
**HIGHFIELDS, WEST HILL,
EAST GRINSTEAD,
WEST SUSSEX**

PROPOSED HIGHWAY ACCESS

STAGE 1

ROAD SAFETY AUDIT REPORT

**REQUESTED BY:
APEX TRANSPORT PLANNING**

DECEMBER 2022



RKS
Associates

Project: Highfields, West Hill, East Grinstead, West Sussex
Proposed Highway Access

Client: Apex Transport Planning

Document: Stage 1 Road Safety Audit

RKS Associates Ref: VRP1493- RSA 1

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- Appendix B: Designers Response
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1 INTRODUCTION

1.1 This report results from a Stage 1 Road Safety Audit carried out on the highway access associated with the proposals to provide Care home with 81 bedrooms on land currently occupied by 'Highfields', a single residential property located to the south of West Hill, East Grinstead in West Sussex.

1.2 The highway works include the provision of a new vehicular access serving the proposed development located directly off West Hill, along the northern frontage of the site. The proposed site access junction will take the form of a priority junction facilitating all movements into and out of the development. The proposed access is 6m in width with 6m junction radii.

1.3 West Hill is a single two-way road aligned in a downhill gradient from an east to west direction. The carriageway is lit and subject to a 30mph speed limit, with a footway along its northern side and an embankment/verge along its southern side. Parking restrictions in the form of double yellow lines are located along the southern side fronting the site, and there are designated permit holders' parking bays (Zone A) operating from Monday to Saturday between the hours of 9am and 5pm except bank holidays along the northern side fronting residential properties.

1.4 Apex Transport Planning has supplied the following information upon which this Stage 1 RSA is based:

- Transport Scoping Note prepared by Apex Transport Planning Reference: C21147/TS01 (January 2022);
- Apex Transport Planning Drawing Number C21147-ATP-DR-TP-001 Revision S2 – Indicative General Arrangement Site Access & Visibility Splay; and
- Hub Transport Planning Drawing Number C21147-ATP-DR-TP-002 Revision S2 – Swept Path Analysis.

1.5 The main parties to the Audit of this Road Safety Audit include the following:

Road Safety Audit Team Leader	Vimal Patel BEng (Hons), GMICE, FIHE, HE Cert Comp, Reg RSA (IHE)
Road Safety Audit Team Member	Steve Giles BEng (Hons), IEng, MCIHT, FIHE, MICE, MCILT, MSoRSA, HE Cert Comp
Overseeing Organisation	West Sussex County Council
Design Organisation	Apex Transport Planning

1.6 The Audit was undertaken following examination of the submitted documents, and a site visit on Wednesday 7th December 2022, between the hours of 10am and 11am. The weather was sunny, and the road surface was dry. Traffic flows were low, with a low number of pedestrians and cyclists observed travelling along West Hill. On-street car parking was prevalent within the designated permit holders' parking bays.



Terms of Reference

- 1.7** The Audit Team is independent of the project design team and has no other involvement with the project. This Stage 1 RSA has been undertaken in accordance with the relevant sections of GG-119, part of the Design Manual for Roads and Bridges (DMRB).
- 1.8** The Safety Audit Team has examined only matters relating to road safety implications of the scheme and has not verified compliance of the design to any other criteria. The Audit Team has not been made aware of any Departures from Standard. All of the problems identified in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and to minimise accident occurrence for all users. The location of the problems identified in this Safety Audit is shown in **Appendix A** where the reference numbers relate to the problems identified in this report.
- 1.9** The recommendations in this report are aimed at addressing the identified road safety problems; however, there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities. 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.
- 1.10** The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the As Built design pack to be provided and retained by the Local Highway Authority on completion.

Trip Generation Data

- 1.11** The Transport Scoping Note provided by the design engineers indicate that the existing development would generate approximately 5 and 6 two-way vehicle movements during the morning peak (08:00 to 09:00) and evening peak (17:00 to 18:00) respectively whilst the development proposals would generate approximately 9 and 14 two-way vehicle movements during the morning peak and evening peak respectively.

Collision Data

- 1.12** Publicly available collision information obtained from the Crashmap website for the three-year period up to June 2021 indicates that one collision has occurred on West Hill in the vicinity of the proposed site access. The collision occurred in August 2016 and resulted from sideswipe collision between two vehicles travelling along West Hill, leading to one slight injury.



2 LOCAL ALIGNMENT

2.1 **Problem:**

Summary: Potential collisions due to standing water or service covers

Location: *Throughout*

No details have been provided in respect of surface water drainage or other services and it is therefore not possible to ascertain whether or not there will be any safety implications. The absence of surface water drainage may result in the collection of surface water that could increase the risk of loss of control collisions.

Recommendation:

Ensure that adequate surface water drainage is provided and is located away from pedestrian and cycle desire lines.



3 JUNCTIONS

3.1 **Problem:**

Summary: Potential risk of collisions between large vehicles entering and exiting the development

Location: *Entry/egress to residential development*

The vehicle swept path analysis for a large refuse vehicles entering and exiting the development indicates that they will overrun the opposing traffic lane. It is acknowledged that this will occur infrequently, however it is anticipated that other larger vehicles may access the residential development more frequently such as parcel deliveries or home grocery deliveries. Consequently, there may be an increased risk of side-swipe collisions between vehicles entering and exiting the residential development access simultaneously.

Recommendation:

Review the layout of the development access and, if necessary, widen the access to mitigate the risk of large vehicles overrunning the opposing traffic lane.

3.2 **Problem:**

Summary: Potential risk of vehicle collisions associated with parking within the permit holder parking bay

Location: *Proposed development access*

Observations during the site inspection noted that permit holders parking bays are located along the northern side of West Hill opposite the proposed development access. It is unclear from the vehicle swept path analysis drawings provided if a vehicle parked within the parking bay will restrict access for large vehicles accessing the site. Restricted access to and from the development associated with a vehicle parked within the parking bay may result in large vehicles performing multiple manoeuvres, which may lead to an increased risk of collisions between large vehicles performing multiple manoeuvres and other road users.

Recommendation:

The vehicle swept path analysis drawings should be updated to ensure that permit holders parking bays located along the northern side of West Hill do not restrict access to the development. If necessary, amend the layout of the access.

3.3 **Problem:**

Summary: Potential risk of collisions associated with obstruction to visibility

Location: *Visibility to and from proposed development access*

Observations during the site inspection noted that visibility to and from the proposed development access may be obscured by vegetation located behind the visibility splays along the southern side of West Hill. This could restrict visibility for vehicles entering and exiting the proposed development access and may lead to an increased risk of turning collisions at the junction.

Recommendation:

Ensure that the vegetation behind the visibility splays is cut back and regularly maintained.



4 WALKING, CYCLING & HORSE RIDING

4.1 Problem:

Summary: Potential risk of pedestrian collisions

Location: *Pedestrian access to and from the development*

The proposals indicate that the proposed access will facilitate vehicle movements to and from the development, but no details have been provided relating to pedestrian access from West Hill. There is concern that pedestrians will walk within the vehicular access, where they will be at risk of being struck by passing/turning traffic.

Recommendation:

Ensure that suitable facilities are provided for pedestrians accessing the proposed development from West Hill.



5 TRAFFIC SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

- 5.1** The Audit Team raise no concerns at this Stage 1 RSA in respect of traffic signs, carriageway markings and lighting, however full details should be provided at the detailed design stage.



6 AUDIT TEAM STATEMENT

- 6.1 We certify that this audit has been carried out in accordance with GG-119 of Design Manual for Roads & Bridges Volume 5 Section 2 - Road Safety Audits. Its sole purpose being to identify features of the scheme that could be removed or modified to improve safety. No member of the Audit Team has been involved in the scheme design.

Audit Team Leader

Vimal Patel
BEng (Hons), GMICE, FIHE, RegRSA (IHE), HE Cert Comp

Signed:

A handwritten signature in red ink, appearing to read 'V Patel'.

Date: 9th December 2022

Audit Team Member

Steve Giles
BEng (Hons), IEng, MCIHT, FIHE, MICE, CMILT, MSoRSA, HA Cert Comp

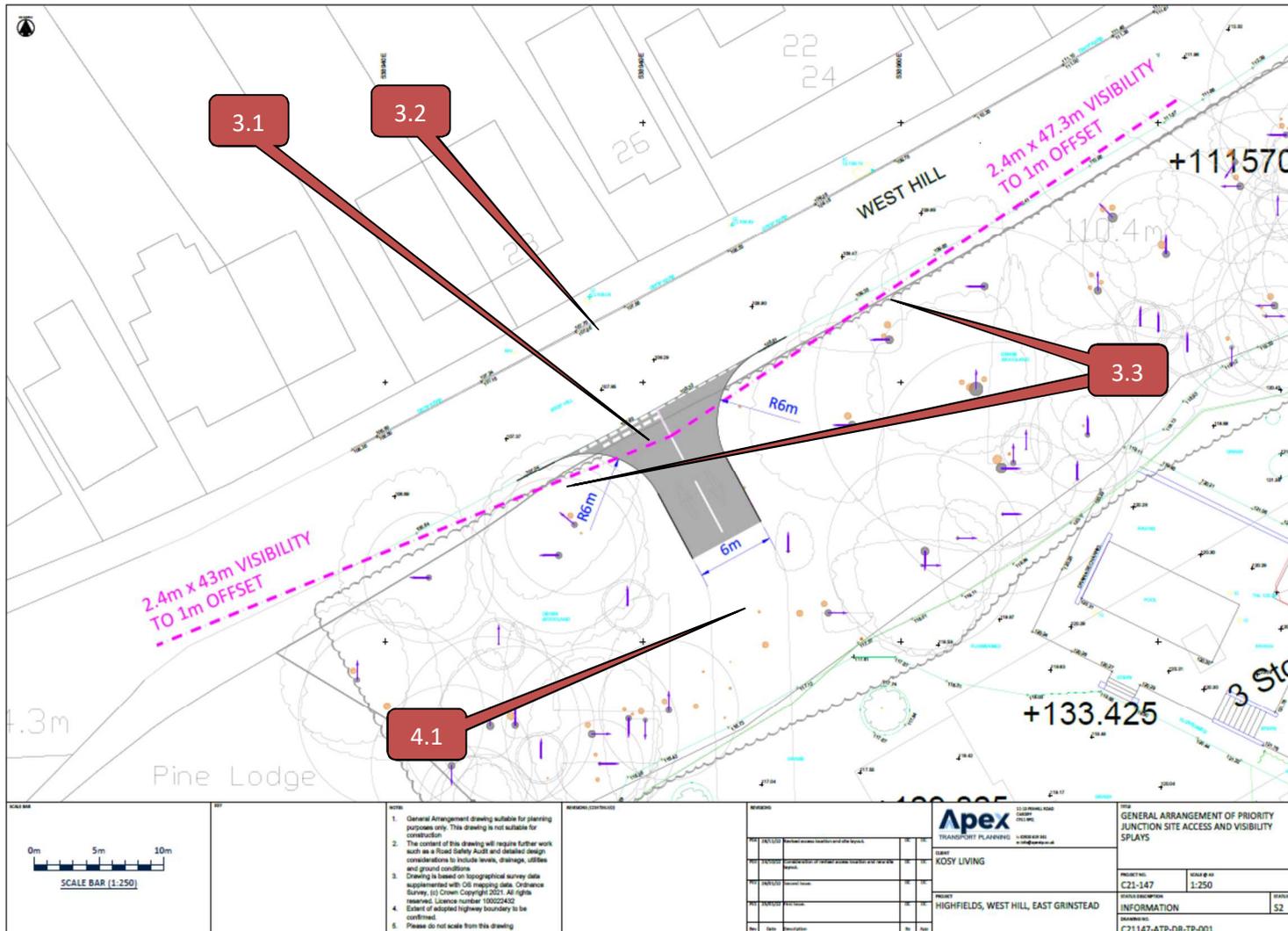
Signed:

A handwritten signature in black ink, appearing to read 'Steve Giles'.

Date: 9th December 2022



Appendix A



2.1
 General Issues



Appendix B



Item No.	Audit Team Recommendation(s)	Designer's Response
2.1	Ensure that adequate surface water drainage is provided and is located away from pedestrian and cycle desire lines.	This will be considered and demonstrated as part of the technical design approval for the junction.
3.1	Review the layout of the development access and, if necessary, widen the access to mitigate the risk of large vehicles overrunning the opposing traffic lane.	<p>The site would generate a minimal level of large vehicle movements, mainly related to refuse vehicles. As such, on the rare and infrequent occasions when these are generated, overrunning the centre line of the carriageway is considered appropriate and safe, as the site access has appropriate visibility to ensure there would not be conflicts with passing vehicles. This would be typical for an access for this type of development with a low level of vehicle movements accessing onto a 30mph road. Parcel delivery and other service vehicles would also be generated, but these would not be likely to be larger vehicles, as they would be accommodated in the undercroft area. The operator will ensure they use smaller vehicle types for suppliers accordingly.</p> <p>If a large refuse vehicle being accommodated within the site is not acceptable to WSCC, refuse collection could be either undertaken from on-carriageway on West Hill, as occurs currently for the residential properties, or smaller vehicles can be utilised by the operator as part of a private collection. On this basis, the site access proposals are considered safe and suitable and any amendments would lead to an overengineered access solution based on the minimal level of movements generated by the site.</p>
3.2	The vehicle swept path analysis drawings should be updated to ensure that permit holders parking bays located along the northern side of West Hill do not restrict access to the development. If necessary amend the layout of the access.	The swept path analysis has been updated to include the parking bays on West Hill, which demonstrates that these do not impact on movements to and from the site.
3.3	Ensure that the vegetation behind the visibility splays is cut back and regularly maintained.	All vegetation will be removed and set back behind visibility splays and there will be no restrictions between a height of 0.6m and 2m along the entire length of the splays.
4.1	Ensure that suitable facilities are provided for pedestrians accessing the proposed development from West Hill.	Pedestrians will not access the site from West Hill and suitable signage will be placed in this regard at the entrance and within the site. All pedestrian movements would be to and from the site via the



		existing access onto West Street directly onto appropriate footways.
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Designer's Statement:

I certify that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.

.....David Chapman.....
Designer

Date: 06/02/22

Project Sponsor/ Client Organisation Statement:

I accept/do not accept the Designer's Response (please delete as appropriate)

.....

Date:



Appendix C



Road Safety Audit Decision Log					
Problem Ref	RSA Problem	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
2.1	No details have been provided in respect of surface water drainage or other services and it is therefore not possible to ascertain whether or not there will be any safety implications. The absence of surface water drainage may result in the collection of surface water that could increase the risk of loss of control collisions.	Ensure that adequate surface water drainage is provided and is located away from pedestrian and cycle desire lines.	This will be considered and demonstrated as part of the technical design approval for the junction.		
3.1	The vehicle swept path analysis for a large refuse vehicles entering and exiting the development indicates that they will overrun the opposing traffic lane. It is acknowledged that this will occur infrequently, however it is anticipated that other larger vehicles may access the residential development more frequently such as parcel deliveries or home grocery deliveries. Consequently, there may be an increased risk of side-swipe collisions between vehicles entering and exiting the residential development access simultaneously.	Review the layout of the development access and, if necessary, widen the access to mitigate the risk of large vehicles overrunning the opposing traffic lane.	The site would generate a minimal level of large vehicle movements, mainly related to refuse vehicles. As such, on the rare and infrequent occasions when these are generated, overrunning the centre line of the carriageway is considered appropriate and safe, as the site access has appropriate visibility to ensure there would not be conflicts with passing vehicles. This would be typical for an access for this type of development with a low level of vehicle movements accessing onto a 30mph road. Parcel delivery and other service vehicles would also be generated, but these would not be likely to be larger vehicles, as they would be accommodated in the undercroft area. The operator will ensure they use smaller vehicle types for suppliers accordingly. If a large refuse vehicle being accommodated within the site is not acceptable to WSCC, refuse collection could be either undertaken from on-carriageway on West Hill, as occurs currently for the residential properties, or		



			smaller vehicles can be utilised by the operator as part of a private collection. On this basis, the site access proposals are considered safe and suitable and any amendments would lead to an overengineered access solution based on the minimal level of movements generated by the site.		
3.2	Observations during the site inspection noted that permit holders parking bays are located along the northern side of West Hill opposite the proposed development access. It is unclear from the vehicle swept path analysis drawings provided if a vehicle parked within the parking bay will restrict access for large vehicles accessing the site. Restricted access to and from the development associated with a vehicle parked within the parking bay may result in large vehicles performing multiple manoeuvres, which may lead to an increased risk of collisions between large vehicles performing multiple manoeuvres and other road users.	The vehicle swept path analysis drawings should be updated to ensure that permit holders parking bays located along the northern side of West Hill do not restrict access to the development. If necessary amend the layout of the access.	The swept path analysis has been updated to include the parking bays on West Hill, which demonstrates that these do not impact on movements to and from the site.		
3.3	Observations during the site inspection noted that visibility to and from the proposed development access may be obscured by vegetation located behind the visibility splays along the southern side of West Hill. This could restrict visibility for vehicles entering and exiting the proposed development access and may lead to an increased risk of turning collisions at the junction.	Ensure that the vegetation behind the visibility splays is cut back and regularly maintained.	All vegetation will be removed and set back behind visibility splays and there will be no restrictions between a height of 0.6m and 2m along the entire length of the splays.		



4.1	The proposals indicate that the proposed access will facilitate vehicle movements to and from the development, but no details have been provided relating to pedestrian access from West Hill. There is concern that pedestrians will walk within the vehicular access, where they will be at risk of being struck by passing/turning traffic.	Ensure that suitable facilities are provided for pedestrians accessing the proposed development from West Hill.	Pedestrians will not access the site from West Hill and suitable signage will be placed in this regard at the entrance and within the site. All pedestrian movements would be to and from the site via the existing access onto West Street directly onto appropriate footways.		
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On behalf of the design organisation I certify that:	
1) The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.	
Name:	
Signed:	
Position:	
Organisation:	
Date:	
On behalf of the Overseeing Organisation I certify that:	
1) The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and	
2) The agreed RSA actions will be progressed.	
Name:	
Signed:	
Position:	
Organisation:	
Date	