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TRANSPORTATION ASSESSMENT

Burndell Road, Yapton, West Sussex BN18 0HR

For Brookworth Homes Limited

APRIL 2015

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1.0 INTRODUCTION

- 1.1** The Stilwell Partnership has been instructed by Brookworth Homes Ltd, to undertake a Transport Assessment to accompany a Planning Application for the proposed residential development at Burndell Road, Yapton.
- 1.2** The purpose of this study is to advise the Local Authority, Arun District Council and the Highway Authority, of the Transportation Impact that the proposed development could have on the local highway network.
- 1.3** An initial scoping report was sent to the Highway Authority (see **Appendix A**) and the initial response has been included in **Appendix B**. The other comments raised by the Highway Authority have been taken on board within this report.
- 1.4** A planning application on the same site was submitted in early 2014 and eventually refused by Arun District Council on the 14th July 2014. There were two reasons related to transport and a full copy of the reasons is included as part of the planning statement. The two transport reasons are copied below:

***REASON 3** The applicant has failed to demonstrate that an appropriate alignment of the means of access together with local highway improvements along Burndell Road can be provided to the satisfaction of the Local Highway Authority. As such, the proposals are contrary to policy GEN7 (vii) of the Arun District Local Plan and paragraph 32 of the NPPF.*

***REASON 4** The applicant has failed to assess the impact of the proposed development upon the Yapton and Ford level crossings, contrary to the requests made by Network Rail. As such, the proposals are contrary to policy GEN7 (vii) of the Arun District Local Plan and paragraph 32 of the NPPF.*

Reason 3 was not directly refused by the Highway Authority. During our negotiations with West Sussex County Council they confirmed that the proposals are acceptable as can be seen in email correspondence included in **Appendix B**.

Reason 4 will be addressed in Section 5 of this report.

- 1.5** In **Section 2** we detail the national and local Planning Policies. In **Section 3** we describe the site location in relation to the highway network and describe the existing situation and traffic conditions. In **Section 4** we look at the proposed development. **Section 5** details the likely impact of the proposals on the surrounding highway network and **Section 6** details the sustainability of the site in relation to public transport, walking and cycling opportunities. **Section 7** concludes the report.

2.0 PLANNING POLICY CONTEXT

- 2.1 This section of the report provides a summary of the policy documents which are relevant to the proposed development at Burndell Road, Yapton. These include: The Transport White Paper 'Creating Growth, Cutting Carbon', The National Planning Policy Framework (NPPF), and Arun District Council Local Plan.

TRANSPORT WHITE PAPER – CREATING GROWTH, CUTTING CARBON (JANUARY 2011)

- 2.2 'Creating Growth, Cutting Carbon' sets out the government objectives for a greener and safer transport network that encourages economic growth and improves quality of life for communities.
- 2.3 The White Paper encourages the implementation of sustainable local transport systems and aims to remove the previous top-down approach to transport planning. Local Authorities will have the power to implement and tailor transport systems and schemes based on local needs and behaviour.
- 2.4 The economic aims of the White Paper can be achieved by increasing access to employment and services, reducing carbon emissions, increasing public transport accessibility, and as a by-product, increasing the number of people using safer transport methods with wider health benefits.
- 2.5 The White Paper notes the key role of travel planning in achieving government objectives, as set out below:

"The Government wants to encourage and enable more sustainable transport choices. [...] In transport terms, this might be exemplified by reducing unnecessary signs, posts and other street clutter to improve road safety and encourage walking, by travel planning, or by presenting information in such a way as to encourage choice"

- 2.6 Successful travel planning schemes are noted and used as examples within the White Paper, including Travel Planning for Schools, Cycle Journey Planning and Area-Wide Travel Planning. At Cambridge Science Park an initial investment of £70k brought about £200k benefits and a 5-6% reduction in journey times. The success shown in the White Paper Case Studies should be used to encourage the implementation of other travel planning schemes.

NATIONAL PLANNING POLICY FRAMEWORK (2012)

2.7 On the 27th March 2012 the National Planning Policy Framework was published, which sets out the Governments planning policies for England. The new document is a key part of the Governments reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

2.8 With regards to sustainable travel NPPF states:

Para 29

Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.

Para 30

Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.

Para 32

All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that will cost-effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Para 36

A key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan.

ARUN DISTRICT COUNCIL LOCAL PLAN (2003 - 2011)**Policy GEN1 Sustainability**

- 2.9** All development must take full account of the need to protect the environment so that present-day demands do not compromise the ability of future generations to meet their own needs or enjoy a high quality environment. All development must reflect the need to safeguard and improve the quality of life of residents, conserve energy resources and protect and, where possible, enhance the Plan area's essential character and environmental assets such as:

- the Sussex Downs AONB;
- the general attractiveness and diversity of the landscape;
- the open and undeveloped nature of the countryside;
- areas of wildlife and ecological value;
- the setting, form and character of settlements;
- the quality of natural assets, such as air supply, water environments and high quality agricultural land;
- buildings and areas of historic and architectural interest;
- sites of archaeological importance;
- land of recreation and amenity value;
- the public rights-of-way network.

Reason

To meet the primary aim of the Plan. The importance of environmental considerations in maintaining the quality of life, including access to social and economic facilities, is widely recognised, as is the protection of the environment.

Policy GEN12 Parking in New Development

- 2.10** Policy GEN12 seeks to ensure that new development is supported by adequate car parking. It explains that parking should be provided in accordance with the adopted standards and advises that if those standards are exceeded, permission will be refused. Appendix 2 of the plan sets out the parking standards, requiring the following in estate development of 2 units or more:

<i>Unit Type/Size</i>	<i>Requirements</i>	<i>Provision</i>
Smaller house size	1 garage or forecourt space, plus 1.2 visitor parking space	2.2 spaces per unit
Larger house size	2 garage or forecourt spaces plus 1.2 visitor parking space	3.2 spaces per unit
Flats with 3 or more habitable rooms	1 parking space plus 0.7 spaces for visitors	1.7 spaces per qualifying unit

Policy GEN14 Public Transport

- 2.11** The Council will support the provision of comprehensive public transport services throughout the District, and encourage improvements to be made to services wherever possible. Where appropriate, new development will be required to make provision for public transport facilities.

Where new development can only take place with improvements to public transport services, or such improvements would be likely to influence desirable travel patterns, the Local Planning Authority will seek contributions towards the cost of improvements.

Reason

To help ensure the provision of an effective public transport system in the interests of sustainability.

Explanation

An effective public transport system is essential if the growth in private transport, particularly car transport, is to be reduced. However, the District Council has limited scope for directly influencing public transport provision, but can encourage new development to make provision for public transport (by, for example, improved or new services, provision of facilities including bus lay-bys and shelters), and can provide their support for services through lobbying etc.

Policy GEN15 – Cycling and Walking

- 2.12** The Council will continue to work with West Sussex County Council and others to encourage and support the development of safe cycle and footpath networks. Where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area. The proposed Barnham - Felpham and River Arun cycle routes will be protected from development which would preclude their use as a safe cycle route.

Reason

To enhance the provision of safe facilities for cyclists and pedestrians.

Explanation

Safe and convenient provision for cyclists and pedestrians is an essential part of policies being pursued to reduce the use of the private motor car. New development will, where appropriate, be required to facilitate the opportunity for increased cycle use and walking by providing, as an integral part of the development, safe cycle and footpath networks. In assessing the suitability of new routes, proposals should demonstrate that they will not prejudice the effective operation of existing uses.

Cycle routes are to be created between Barnham - Felpham, together with a route along the banks of the River Arun from Littlehampton to Arundel.

3.0 SITE LOCATION AND EXISTING SITUATION

Existing Site Description

- 3.1 The site is currently a parcel of land, located to the south of Burndell Road, Yapton. The site generally consists of open agricultural land bound by trees and hedging. A Location Plan can be seen in **Figure 1** below.



Figure 1: Site Location

Burdell Road (B2233)

- 3.2 Burndell Road is a “B” classified road that serves many residential properties. To the north is the A29 and to the south is the A259. It is approximately 7.3m wide at the location of the proposed site access and is subject to a 30mph speed limit. There is currently a footway provided along the northern kerb line. There are no waiting restrictions along its length, and there are parking laybys adjacent to the site. A number of evening observations have confirmed that these laybys are not used for parking.

Accidents

- 3.3 Records of the latest five years, vehicular accident data was obtained via the crashmap website. There have been no accidents within a 500m radius of the site.
- 3.4 In our opinion, the development proposals should not give rise to any new material highway safety problems in the study area.

Existing Traffic Flows

- 3.5** An Automatic Traffic Counter (ATC) was placed on Burndell Road, in the immediate vicinity of the proposed site, between Thursday 23rd January 2014 and Tuesday 4th February 2014. This allowed us to determine the number of vehicles using the road and the speed at which they were travelling. The Full ATC data is included at **Appendix C**, and **Tables 1** and **2** below show the average weekday traffic flows recorded for the AM and PM peak hours.

Table 1 – AM Peak hour traffic (08:00am – 09:00pm)

	Westbound	Eastbound
Burndell Road	314	300

Table 2 – PM Peak hour traffic (17:00am – 18:00pm)

	Westbound	Eastbound
Burndell Road	275	357

85th Percentile Speeds

- 3.6** The 85th percentile speeds recorded were;

- **37.6mph Eastbound**
- **37.4mph Westbound**

Sustainability

- 3.7** The now withdrawn, Planning Policy Guidance 13 (PPG13) defines a distance of 5,000m, within which 'cycling can reasonably be considered as an alternative to travelling by private car'. On the basis of a relatively slow cycling speed of 15kph, Barnham, Flansham, Ford, Climping, Elmer, Middleton-on-Sea and Bognor Regis can be reached.
- 3.8** There are several bus stops on Burndell Road. There are three railway stations within 5km of the site at Barnham, Littlehampton and Ford. Public transport is discussed in greater detail in **Section 5** of the report.

4.0 PROPOSED DEVELOPMENT

Proposed Development

- 4.1 The proposal is to develop the land for residential purposes comprising 45 residential units. The development will consist of a mix of private (32 – 70%) and affordable (13 – 30%) units, with additional open space for play areas. The proposal will include a new access point from Burndell Road and improvement works to the existing highway.

Proposed Accommodation Schedule

- 2 x 1 Bedroom Coach Houses
- 14 x 2 Bedroom Houses
- 2 x 2 Bedroom Bungalows
- 4 x 3 Bedroom Bungalows
- 18 x 3 Bedroom Houses
- 5 x 4 Bedroom Houses

Car Parking

- 4.2 According to Arun District Council Parking Standards, the **maximum** standard for the development is 102 car parking spaces. Additionally WSCC have a parking matrix which is used to determine parking requirements in new developments. As shown in the parking matrix at **Appendix D**. This indicates a maximum standard of 93 car parking spaces, including 21 unallocated spaces.
- 4.3 In line with both Arun District's and WSCC's parking standards, the development is providing 102 car parking spaces.

Proposed Access – Burndell Road

- 4.4 A new vehicular access from Burndell Road will be provided at the location of the existing gated entrance. The access will be suitable for two way traffic flows and be a minimum of 5.5m wide. A 2.0m wide footway will be provided which will link into the existing footway network. The proposed access and footway improvements can be seen in **Appendix E**. This access will serve 45 dwellings, but is designed to accommodate additional traffic. The proposed improvement works reduce the capacity of the laybys, however as detailed previously a number of evening observations have confirmed that these laybys are not used.

Road Safety Audit

- 4.5 The new access has been subject to a Stage 1 Road Safety Audit and a copy is attached at **Appendix F**. The two points raised by the auditor have been taken on board in the latest design and a Designers Response is included at **Appendix G**. West Sussex County Council has confirmed that the proposals are acceptable as can be seen in email correspondence included in **Appendix B**.

- 4.6** In order to provide appropriate sightlines and improved pedestrian facilities there will be the need to enter into a S278 agreement to secure these improvements.

Sightlines

- 4.7** Sightlines far in excess of those recommended in Manual for Streets have are achievable from the proposed access. For speeds in the region of 37mph Manual for Street suggests sightline in the region of 59m. However, the following sightlines are achievable;

- **2.4m x 72m in the leading direction**
- **2.4m x 90m in the trailing direction**

Internal Layout

- 4.8** The internal layout has been designed as a mixture of shared surfaces and dedicated pedestrian links to encourage all modes of transport. The road can be designed to adoptable standards and will be offered for adoption, subject to the detailed Planning Application. Throughout the site, turning heads will be provided for service vehicles. A copy of the proposed sketch layout plan is included at **Appendix H**.

Refuse Collections

- 4.9** The residential refuse will be collected in line with the existing arrangements for other residential properties within the area. Each unit will be provided 240 litres of residual waste storage/bins. The refuse collection vehicle for the area will enter the proposed development in a forward gear, service all of the properties easily and safely and exit the site in a forward gear.

5.0 HIGHWAY IMPACT

5.1 When undertaking a Transportation Assessment (TA) for a new site, it is normal practice to consider the likely impact of the proposed development in the peak hours (08:00 – 09:00 and 17:00 – 18:00), i.e. when the combination of the existing traffic and the proposed is at its highest. Using the nationally recognised TRICS database we have derived the likely traffic that would be generated by the site (results can be seen in **Appendix J**).

5.2 All of the TRICS data used is based on a variety of similar size sites, throughout the UK, for the housing and apartment elements, surveyed within the last 6 – 8 years. The TRICS data suggests the following trip rates.

Table 3 – TRICS trip rates for similar sites

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	Arrival	Departure	Arrival	Departure
Proposed Houses	0.173	0.516	0.431	0.270

5.3 Using the trip rates in **Table 3**, the proposed residential houses could generate the following trips as shown in **Table 4** below:

Table 4 – Trips associated with proposed development using TRICs Data

	Coverage No	AM Peak Trips		PM Peak Trips	
		Arrival	Departure	Arrival	Departure
Houses	45 Units	8	23	19	12
TOTAL	45 Units	8	23	19	12

5.4 From **Table 4**, it can be seen that the proposed development would generate **31**, two-way movements in the AM peak hour and **31** two-way movements in the PM peak hour.

Network Traffic Growth

5.5 A growth factor has been applied to the trips associated with the development, based upon an opening year of 2014 and a future assessment year of 2019. Temprow data was acquired for the Yapton area as well as NRTF figures for the UK in order to obtain more reliable factors. The data tables shown in **Appendix K** demonstrate the calculated growth factors, which are summarised below in **Table 5**.

Table 5– Summary of Growth Factors

	AM Peak Trips	PM Peak Trips
2014 – 2016 Growth Factor	1.0237	1.09247
2014 – 2021 Growth Factor	1.1130	1.1181

Existing Traffic Flows

- 5.6 An Automatic Traffic Counter (ATC) was placed on Burndell Road, in the immediate vicinity of the proposed site, on Thursday 23rd January 2014. This allows us to determine how many vehicles use the road. The following vehicular flows were counted during the AM and PM peak hours in **Tables 6** and **7** below.

Table 6 – AM Peak hour traffic (08:00am – 09:00pm)

	Westbound	Eastbound
Burdell Road	314	300

Table 7 – PM Peak hour traffic (17:00pm – 18:00pm)

	Westbound	Eastbound
Burdell Road	275	357

- 5.7 From **Tables 6 and 7**, it can be seen that the existing properties along Burdell Road generate 614 two-way movements in the AM peak hour and 632 two-way movements in the PM peak hour.

Committed Developments – Traffic Impact

- 5.8 The following developments have been granted permission within the past 3 years and are therefore 'Committed Developments'.

Land North of Burdell Road, BN18 0HR

- 5.9 A Planning Application for a new residential development was initially submitted in 2010. Planning Application number Y/81/10 included the; "construction of 173 new dwellings and associated car parking, public open space, including children's play areas, vehicular access and highway works". **Permission was initially refused, but was appealed and was subsequently allowed, with conditions, on 19th December 2011.** Planning Application number Y/48/13 included the "substitution of plots...following a grant of planning permission Y/81/10" on the 14th August 2013. A Transport Assessment was submitted with the application and the determined trip rates are shown in **Table 8**.

Table 8 – Predicted Trip Rates and Anticipated Traffic Generation

	AM Peak (08:30 – 09:00)		PM Peak (17:00 – 17:30)	
	Arrival	Departure	Arrival	Departure
Residential Vehicular Trip Rates	0.121	0.430	0.441	0.221
Anticipated trip generation for proposed 173 dwellings	21	74	76	38

Land South of Fellows Gardens, BN18 OHW

- 5.10** A Planning Application for a new residential development was submitted in 2013. Planning Application number Y/10/13 included; “34 dwellings (30%, 10 No affordable houses) with access and ancillary works”. **Permission was initially refused and resubmitted as application number Y/30/13 on 17th May 2013. It was approved, with conditions, on 19th December 2013.** A Transport Assessment was submitted with the application and provided the anticipated trip generation for this development, shown in **Table 9**.

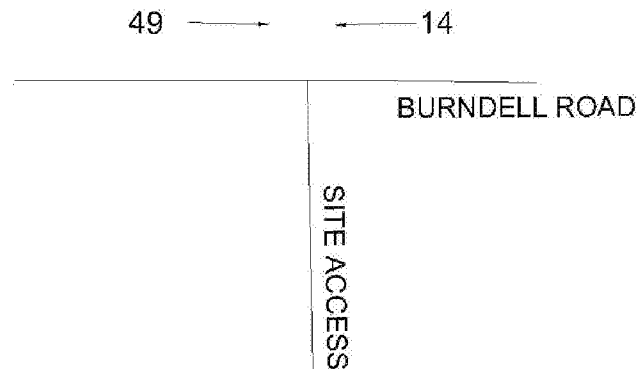
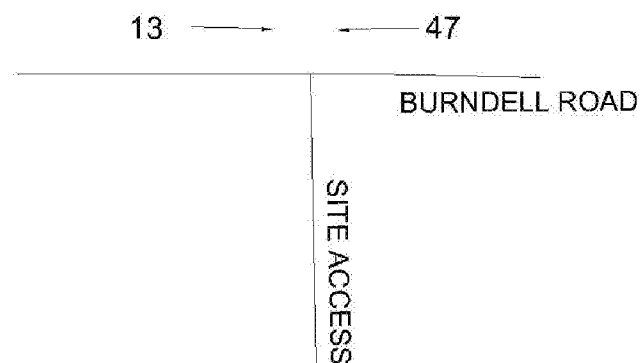
Table 9 – Development Trip Generation

	AM Peak (08:30 – 09:00)		PM Peak (17:00 – 17:30)	
	Arrival	Departure	Arrival	Departure
Pedestrians and Cyclists	1	4	3	1
Public Transport Users	1	2	1	1
Vehicle Drivers	7	24	17	11
Vehicles Passengers	1	2	1	1

Table 10 – Summary of Committed Developments

Development	AM trips		PM trips	
	Arrival	Departure	Arrival	Departure
Land North of Burndell Road	21	74	76	38
Land South of Fellows Gardens	7	24	17	11
Total Additional Trips	28	98	93	49

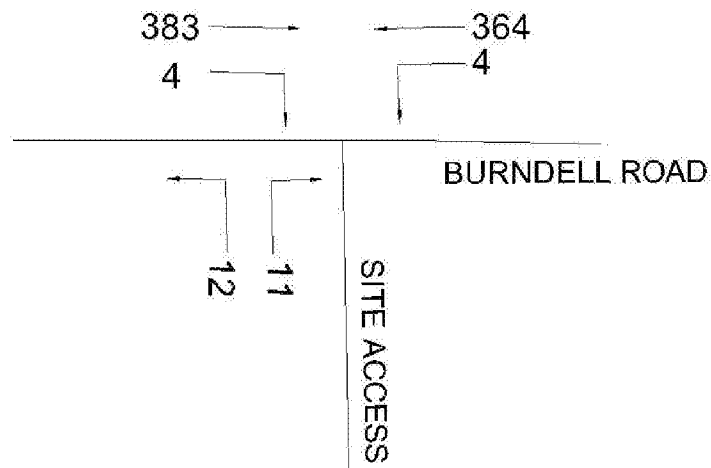
- 5.12** It can be seen from **Table 10** above that the committed developments could generate up to 126 trips in the AM peak and 142 trips in the PM peak. It should be noted that not all of these trips will travel past the proposed site access on Burndell Road. Both of these committed developments will have an access to the west of the application site. Based on the existing traffic flows on Burndell Road, it is likely that in the region of 50% of the committed development traffic would pass the Application Site. The flows are shown in **Figure 2** below.

Figure 2 – 50% of Committed Development Flows travelling past Application Site Access**COMMITTED DEVELOPMENT FLOWS -
AM PEAK (8:00am - 9:00am)****COMMITTED DEVELOPMENT FLOWS -
PM PEAK (17:00pm - 18:00pm)****Highway Impact (Junctions 8)**

- 5.13** The proposed junction that links the proposed access with Burndell Road has been modelled using the Junctions 8 modelling software. The AM and PM peak hour analysis, with the development traffic added (as per **Figure 3** below). The result of the Junctions 8 analysis can be found in **Appendix L** and a summary is shown in **Table 11** below:

Figure 3 – Proposed Flows at Burndell Road / Site Access Junction including committed Developments (as shown in Figure 2).

**2021 PROPOSED FLOWS -
AM PEAK (8:00am - 9:00am)**



**2021 PROPOSED FLOWS -
PM PEAK (17:00pm - 18:00pm)**

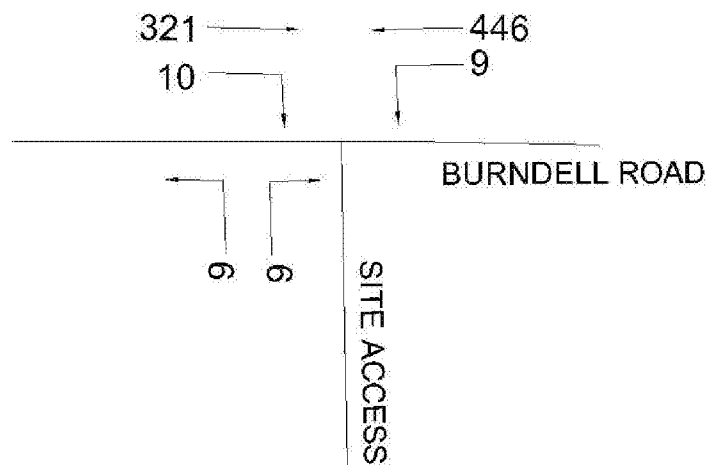


Table 11 – Junctions 8 Result Junction Proposed access / Burndell Road East / Burndell Road West with Growth and Development Traffic

	AM Peak		PM Peak	
	Max RFC	Max Queue	Max RFC	Max Queue
Proposed Access	0.06	0.06	0.03	0.03
Burndell Road West	0.01	0.01	0.03	0.03
Burndell Road East	0.0	0.0	0.0	0.0

- 5.14** **Table 11** above demonstrates that the junction performs very well with no predicted queues or delays in either peak hour, with the Committed Development and Application Site traffic added. There is significant spare capacity in the proposed junction.

Network Rail

- 5.15** Negotiations with Network Rail have been taking place to the possible impact that the development may have on their local network. Network Rail has confirmed that there will be no impact on their network. See email exchange in **Appendix M**.

6.0 SUSTAINABLE TRANSPORT ISSUES

Pedestrians

- 6.1** Pedestrian access to the site will be via various footways / footpaths provided within the site. The entrance to the development will be located along Burndell Road.
- 6.2** The nearest bus stops are located adjacent to the proposed access on Burndell Road. Additionally, there are bus stops 700m to the west of the site that offer further bus services.
- 6.3** For pedestrians without mobility impairment, the Institution of Highways and Transportation (IHT) in their publication, 'Guidelines for Providing for Journeys on Foot 2000' make a series of suggested acceptable walking distances in relation to some common facilities. **Table 12** below sets out suggested acceptable walking distances in relation to some common facilities.

Table 12 – Suggested Acceptable Walking Distances

	Town Centres, Retail	Employment, School, Tourism	Elsewhere
Desirable	200m	500m	400m
Acceptable	400m	1,000m	800m
Preferred Maximum	800m	2,000m	1,200m

- 6.4** The nearest convenience store is a Co-operative food store located 650m west of the site on Main Road. In the same vicinity there are several shops and amenities including a butchers, a fish and chip shop and a hair salon. The site is also located 1.4km away from Yapton C of E Primary School and Yapton Community Pre School, below the preferred maximum number of pupils.
- 6.5** As part of the development proposal, footways / shared surface will be provided throughout the development, with suitable crossing facilities.

Cyclists

- 6.6** The now withdrawn, Planning Policy Guidance 13 (PPG13) defines a distance of 5,000m, within which 'cycling can reasonably be considered as an alternative to travelling by private car'. On the basis of a relatively slow cycling speed of 15kph, this distance could be achieved in less than 20 minutes. The towns/villages within this reachable area include Barnham, Flansham, Ford, Climping, Elmer, Middleton-on-Sea and Bognor Regis.

On Site provision

- 6.7** Cycle parking spaces will be provided for the development, in line with Arun District Council requirements, either in dedicated cycle storage areas, or secure cycle stores with private rear gardens or garages. The standards state 1 cycle space per 8 car parking spaces.

Buses

6.8 There are four different bus services which serve the site. The nearest bus stops are located just outside the site on Burndell Road, which is only applicable to the 700 Stagecoach Coastliner route. Further bus stops are also located further west on the main road and includes the bus service numbers 66, 665 (School) and C5 (Compass). The latter is a free service provided by Sainsbury's which runs from Yapton to the Sainsbury's in Chichester.

6.9 Below is a brief summary of the bus services as mentioned above.

Service 66 – Bognor Regis to Bognor Regis via Yapton

With buses running from 07:32 to 18:14, there are services approximately every 70 minutes. Destinations include Walberton, Barnham, Westergate and Shripney.

School Service 665 – Wick Courtwick Road to Chichester via Yapton

With one morning bus service running at the nearest stop from 07:40 towards Chichester, and the afternoon service running back in the opposite direction from 15:07. Destinations include Littlehampton Anchor Springs, Walberton Old Vicarage, Barnham Rail Station, Westergate Community College, Westergate, Oving High Street, Tangmere Military Aviation Museum, Hainaker Crossroads, Waterbeach Goodwood Park Hotel, Strettington New Road, Westerton Richmond Road, Chichester High School and Chichester Bishop Luffa School.

Service 700 – Southsea to Brighton via Yapton

With buses running from 06:29 to 22:22, there are services approximately every 30 minutes. Destinations include Portsmouth, Havant, Emsworth, Southbourne, Chichester, Bognor Regis, Arundel, Littlehampton, Rustington Shops, Durrington, Worthing, Lancing, Shoreham, Portslade and Hove.

Service C5 – Yapton to Chichester (Sainsbury's)

With one bus to Sainsbury's running from 10:33 and one returning bus back along the same route running from 12:55 at Sainsbury's. The service is only available on Tuesdays, Thursdays and Fridays. Destinations include Elmer, Middleton, Flansham Park, Felpham, Bognor Regis and Bersted.

Trains

- 6.10** The distances given are by cycling and vary in distance when travelling by car. The choice of station may depend on the mode of transport and so below is a brief summary of the services from each station. Each station has a car park and cycle storage facilities.

Barnham Station

This service is run by Southern and makes use of the West Coastway Line which runs from Brighton and Southampton. The London service runs from 05:23am to 22:48pm and the trains run every 15 minutes. Services to Bognor Regis run every 15 minutes. Other services run as early as 04:48 and run every 30 or 60 minutes. Destinations include: Southampton Central, Portsmouth and Southsea, Portsmouth Harbour, Brighton via Worthing, Bognor Regis, Littlehampton, Swansea, Manchester Oxford Road, Preston, Bristol and London.

Littlehampton Station

This service is operated by Southern and makes use of a short branch off the West Coastway Line. Services run from as early as 05:02am through until 23:39pm. There are typical 2 trains per hour to London Victoria, 1 train per hour to Portsmouth and Southsea and 1 to Bognor Regis. Other destinations include: Chichester, Northampton, Brighton and Clapham Junction.

Ford Station

This service is run by Southern and makes use of the West Coastway Line which runs from Brighton and Southampton. Waiting times could be up to an hour long. Destinations include: Littlehampton, Barnham, Bognor Regis, Chichester, Durrington-On-Sea, Worthing, Shoreham-on-Sea and Brighton.

Schools

- 6.11** The closest schools and colleges to the development site are listed below:

•	Yapton C of E Primary School, N End Road, BN18 ODU	1.4km
•	St Mary's C Of E Primary School, Crookthorn Lane, BN17 5QU	2.7km
•	St Philip Howard Catholic High School, Elm Grove S, PO22 0EN	5.6km
•	Barnham Primary School, Barnham, PO22 OHW	4.0km
•	Walberton & Binsted C Of E Primary School, The Street, BN18 0PH	4.5km
•	Arundel C Of E Primary School, Jarvis Rd, BN18 9HT	4.6km
•	Eastergate C Of E Primary School, Church Lane, PO20 3UT	5.3km
•	Ormiston Six Villages Academy, Lime Ave, PO20 3UE	5.6km
•	Bishop Tufnell C of E Junior and Infant School, Pennyfields, PO22 6BN	6.4km
•	Felpham Community College, Felpham Way, PO22	7.5km
•	Saint Philip's Catholic Primary School, London Road, BN18 9BA	8.0km
•	Downview Primary School, Wroxham Way, PO22 8ER	8.0km.

7.0 CONCLUSIONS

- 7.1** The Stilwell Partnership has been instructed by Brookworth Homes Ltd, to undertake a Transport Assessment to accompany a Planning Application for the proposed development at Burndell Road, Yapton.
- 7.2** The new access to be formed has been Road Safety Audited and the comments raised by the auditor and the Highway Authority have been taken on board. The access is capable of taking the predicted traffic flows for the new development.
- 7.3** The site is in a sustainable location, maximising the potential use of local buses and trains to many locations in the area and region.
- 7.4** Ample car parking will be provided throughout the site with an average of two spaces per unit.
- 7.5** Secure cycle parking will be provided in line with West Sussex County Council parking standards.
- 7.5** Network Rail has confirmed that the proposed development will not have an impact on their network.
- 7.6** In summary, we conclude that the proposed development can be accommodated without detriment to vehicular flows and road safety on the surrounding highway network.

APPENDIX A

Scoping Report

BROOKWORTH

www.brookworth.com



SCOPING REPORT FOR TRANSPORT ASSESSMENT

Proposed Residential Development at:

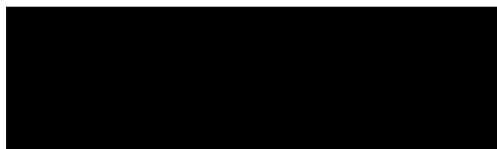
Burndell Road, Yapton

For Brookworth Homes Ltd

DRAFT FOR DISCUSSION

JANUARY 2014

Stilwell Limited
Consulting Engineers
Satelliet House
2 Nexus Park
Lysons Avenue
Ash Vale
GU12 5QE



Version No: 1.0



Stilwell Partnership
ISO 9001:2008
Certificate No: LRQ 4004624

Document Location

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This is a controlled document.

The source of the document can be found on the file server at location:

S:\Clients\BrookworthHomesLtd\Burndell Road, Yapton (Highway) - P2551\Reports\Transport Assessment Scoping Report V1.0.doc

Revision History

This document has the following history:

Version No.	Version Date	Summary of Changes	Changes marked
1.0	20/01/2014	N/A	N/A

Approvals

This document requires the following approvals:

Name	Title & Organisation
David Brooke	Director, Stilwell Limited

Distribution

This document has also been distributed to:

Name	Organisation
	West Sussex County Council
	Arun District Council
Gavin Rowley	Brookworth Homes Ltd

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APPENDICES

- A** **Site Location Plan**
- B** **Proposed Access Plan**

1.0 INTRODUCTION

- 1.1** The Stilwell Partnership has been commissioned by Brookworth Homes Limited to undertake a Transport Assessment (TA) to accompany a Planning Application for the proposed residential development at Burndell Road, Yapton. (A Site Location Plan is attached at **Appendix A**).
- 1.2** The first stage of our investigation has been to agree the limits of the Transport Assessment. This Scoping Report sets out the headings which will enable us to examine the likely impact of the proposed development upon the Local Highway Network. It defines a proposal for how the Transport Assessment will be undertaken and the level of detail that will need to be included. The Scoping Report document will be sent to West Sussex County Council and will form the basis of further discussions.
- 1.3** The following Sections of this report summarise the details of the existing situation with regard to land use and baseline studies. It defines the extent of the proposed Study Area, the processes which will be undertaken, the scale of the proposed access and how the highway impact will be quantified.

2.0 PLANNING POLICY CONTEXT

2.1 As part of the Transport Assessment, we will assess the following Policy Documents, with particular emphasis on highway policies relevant to Arun District Council:

- Transport White Paper – Creating Growth, Cutting Carbon (January 2011)
- National Planning Policy Framework (NPPF)
- Arun District Council Local Plan (2003)

3.0 SITE LOCATION AND EXISTING / PROPOSED DEVELOPMENT

Site

3.1 The site is currently a parcel of vacant land, located to the south of Burndell Road, Yapton. The site consists of mature trees, bushes and open agricultural land. The Site Location Plan can be found at **Appendix A**.

Site Access

3.2 The proposed access will form in between the existing dwellings that front onto Burndell Road, where an agricultural strip of land links the site with the road. See **Figure 1** below.



Figure 1: Shows a gate to the left leading to the existing site.

Personal Injury Accident Data (PIA) Data Analysis

- 3.3** Records of the past five years, obtained via the Sussex Safer Roads website, have been found to show no accidents within a 500m radius of the site. This will be referred to in the report.

The Proposal

- 3.4** The proposal is to develop the existing parcel of land into developable land and build up to 50 residential units (mixture of houses and apartments). The development schedule is yet to be confirmed but will consist of a mix of private (70%) and affordable (30%) units, with additional open space for play areas. The proposal will include a new access points from Burndell Road and additional improvement works to the existing highway.
- 3.5** A new vehicular access from Burndell Road will be provided. The access will be suitable for two way traffic flows and be a minimum of 5.5m wide with a 2.0m wide footway provided. The proposed footways will link into the existing footway network. The proposed access and footway improvements can be seen in **Appendix B**. It is anticipated that this access will serve approximately 50 dwellings.
- 3.6** Sight lines of 2.4m by 70m can be achieved in both directions. The road is subject to a 30 mph speed limit, but an ATC will be installed to establish both speed and volume of traffic.
- 3.7** An independent road safety audit will be carried out on the proposed access.

4.0 HIGHWAY IMPACT

Trip Generation

- 4.1** It would be our intention to quantify trips for the site and to test the impact upon the local highway network. This would be undertaken using relevant sites from the TRICS database, which would be appropriate to the likely occupiers or users of the development. Clearly nearly all trips generated by the site will be *new* trips, as the site is currently agricultural. Trip rates from recently approved sites will also be considered.

Traffic Growth

- 4.2** The trips associated with the proposed development will be calculated and a growth factor applied to assess the traffic levels in 2014 and 2019. The growth factors will be calculated using Temprow data for the Yapton area and NRTF figures for the UK. Traffic generated from the committed developments will have growth factors applied and will be considered in the overall highway impact.

Traffic Distribution

- 4.3** Traffic distribution will be determined from the existing flows for the Goodhew Road Junction with Burndell Road. Flows will be checked by using the ATC data.

Committed Developments

- 4.4** The following developments have been granted permission within the past 3 years and are therefore “Committed Developments”.

Land North of Burndell Road, BN18 0HR

- 4.5** A Planning Application for a new residential development was initially submitted in 2010. Planning Application number Y/81/10 included the; “construction of 173 new dwellings and associated car parking, public open space, including children’s play areas, vehicular access and highway works”. Permission was initially refused, but was appealed and was subsequently allowed, with conditions, on 19th December 2011. Planning Application number Y/48/13 included the “substitution of plots...following a grant of planning permission Y/81/10” on the 14th August 2013. Any likely traffic associated with this application will be included in the Transport Assessment.

Land South of Fellows Gardens, BN18 OHW

- 4.6** A Planning Application for a new residential development was submitted in 2013. Planning Application number Y/10/13 included; “34 dwellings (30%, 10 No affordable houses) with access and ancillary works”. Permission was initially refused and resubmitted as application number Y/30/13 on 17th May 2013. It was approved, with conditions, on 19th December 2013. Any likely traffic associated with this application will be included in the Transport Assessment.
- 4.7** It is also worth noting that planning application Y/99/13 has been put forward for “10.5 hectares of residential development (comprising up to 250 dwellings (30% to be affordable) together with ancillary open space and landscaping), 14.9 hectares of public open space development to be laid out as public parkland and landscaped green corridors, vehicular access from Ford Lane”. It was received on 20th November 2013 and is likely to be considered on 19th February 2014. If granted it will be added to our assessment.

Junction Modelling

- 4.8** Junction capacity analysis will be undertaken using PICADY modelling software. The new access will be modelled for AM peak (07:00 – 08:00) and PM peak (17:00 – 18:00). This assessment will identify the reserve capacity and queue lengths where appropriate within the standard outputs from the computer software. This will be summarised within the Transportation Assessment Report.

5.0 SUSTAINABLE TRANSPORT ISSUES

- 5.1 All public transport services in the vicinity of the site will be identified. Cycle parking will be provided on site, in line with Arun District Council standards.

Local Amenities & Facilities

- 5.2 The nature and distance of all Local Amenities and Facilities will be determined as part of the TA. We will look at Schools, routes to Schools and possible improvements.

Pedestrian Access

- 5.3 Existing pedestrian routes to key facilities will be looked at as part of the TA. Public rights of way will be investigated around the site and the layout / access points designed to ensure these are not affected.

Cyclist Access

- 5.4 Cycle routes and facilities will be examined to ensure compliance with WSCC and Arun District Council standards. Nearby towns and villages in the acceptable distances will be examined.

Buses

- 5.5 Bus services within the vicinity of the site will be investigated, including bus times, frequencies, and destinations.

Railways

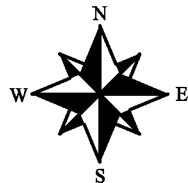
- 5.6 There are three stations within 5km of the site and these include Barnham (3.3km), Littlehampton (3.2km), Ford (3.7km). These will be looked at in more detail.

6.0 CONCLUSION

- 6.1 In concluding this Scoping Report, but without pre-empting the assessment, we believe that proposed residential development is feasible and will not be detrimental to traffic flow.

APPENDIX A

Site Location Plan



THIS IS A CONTROLLED
DOCUMENT

Stilwell
PARTNERSHIP
SAFETY, TRAFFIC & HIGHWAY
ENGINEERING CONSULTANTS

SATELLITE HOUSE, 2 NEXUS PARK
ASH VALE, SURREY, GU12 5OE
Tel: 01276 700400, Fax: 01252 544 934
E-Mail: info@stilwell-ttd.co.uk
Web: www.stilwell-ttd.co.uk

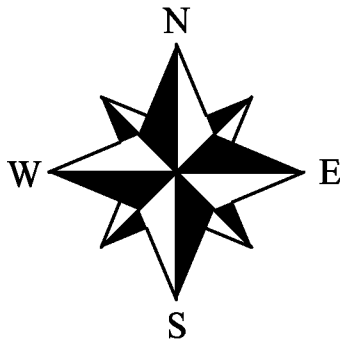
PROJECT: Land off Burndell Road Yapton, West Sussex	
TITLE: Site Location Plan	
SCALE: NTS @ A4	DRAWN: AL
DATE: JANUARY 2014	CHECKED:
DWG No:	TSP/BRO/P2555/03

APPENDIX B

Proposed Access Plan

Notes

1. All Highway works (including highway Drainage) subject to adoption shall be in accordance with the DEPARTMENT OF TRANSPORT MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS 2002, SPECIFICATION FOR HIGHWAY WORKS with additions and amendments where appropriate by West Sussex County Council.
2. Existing highway drainage to be modified to suit new layout.
3. Street lighting to be modified to suit new layout to West Sussex County Council standard.



B	Sightline Modified	16/01/14
A	Information added	02/01/14
REV	DESCRIPTION	DATE



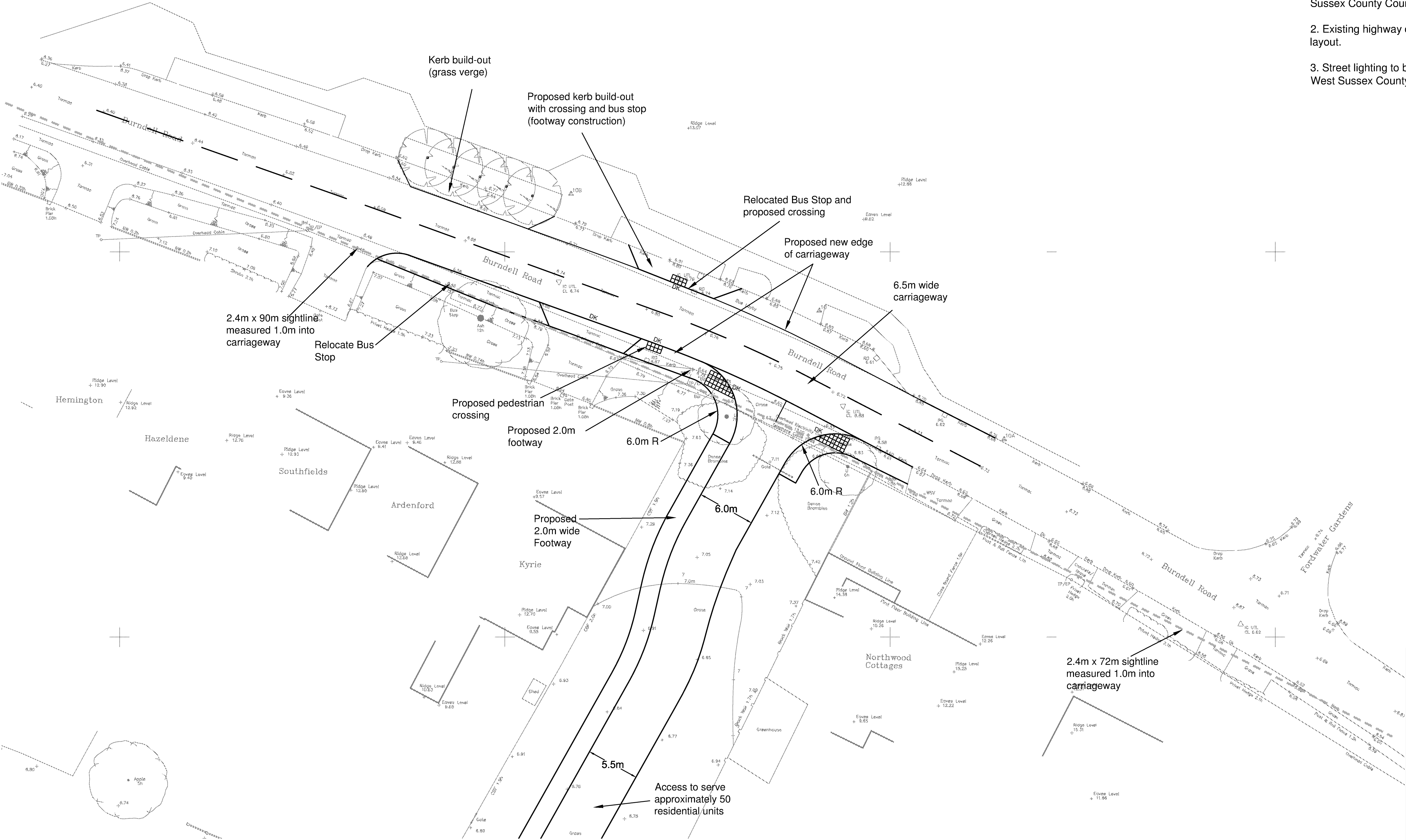
Stilwell

PARTNERSHIP

SAFETY, TRAFFIC & HIGHWAY
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E-Mail: info@stilwell-ltd.co.uk
Web: www.stilwell-ltd.co.uk

PROJECT:	Land off Burndell Road Yapton, West Sussex		
TITLE:	Proposed Access and Highway Improvements Plan		
SCALE:	1:200 @ A1	DRAWN:	JH
DATE:	December 2013	CHECKED:	
DWG No:	TSP/BRO/P2551/02 B		

DRAFT
THIS IS A CONTROLLED
DOCUMENT



APPENDIX B

West Sussex County Council Correspondence

P2551

Anthony Lewis

From: Dominic Smith - [REDACTED]
Sent: 25 February 2014 11:26
To: Anthony Lewis
Cc: David Brooke; Carol Heather
Subject: RE: Burndell Road

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Anthony,

I have had the opportunity to review the scoping document and can advise the following;

Carol – I've copied you into this email; the only part that might require your input is the bus infrastructure advice found under the 'General' section of this email.

Access

I would recommend undertaking a speed survey on both the east and westbound approach to the site access; visibility splays should be based on the recorded 85th percentile speed in accordance with Manual for Streets parameters.

A Road Safety Audit: Stage 1 is required as set out in the scoping note. This should be accompanied by a Designers Response, Exception Report (if required) and any amended drawings.

Vehicle tracking plots of the largest vehicle to use the site access should accompany the access arrangements.

Trip Generation/Capacity

Trip rates should be derived in accordance with TRICS 'Best Practice Guidance' and be accompanied by full outputs/site selection parameters.

Junction capacity modelling will be required where the development results in 30 or more additional movements through a junction during any hour. Any modelling should be supported with full outputs for auditing purposes and a copy of the PICADY file would be beneficial.

Any mitigation required as a consequence of the modelling should be supported with design commentary and be included in the scope of the RSA1.

Sustainable Access

A full review is essential as set out in the TA.

General

I've been involved in a few developments in this area recently and involved in the subsequent Committee debate. From experience there are a couple of issues in particular that will be beneficial to consider as part of the TA as they are likely to be commented on by the Planning Committee;

Bus lay-by – although they do not appear to be formal bus lay-bys (ie with a cage), buses do benefit from space to pull clear of the highway and not obstruct the through flow of traffic. It appears that the proposed build-outs will restrict this arrangement and this is unlikely to be

well received by the LPA. However; I understand that the operators are not always keen on the provision of lay-bys as it can restrict them re-entering the flow of traffic and result in delays to the service. I have copied my colleague, Carol Heather, into this email who is involved in bus infrastructure who might be able to add further comment or consult with the operators if this is indeed the intention.

Crossing – Burndell Road was noted to be a busy roads with vehicles travelling in excess of the posted speed limit. The Committee has previously sought the provision of a controlled crossing as part of the Land South of Fellows Garden; however, upon further review via PV² and design/RSA1, it was determined the provision of either a 'zebra' crossing or a light controlled crossing would be inappropriate and possibly unsafe due to lack of demand and driver compliance. I would recommend consideration be given to the appropriateness of the crossing facilities and to pedestrian desire lines for journeys to the east of the site.

Parking – the proposed build-outs would appear to result in the loss of some residential parking; again, this is unlikely to be well received and consideration should be given to as to whether this could be offset, whether the parking is required/in-use, where displacement will occur etc.

I trust this is of assistance but if you require any clarification or have any queries then please do not hesitate to contact me.

Kind regards,

Dominic

Dominic Smith | Planner, Strategic Planning, West Sussex County Council | Location: 2nd Floor, Northleigh, County Hall, Chichester, PO19 1RH
Internal: [REDACTED] | External: [REDACTED] | E-mail: [REDACTED]

From: Anthony Lewis [REDACTED]
Sent: 14 February 2014 16:16
To: Dominic Smith
Cc: David Brooke
Subject: RE: Burndell Road

Dominic,

Thank you for replying to the request regarding Burndell Road, Yapton. Attached is the Transportation Assessment Scoping Report.

I look forward to hearing back from you with you comments.

Kind Regards,

[REDACTED]
Anthony Lewis
Consultant
The Stilwell Partnership *tsp*
Consulting Engineers
[REDACTED]

David Brooke

From: Tim Townsend <[REDACTED]>
Sent: 08 July 2014 16:32
To: David Brooke; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland
([REDACTED]); James Higgins
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton
Attachments: Yapton Burndell Road revised plan with TT markings as of 08 07 2014.pdf

David,

Thanks for this.

You are very nearly there – please see the attachment. I've marked on the changes in red and standard pencil - the latter not in red. I've also tweaked the southern side of the road to sweeten the line. You will see that the encroachment on the tree area is less than previously shown. Please also note that the positioning of the bus shelter will have to be carefully thought through at the detailed design stage – a note on the plan to that effect would be helpful.

When you've amended, please send me a copy to check.

Thanks,

Tim

From: David Brooke [mailto:[REDACTED]]
Sent: 08 July 2014 14:29
To: Tim Townsend; south.enquiries@[REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED]); James Higgins
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

Tim

We have modified the layout in line with your suggested improvements. As discussed the layby has been shown as 2.5m which will help the bus, but in reality little or no parking will take place as any car would block existing driveways. I am out of the office now but if there are any minor further modifications required please copy my colleague James.

Many thanks

Kind regards

David Brooke

David Brooke MCIHT
Director
The Stilwell Partnership **tsp**
Consulting Engineers





Satellite House 2 Nexus Park Lysons Ave Ash Vale Guildford GU12 5QE

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From: Tim Townsend [REDACTED]
Sent: 07 July 2014 14:47
To: David Brooke; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

David,

Having reviewed your latest drawing (TSP/BRO/P2551/02 F), you still have not got the alignment correct. Attached for your information is an extract from the drawing with some sketches showing where the alignment needs to be changed. Please note the sketches are only intended to guide you towards accurately drawing what is required to complete the alignment. All changes shown appear to be within the highway boundary. You will need to send me your version to check when you've completed it, please.

The colours represent the following:

- Green – carriageway
- Pink – footway
- Blue – lay-by

You should maintain a 2.5m wide lay-by as far as possible, but to do this the back edge (the footway side) is going to have to follow the alignment of the northern kerbline/edge of the carriageway. Also, don't forget to adjust the tactile paving for the pedestrian crossing points. Finally, the bus shelter will need careful positioning in relation to the edge of the road and the footway.

I hope this assists you.

Thanks,

Tim

From: David Brooke [REDACTED]
Sent: 30 June 2014 17:02
To: Tim Townsend; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

Tim

Thank you for your email below. We have amended the plan to include the two points raised by you on Friday so hopefully you are in a position to approve the scheme.

Many thanks

Kind regards

David Brooke

David Brooke MCIHT

Director

The Stilwell Partnership **tsp**

Consulting Engineers



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From: Tim Townsend [REDACTED]
Sent: 27 June 2014 14:57
To: David Brooke; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

Dear David,

Thank you for the revised information. I have now looked through your comments and have the following comments to make.

In short, I am now happy with the Safety Audit. I am also happy with the sight lines from the access because they correspond with that recommended in MfS. Your comments about the railway crossing are noted and you should send these directly to the Planning Case Officer at Arun. If possible, the arrangement for the bus opposite the site entrance could be moved slightly further eastwards as I suspect this would better permit a bus to pull-up parallel to the kerb. Please show this if you can.

Turning to items that I cannot agree to. The road alignment is still not shown correctly in two places:

1. Opposite the site entrance – I think you have taken my comments about leaving the lay-by as-is too literally because you have omitted to show the revised northern edge of the road.
2. On the site side adjacent to Southfields – road still kinks. You need to realign this and the footway as well.

My final point concerns the pedestrian visibility. You need to extend the splays in the trailing direction for both sight lines in accordance with appropriate design guidance (each side of the road). I suspect you can do this but please check and annotate on a revised plan.

I look forward to seeing the above points addressed. Something very early next week would assist both me and the Case Officer.

Many thanks,

Tim

From: David Brooke [REDACTED]
Sent: 25 June 2014 17:45
To: Tim Townsend; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

Tim

Please find attached and below our response to the comments you raised. To help everyone else that needs to be aware of the issues I have created new titles.

Sight lines from Access

We note you are happy with the sight lines, but have pointed out that the leading direction crosses private land. This does appear correct as the owner opposite Fordwater Gardens owns right up to the edge of the road. The attached photo shows that they have a low level fence so we can achieve the sight lines that we need and have shown, however if you accept that the sight line is measured 1.5m into the carriageway we can achieve the sight line without any complications. The attached plan shows the new sight line but the pink coloured attachment shows the minimal impact. Obviously the LPA and your authority would never let him build on this land.

Sight Lines from Crossing Point

We have amended the plan to show that at least 70m can be achieved in both directions. We have also changed the "x" distance to 2.0m as requested. When they decide on these new standards do they not think that every site is different, is someone going to take a step backwards to then choose to cross the road.

How the widths and curvature have been arrived at using the criteria set out in MfS 2 paragraph 8.6.3?

Below is the extract from MfS.

8.6.3 Lane Widths should be determined based on the local consideration:

- *The volume and composition of vehicular traffic;*
- *Pedestrian and cyclists' needs;*
- *The demarcation, if any, between carriageway and footway(e.g. kerb, street furniture or trees and planting);*
- *Whether parking is to take place in the carriageway and, if so, its distribution, arrangement, the turnover of spaces, and the likely level of parking enforcement (if any);*
- *The design speed;*
- *The curvature of the street (bends require greater width to accommodate the swept path of larger vehicles);*
- and
- *Any intention to include one-way streets, or short stretches of single lane working in two-way streets.*

The access and the offsite road improvements have been designed to accommodate the likely traffic generated by this development and those already on the highway network. The junction design has been supported with a road safety audit and a junction modelling analysis and both do not raise any issues with the geometry chosen. The design of the access is suitable to accommodate the likely traffic attracted/ generated by this development and I note you have accepted this. To improve the sight lines from the access, provide better pedestrian and bus facilities,

modifications(improvements) have been promoted on Burndell Road. Burndell Road, the B2233 varies in width and nature, some parts rural and other built up. An extract of the topographical survey shows the road as 6.258m on the western side widening 7.12m opposite a house called Kyrie and narrowing down to 6.597m on our eastern boundary. Not unusual geometry and we have pinched a bit of the road and laybys to maintain a minimum width of 6.5m which is suitable for all vehicle types using this road. The design speed is 50kph (30mph). The laybys are not frequently used and empty during the evenings, so we are not creating a parking problem. If necessary we could provide visitor spaces for the existing houses on the access road if required. The average 24hour daily flow for east bound vehicles is 3676 and 3467 vehicles for westbound, about 150 per hour rising to approximately 300 in the peak hours. From the ATC data it has been established that only 0.7% of vehicles on Burndell Road are classified as Heavy Good Vehicles.

The tie-in and alignment 'stick out' into the carriageway near Southfields

The alignment has been slightly improved in the latest version of the plan by introducing edge of carriageway road markings

Analysis for the local pedestrian-only crossing over the railway.

The nearest pedestrian crossing point over the railway is 2.3km away, and would only attract leisure time walkers, if they wanted to walk Binsted Wood, which is just less than 5km away. Therefore bearing in mind the distances and the amount of people likely to be attracted to this destination I do not believe this site would have any impact. However this is for Arun Council to comment. Extracts from google maps enclosed.

Safety Audit

Original copies of the signed report and the designers response are attached. I have attached a new designers response. We have amended plan and have maintained the layby for buses. The attached drawing shows that a large bus can enter the layby. I have sent this to Laurence Shaw and yourself under separate cover and the audit team see no issues.

Hopefully you are now in a position to recommend to Arun that there are no highway or traffic related problems regarding this site. If I have missed anything please call.

Many thanks

Kind regards

David Brooke

David Brooke MCIHT

Director

The Stilwell Partnership **tsp**

Consulting Engineers



ISO 9001:2008



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From: Tim Townsend [REDACTED]
Sent: 19 June 2014 09:41
To: David Brooke; [REDACTED]
Cc: [REDACTED], Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

David,

Thank you for your email found below. I also refer to your later email with comments from the Road Safety Audit Team.

Please see my comments made below in red alongside your original comments:

Thank you for email and I note that in reality we have only one minor design issue to resolve (no, there are several). This being whether a kerb build-out is being provided for the eastbound buses or not. The attached plan has been sent to both Stagecoach and the road safety auditor for comment. Although their opinions are important, your views as the highway authority will take precedent. You will see from the drawing I have referred to an option to have a kerb build-out. I have no strong views either way, but I know bus companies prefer not have laybys, but as the road is only lightly trafficked I would be surprised if they had strong views. The road is not lightly trafficked. We do need to accommodate the shelter. I copied you into my email to stagecoach on Friday.

With regard to the specific points raised in your memo to Arun on the 15th May I would comment as follows:

Page 1

Requires no actions but I note you are happy with the sight lines from the new access. Checking the highway boundary opposite Fordwater Gardens, it may be that part of the sightline in the leading traffic direction passes over land that is not highway. Please provide a revised plan showing suitable sight lines within the highway boundary **for the entire scheme**. This includes pedestrian visibility as well – to be taken from a 2.0m 'x' distance. The 'y' distances need increasing in the trailing traffic direction for both sides of the crossing point, commensurate with the 85th percentile speed of traffic.

Page 2

The additional information requested about the junction geometry has been fully addressed. Swept path diagrams are attached, the kerb radii are dimensioned and standards applied are those given in your local design guide (section 5.1). Burndell Road (B 2233) is restricted to 30mph, but speeds recorded were slightly higher so when amending the road does MfS or DMRB apply? The Goodhew Close (5.3m wide) development (173 units) was deemed acceptable of a priority junction. We have maintained the existing width of the road but utilised the laybys to assist pedestrians to cross the road as well as improving sight lines. The width of Burndell Road has not been maintained, rather it has been narrowed. What is key here is whether any revised width and alignment works. You must explain how the widths and curvature have been arrived at using the criteria set out in MfS 2 paragraph 8.6.3.

The new estate road shown is 6.0m wide which is 1.2m wider than a standard 4.8m wide road promoted throughout the country and in West Sussex – noted. However as experienced highway consultants we always ensure that at least the first section of road is wider to allow two normal vehicles to pass. Obviously there is always an issue when the once a week refuse vehicle enters the side road. One vehicle will have to wait for another. MfS does not encourage you to over design roads. The bellmouth and width of the first part of the estate road are acceptable following assessment of your swept-path diagrams.

Consideration to super-elevation and drainage has been considered and this will come out in the detailed design prepared for the S278 agreement. Agreed. Currently there is a normal camber and new road gullies will have to be promoted to tie into the existing system. A Cad plan is included. Aesthetically putting in a radii into Southfield looks better and helps putting in any dropped kerbs, please sketch your preferred option. It is for the designer to prepare the drawings – not the Highway Authority. From scrutiny of your drawing, the tie-in and alignment 'stick out' into

the carriageway. If you look longitudinally along the road (looking at the plan) you will see this. I agree a kerb radius adjacent to Southfields would be suitable.

Pedestrian sight lines measure 1m back from the crossing point has been shown and accords with the recorded 85thile speed. Both the 'x' and 'y' distances are incorrect. 2.0m 'x' distance should be aimed for with 'y' distances increased in both trailing directions from each crossing point.

In summary the design provided does take into account all the criteria outlined in paragraph 8.6.3 of MfS 2. To reiterate that said above, you must explain how the widths and curvature have been arrived at using the criteria set out in MfS 2 paragraph 8.6.3.

Page 2 (Continued)

Points that we do not feel are reasonable to request on such a small development relate to your request to undertake sensitivity tests on the two A259 junctions at Oyster Catcher and Comet Corner and the railway crossings. A site of this size (45 units) would not normally warrant a full transportation assessment and we note that the Fellow Gardens development for 34 units did not look at capacity. We felt it necessary to look at capacity in our transportation assessment for the access as we are significantly changing it. Looking at the Picady results in the Goodhew Close scheme (173 units) extracts enclosed there are no issues related to capacity. The predicted RFCs and queue lengths even in 2018 are low and the very few cars that our development would add to these junctions would not make an impact. We could use traffic flows and modelling used for the Goodhew Close development, but when we sent the scoping report to WSCC you did not ask for any other junctions to be assessed. This is well beyond the scope for such a small development. Agreed for current proposal.

At this stage are not willing to consider the possible impact on the railway crossings as we consider it well beyond the study area for such a small development and there is no precedent of WSCC asking for the impact to be checked. I have done a quick distribution of traffic attracted to our site based on the distribution in the Goodhew scheme and we will could potentially only putting 8 trips (2 way) onto the North End Road crossing and say 4 onto the Ford crossing in the AM peak.

This equates to 1 car every 8 minutes onto the north end road crossing and 1 car every 15 minutes onto the Ford crossing, very insignificant and does not warrant full analysis.

Network Rail has asked Planning Authorities to request this information wherever sites are close to railway crossings (vehicular or otherwise). The low traffic impact as stated above is noted although I see you have not made mention of any analysis for the local pedestrian-only crossing over the railway. I would recommend that you provide the latter to the Planning Case Officer.

Page 3

All the information asked for related to the safety audit will be provided, firstly signed copies of audits and designers response. This is needed now before the application is determined. There is only one issue that needs to be agreed with WSCC highways, the auditor, ourselves and possibly Stagecoach PLC is the bus stop on the eastbound carriageway as stated above in my introduction paragraph. Currently it is a poorly laid out stop within an undefined area with no decent facilities (raised kerbs) for pedestrians to alight the bus. Our proposals (kerb build-out) gives the opportunity for a decent stop to be provided. I believe Stagecoach will agree as bus companies preference is always to stop on carriageway. We are in the process of writing to them for their views. Bearing in mind the request to provide a shelter, seating and real-time information it may be necessary to provide this build-out. I do need to see a clear response from Stagecoach. However, my preference at the moment is to retain the eastbound arrangements as they are, albeit with a shelter, RTPi, seating and raised kerbing. This then provides a waiting area for a bus clear of the carriageway and clear of the new road junction, minimising risk of conflicts if vehicles are attempting to overtake a stationary bus opposite the junction. I suggest you provide a swept-path diagram of a bus entering and leaving the lay-by, including showing the position of the shelter and raised kerbing. Also, run it past the Audit Team and let me have any further written response from them.

Page 4

Bus Shelters can be provided and I assume that this will be part of the S106 contributions? The actual implementation of shelters is normally co-ordinated by the Parish Council so a suitable contribution towards their provision is required. Please note that costs quoted do not include raised kerbs or any other build-outs and/or footway extensions. These will have to form part of the scheme costs to be met by your client and will be dealt with at the implementation stage in a S278 Agreement. However I note from the S106 contributions provided as part of Goodhew Close scheme for 173 units that they will be providing bus shelters, it appears that these may be the same bus stops. I am not aware they are. In line with normal practice S106 contributions will be considered and my planning colleague will deal with this. Noted, but I do need a reply to the highway contributions referred to in my report of 15th May 2014 before the application is determined.

Fire Hydrants will be provided at the detail design stage and I note the fire officer is happy with the layout. Noted.

With regard to the internal layout the principle of the scheme is shared surface, but there is an alternative route for pedestrians shown around and across the site. If the site is extended there is no need to provide standard cross section to the road, i.e. footways next to the carriageway. The layout is very pedestrian friendly but more links from the external path would need to be provided if a further phase is promoted in the future. MfS gives advice about when shared surfaces could be considered. This matter will need further consideration at any reserved matters stage.

A sensitivity test (Picady model) on the access is attached tripling the traffic into and out of the access is enclosed not surprisingly there are no predicted queues or delays. Noted, but one must also look at what DMRB says with regard to 'interventions' on the highway when certain traffic flows are arrived at or exceeded.

Page 5

Points regarding adoption of internal roads and public rights of way are noted.

Details requested in the conclusion have been provided in with the exception of the views of the auditor, bus company and yours on the eastbound shelter. Whatever the outcome could they could be conditioned as they will have to be included in a S278 agreement and be subject to a stage 2 road safety audit? Please see comments above – essentially we can't condition anything until we are satisfied something can be delivered.

I trust these comments are helpful. I look forward to receiving amended information as soon as possible, please. Happy to discuss further if any aren't clear.

Regards,

Tim

From: David Brooke [REDACTED]
Sent: 10 June 2014 18:21
To: Tim Townsend; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland ([REDACTED])
Subject: Proposed Off Site Highway Works Burndell Road Yapton

Tim

Thank you for email and I note that in reality we have only one minor design issue to resolve. This being whether a kerb build-out is being provided for the eastbound buses or not. The attached plan has been sent to both Stagecoach and the road safety auditor for comment. Although their opinions are important, your views as the highway authority will take precedent. You will see from the drawing I have referred to an option to have a kerb build-out. I have no strong views either way, but I know bus companies prefer not have laybys, but as the road is only lightly trafficked I would be surprised if they had strong views. We do need to accommodate the shelter. I copied you into my email to stagecoach on Friday.

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The road shown is 6.0m wide which is 1.2m wider than a standard 4.8m wide road promoted throughout the country and in West Sussex. However as experienced highway consultants we always ensure that at least the first section of road is wider to allow two normal vehicles to pass. Obviously there is always an issue when the once a week refuse vehicle enters the side road. One vehicle will have to wait for another. MfS does not encourage you to over design roads.

Consideration to super-elevation and drainage has been considered and this will come out in the detailed design prepared for the S278 agreement. Currently there is a normal camber and new road gullies will have to be promoted to tie into the existing system. A Cad plan is included. Aesthetically putting in a radii into Southfield looks better and helps putting in any dropped kerbs, please sketch your preferred option.

Pedestrian sight lines measure 1m back from the crossing point has been shown and accords with the recorded 85thile speed.

In summary the design provided does take into account all the criteria outlined in paragraph 8.6.3 of MfS 2.

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Points that we do not feel are reasonable to request on such a small development relate to your request to undertake sensitivity tests on the two A259 junctions at Oyster Catcher and Comet Corner and the railway crossings. A site of this size (45 units) would not normally warrant a full transportation assessment and we note that the Fellow Gardens development for 34 units did not look at capacity. We felt it necessary to look at capacity in our transportation assessment for the access as we are significantly changing it. Looking at the Picady results in the Goodhew Close scheme (173 units) extracts enclosed there are no issues related to capacity. The predicted RFCs and queue lengths even in 2018 are low and the very few cars that our development would add to these junctions would not make an impact. We could use traffic flows and modelling used for the Goodhew Close development, but when we sent the scoping report to WSCC you did not ask for any other junctions to be assessed. This is well beyond the scope for such a small development.

At this stage are not willing to consider the possible impact on the railway crossings as we consider it well beyond the study area for such a small development and there is no precedent of WSCC asking for the impact to be checked. I have done a quick distribution of traffic attracted to our site based on the distribution in the Goodhew scheme and we will could potentially only putting 8 trips (2 way) onto the North End Road crossing and say 4 onto the Ford crossing in the AM peak.

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pedestrians to alight the bus. Our proposals (kerb build-out) gives the opportunity for a decent stop to be provided. I believe Stagecoach will agree as bus companies preference is always to stop on carriageway. We are in the process of writing to them for their views. Bearing in mind the request to provide a shelter, seating and real-time information it may be necessary to provide this build-out.

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Details requested in the conclusion have been provided in with the exception of the views of the auditor, bus company and yours on the eastbound shelter. Whatever the outcome could they could be conditioned as they will have to be included in a S278 agreement and be subject to a stage 2 road safety audit?

Please call me to discuss way forward.

Many thanks

Kind regards

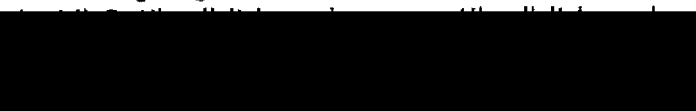
David Brooke

David Brooke MCIHT

Director

The Stilwell Partnership **tsp**

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From: Tim Townsend [REDACTED]
Sent: 09 June 2014 11:06
To: David Brooke; [REDACTED]
Cc: [REDACTED]; Fiona Dalitis; Peter Cleveland [REDACTED]
Subject: RE: Proposed Off Site Highway Works Burndell Road Yapton

David,

Thank you for your email. I have also picked up your voicemail message to me.

The current arrangements for eastbound buses allows a bus to wait largely clear of the carriageway at the point opposite the location of the new site entrance. To retain these arrangements (albeit with improved waiting and boarding facilities) might be a sensible solution, particularly given that the waiting bus would be largely clear of the carriageway meaning that overtaking on the site side by other vehicles should not take place or be minimised, which would otherwise bring vehicles into potential conflict with traffic entering and leaving the site. This is subject, of course, to establishing a safe crossing point for pedestrians clear of **both** bus waiting areas.

The location of the westbound stop appears to change very little with the proposals – if at all – with the main change being that the bus would wait slightly further into the carriageway with the re-aligned kerbing. Again though, is the need to locate a safe pedestrian crossing point.

My advice to you is to re-read my consultation response about the bus stop locations (starts on page 3 and continues on page 4) and to speak to the local bus company to understand what their thoughts are. Also look at the Safety Audit recommendations with regard to pedestrian crossing facilities over Burndell Road. This should then guide you to working up a revised proposal. Check any changes with the bus company and Audit Team before coming back to me.

Hope this helps.

Come back to me if you'd still like to discuss.

Regards,

Tim

From: David Brooke [REDACTED]
Sent: 06 June 2014 16:39
To: [REDACTED]
Cc: Tim Townsend; [REDACTED]; Fiona Dalitis
Subject: Proposed Off Site Highway Works Burndell Road Yapton

Dear Sir/ Madam

We are in the process of trying to agree some offsite improvements subject to planning related to a development to the south of Burndell Road Yapton. Outside the site are two bus stops serving the xxxx. We have been asked to incorporate shelters seats and real time information. Our initial ideal was to provide kerb build-outs with raised kerbing to allow your customers to alight the buses easier. Neither the highway authority or the road safety auditor has made any negative comment relate to the westbound bus stop but there are concerns regarding the location of the eastbound bus stop.

From my experience I am very reluctant to relocate bus stops as this gives local residents the opportunity to object as people generally don't like bus stops outside their property. You will be aware of the different types of

issues. We would like your views on the eastbound bus stop, would you prefer a layby or let the bus wait on the carriageway. Our traffic surveys indicate about 320 in the AM peak to 374 cars in the PM peak going east.

I have attached a drawing for your earliest comment please.

Many thanks

Kind regards

David Brooke

David Brooke MCIHT

Director

The Stilwell Partnership **tsp**

Consulting Engineers



ISO 9001:2008



Working for Safety on the Road
Outstanding Contribution
Awarded 2010



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APPENDIX C

Traffic Survey Data

Report Id - CustomList-884
Site Name - STLYAP01
Description - BURNDILL ROAD WEST OF FORDWATER GARDENS
Direction - East

Virtual Week (2)

Time	Total	Vbin 0 5	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Vbin 80 85	Vbin 85 100	Vbin 100 140	Mean	Vpp 85	SD
Mon	3559	0	3	19	18	67	680	1602	860	241	54	13	3	1	1	0	0	0	0	0	33.4	38	5.1
Tue	2576	1	2	14	16	58	608	1175	515	148	33	8	1	0	0	0	0	0	0	0	32.7	37.4	5
Wed	1831	1	2	10	11	57	489	800	347	94	18	5	1	0	0	0	0	0	0	0	32.3	36.9	5
Thu	3487	1	2	15	16	63	747	1644	746	197	43	9	5	2	0	0	0	0	0	0	33	37.4	4.9
Fri	3770	0	2	15	19	72	876	1723	791	209	50	11	3	1	0	0	1	0	0	0	32.9	37.1	4.9
Sat	3433	0	3	20	31	62	658	1540	805	230	62	16	6	3	0	0	0	0	0	0	33.4	38	5.3
Sun	2574	0	1	18	26	42	474	1129	634	183	51	15	3	1	1	1	0	0	0	0	33.5	38.3	5.4
--	21229	2	13	110	136	419	4531	9612	4696	1300	309	74	21	7	1	1	1	0	0	0	33.1	37.6	5.1

Quality Traffic Services Ltd. Speed Report

Report Id - CustomList-884
Site Name - STLYAP01
Description - BURNDILL ROAD WEST OF FORDWATER GARDENS
Direction - East

Grand Total

Time	Total	Vbin 0 5	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Vbin 80 85	Vbin 85 100	Vbin 100 140	Mean	Vpp 85	SD
--	42457	3	26	219	271	838	9061	19224	9391	2600	618	148	41	13	2	1	1	0	0	0	33.1	37.6	5.1

Report Id - CustomList-884

 Site Name - STLYAP01

 Description - BURNDILL ROAD WEST OF FORDWATER GARDENS

 Direction - West

Virtual Week (2)

Time	Total	Vbin 0 5	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Vbin 80 85	Vbin 85 100	Vbin 100 140	Mean	Vpp 85	SD
Mon	3358	1	4	23	31	108	763	1424	719	222	54	10	1	1	0	0	0	0	0	0	32.8	37.8	5.4
Tue	2446	0	3	13	26	67	667	1020	486	128	27	7	4	1	0	0	0	0	0	0	32.4	36.9	5.2
Wed	1717	0	2	12	17	66	507	706	308	76	20	6	1	0	0	0	0	0	0	0	32	36.7	5.2
Thu	3326	0	7	15	25	90	832	1491	646	180	34	4	3	1	1	0	0	0	0	0	32.4	36.9	5
Fri	3525	0	6	25	28	86	910	1512	704	200	46	7	4	0	0	0	1	0	0	0	32.5	37.4	5.3
Sat	3338	0	4	18	25	99	887	1485	613	162	35	11	2	0	0	0	0	0	0	0	32.3	36.9	5.1
Sun	2565	0	5	20	19	58	575	1130	540	168	38	11	2	1	1	0	0	0	0	0	32.9	37.6	5.4
--	20275	1	29	124	169	571	5139	8765	4015	1136	252	55	15	4	2	0	1	0	0	0	32.5	37.4	5.2

Quality Traffic Services Ltd. Speed Report

Report Id - CustomList-884
Site Name - STLYAP01
Description - BURNDELL ROAD WEST OF FORDWATER GARDENS
Direction - West

Grand Total

Time	Total	Vbin 0 5	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Vbin 80 85	Vbin 85 100	Vbin 100 140	Mean	Vpp 85	SD
--	40549	1	58	248	338	1142	10278	17530	8029	2272	504	109	29	7	3	0	1	0	0	0	32.5	37.4	5.2

APPENDIX D

Parking Matrix

APPENDIX E

Proposed Footway and Access Plan

1. All Highway works (including highway Drainage) subject to adoption shall be in accordance with the DEPARTMENT OF TRANSPORT MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS 2002, SPECIFICATION FOR HIGHWAY WORKS with additions and amendments where appropriate by West Sussex County Council.

STILWELL LTD

DESCRIPTION

DATE



Stilwell
PARTNERSHIP

**SAFETY, TRAFFIC & HIGHWAY
ENGINEERING CONSULTANTS**

SATELLIT HOUSE, 2 NEXUS PARK
ASH VALE, SURREY, GU12 5QE

Tel: 01276 700400, Fax: 01252 544 934

E-Mail: info@stilwell-ltd.co.uk

Web: www.stilwell-ltd.co.uk

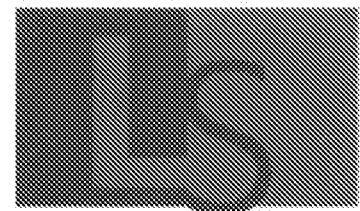
TITLE:	Proposed Access and Highway Improvements Plan
--------	--

DWG No: TSP/BRO/P2551/02 H

ARUN DISTRICT COUNCIL F/7/15/OUT

APPENDIX F

Stage 1 RSA



Laurence Shaw
ASSOCIATES

Traffic Engineering Consultants

One Dyke Close, The Street,
Pyynings, West Sussex



THE STILWELL PARTNERSHIP
PROPOSED ACCESS AND HIGHWAY IMPROVEMENTS
BURNDELL ROAD, YAPTON

ROAD SAFETY AUDIT STAGE 1
MARCH 2014

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1. Introduction	2
2. Stage 1 Road Safety Audit	4
3. Audit Team Statement	5

Appendix

- A. Schedule of Documents Examined
- B. Annotated Drawings

1.0 INTRODUCTION

- 1.1 This report presents the findings of a Stage 1 Road Safety Audit (preliminary design) into the improvements to the highway at Burndell Road, Yapton, and improvements to an existing access to land on the south side of the road.
- 1.2 This Audit was carried out at the request of Mr Chris Vaughan of The Stilwell Partnership and the Audit Team has acted independently of the Design Team and has had no prior involvement in the project.
- 1.3 This Audit comprised a site visit and an examination of the documents listed in Appendix A. The site visit was carried out on Friday 21st March 2014 in daylight. The visit occurred between the hours of 11:15– 12:00 and during the visit the weather was dry with clear visibility and record photographs were taken during the inspection.
- 1.4 The Audit Team membership was as follows:
- | | |
|------------------|--|
| Laurence Shaw | Laurence Shaw Associates, Traffic Engineering Consultants
Team Leader |
| Harold Cryer BSc | Highway and traffic engineer
Team Member |
- 1.5 The terms of reference of this Audit are described in the Design Manual for Roads and Bridges Volume 5, Section 2, Part 2 HD 19/03. The audit team has only reported on the road safety implications of the existing and proposed facilities and has not examined or verified the compliance of the design or any other criteria.
- 1.6 The access road is to a development site which is on the south side of Burndell Road to the west of Fordwater Gardens and the proposals are for a 6.0m wide carriageway access road with 2.0m wide footways on both sides of the access

road at the junction with Burndell Road. There are also proposals for the realignment of Burndell Road at the new access road.

- 1.7 Burndell Road has a 30mph speed limit and has recently renewed street lighting although it should be noted that a night visit was not carried out at this time.
- 1.8 All comments and recommendations are referenced to the design drawings and the locations have been indicated on the plans supplied with the Audit Brief, annotated copies of which are attached to this report.
- 1.9 No departures from standard have been advised to the Auditor by the design team.
- 1.10 This is a Stage 1 Road Safety Audit and it has been noted that details of the drainage, landscaping, bollards and signing, etc. are not included in the information provided to the Audit Team and that any such information should be provided to the Audit Team at Stage 2 RSA unless a problem is noted as a result of the site inspection.
- 1.11 It should be noted that no information was provided on traffic flows or collision history for the roundabout or any of the arms and the designer should ensure that the roundabout will have enough capacity for the expected flows and that any collision history is considered.
- 1.12 This road safety audit has been prepared in accordance with the instructions, and for the specific use, of The Stilwell Partnership and their clients. The authors shall not be liable for the information contained in this report if used for any purpose other than that for which it was provided in connection with their appointment as road safety auditors.
- 1.13 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the Designer to consult them on this matter.

STAGE 1 ROAD SAFETY AUDIT

2.1 Problem

Location: Burndell Road at the access

Summary: proposed uncontrolled pedestrian crossing may be hazardous

Drawing No. TSP/BRO/P2551/02 shows an uncontrolled pedestrian crossing with tactile paving across Burndell Road immediately adjacent to a resited bus stop. A blind or partially sighted pedestrian crossing Burndell Road south to north will have their route across the road blocked by a bus standing at the bus stop which could lead to vehicle/pedestrian collisions.

Recommendation

It is recommended that the proposed location for the bus stop is reconsidered.

2.2 Problem

Location: Burndell Road at the access

Summary: proposed new footway may be hazardous

It is proposed that there will be new 2.0m wide footways on both sides of the access road where it meets Burndell Road with tactile paving to assist blind and partially sighted pedestrians to cross the new access road. The audit team are concerned that the section of new footway on the east side of the access road is very short and does not lead to a continuous footway on the south side of Burndell Road. Blind and partially sighted pedestrians may become confused by the lack of footway and may lead to such pedestrians attempting to cross Burndell Road which could result in vehicle/pedestrian collisions.

Recommendation

It is recommended that the short section of footway is deleted from the proposals.

Audit Team Statement

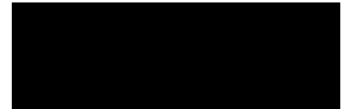
ROAD SAFETY AUDIT STAGE 1

I certify that this audit has been carried out in accordance with HD 19/03.

Audit Team Leader

L. E. Shaw MCIHT
Senior Associate
Laurence Shaw Associates
1 Dyke Close
Poynings
West Sussex
BN45 7BB

Signed



Date 24th March 2014

APPENDIX A

Schedule of documents examined

Drawing No.	Title	Description	Scale
TSP/BRO/P2551/02 B	Land off Burndell Road Yapton, West Sussex	Proposed Access and Highway Improvements Plan	1:200 @ A1

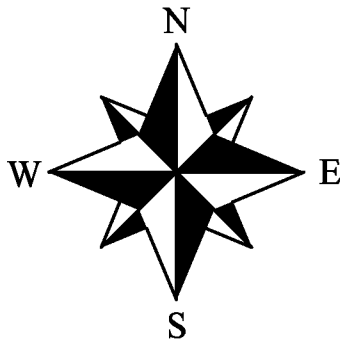
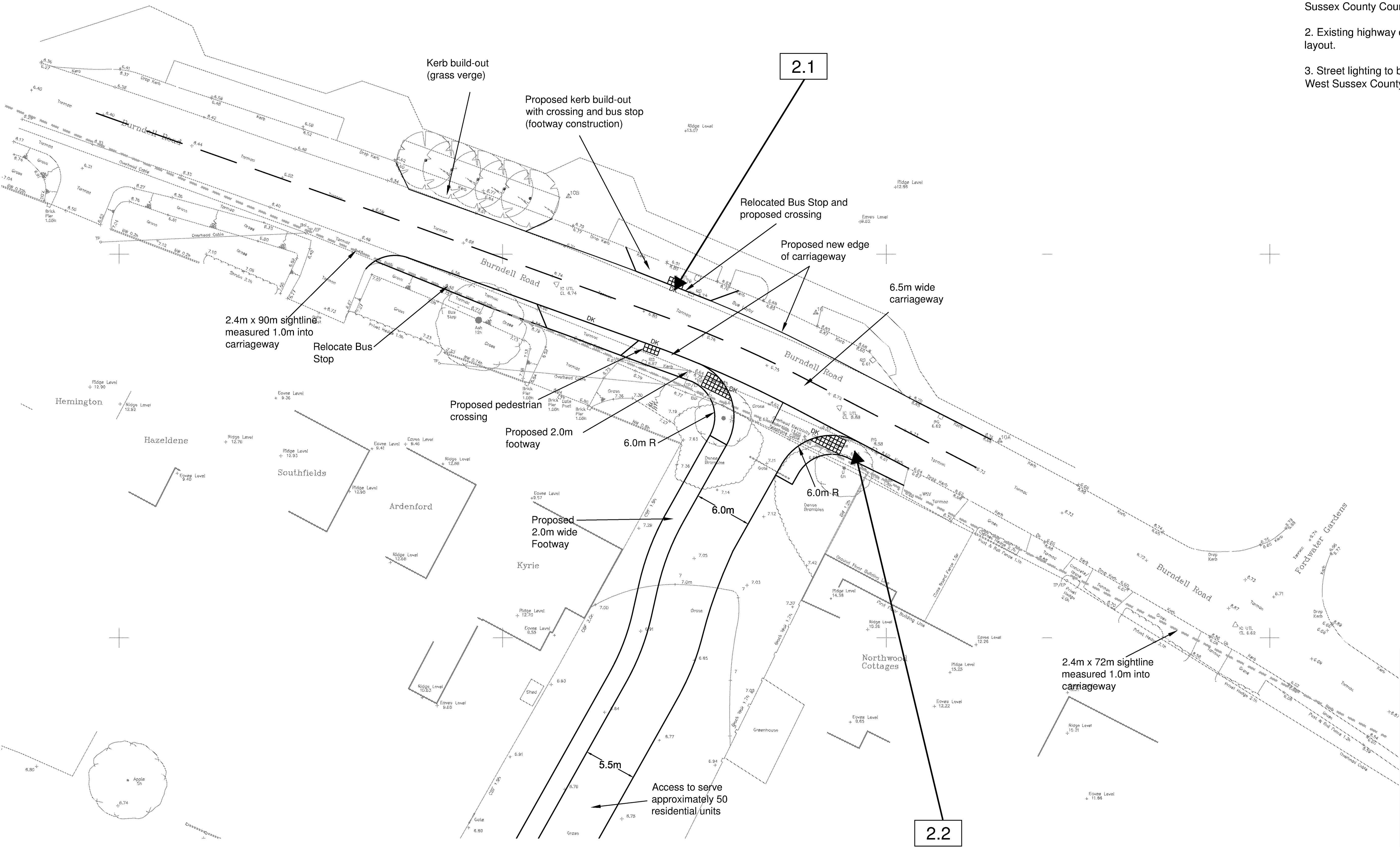
Relevant emails received from Chris Vaughan

APPENDIX B

SCHEME DRAWINGS

Notes

1. All Highway works (including highway Drainage) subject to adoption shall be in accordance with the DEPARTMENT OF TRANSPORT MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS 2002, SPECIFICATION FOR HIGHWAY WORKS with additions and amendments where appropriate by West Sussex County Council.
2. Existing highway drainage to be modified to suit new layout.
3. Street lighting to be modified to suit new layout to West Sussex County Council standard.



B	Sightline Modified	16/01/14
A	Information added	02/01/14
REV	DESCRIPTION	DATE
Stilwell PARTNERSHIP SAFETY, TRAFFIC & HIGHWAY ENGINEERING CONSULTANTS SATELLIET HOUSE, 2 NEXUS PARK ASH VALE, SURREY, GU12 5QE Tel: 01276 700400, Fax: 01252 544 934 E-Mail: info@stilwell-ltd.co.uk Web: www.stilwell-ltd.co.uk		
PROJECT:	Land off Burndell Road Yapton, West Sussex	
TITLE:	Proposed Access and Highway Improvements Plan	
SCALE:	1:200 @ A1	DRAWN: JH
DATE:	December 2013	CHECKED:
DWG No:	TSP/BRO/P2551/02 B	

DRAFT
THIS IS A CONTROLLED
DOCUMENT

APPENDIX G

Designers Response

DESIGNERS RESPONSE TO STAGE 1 ROAD SAFETY AUDIT

Item	Problem	Recommendation	Designers Response
2.1	Drawing No. TSP/BRO/P2551/02B shows an uncontrolled pedestrian crossing with tactile paving across Burndell Road immediately adjacent to a resited bus stop. A blind or partially sighted pedestrian crossing Burndell Road south to north will have their route across the road blocked by a bus standing at the bus stop which could lead to vehicle/pedestrian collisions.	It is recommended that the proposed location for the bus stop is reconsidered.	In order to remove the possible vehicle/pedestrian conflict, Drawing TSP/BRO/P2551/02B has been amended. Drawing TSP/BRO/P2251/02C now shows a relocated uncontrolled crossing approximately 24m to the west. This would allow pedestrians to cross away from the bus stops and waiting buses.
2.2	It is proposed that there will be new 2.0m wide footways on both sides of the access road where it meets Burndell Road with tactile paving to assist blind and partially sighted pedestrians to cross the new access road. The audit team are concerned that the section of new footway on the east side of the access road is very short and does not lead to a continuous footway on the south side of Burndell Road. Blind and partially sighted pedestrians may become confused by the lack of footway and may lead to such pedestrians attempting to cross Burndell Road which could result in vehicle/pedestrian collisions.	It is recommended that the short section of footway is deleted from the proposals.	Footway now removed from proposals as shown on Drawing TSP/BRO/P2251/02C.