



ILLUSTRATIVE MASTERPLAN FOR APPLICATION BN/11/22/OUT

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Rev	Description	Date	Au	Ch
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P2	Full application boundary updated	12.09.23	AB/NN	-/-
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Project	Land east of Westgate, Aldingbourne		
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Client	Cala Homes South Home Counties		
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Appendix E

ROAD SAFETY AUDIT AND DEPARTURES FROM STANDARD APPLICATION

115/1



Cala Homes South Home Counties

WESTERGATE STREET AND MEADOW WAY, WESTERGATE, WEST SUSSEX

Stage Road Safety Audit - Designers Response





Cala Homes South Home Counties

WESTERGATE STREET AND MEADOW WAY, WESTERGATE, WEST SUSSEX

Stage Road Safety Audit - Designers Response

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70013258

DATE: SEPTEMBER 2023

CONFIDENTIAL



Cala Homes South Home Counties

WESTERGATE STREET AND MEADOW WAY, WESTERGATE, WEST SUSSEX

Stage Road Safety Audit - Designers Response

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THE ROAD SAFETY AUDIT

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ROAD SAFETY AUDIT BRIEF GG119

1 INTRODUCTION

- 1.1.1. WSP has been commissioned by Cala Homes to provide highways and transport support to support the planning application at Westergate Street and Meadow Way, in Westergate West Sussex. The proposals comprise a new traffic signal junction at Westergate Street and Meadow Way, as part of a scheme for 400 residential dwellings with associated car parking.
- 1.1.2. This report provides a Designer's Response to the Stage 1 Road Safety Audit (RSA) completed by Acorns Projects Limited for the proposed site accessed arrangements, which consist of a four-arm traffic signal junction at the A29 / Meadow Way / Pine Close. This RSA is aligned with Design Manual for Roads and Bridges GG119 guidance. An RSA brief, which was shared with Acorns Projects Limited prior to completion of the audit, is included in Appendix A.
- 1.1.3. The RSA report is included in Appendix A of this document and was based on drawing 3258/GA/003.
- 1.1.4. Section 2 of this report sets out the issues raised by the RSA and WSP's response as Design Organisation.
- 1.1.5. Included in Appendix B of this document are the following updated drawings, taking into account the recommendations of the RSA and this Designers Response. Appendix C presents the Road Safety Audit Brief GG119 and includes all of the departures of standards documents.
- 1.1.6. Section 3 provides the Decision Log which records the agreed actions in response to each problem raised as part of the RSA. At this stage the Decision Log has been completed by WSP as the Design Organisation for review by West Sussex County Council as the local highway authority and Overseeing Organisation. A further iteration of this Decision Log and Designers Response will be issued once all agreed actions are confirmed.

2 DESIGNERS RESPONSE

2.1 LOCAL ALIGNMENT

- 2.1.1. No problems were identified in this category at this Stage 1 RSA.

2.2 GENERAL

PROBLEM 3.2.1

Locations 1 & 2

- 2.2.1. Locations 1 & 2 - On the south eastern and north western corners of the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary

- 2.2.2. An identified Departure from Design Standard with regard to junction intervisibility could lead to a potential increased risk of side impact vehicular collisions occurring or nose to tail shunt type collisions occurring, whereby vehicle occupants could sustain personal injury.

Recommendation

- 2.2.3. The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:

- ※ “Yellow box junction marking provided to assist with precautionary approach by west bound vehicles”;
- ※ “All red extending detector loops to be considered during detailed design to ensure junction is clear before allowing movements with poor intervisibility”;
- ※ “MOVA detection will facilitate precise stage change operation thereby reducing possibility of vehicles running amber lights and conflicting with pedestrian movements”.

WSP Designers Response

- 2.2.4. Problem accepted, noting that a ‘Keep Clear’ box markings have been included on the westbound approach. This is shown on the updated Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006.
- 2.2.5. Recommendations related to the provision of an all-red detector and use of MOVA detection are also accepted and will form part of the detailed design process for the junction.

PROBLEM 3.2.2

Location 3

- 2.2.6. Location 3 - On the north bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary

- 2.2.7. An identified Departure from Design Standard with regard to forward visibility and stopping sight distance on the A29 north bound approach to the traffic signal junction could lead to a potential

increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular and pedestrian and possibly pedal cyclist collisions occurring, whereby pedestrians and pedal cyclists could sustain personal injury.

Recommendation

- 2.2.8. The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:
- ※ “Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m”;
 - ※ “The use of coloured high surfacing will be reviewed during detailed design”;
 - ※ “Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles”;
 - ※ “MOVA control to effectively manage queues as efficiently as possible reducing queue length”;
 - ※ “Junction could be configured to rest on Main Road green to further minimise vehicle stops”.
- 2.2.9. In addition, it is recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard.

WSP Designers Response

- 2.2.10. Recommendations regarding signage is accepted. The provision of signs 543 and 584 are included as part of the proposed site access junction. This is shown on Drawing XXXXXXXX.
- 2.2.11. Recommendations regarding provision of an offside primary signal head is also accepted as shown on Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006.
- 2.2.12. Recommendations regarding the use of high coloured surfacing and traffic signal operation are also accepted and will be considered further during detailed design.

PROBLEM 3.2.3

Location

- 2.2.13. Location 4 - On the north bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary

- 2.2.14. An identified Departure from Design Standard with regard to forward visibility and stopping sight distance to the back of queuing traffic on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury.

Recommendation

- 2.2.15. The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction

intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:

- ※ "Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m";
- ※ "The use of coloured high surfacing will be reviewed during detailed design";
- ※ "Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles";
- ※ "MOVA control to effectively manage queues as efficiently as possible reducing queue length";
- ※ "Junction could be configured to rest on Main Road green to further minimise vehicle stops".

- 2.2.16. In addition, it is Recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard.

WSP Designers Response

- 2.2.17. Recommendations regarding signage is accepted. The provision of signs 543 and 584 are included as part of the proposed site access junction. This is shown on Drawing XXXXXXXX.
- 2.2.18. Recommendations regarding provision of an offside primary signal head is also accepted as shown on Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006.
- 2.2.19. Recommendations regarding the use of high coloured surfacing and traffic signal operation are also accepted and will be considered further during detailed design.

PROBLEM 3.2.4

Location 5

- 2.2.20. On the south bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary

- 2.2.21. Summary - Reducing the potential for skidding and enhancing braking capacity on the Westergate Street south bound approach to the proposed traffic signal junction, in order to minimise potential nose to tail shunt type vehicular collisions occurring and potential vehicular collisions occurring within the central area of the proposed traffic signal junction, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular/pedestrian/pedal cyclist collisions occurring, whereby vehicle occupants and pedestrians and pedal cyclists could sustain personal injury.

Recommendation

- 2.2.22. It is Recommended that a high skid resistant surface course material (formerly referred to as the wearing course), should be provided on the Westergate Street south bound approach to the proposed traffic signal junction.
- 2.2.23. It is suggested that as a minimum, the length of high skid resistant surface course material (formerly referred to as the wearing course), should draw a relationship between the potential vehicular approach speeds and, the minimum stopping distances identified in the Highway Code.

- 2.2.24. The shortest/overall stopping distances assume dry road conditions, a car with good brakes and an alert driver. It is acknowledged that generally, a longer linear distance is or can be provided in these circumstances.

WSP Designers Response

- 2.2.25. Recommendation accepted. The provision of high skid resistant surface course material will be considered during detailed design.

PROBLEM 3.2.5

Locations 6 & 7

- 2.2.26. The East-West Link Road between the Westergate Street and Meadow Way proposed traffic signal junction and the residential development areas (Drawing Nos. 3258/GA/004 Rev F & 3258/SK/016 Rev J).

Summary

- 2.2.27. Proposed phasing of development in addition to the Cala Homes site could result in a potential detriment to operational road safety due to capacity requirements. This could lead to subsequent driver frustration and injudicious vehicle manoeuvres being attempted and executed by drivers which in turn could lead to vehicular collisions occurring, whereby vehicle occupants could sustain personal injury. In addition, driver frustration and injudicious vehicle manoeuvres could lead to a detriment to operational pedestrian and pedal cyclist safety, with the resultant potential increased risk that personal injury could be sustained by pedestrians and pedal cyclists.

Recommendation

- 2.2.28. It is Recommended that until the full realignment of the A29 is complete, the East-West Link Road should not be utilised to provide an all vehicle route between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1, in order to enhance operational road safety.
- 2.2.29. The use of the East-West Link Road to provide a bus and active travel route only between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1 would appear to be able to be accommodated without any specific detriment to operational road safety.
- 2.2.30. However, there could well be items raised when any future scheme proposals for a bus and active travel route only are subjected to the rigours of the Road Safety Audit process.

WSP Designers Response

- 2.2.31. Recommendation accepted. WSP has agreed with WSCC during pre-application discussions that the East-West Link Road will not open to all traffic until the full realignment of the A29 is complete.

2.3 JUNCTIONS

PROBLEM 3.3.1

Location 8

- 2.3.1. The proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).



Summary

- 2.3.2. No provision for a traffic signal maintenance engineer to stop in immediate proximity to the Westergate Street and Meadow Way proposed traffic signal junction.

Recommendation

- 2.3.3. It is Recommended that a traffic signal maintenance engineer's layby or hardstanding area should be provided in proximity to the proposed traffic signal controlled junction. In determining a suitable location, the facility should be sited clear of the traffic lanes, traffic signal poles and signal heads and, any existing or proposed pedestrian and pedal cycle routes if possible.

WSP Designers Response

- 2.3.4. WSP has reviewed the recommendation and concluded that it was not possible to identify a suitable location where a layby could be provided on the A29 for traffic signal maintenance. However, it is noted that on-street parking will be available within the northern section of Pine Close and on Meadow Way. Given the infrequent nature of traffic signal maintenance, the use of Pine Close and Meadow Way it is considered that this will not generate a road safety issue.

2.4 WALKING, CYCLING AND HORSE RIDING

- 2.4.1. No problems were identified in this category at this Stage 1 RSA.

2.5 TRAFFIC SIGNS, CARRIAGEWAY MARKING AND LIGHTING

PROBLEM 3.5.1

Locations – General

- 2.5.1. Throughout the length of the proposed highway works (Drawing Nos. 3258/GA/004 Rev F & 3258/SK/016 Rev J).

Summary

- 2.5.2. Enhancing the conspicuousness of the proposed highway works in order to minimise potential vehicular collisions occurring and potential vehicular/pedestrian and pedal cyclist collisions occurring during the hours of darkness, which could result in vehicle occupants and pedestrians and pedal cyclists sustaining personal injury.

Recommendation

- 2.5.3. It is Recommended that at the detailed design stage of the project, a new and enhanced system of street lighting should be installed for the complete length and areas of the proposed highway works, thus enhancing the operational safety of the overall scheme proposals during the hours of darkness.

WSP Designers Response

- 2.5.4. Problem accepted, the recommended adjustments will be considered and will be agreed with the highway authority during the detailed design period.



3 DECISION LOG

- 3.1.1. Table 3-1 provides the Draft Decision Log, taking account of problems and recommendations identified within by the RSA and WSP's response and design organisation. Table follows the example shown in Table F4 of GG119. West Sussex County Council as Overseeing Organisation will need to complete their response before the RSA Designer's Response is re-issued with the agreed RSA action for each relevant point.



Table 3-1 - Decision Log



RSA Problem	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
Problem 3.2.1 On the south eastern and north western corners of the proposed traffic signal junction an identified Departure from Design Standard with regard to junction intervisibility could lead to a potential increased risk of side impact vehicular collisions occurring or nose to tail shunt type collisions occurring, whereby vehicle occupants could sustain personal injury.	The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document: ※ “Yellow box junction marking provided to assist with precautionary approach by west bound vehicles”; ※ “All red extending detector loops to be considered during detailed design to ensure junction is clear before allowing movements with poor intervisibility”; ※ “MOVA detection will facilitate precise stage change operation thereby reducing possibility of vehicles running amber lights and conflicting with pedestrian movements”.	Recommendation accepted, noting that a ‘Keep Clear’ box markings have been included on the westbound approach. This is shown on the updated Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006. Recommendations related to the provision of an all-red detector and use of MOVA detection are also accepted and will form part of the detailed design process for the junction.		
Problem 3.2.2 On the north bound approach to the proposed traffic signal junction an identified Departure from Design Standard with regard to forward visibility and stopping sight distance on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular and pedestrian and possibly pedal cyclist collisions occurring, whereby pedestrians and pedal cyclists could sustain personal injury.	The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document: ※ “Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m”; ※ “The use of coloured high surfacing will be reviewed during detailed design”; ※ “Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles”; ※ “MOVA control to effectively manage queues as efficiently as possible reducing queue length”; ※ “Junction could be configured to rest on Main Road green to further minimise vehicle stops”. In addition, it is recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard. Recommendations regarding the use of high coloured surfacing and traffic signal operation are also accepted and will be considered further during detailed design.	Recommendations regarding signage is accepted. The provision of signs 543 and 584 are included as part of the proposed site access junction. This is shown on Drawing XXXXXXXX. Recommendations regarding provision of an offside primary signal head is also accepted as shown on Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006.		



Problem 3.2.3 On the north bound approach to the proposed traffic signal junction an identified Departure from Design Standard with regard to forward visibility and stopping sight distance to the back of queuing traffic on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury.	The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document: ※ “Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m”; ※ “The use of coloured high surfacing will be reviewed during detailed design”; ※ “Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles”; ※ “MOVA control to effectively manage queues as efficiently as possible reducing queue length”; ※ “Junction could be configured to rest on Main Road green to further minimise vehicle stops”. In addition, it is Recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard.	Recommendations regarding signage is accepted. The provision of signs 543 and 584 are included as part of the proposed site access junction. This is shown on Drawing XXXXXXXX. Recommendations regarding provision of an offside primary signal head is also accepted as shown on Site Access General Arrangement Drawing LAW-WSP-ZZ-ZZ-C-DR-0006. Recommendations regarding the use of high coloured surfacing and traffic signal operation are also accepted and will be considered further during detailed design.		
Problem 3.2.4 On the south bound approach to the proposed traffic signal junction in order to minimise potential nose to tail shunt type vehicular collisions occurring and potential vehicular collisions occurring within the central area of the proposed traffic signal junction, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular/pedestrian/pedal cyclist collisions occurring, whereby vehicle occupants and pedestrians and pedal cyclists could sustain personal injury.	It is Recommended that a high skid resistant surface course material (formerly referred to as the wearing course), should be provided on the Westergate Street south bound approach to the proposed traffic signal junction. It is suggested that as a minimum, the length of high skid resistant surface course material (formerly referred to as the wearing course), should draw a relationship between the potential vehicular approach speeds and, the minimum stopping distances identified in the Highway Code. The shortest/overall stopping distances assume dry road conditions, a car with good brakes and an alert driver. It is acknowledged that generally, a longer linear distance is or can be provided in these circumstances.	Recommendation accepted. The provision of high skid resistant surface course material will be considered during detailed design.		



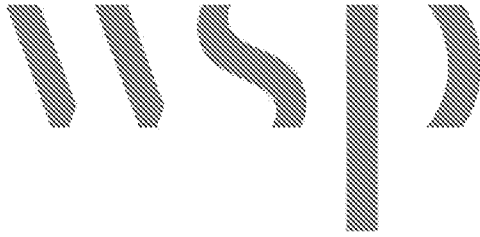
Problem 3.2.5 Proposed phasing of development in addition to the Cala Homes site could result in a potential detriment to operational road safety due to capacity requirements. This could lead to subsequent driver frustration and injudicious vehicle manoeuvres being attempted and executed by drivers which in turn could lead to vehicular collisions occurring, whereby vehicle occupants could sustain personal injury. In addition, driver frustration and injudicious vehicle manoeuvres could lead to a detriment to operational pedestrian and pedal cyclist safety, with the resultant potential increased risk that personal injury could be sustained by pedestrians and pedal cyclists.	It is Recommended that until the full realignment of the A29 is complete, the East-West Link Road should not be utilised to provide an all vehicle route between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1, in order to enhance operational road safety. The use of the East-West Link Road to provide a bus and active travel route only between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1 would appear to be able to be accommodated without any specific detriment to operational road safety. However, there could well be items raised when any future scheme proposals for a bus and active travel route only are subjected to the rigours of the Road Safety Audit process.	Recommendation accepted. WSP has agreed with WSCC during pre-application discussions that that the East-West Link Road will not open to all traffic until the full realignment of the A29 is complete.		
Problem 3.5.1 Enhancing the conspicuousness of the proposed highway works in order to minimise potential vehicular collisions occurring and potential vehicular/pedestrian and pedal cyclist collisions occurring during the hours of darkness, which could result in vehicle occupants and pedestrians and pedal cyclists sustaining personal injury.	It is Recommended that at the detailed design stage of the project, a new and enhanced system of street lighting should be installed for the complete length and areas of the proposed highway works, thus enhancing the operational safety of the overall scheme proposals during the hours of darkness.	*Problem accepted, the recommended adjustments will be considered and will be agreed with the highway authority during the detailed design period.		

Appendix A

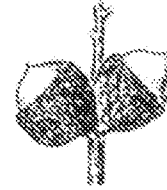
THE ROAD SAFETY AUDIT

11/5/11

CONFIDENTIAL



**ACORNS
PROJECTS
LIMITED**



**Westergate Street and Meadow Way, Westergate, West Sussex
Proposed Site Access Arrangements
Stage 1 Road Safety Audit**

For WSP

Prepared by Acorns Projects Limited

Safety Traffic Project Management & Highway Engineering Consultants

APRIL 2023

Acorns Projects Limited

Safety Traffic Project Management & Highway Engineering Consultants
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Version No: 1.0

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Revision History

This document has the following history:

Version No.	Version Date	Summary of Changes	Changes marked
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Approvals

This document requires the following approvals:

Name	Title
Adriano B. Cappella	Audit Team Leader
Lisa Allen	Audit Team Member

Distribution

This document has also been distributed to:

Name	Title & Organisation
Chris Williams	Associate Director - WSP
Tim Townsend	Principal Transport Planner, County Highways Team - Highways, Transport and Planning - West Sussex County Council

1.0 INTRODUCTION

1.1 This report results from a Stage 1 Road Safety Audit carried out on the Westergate Street and Meadow Way, Westergate, West Sussex, Proposed Site Access Arrangements Project, at the request of the Overseeing Organisation, i.e. the Local Highway Authority, West Sussex County Council, County Hall, Chichester, West Sussex, PO19 1RQ. The Design Organisation is WSP, Grosvenor House, 2 Grosvenor Square, Southampton, Hampshire, SO15 2BE. The Third Party Organisation is Cala Homes South Home Counties and Legal & General Homes, The Dorking Business Park, Station Road, Dorking, Surrey, RH4 1HJ.

1.2 The scheme proposals comprise a new traffic signal junction at Westergate Street and Meadow Way, Westergate, West Sussex, as part of a scheme for 400 residential dwellings with associated car parking. The proposed development site is located on land to the east of the A29 Westergate Street, and forms part of the Barnham Eastergate Westergate (BEW) strategic site allocated for 3,000 houses under Policy H SP2c of the Arun Local Plan 2011-2031.

Proposals for the wider Barnham Eastergate Westergate strategic development include the realignment of the A29 to the east of the Cala Homes site to bypass the existing railway level crossing at Woodgate and provide a grade separated crossing to eliminate vehicle queues associated with the level crossing. The realignment of the A29 will run from the existing A29 to the north of Eastergate and connect to the existing alignment to the south of the railway. The realigned A29 will connect with the Cala Homes site and existing A29 alignment, via an East-West Link Road. This Stage 1 Road Safety Audit includes an assessment of two scenarios for the East-West Link Road as follows:

- The East-West Link Road providing an all vehicle route between the A29 and Parcel SC1;
- The East-West Link Road providing a bus and active travel route only between the A29 and Parcel SC1.

1.3 The Road Safety Audit Team Membership was as follows:

Adriano B. Cappella IEng, FIHE, MCIHT, MSoRSA, HA RSA Certificate of Competency
(Audit Team Leader) Director, Acorns Projects Limited

Lisa Allen MSc, BEng (Hons), MCIHT, MSoRSA, HA RSA Certificate of Competency
(Audit Team Member) Associate Consultant, Acorns Projects Limited

- 1.4** The Audit took place at the Eaton Bray office of Acorns Projects Limited during January and April 2023. The Audit was undertaken in accordance with the Road Safety Audit Brief as contained within the Design Organisation E-Mail to Acorns Projects Limited dated the 20th December 2022. The Audit comprised an examination of the drawings and document provided by the Design Organisation and, are listed in Appendix A.
- 1.5** The drawings and document consisted of a copy of the site access general arrangement, the East-West Link Road highway alignment sketch and, the December 2022 WSP RSA Stage 1 Brief document. Copies of the drawings at both A3 and A4 size were provided for the Audit Team's use. Road traffic collision data, vehicular traffic flow data and, pedestrian and pedal cycle accessibility information is contained within the December 2022 WSP RSA Stage 1 Brief document. Public transport information has not been supplied for the purposes of review at this Stage 1 Road Safety Audit.
- 1.6** A visit to the site was undertaken between 13.25 pm and 14.40 pm during the afternoon of the 5th January 2023 by both Audit Team Members together. During the afternoon site visit, the weather was reasonably mild, cloudy and overcast and the existing carriageway surface was part damp and part dry. Vehicular traffic conditions at the time of the afternoon site visit were observed to be moderate. Nine pedestrians and two pedal cyclists were observed during the afternoon site visit.
- 1.7** The terms of reference of the Audit are as described in DMRB GG 119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and, has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation made to resolve the identified problem, the Audit Team may, on occasion, have referred to a Design Standard without touching on technical audit.
- 1.8** The Design Organisation has advised the following Departures from Design Standards within the December 2022 WSP RSA Stage 1 Brief document, which are discussed in detail in Items 2.2.1, 2.2.2 and 2.2.3 of this Stage 1 Road Safety Audit Report:
- Intervisibility between junction stop lines on A29 southern arm, Meadow Way and site access;
 - Forward visibility (SSD) on the A29 northbound approach to the traffic signals;
 - Forward visibility (SSD) to the back of queuing traffic on the A29 northbound approach to the traffic signals.

- 1.9** All Problems and Recommendations are referenced to the design drawings and the locations have been indicated on the A4 plan supplied for use by the Audit Team in Appendix B.
- 1.10** Issues identified, and observations made during this Stage 1 Road Safety Audit and site inspection which the Terms of Reference exclude from this report, but which the Audit Team wishes to draw to the attention of the Overseeing Organisation, i.e. the Local Highway Authority, West Sussex County Council, will be set out in a separate letter. These issues could include maintenance items and operational issues. The Audit Team has not identified any issues during this Stage 1 Road Safety Audit and site inspection that are considered to be outside the Terms of Reference.

2.0 ITEMS RAISED AT A PREVIOUS STAGE 1 ROAD SAFETY AUDIT

- 2.1** The safety aspects of the A29 Westergate Street/Meadow Way, Westergate, West Sussex - Proposed S278 Signalised Junction Project, were the subject of comment in the January 2017 Road Safety Audit Stage 1 Report undertaken by Ted Smith, Traffic Safety Consultant.
- 2.2** The Design Organisation, WSP | Parsons Brinckerhoff responded to the Road Safety Audit Stage 1 Report in April 2017, whereby the safety aspects raised were discussed and mitigating measures proposed.
- 2.3** The two issues raised in the January 2017 Road Safety Audit Stage 1 Report undertaken by Ted Smith, Traffic Safety Consultant have been resolved between the Design Organisation and the Overseeing Organisation.

3.0 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

3.1 LOCAL ALIGNMENT

3.1.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

3.2 GENERAL

3.2.1 PROBLEM

Locations 1 & 2 - On the south eastern and north western corners of the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary - An identified Departure from Design Standard with regard to junction intervisibility could lead to a potential increased risk of side impact vehicular collisions occurring or nose to tail shunt type collisions occurring, whereby vehicle occupants could sustain personal injury.

Detail - The scheme proposals include the provision of a new traffic signal junction. The Stage 1 Road Safety Audit brief document advises of a Departure from Design Standard regarding intervisibility between the junction stop line on A29 southern arm and, the Meadow Way and site access arms of the proposed traffic signal junction. The obstructions to intervisibility are caused by the presence of existing residential boundary fences and hedges and a telecommunications mast and associated large cabinets as indicated at Location 1 and 2.

This Departure from Design Standards was previously approved by West Sussex County Council in their "no objection" response to planning application AL/15/17/PL, which included the same proposed traffic signal junction site access design. This Departure from Design Standards application has been updated to reflect guidance contained within the most recent 2019 version of the Traffic Signs Manual Chapter 6 as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document.

Concern arises that the physical restrictions to the junction intervisibility zones could lead to a potential increased risk of side impact vehicular collisions occurring within the central area of the proposed traffic signal junction, particularly should any red light traffic signal violations take place. This situation could result in vehicular occupants sustaining personal injury.

In addition, when pedestrians and pedal cyclists are crossing at the junction, the physical restrictions to the junction intervisibility zones could lead to a potential increased risk of vehicular and pedestrian and possibly pedal cyclist collisions occurring, whereby pedestrians and pedal cyclists could sustain personal injury.

DESIGN ORGANISATION PROPOSED MITIGATION MEASURES

The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:

- *“Yellow box junction marking provided to assist with precautionary approach by west bound vehicles”;*
- *“All red extending detector loops to be considered during detailed design to ensure junction is clear before allowing movements with poor intervisibility”;*
- *“MOVA detection will facilitate precise stage change operation thereby reducing possibility of vehicles running amber lights and conflicting with pedestrian movements”.*

RECOMMENDATION

It is Recommended that the above mitigation measures offered by the Design Organisation should be incorporated within the overall scheme proposals.

3.2.2 PROBLEM

Location 3 - On the north bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary - An identified Departure from Design Standard with regard to forward visibility and stopping sight distance on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular and pedestrian and possibly pedal cyclist collisions occurring, whereby pedestrians and pedal cyclists could sustain personal injury.

Detail - The scheme proposals include the provision of a new traffic signal junction.

The Stage 1 Road Safety Audit brief document advises of a Departure from Design Standard regarding forward visibility and stopping sight distance on the A29 north bound approach to the traffic signal junction. The obstructions to forward visibility and stopping sight distance are caused by a combination of the presence of existing residential boundary fences on the western side of the A29 and the horizontal alignment of the A29, where a left hand bend is present.

This Departure from Design Standard was previously approved by West Sussex County Council in their “no objection” response to planning application AL/15/17/PL, which included the same proposed traffic signal junction site access design. This Departure from Design Standard application has been updated to reflect guidance contained within the most recent 2019 version of the Traffic Signs Manual Chapter 6 as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document.

The achievable forward visibility is limited by the left hand bend on the approach to the junction. Forward visibility to the nearside primary signal is 37m, equivalent to an approach speed of 27mph, and thus, the Traffic Signs Manual recommended visibility distance of 51m is not achievable.

As a result, concern arises that the physical restrictions to the forward visibility and stopping sight distance could lead to a potential increased risk of nose to tail shunt type vehicular collisions occurring, particularly if sudden or late braking is required by north bound drivers when signal changes take place. This situation could result in vehicular occupants sustaining personal injury.

In addition, when pedestrians and pedal cyclists are crossing at the junction, the physical restrictions to the forward visibility and stopping sight distance could lead to a potential increased risk of vehicular and pedestrian and possibly pedal cyclist collisions occurring, whereby pedestrians and pedal cyclists could sustain personal injury.

DESIGN ORGANISATION PROPOSED MITIGATION MEASURES

The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:

- *“Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m”;*
- *“The use of coloured high surfacing will be reviewed during detailed design”;*

- *“Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles”;*
- *“MOVA control to effectively manage queues as efficiently as possible reducing queue length”;*
- *“Junction could be configured to rest on Main Road green to further minimise vehicle stops”.*

RECOMMENDATION

It is Recommended that the above mitigation measures offered by the Design Organisation should be incorporated within the overall scheme proposals.

In addition, it is Recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard.

3.2.3 PROBLEM

Location 4 - On the north bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary - An identified Departure from Design Standard with regard to forward visibility and stopping sight distance to the back of queuing traffic on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles, whereby vehicle occupants could sustain personal injury.

Detail - The scheme proposals include the provision of a new traffic signal junction. The Stage 1 Road Safety Audit brief document advises of a Departure from Design Standard regarding forward visibility and stopping sight distance to the back of queuing traffic on the A29 north bound approach to the traffic signal junction. The obstructions to forward visibility and stopping sight distance are caused by a combination of the presence of existing residential boundary fences on the western side of the A29 and the horizontal alignment of the A29, where a left hand bend is present.

This Departure from Design Standard was previously approved by West Sussex County Council in their “no objection” response to planning application AL/15/17/PL, which included the same proposed traffic signal junction site access design.

This Departure from Design Standard application has been updated to reflect guidance contained within the most recent 2019 version of the Traffic Signs Manual Chapter 6 as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document.

The Traffic Signs Manual recommended visibility distance of 51m is not achievable. The achievable forward visibility is limited by the left hand bend on the approach to the junction. This limits the visibility on the immediate approach to the junction, and to the back of queues shorter than 5 cars, to 49m. The back of any queue longer than 5 cars will be visible for 90m.

As a result, concern arises that the physical restrictions to the forward visibility and stopping sight distance to the back of queuing traffic on the A29 north bound approach to the traffic signal junction could lead to a potential increased risk of nose to tail shunt type vehicular collisions occurring, particularly if sudden or late braking is required by north bound drivers when approaching the rear of any queuing back from the traffic signal junction. This situation could result in vehicular occupants sustaining personal injury.

DESIGN ORGANISATION PROPOSED MITIGATION MEASURES

The Design Organisation offer the following mitigation measures to reduce and minimise the negative impact of the identified Departure from Design Standard with regard to junction intervisibility, as described within the December 2022 WSP Stage 1 Road Safety Audit Brief document:

- *“Installation of signs to Diagram 543 and Diagram 584 (TSRGD) to be provided on A29 northbound approach to signals. This is recommended in Chapter 6 of Traffic Signs Manual for junctions where the visibility to the signal heads is less than 80m”;*
- *“The use of coloured high surfacing will be reviewed during detailed design”;*
- *“Offside primary signal head to be provided facilitating 68m SSD and additional warning of queuing vehicles”;*
- *“MOVA control to effectively manage queues as efficiently as possible reducing queue length”;*
- *“Junction could be configured to rest on Main Road green to further minimise vehicle stops”.*

RECOMMENDATION

It is Recommended that the above mitigation measures offered by the Design Organisation should be incorporated within the overall scheme proposals.

In addition, it is Recommended that the limits and extents of the high skid resistant surface course material should be determined prior to the detailed design stage, in order to ensure that the combination of warning signing to Diagrams 543 and 584 and the high skid resistant surface course material provide effective mitigation to the Departure from Design Standard.

3.2.4 PROBLEM

Location 5 - On the south bound approach to the proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary - Reducing the potential for skidding and enhancing braking capacity on the Westergate Street south bound approach to the proposed traffic signal junction, in order to minimise potential nose to tail shunt type vehicular collisions occurring and potential vehicular collisions occurring within the central area of the proposed traffic signal junction, whereby vehicle occupants could sustain personal injury. In addition, there could be a potential increased risk of vehicular/pedestrian/pedal cyclist collisions occurring, whereby vehicle occupants and pedestrians and pedal cyclists could sustain personal injury.

Detail - The scheme proposals indicate that a new traffic signal installation will be provided at the Westergate Street junction with Meadow Way and the development site access road. In operational terms, the introduction of the new traffic signal junction with its respective south bound stop line will result in the creation of a new and potentially heavy braking area on the south bound approach to the new feature, which does not currently exist.

As a result, concern arises that a high skid resistant surface course material (formerly referred to as the wearing course), will be required on the south bound approach to the respective stop line of the proposed traffic signal junction. Whilst motorists should always be anticipating the unexpected, sudden or late braking may occur by motorists, particularly those who may be unfamiliar with the area.

This situation could result in a potential increased risk of nose to tail shunt type collisions occurring between a leading and any following vehicles on the north bound and east bound approaches to the proposed traffic signal junction stop lines, whereby vehicle occupants could sustain personal injury.

In addition, this situation could result in potential stop line overshoots and consequent side impact collisions occurring between vehicles within the central area of the proposed traffic signal junction when signal changes take place, whereby vehicle occupants could sustain personal injury.

Furthermore, this situation could lead to a potential increased risk of stop line overshoots and subsequent potential vehicular collisions occurring with pedestrians and pedal cyclists who may be crossing the carriageway. This could result in pedestrians and pedal cyclists sustaining personal injury, particularly those pedestrians who may be blind or visually impaired.

RECOMMENDATION

It is Recommended that a high skid resistant surface course material (formerly referred to as the wearing course), should be provided on the Westergate Street south bound approach to the proposed traffic signal junction.

It is suggested that as a minimum, the length of high skid resistant surface course material (formerly referred to as the wearing course), should draw a relationship between the potential vehicular approach speeds and, the minimum stopping distances identified in the Highway Code.

The shortest/overall stopping distances assume dry road conditions, a car with good brakes and an alert driver. It is acknowledged that generally, a longer linear distance is or can be provided in these circumstances.

3.2.5 PROBLEM

Locations 6 & 7 - The East-West Link Road between the Westergate Street and Meadow Way proposed traffic signal junction and the residential development areas (Drawing Nos. 3258/GA/004 Rev F & 3258/SK/016 Rev J).

Summary - Proposed phasing of development in addition to the Cala Homes site could result in a potential detriment to operational road safety due to capacity requirements. This could lead to subsequent driver frustration and injudicious vehicle manoeuvres being attempted and executed by drivers which in turn could lead to vehicular collisions occurring, whereby vehicle occupants could sustain personal injury. In addition, driver frustration and injudicious vehicle manoeuvres could lead to a detriment to operational pedestrian and pedal cyclist safety, with the resultant potential increased risk that personal injury could be sustained by pedestrians and pedal cyclists.

Detail - Proposals for the wider Barnham Eastergate Westergate strategic development include the realignment of the A29 to the east of the Cala Homes site to bypass the existing railway level crossing at Woodgate and provide a grade separated crossing to eliminate vehicle queues associated with the level crossing.

The realignment of the A29 will run from the existing A29 to the north of Eastergate and connect to the existing alignment to the south of the railway. The realigned A29 will connect with the Cala Homes site and existing A29 alignment, via an East-West Link Road. This could result in two potential scenarios as follows:

- The East-West Link Road providing an all vehicle route between the A29 and Parcel SC1;
- The East-West Link Road providing a bus and active travel route only between the A29 and Parcel SC1.

A technical assessment undertaken by the Design Organisation has concluded that the proposed Westergate Street and Meadow Way traffic signal junction cannot accommodate the combination of the additional traffic associated with the East-West Link Road, the Cala Homes development of 400 units and Phase 1 of Parcel SC1.

Concern arises that this situation could result in a potential detriment to operational road safety due to capacity requirements. This could lead to subsequent driver frustration and injudicious vehicle manoeuvres being attempted and executed by drivers which in turn could lead to vehicular collisions occurring, whereby vehicle occupants could sustain personal injury.

In addition, driver frustration and injudicious vehicle manoeuvres undertaken could lead to a detriment to operational pedestrian and pedal cyclist safety, with the resultant potential increased risk that personal injury could be sustained by pedestrians and pedal cyclists.

RECOMMENDATION

It is Recommended that until the full realignment of the A29 is complete, the East-West Link Road should not be utilised to provide an all vehicle route between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1, in order to enhance operational road safety.

The use of the East-West Link Road to provide a bus and active travel route only between the A29 Westergate Street and Meadow Way proposed traffic signal junction and Parcel SC1 would appear to be able to be accommodated without any specific detriment to operational road safety.

However, there could well be items raised when any future scheme proposals for a bus and active travel route only are subjected to the rigours of the Road Safety Audit process.

3.3 JUNCTIONS

3.3.1 PROBLEM

Location 8 - The proposed traffic signal junction (Drawing No. 3258/GA/004 Rev F).

Summary - No provision for a traffic signal maintenance engineer to stop in immediate proximity to the Westergate Street and Meadow Way proposed traffic signal junction.

Detail - The scheme proposals include the provision of a new traffic signal junction at Westergate Street and Meadow Way. The scheme proposals do not appear to include the provision of a traffic signal maintenance engineer's layby or hardstanding area adjacent to the proposed traffic signal controlled junction.

Failure to provide an appropriately located maintenance layby is likely to increase the risk of operatives parking their vehicles in un-safe locations in the vicinity of the signal apparatus.

Concern arises that erroneous parking adjacent to the new traffic signal installation in Westergate Street and Meadow Way will increase the risk of vehicular/site operative collisions occurring, whereby site operatives are likely to sustain personal injury. In addition, there could be a potential increased risk of vehicle/vehicle collisions occurring due to motorists attempting to avoid inappropriately parked vehicles.

RECOMMENDATION

It is Recommended that a traffic signal maintenance engineer's layby or hardstanding area should be provided in proximity to the proposed traffic signal controlled junction. In determining a suitable location, the facility should be sited clear of the traffic lanes, traffic signal poles and signal heads and, any existing or proposed pedestrian and pedal cycle routes if possible.

3.4 WALKING, CYCLING AND HORSE RIDING

3.1.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

3.5 TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

3.5.1 PROBLEM

Locations - General, throughout the length of the proposed highway works (Drawing Nos. 3258/GA/004 Rev F & 3258/SK/016 Rev J).

Summary - Enhancing the conspicuity of the proposed highway works in order to minimise potential vehicular collisions occurring and potential vehicular/pedestrian and pedal cyclist collisions occurring during the hours of darkness, which could result in vehicle occupants and pedestrians and pedal cyclists sustaining personal injury.

Detail - The scheme proposals indicate that a new traffic signal installation will be provided at the Westergate Street junction with Meadow Way and that a development site access road will be provided. In addition, the scheme proposals include the provision of new controlled pedestrian crossing facilities at the proposed traffic signal junction.

At this Stage 1 Road Safety Audit, new and enhanced street lighting proposals have not been submitted. As a result, concern arises that a new and enhanced system of street lighting will need to be provided to suit the proposed highway works. A lack of new or enhanced street lighting could result in a potential increased risk of vehicular collisions occurring during the hours of darkness, whereby vehicle occupants could sustain personal injury.

In addition, there could be a potential increased risk of pedestrian/pedal cyclist and vehicular collisions occurring when pedestrians and pedal cyclists cross the carriageways within the limits of the scheme proposals during the hours of darkness, whereby pedestrians and pedal cyclists could potentially sustain high levels of personal injury.

RECOMMENDATION

It is Recommended that at the detailed design stage of the project, a new and enhanced system of street lighting should be installed for the complete length and areas of the proposed highway works, thus enhancing the operational safety of the overall scheme proposals during the hours of darkness.

END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS OFFERED IN THIS STAGE 1 ROAD SAFETY AUDIT

4.0 ROAD SAFETY AUDIT TEAM STATEMENT

We certify that this Road Safety Audit has been carried out in accordance with DMRB GG 119.

ROAD SAFETY AUDIT TEAM LEADER

Adriano B. Cappella IEng, FIHE, MCIHT, MSoRSA, HA RSA Certificate of Competency

Signed :

Associate Consultant

Acorns Projects Limited

Safety Traffic Project Management & Highway Engineering Consultants

Redwood House

3 Eaton Park

Eaton Bray

Bedfordshire

LU6 2SP

Date : 26th June 2023

ROAD SAFETY AUDIT TEAM MEMBER

Lisa Allen MSc, BEng (Hons), MCIHT, MSoRSA, HA RSA Certificate of Competency

Signed :

Associate Consultant

Acorns Projects Limited

Safety Traffic Project Management & Highway Engineering Consultants

Redwood House

3 Eaton Park

Eaton Bray

Bedfordshire

LU6 2SP

Date : 26th June 2023

APPENDIX A

APPENDIX A

WESTERGATE STREET AND MEADOW WAY, WESTERGATE, WEST SUSSEX

PROPOSED SITE ACCESS ARRANGEMENTS

STAGE 1 ROAD SAFETY AUDIT

LIST OF WSP DRAWINGS SUBMITTED FOR AUDITING

DRAWING NO.	TITLE
3258/GA/004 Rev F	Site Access General Arrangement
3258/SK/016 Rev J	East-West Link Road Highway Alignment Sketch

LIST OF DOCUMENT REVIEWED AT THIS STAGE 1 ROAD SAFETY AUDIT

WSP - Cala Homes - RSA Stage 1 Brief - December 2022

APPENDIX B

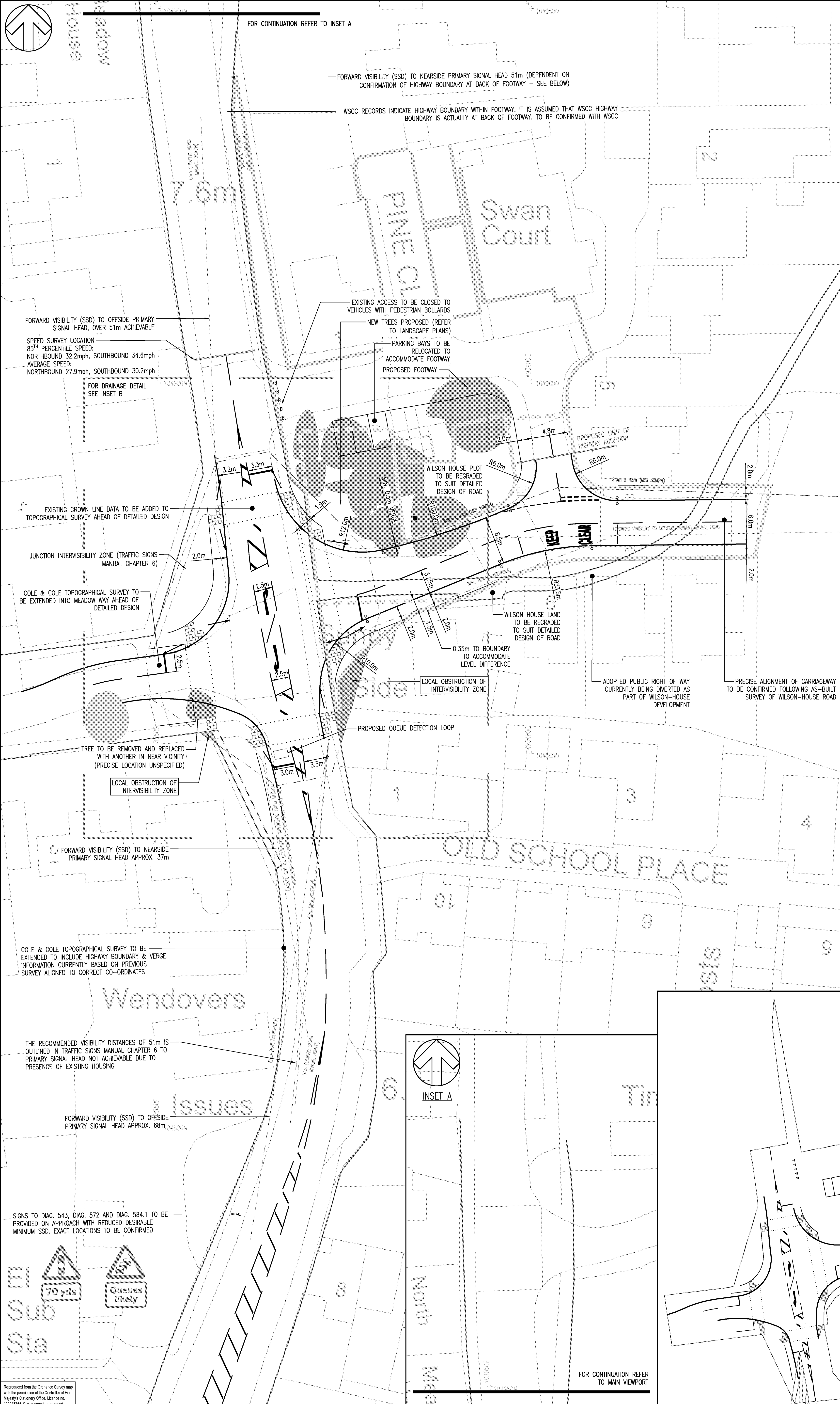
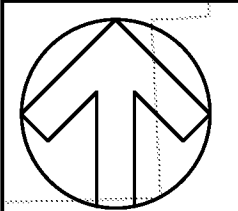
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Appendix B

WSP DRAWINGS

115/1

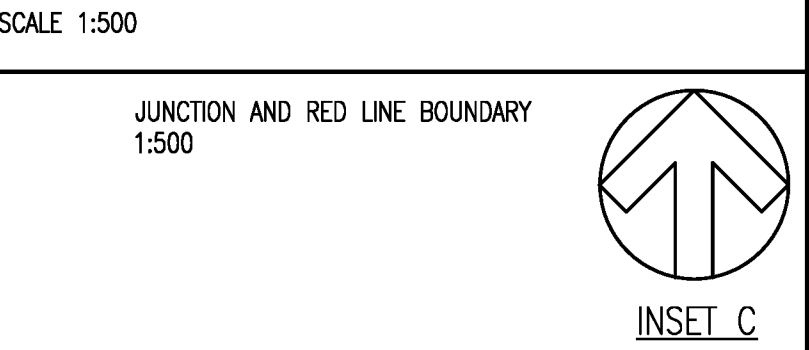
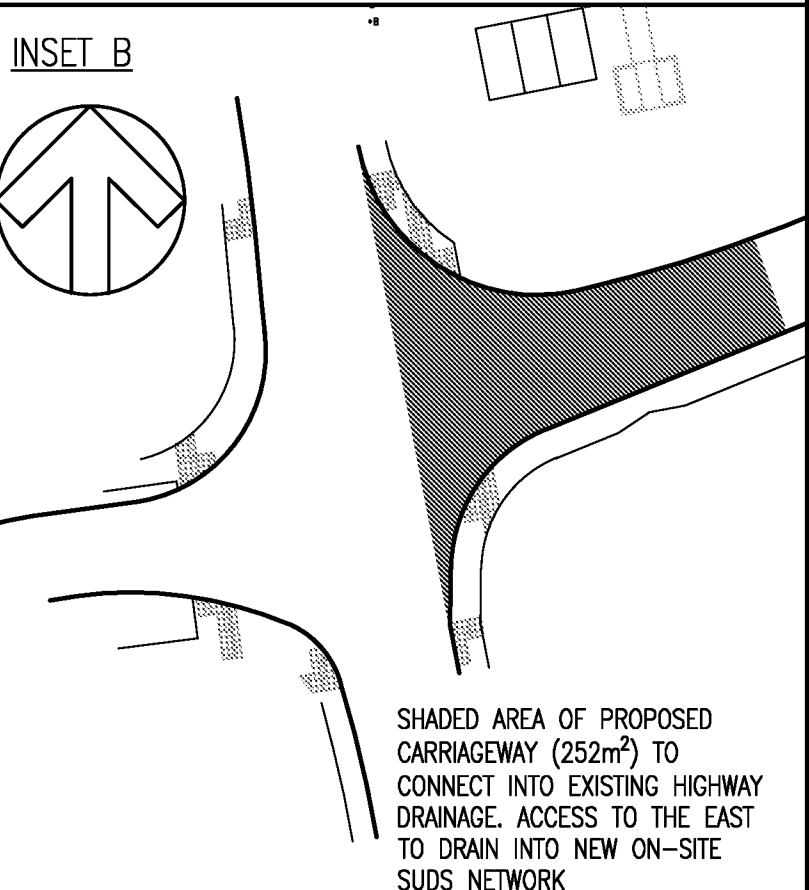
CONFIDENTIAL



SCALE FOR PLANNING PURPOSES ONLY

- NOTES
- DESIGN GUIDANCE IS TAKEN FROM TRAFFIC SIGNS MANUAL CHAPTER 6 ON THE BASIS THAT THE A29 HAS A SPEED LIMIT OF BELOW 40MPH. BASED ON TRAFFIC SURVEYS COMPLETED IN MARCH 2022 THE RECOMMENDED SIGHT STOPPING DISTANCE FOR THE A29 IS 51M, TAKING ACCOUNT OF 85TH PERCENTILE SPEEDS OF 32-35MPH.
 - WE HAVE NOT SOUGHT TO BECOME AWARE OF ANY INFORMATION RELATED TO HAZARDS THAT MIGHT AFFECT THE CONSTRUCTION OR MAINTENANCE OF THIS PROJECT. UNDER THE CDM REGULATIONS ANY DESIGNERS WHO PROGRESS THESE PROPOSALS FURTHER WILL NEED TO RECONSIDER THE DESIGN BASED UPON ANY INFORMATION WHICH SUBSEQUENTLY BECOMES AVAILABLE.
 - THIS DESIGN IS BASED ON THE COLE & COLE TOPOGRAPHICAL SURVEY DATED JANUARY 2016 AND THE ADP ARCHITECTS MASTERPLAN DATED NOVEMBER 2012.
 - THE 2016 TOPOGRAPHICAL SURVEY COORDINATE SYSTEM HAS BEEN USED; THE ADP MASTERPLAN WAS MOVED AND ALIGNED TO MATCH BASED ON THE PROPOSED HOUSE LOCATIONS AND THE SURVEYED HOUSE CONSTRUCTION OUTLINES.
 - ALL LAND BOUNDARY INFORMATION IS INDICATIVE AND TO BE CONFIRMED BY ALL RELEVANT PARTIES.

- KEY
- HIGHWAY BOUNDARY (BASED ON TOPOGRAPHIC SURVEY (COLE & COLE, JANUARY 2016) AND WSCC HIGHWAY BOUNDARY INFORMATION (RECEIVED 29/06/2016))
 - OBSTRUCTION TO VISIBILITY ALONG HIGHWAY BOUNDARY (E.G. UNTRIMMED HEDGEROWS)
 - RED LINE BOUNDARY (FROM OSP SITE LAYOUT PLAN RECEIVED 02/02/2017)
 - SUB-SALE BOUNDARY (BASED ON .dwg FILE OF DRAWING 'B1 SUB-SALE PLAN 1' RECEIVED FROM CALA HOMES ON 07/03/2016). BOUNDARY IS OUTSIDE EDGE OF GREEN DASHED LINE WHEN SHOWN AT 0.5m WIDTH
 - LAND IN OWNERSHIP OF MR N PINE (BASED ON DRAWING SHOWING ORANGE BOUNDARY RECEIVED FROM CALA HOMES ON 23/06/2016)
 - JUNCTION INTERVISIBILITY ZONE
 - VISIBILITY SPY (AS SHOWN)
 - FORWARD VISIBILITY TO SIGNAL
 - SPEED SURVEY LOCATION
 - SIGNAL HEAD
 - TACTILE PAVING (BUFF)
 - TACTILE PAVING (RED)
 - EXISTING TREE CANOPIES (BASED ON BOSKY TREES SURVEY DATED 22/06/2016)
 - TREES TO BE REMOVED
 - TREES TO BE RETAINED
 - ROOT PROTECTION AREAS
 - PEDESTRIAN BOLLARD



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G	21/09/2023	PM	DRAWING UPDATED	
F	02/12/2022	PM	DRAWING UPDATED	
E	02/02/2017	MFB	REDLINE UPDATED	
D	19/11/2016	FL	PROPOSED QUEUE DETECTION LOOP ADDED	1:20
C	09/11/2016	SL	CHANGED TREES TO BE RETAINED TO REMOVE	1:20
B	21/10/2016	MFB	NOTES AMENDED	1:20
A	17/10/2016	PM	FIRST ISSUE	
REV	DATE	BY	DESCRIPTION	CHK
DRAWING STATUS: B3 - FOR PLANNING				

wsp

Regus House
Southampton Int. Bus. Park
George Curl Way
Southampton
SO16 2RZ, UK

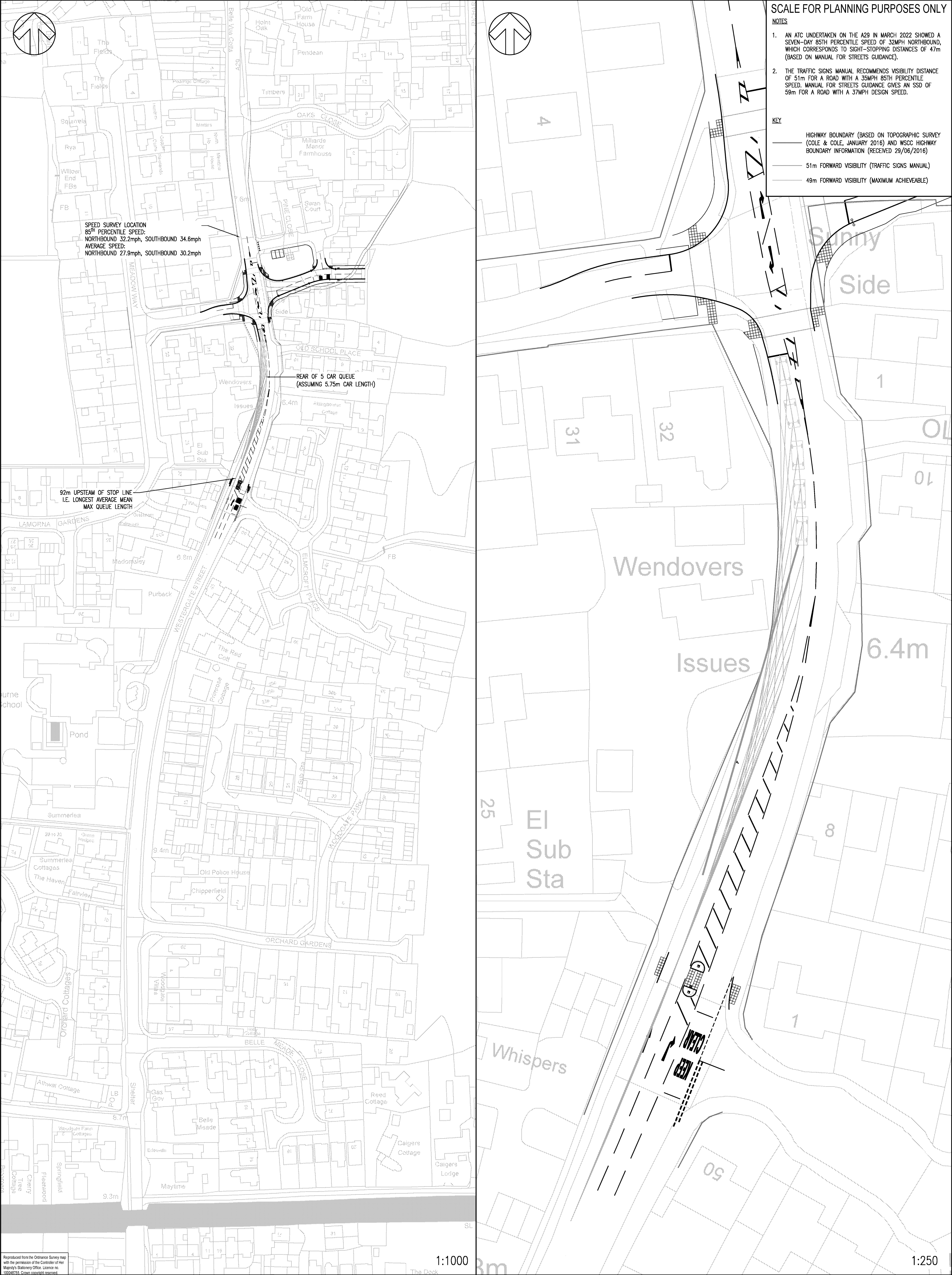
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CLIENT: CALA HOMES

ARCHITECT: LAND AT WESTERGATE

PROJECT: SITE ACCESS GENERAL ARRANGEMENT

SCALE @ A1: 1:250	CHECKED: LRB	APPROVED: LRB
CAD FILE: LAW-WSP-ZZ-ZZ-TP-00001.DWG	DESIGN-DRAWN: MFB	DATE: December 2022
PROJECT No: 70013258	DRAWING No: LAW-WSP-ZZ-ZZ-TP-DR-00001	REV: G



SCALE FOR PLANNING PURPOSES ONLY

- NOTES
1. AN ATC UNDERTAKEN ON THE A29 IN MARCH 2022 SHOWED A SEVEN-DAY 85TH PERCENTILE SPEED OF 32MPH NORTHBOUND, WHICH CORRESPONDS TO SIGHT-STOPPING DISTANCES OF 47m (BASED ON MANUAL FOR STREETS GUIDANCE).
 2. THE TRAFFIC SIGNS MANUAL RECOMMENDS VISIBILITY DISTANCE OF 51m FOR A ROAD WITH A 35MPH 85TH PERCENTILE SPEED. MANUAL FOR STREETS GUIDANCE GIVES AN SSD OF 59m FOR A ROAD WITH A 37MPH DESIGN SPEED.

- KEY
- HIGHWAY BOUNDARY (BASED ON TOPOGRAPHIC SURVEY (COLE & COLE, JANUARY 2016) AND WSCC HIGHWAY BOUNDARY INFORMATION (RECEIVED 29/06/2016))
 - 51m FORWARD VISIBILITY (TRAFFIC SIGNS MANUAL)
 - 49m FORWARD VISIBILITY (MAXIMUM ACHIEVEABLE)

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P03 22/09/2023 PM THIRD ISSUE				P02 27/10/2022 PM SECOND ISSUE				P01 24/05/2017 MFB FIRST ISSUE			
REV DATE BY DESCRIPTION CHK APP				DRAWING STATUS: B3 - FOR PLANNING				DRAWING No: LAW-WSP-ZZ-ZZ-TP-DR-00002			
Regus House Southampton Int. Bus. Park George Curl Way Southampton SO18 2RZ, UK				T+ 44 (0) 2380 302 529 F+ 44 (0) 2380 302 001 wsp.com				C			
CLIENT: CALA HOMES				PROJECT: LAND AT WESTERGATE				TITLE: SITE ACCESS FORWARD VISIBILITY ON NORTHBOUND APPROACH TO SIGNALS			
ARCHITECT:				SCALE @ A1: AS SHOWN				CHECKED: LRB			
				PROJECT No: 70013258				DESIGNED: MFB			
				DRAWING No:				DATE: October 2022			
								© WSP UK Ltd			

File name: \\UK.WSPGROUP\COMP\CENTRAL\DATA\PROJECTS\70013258\LAND AT WESTERGATE\CALA HOMES\WSP\WSP-DEVELOPMENT\00 DRAWINGS\LANDS\WSP-ZZ-ZZ-TP-DR-00002.DWG, printed on 22 September 2023 11:33:48, by Alex Philp

Appendix C

ROAD SAFETY AUDIT BRIEF GG119

11/5/19

CONFIDENTIAL

Appendix C. Road safety audit brief template

Table C.1 Project Summary

Date:	15/12/22
Document reference:	70013258_RSA
Prepared by:	WSP
On behalf of:	Cala Homes
AUTHORISATION SHEET	
Project:	Westergate Site Access
Report title:	RSA Stage 1 Brief
PREPARED BY:	
Name:	Ollie Thompson
Signed:	
Organisation:	WSP
Date:	16/12/22
I APPROVE THE RSA BRIEF AND INSTRUCT THE RSA TO TAKE PLACE ON BEHALF OF THE OVERSEEING ORGANISATION:	
Name:	West Sussex County Council does not approve RSA Briefs as per the 5 th bullet point of paragraph 29 of WSCC RSA Policy for Highway Works (https://www.westsussex.gov.uk/media/5556/roadsafety_auditpolicy.pdf)
Signed:	
Organisation:	West Sussex County Council
Date:	N/A

Table C.2 General Details

General details	
Highway scheme name and road number:	A29 Westergate Street
Type of scheme:	A new proposed signalised access junction for a 400 unit residential development scheme. The site is located on land to the east of the A29 Westergate Street, accessed via a new traffic signal junction at Meadow Way / Pine Close which is the subject of the RSA. The 400-unit development scheme is part of the Barnham Eastergate Westergate (BEW) strategic site allocated for 3,000 houses under Policy H SP2c of the Arun Local Plan 2011-2031. Please see details below of house this may impact on forecast traffic flows
RSA stage	Stage 1
Overseeing Organisation details	Design Organisation details
West Sussex County Council Ground Floor Northleigh County Hall Chichester PO19 1RQ	WSP Suite 1, Grosvenor House Grosvenor Square Southampton Hampshire SO15 2BE
Police contact details	Maintaining agent contact details
(N/A as Required for Stage 3 RSAs).	West Sussex County Council
RSA team membership	
Adriano Cappella – Acorns Project Limited.	
Terms of reference	
The Audit shall be undertaken in accordance with GG119.	

Table C.3 Scheme Details

Scheme description/objective
General
The works that form the main element of this Stage 1 RSA is the proposed signalised site access.
Design standards applied to the scheme design
Traffic Signs Manual Chapter 6 (Traffic Control) (DfT, 2019) Manual for Streets 2 (DfT, 2010)
Design speeds
60kph determined by CD 109 Highway Link Design (37mph) and based upon guidance contained within Traffic Signs Manual Chapter 6 is applicable
Speed limits
Mandatory 30mph speed limit
Existing traffic flows/queues
Weekday Average Flow from March 2022 Traffic Survey on A29 Westergate Street: - NB – 668 vehicles in the AM peak hour and 385 vehicles in the PM peak hour - SB – 498 vehicles in the AM peak hour and 686 vehicles in the PM peak hour
Forecast traffic flows
It is likely that the proposed 400-unit development site will generate 60 arrivals and 153 departures in the AM peak and 116 arrivals and 57 departures in the PM peak. Approximately 1,500 vehicles use the junction in each peak hour with 600-700 vehicles using the A29 in each direction. This proposed traffic signal junction may also provide access through to the BEW strategic site parcel SC1, which is currently subject to a live planning application under reference BN/11/22/OUT, via an East-West link Road. Phase 1 of Parcel SC1 (1,200 houses) also includes the construction of the northern part of the A29 realignment through the BEW site, whilst phase 2 of Parcel SC1 (2,000 houses) provides the full realignment including a new bridge over the Barnham to Chichester railway line. An annotated version of the Access and Movement plan and the framework masterplan that accompanied the planning application for parcel SC1 are included in Appendix F for reference. As part of the live planning application, the East-West Link Road is open to all vehicles, thereby providing connection between Parcel SC1 and existing A29. In Phase 1 of Parcel SC1 the forecast traffic flows are 296 arrivals and 245 departures in the AM Peak and 387 arrivals and 207 departures in the PM peak. In this scenario 1,600-1,700 vehicles use the junction in each peak hour. In Phase 2, with full realignment of the A29 complete, the forecast traffic flows are 83 arrivals and 323 departures in the AM Peak and 186 arrivals and 59 departures in the PM peak. In this scenario 800-1,000 vehicles use in the junction in each peak hour, with the reduction in flow a result of the A29 full realignment. Further to the live planning application for Parcel SC1, an alternative scenario is also being considered for the East-West Link Road whereby it will operate as a bus and active travel route until the full A29 realignment is complete. This significantly reduced the level of traffic turning right into the site from the A29 southern approach and westbound traffic flows along the East-West Link Road.

In this scenario the site will generate 60 arrivals and 153 departures in the AM peak (08:00 – 09:00) and 116 arrivals and 57 departures in the PM peak. Approximately 1,600-1,750 vehicles use the junction in each peak hour. A Technical Note is provided in Appendix G summarizing how the junction operates with and without the East-West Link Road being open to all traffic. <u>The RSA should therefore consider both scenarios for the East-West Link Road as follows:</u> <u>The East-West Link Road providing an all vehicle route between the A29 and Parcel SC1; and</u> <u>The East-West Link Road providing a bus and active travel route only between the A29 and Parcel SC.</u>
Pedestrian, cyclist and equestrian desire lines
A number of facilities are accessible on foot or by bicycle from the site, with Aldingbourne Primary School and Orminston Six Villages Academy / Eastergate CE Primary School are located 400m and 600m from the site respectively. Only Aldingbourne Primary School is likely to be accessed via the site access junction however, with internal footpaths provided direct access through the site to Orminston Six Villages Academy / Eastergate CE Primary. In addition there is Aldingbourne Sports Centre and Londis convenience store (part of Esso petrol station) located north along of the junction along the A29 and Prince of Wales public house on directly south of the level crossing. Barnham Railway station and village centre is approximately 3km walk / cycle via Barnham Road but this will likely be accessed through the internal footpaths to the north of the site rather than the site access junction.
Environmental constraints
None identified.

Table C.4 Locality

Description of locality
The development is located to the southern part of Westergate, on the eastern side of A29 Westergate Street. The site is bounded by A29 Westergate Street, residential housing to the north and agricultural land to the east. The site location is near the junction of A29 Westergate Street and Meadow Way.
General description
The A29 Westergate Street is a classified A road and provides a link from Fontwell onto Bognor Regis to the south. The road has junctions evenly spaced along its length providing access to mainly residential developments and is single-carriageway until just north of Bognor Regis. In the vicinity of the site the A29 has a posted speed limit of 30mph and street lighting, although 75 metres to the south of the site access there is a 20mph school zone for Aldingbourne Primary School. Woodgate level crossing is located approximately 550m south of the proposed access junction on A29 Westergate Street.
Relevant factors which may affect road safety
The A29 Westergate Street accommodates cyclists and pedestrians. There have been observations of parked cars on the footway partially obstructing the carriageway.

See above commentary on proposals for East-West Link Road connection to wider BEW strategic site

Table C.5 Analysis

Collision data analysis
Data from CrashMap has been analysed for the period covering (2017 – 2021). This has identified the occurrence of 11 ‘Slight’ collisions located on A29 Westergate Street and two ‘Serious’. There is a slight cluster of four collisions at the Westergate Street / Nyton Road junction and four at the Westergate Street / Hook Lane junction. However, these collisions are spread over a period of five years which does not suggest a linked causation factor between them. It is concluded that there does not exist any operational deficiencies with the local highway network.
Departures from standards
• Intervisibility between junction stop lines on A29 southern arm, Meadow Way and site access; • Forward visibility (SSD) on the A29 northbound approach to the traffic signals; and • Forward visibility (SSD) to the back of queuing traffic on the A29 northbound approach to the traffic signals. These departures from standards were previously approved by West Sussex County Council (WSCC) in their ‘no objection’ response to planning application AL/15/17/PL which included the same proposed signalised site access design. These Departures from Standards applications have been updated to reflect guidance contained within Traffic Signs Manual Chapter 6
Previous road safety audit stage reports, road safety audit response reports and evidence of agreed actions
A Stage 1 RSA has previously been undertaken, prior to publication of GG119 guidance
Strategic decisions
See Departures from Standards section above.
List of included documents and drawings
OSP – 20191 / SK07 – Sketch Site Layout (Appendix A)
3258/GA/004-F – Site Access General Arrangement (Appendix B)
70013258-RSA – Stage 1 Road Safety Audit Designers Response (Appendix B)
WSCC Departures Form (Appendix B)
Crashmap Screenshot (Appendix C)
March 2022 A29 Traffic Data (Appendix D)
Traffic Signal Staging (Appendix E)
BEW Illustrative Masterplan and Parcel SC1 Movement and Access Plan (Appendix F)

Table C.6 Checklist

Tick all that are included and provide reasons for those that are not included			
Site location plan (Appendix A)	✓	Scale layout plans (Appendix A)	✓
Departures and relaxations from standards (Appendix B)	✓	Construction/ typical details (not available at this time)	
Previous RSA reports (Appendix B – see appendix of Designers Response)	✓	Previous RSA response reports and evidence of agreed actions (Appendix B)	✓
Collision data and collision data analysis (Appendix C - See Crashmap screenshot – full collision data analysis to be included in Transport Assessment)	✓	Road traffic collision plot (Appendix C - CrashMap data has been used as collision data scope not yet re-confirmed with WSCC)	✓
Traffic signal staging (Appendix E)	✓	Traffic counts (Appendix D)	✓
Speed surveys (Appendix D - included as part of ATC).	✓	Pedestrian, cyclist and horse riding desire lines and volumes (details of ped / cycle desire lines are included within brief).	✓
Walking, cycling and horse riding assessment and reviews (has not yet been undertaken)		Items outside the scope of the RSA/ strategic decisions (See Departures from Standards applications)	✓
Other factors that may impact on road safety (None identified)	✓	Design speeds/ speed limits (See Departures from Standards applications)	✓
Design standards used (See Departures from Standards applications)	✓	Adjacent land uses (included within brief)	✓

Appendix C. Road safety audit brief template

Table C.1 Project Summary

Date:	24/11/22
Document reference:	70013258_RSA
Prepared by:	WSP
On behalf of:	Cala Homes
AUTHORISATION SHEET	
Project:	Westergate Site Access
Report title:	RSA Stage 1 Brief
PREPARED BY:	
Name:	Ollie Thompson
Signed:	
Organisation:	WSP
Date:	24/11/22
I APPROVE THE RSA BRIEF AND INSTRUCT THE RSA TO TAKE PLACE ON BEHALF OF THE OVERSEEING ORGANISATION:	
Name:	
Signed:	
Organisation:	West Sussex County Council
Date:	

Table C.2 General Details

General details	
Highway scheme name and road number:	A29 Westergate Street
Type of scheme:	A new proposed signalised access junction for a 400 unit residential development scheme. The site is located on land to the east of the A29 Westergate Street, accessed via a new traffic signal junction at Meadow Way / Pine Close. This access will also provide access through to the Bamham Eastergate Westergate strategic stie parcel SC1, which is currently subject to a live planning application under reference BN/11/22/OUT, via an East-West link road. Whilst not part of the current application it is envisaged that this East-West link road would operate as a bus / pedestrian and cycle link between the Cala site and Parcel SC1 until the full A29 realignment is complete at which point it will revert to a link for all modes of transport.
RSA stage	Stage 1
Overseeing Organisation details	Design organisation details
West Sussex County Council Ground Floor Northleigh County Hall Chichester PO19 1RQ	WSP Suite 1, Grosvenor House Grosvenor Square Southampton Hampshire SO15 2BE
Police contact details	Maintaining agent contact details
(N/A as Required for Stage 3 RSAs).	West Sussex County Council
RSA team membership	
Adriano Cappella – Acorns Project Limited.	
Terms of reference	
The Audit shall be undertaken in accordance with GG119.	

Table C.3 Scheme Details

Scheme description/objective
General
The works that form the main element of this Stage 1 RSA is the proposed signalised site access.
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Pedestrian, cyclist and equestrian desire lines
A number of facilities are accessible on foot or by bicycle from the site, with Aldingbourne Primary School and Orminston Six Villages Academy / Eastergate CE Primary School are located 400m and 600m from the site respectively. Only Aldingbourne Primary School is likely to be accessed via the site access junction however, with internal footpaths provided direct access through the site to Orminston Six Villages Academy / Eastergate CE Primary. In addition there is Aldingbourne Sports Centre and Londis convenience store (part of Esso petrol station) located north along of the junction along the A29 and Prince of Wales public house on directly south of the level crossing.

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Environmental constraints

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Traffic Signal Staging (Appendix E)

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Speed surveys (Appendix D - included as part of ATC).	✓	Pedestrian, cyclist and horse riding desire lines and volumes (details of ped / cycle desire lines are included within brief).	✓
Walking, cycling and horse riding assessment and reviews (has not yet been undertaken)		Items outside the scope of the RSA/ strategic decisions (See Departures from Standards applications)	✓
Other factors that may impact on road safety (None identified)	✓	Design speeds/ speed limits (See Departures from Standards applications)	✓
Design standards used (See Departures from Standards applications)	✓	Adjacent land uses (included within brief)	✓

Appendix A