Sight Distance Parameters			
30	8	Parameter	Value		
31	11	v	17.11		v = speed [m/s]
32	17	t	1.5		t = driver perception-reaction time [seconds]
33	28	d	4.41		d = deceleration [m/s ²]
34	17	a	-1		a = longitudinal gradient [%]
35	14	Calculated SSD(m)	59.61		
36	33	Wet Weather speed 85th (mph)	35.77		
37	6	Wet Weather speed 85th (kph)	57.56		
38	12	MFS Visibility Requirement (m)	n/a		
39	13	DMRB Visibility Requirement	90		
40	6				
41	5				
42	5				
43	1				
44	0				
45	1				
46	1				
47	0				
48	0				
49	1				
50	0				
Total Measurements	197				
Survey Details					
Time:	14.08 - 16.00hrs				
Date:	29.09.17				
Road /Location	Knabbs Lane				
Direction:	Southbound towards A629				
Weather:	Dry and cloudy				
Surveyor	Tim Robinson				
Speed Limit	NATIONAL				

Appendix E - Site Access (proposed traffic) morning peak hour 08:00hrs – 09:00 hrs



Appendix F - Site Access (proposed traffic) evening peak hour 17:00hrs – 18:00 hrs

