Rampion 2 Wind Farm

Category 6: Environmental Statement

Volume 2, Chapter 32: ES Addendum (clean)

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Document revisions

Revision	Date	Status/reason for issue	Author	Checked by	Approved by
A	28/02/2024	Further transport sensitivity test considering the peak week for traffic at each receptor location and related assessments for transport, air quality and noise.	WSP	RED	RED
B	09/07/2024	Deadline 5 update to reflect individual construction access routing controls set-out within the **Technical Note Construction Access Update Assessment Summary** **[REP3-055]** and heavy goods vehicle (HGV) routing to reflect controls related to the traffic management strategies in Appendix D within the **Outline Construction Traffic Management Plan** **[REP4-045]**.	WSP	RED	RED
C	01/08/2024	Deadline 6 including references to baseline traffic flows for Kent Street and Michelgrove Lane to reflect traffic surveys completed between 08 and 14 May 2024.	WSP	RED	RED

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1. Introduction

1.1 Overview

1.1.1 This Environmental Statement (ES) Addendum (**Document reference: 6.2.32**) has been prepared and submitted at Deadline 1 to outline additional sensitivity tests and associated assessment completed by the Applicant since submission of the Development Consent Order (DCO) Application for Rampion 2 Offshore Wind Farm (the 'Proposed Development').

1.1.2 As outlined in the Applicant's **Pre-Exam Procedural Deadline Submission – 1.1 – Cover Letter [PEPD-001]**, following submission of the DCO Application, the Applicant has reviewed the conclusions of the ES, Relevant Representations and the Rule 6 letter **[PD-006]** in relation to traffic and transport matters. The Applicant believes that it would be beneficial to present a further sensitivity test and updated assessment in order to address issues raised in relevant representations and the principal issues identified by the Examining Authority in its Rule 6 letter **[PD-006]**. This sensitivity test considers the peak week for traffic at each receptor location. Whilst recognising that this is an unrealistic scenario for consideration of the overall worst case, due to those weeks occurring at different weeks in the programme, this sensitivity test provides a more localised and refined impact assessment, and confirms the worst case construction traffic impact for all receptor locations within the Study Area.

1.1.3 Alongside this additional sensitivity test, the Applicant has completed a review of receptors included within the ES, using a cautious approach to their identification so to highlight potential impacts of the Proposed Development at new locations.

1.1.4 The results of the additional transport sensitivity test has also been considered in relation to air quality and noise and vibration. Therefore, this ES Addendum includes the following sections:

- **Section 2: Transport**;
- **Section 3: Air quality**; and
- **Section 4: Noise and vibration (onshore)**.

1.1.5 The additional transport sensitivity test has also informed an additional update to **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP3-021]** which has been updated at Deadline 5.

1.1.6 This ES Addendum has been prepared subsequent to the submission of the DCO Application and should be ready in conjunction with the following documents:

- **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**;
- **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**;
- **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**;
- **Outline Construction Traffic Management Plan [REP4-045]** which has been updated at Deadline 5; and

- **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP3-021]** which has been updated at Deadline 5.

1.1.7 A change request **[AS-046]** to the DCO Application was accepted by the Examining Authority on 24 July 2024 **[PD-018]**. These changes included minor reductions to the proposed DCO Order Limits (onshore only) where adjacent to areas of Ancient Woodland to provide a 25m buffer from these features. Further localised reductions to the extent of Works 9 and 19 were also made, assigning these areas to a class of work with lower impacts from those previously assessed as cable installation. The changes made result in no new or different effects from those reported in this chapter of the ES. The figures supporting this chapter of the ES have not been updated due to the minor nature of these changes, the final proposed DCO Order Limits and Works areas should be viewed on the **Onshore Works Plans** (Document Reference: 2.2.2 and **[AS-026]**.

2. Transport

2.1 Introduction

2.1.1 **Section 2** of this ES Addendum outlines the additional assessments completed since submission of the Development Consent Order (DCO) Application to complement the **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**.

2.1.2 This ES Addendum provides an update to the construction phase assessment only. This includes updates in relation to Study Area 1 only with Study Area 2 remaining unchanged. Study Area 1 includes transport routes used for onshore construction activities whereas Study Area 2 includes traffic routes used for onshore impacts of offshore activities (see paragraphs 23.4.37 and 23.4.39 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**.

2.1.3 This ES Addendum has been updated at Deadline 5 to reflect updates made to construction traffic routing contained within the **Outline Construction Traffic Management Plan [REP4-045]** made during the Examination, including traffic management strategies for accesses A-26, A-28, A-61 and A-64 (also updated at Deadline 5). This has resulted in changes to total construction traffic or HGV peak weeks at some locations as reported in **Section 2.4**. These updates have not altered the conclusions of the ES in comparison with the ES Addendum submitted at Deadline 1.

Background

2.1.4 The assessment of transport within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** has been undertaken in line with the Institute of Environmental Assessment (IEA) (1993) publications 'Guidelines for the Environmental Assessment of Road Traffic' (hereafter referred to as 'GEART')[1].

2.1.5 The guidance that is followed when assessing the potential significance of road traffic effects and summarised in GEART (IEA, 1993), states that:

"The detailed assessment of impacts is…likely to concentrate on the period during which the absolute level of an impact is at its peak, as well as the hour at which the greatest level of change is likely to occur." (Paragraph 3.10).

[1] In response to The Examining Authority's Issue Specific Hearing 1 Action Point 8 **[EV3-020]** the Applicant submitted a technical note (**Deadline 2 Submission – 8.41 Category 8: Examination Documents – Applicant's Response to Action Points Arising Issue Specific Hearing 1 [REP2-017]**) comparing the Institute of Environmental Management and Assessment (IEMA) Guidelines: 'Environmental Assessment of Traffic and Movement' (EATM 2023) and the 'Guidelines for the Environmental Assessment of Road Traffic' (GEART 1993). West Sussex County Council in their Deadline 3 response **[REP3-073]** confirmed that they are satisfied that in light of the two rules applied to determine the scope of the study area remaining unchanged between the 1993 GEART and 2023 EATM documents that the scope of the Applicants assessment remains acceptable.

2.1.6 Further to this, GEART (IEA, 1993) provides two rules to establish whether an environmental assessment of traffic effects should be carried out on receptors. These were used within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and taken forward as part of the sensitivity test of construction traffic effects:

- Rule 1: Include roads where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30%); and
- Rule 2: Include any specifically 'sensitive' areas where traffic flows are predicted to increase by 10% or more.

2.1.7 Each highway link included in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** has been assigned a sensitivity in accordance with GEART (IEA, 1993). This is based on professional judgement and related to the proximity, volume and type of receptors along the highway link.

2.1.8 Rule 1 has been applied where the sensitivity of a road link is judged as low or negligible, and where traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%, an assessment of environmental effects has been undertaken of the road link.

2.1.9 Rule 2 has been applied where the sensitivity of a road link is judged as high or medium, and where traffic flows are predicted to increase by 10% or more, an assessment of environmental effects will be undertaken.

2.1.10 It should be noted that, according to GEART (IEA, 1993), predicted traffic flow increases below 10% are generally not considered to be discernible as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed not to result in significant environmental effects and have therefore not been assessed further. Similarly, where the link is a low or negligible sensitivity and where traffic flows are predicted to increase by less than 30%, it is assumed these changes in traffic flow will not result in significant environmental effects.

2.1.11 To assess the impact of the Proposed Development at its peak, the likely percentage increase in traffic was determined in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** by comparing estimates of construction traffic generated by the Proposed Development with future predicted baseline traffic flows on the road links. This was completed for different construction traffic scenarios to account for different construction activity peaks across along the onshore cable corridor as summarised in below:

- Peak Week 70: Construction traffic associated with the peak week of four-year construction programme (as summarised in Table 23-36 of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**);
- Section-based peak weeks: As part of the Proposed Development, the entire onshore cable corridor was split into three sections as presented in **Figure 23.2, Volume 3** of the ES **[APP-107]** and summarised in Table 23-37 of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**:
  - Section 1 runs north from landfall, across the A259, the River Arun and the two railway lines before crossing the A27 near the edge of the South Downs

at Warningcamp. This section is rural but runs along the edge of the settlements of Littlehampton, Wick, Lyminster and Crossbush. The peak construction week for section 1 is week 72;

- Section 2 runs north east from the Section 1 boundary to a crossing of the A24 near Washington, West Sussex. Between the A27 and A24, the onshore cable corridor has minimal interaction with the local highways network and due to the nature of access options, will make use of a continuous haul road. The peak week for Section 2 is week 83; and
- Section 3 runs from the Section 2 boundary along the A283 corridor before turning north east to Partridge Green and further east to Wineham/Bolney. This section is flat and rural in character but with more crossings of roads. The peak week for Section 2 is week 125.

- Annual Average Weekday Traffic (AAWT) for year 1, 2, 3 and 4 of the construction programme (as summarised in Table 23-38 of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**).

2.1.12 As part of West Sussex County Council's (WSCC) Relevant Representation (RR-418) the local highway authority confirmed that they were content with the base data included within assessments included within **Chapter 23: Transport, Volume 2** of the ES **[APP-064],** noting that this included traffic survey data for all routes that will be used by construction traffic associated with the Proposed Development. Further to this, WSCC confirmed in their responses to the Examining Authority's Written Questions **[REP3-073]** that the assessment methodology used within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** was also agreed as acceptable.

2.1.13 **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** provided an assessment of environmental effects for the impacted receptors for a number of topics (severance, driver delay, pedestrian amenity, pedestrian delay, fear and intimidation and accidents and safety) using estimates of light goods vehicles (LGV) and HGV construction traffic flows.

2.1.14 **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** assessed a realistic network-wide peak week, which was supported with the above additional scenarios to show the impact of the construction traffic on the receptors across the whole construction programme. The ES concluded that the Proposed Development will not generate any significant effects on traffic and transport receptors within the Study Area.

2.1.15 Following submission of the DCO Application, it was considered by the Applicant to be beneficial to undertake further sensitivity tests to support **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, as outlined in this ES Addendum.

Relevant additional information

2.1.16 The following additional information is relevant to the assessment of transport reported within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**:

- a sensitivity test has been undertaken which assesses the peak week for construction traffic at each receptor. The week used to assess the impact has been based on the peak week in total construction traffic and the peak week of

HGV construction traffic. Whilst recognising that this is an unrealistic scenario in practice due to those weeks occurring at different weeks in the programme, it enables the worst case for each receptor to be considered. A summary of the methodology used as part of this additional sensitivity test and the outcomes of the assessment are outlined below (**paragraphs 2.4.22** to **2.4.76**).

- A review of receptors included within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** has been completed, with new locations identified summarised within this ES Addendum. This has been completed as a further level of assessment, using a cautious approach to the identification of receptors, so to highlight potential effects of the Proposed Development at the new locations.
    - As part of this review of receptors, Michelgrove Road and Kent Street have been identified as a new receptor locations. There are no WSCC or Department for Transport (DfT) surveys on this road to understand the current baseline conditions. Traffic count surveys have been commissioned, but whilst these are undertaken assumptions have been made based on site observations. It has been assumed that in the Future Year of Assessment 10 total traffic movements and 1 HGV movement are generated over 24 hours on this highway link.
- a sensitivity test has been undertaken based on 100% of HGVs routing from the A272 East (and 0% from the A272 West) to understand, if an alternative HGV distribution will result in any changes to the effects summarised in the assessment in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and the Air Quality Management Area (AQMA) at Cowfold.

Relevant changes to construction traffic assumptions

2.1.17 Where applicable, the following updates have been made to the distribution of construction traffic. These changes reflect traffic routing contained within the **Outline Construction Traffic Management Plan (CTMP)** **[REP4-045]** updated at Deadline 5:

- LGV traffic travelling from the north, has been assigned to travel along the A272 and A24, rather than down the A23 and along the A27 west to provide a robust assessment of potential impacts within Cowfold;
- Within assessments included within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** all HGV traffic from the A27 West (28%) is routed to travel via the A27 and A24 through Cowfold to the Accesses along the A272 western end as a robust assessment of potential effects within Cowfold. However, a sensitivity test has been undertaken where all 100% of this HGV construction traffic routes along the A27 and A23. This tests a scenario where full compliance is achieved of commitment C-158 (**Commitment Register** **[APP-254]** which has been updated at Deadline 1) that requires HGV construction traffic to avoid routing through the Cowfold AQMA where possible;
- Construction traffic travelling to / from Temporary Construction Compound (TCC) 1 at Climping has been routed along the A259 rather than Ford Road to access the A27;

- To reflect optionality at some adjacent construction access junctions construction traffic will use the following accesses to ensure a worst-case assessment of effects at nearby receptors:
  - Access A-13 not A-15; and
  - Access A-40 not A-41.
- To provide a robust analysis of light construction accesses where minimal construction traffic flows had been estimated in the **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, 10 LGV two-way movements have been assigned to several accesses as seen in **Table 2-2**.
- The Multi Occupancy Vehicle (MOV) circular route has been adjusted to prevent traffic travelling up the southern part of Kent Street between A-61 and Wineham Lane.
- Routing has been updated to reflect individual construction access routing controls set-out within the **Deadline 3 Submission – 8.61 Technical Note Construction Access Update Assessment Summary** **[REP3-055]**.
- HGV routing has been updated to reflect controls contained within the Construction Accesses A-26, A28, A-61 and A-64 Traffic Management Strategies included within Appendix D of the **Outline Construction Traffic Management Plan** **[REP4-045]**. For the purposes of providing a robust assessment, it is assumed that all HGV construction traffic enters and exits the onshore cable route via Michelgrove Lane (A-26) rather than entering via access A-26 and exiting via access A-28

2.1.18 In relation to the construction traffic controls contained within Appendix D of the **Outline Construction Traffic Management Plan** **[REP4-045]**, it should be noted however that all HGV movements included within this ES Addendum access A-26 and A-28 from the south via the A27. This is aligned with the HGV routing strategy contained within the **Outline Construction Traffic Management Plan** **[REP4-045]** whereby HGVs use the Strategic Road Network (A27 / A23) as much as possible before routing onto the local highway network. Further information on potential impacts of HGVs routing to / from the north and needing to u-turn at Clapham roundabout is provided in **Section 2.4.**

2.1.19 In addition, whilst construction traffic routing has taken account of the requirement for HGVs to route to accesses A-61 and A-64 (Kent Street) via the Oakendene temporary construction compound, the current construction programme estimates that use of accesses A-61 and A-64 fall outside of the peak week of construction traffic on the A272. The traffic management strategies presented in Appendix D of the **Outline Construction Traffic Management Plan (CTMP)** **[REP4-045]** therefore have no impact on the peak week traffic assessments presented in **Section 2.4.**

Updated assessment

2.1.20 In line with the additional assumptions outlined above (**Paragraph 2.1.17**), which assessed the peak week at each receptor, the scenarios as stated in **paragraph 2.1.11** have been updated.

2.1.21 **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** provided a breakdown of recorded accidents from 2017-2021 and a more detailed analysis on the accidents which caused serious or fatal injury for the six year accident period from 2016 to 2021. Given accident data for 2022 is now available this ES Addendum has updated the recorded accident section to include the new highway links and updated the detailed analysis to report on accidents from 2017 to 2022.

2.2 Baseline conditions

Introduction

2.2.1 The following sections from the **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** are updated as follows:

- The Local Highway Network section has been updated to include a description of Ferry Road, A2037 and the A281 from Henfield;
- Baseline traffic flows based on the nearest WSCC and DfT count points or traffic surveys completed in May 2024 for Kent Street and Michelgrove Lane, have been included for the new receptor locations;
- The 'Recorded Accidents' section has been updated to include the following new highway links:
  - B2135 between A24 and B2116;
  - A281 between A2037 and A23;
  - A281 between B2116 and A2037 (through Henfield); and
  - Ferry Road between A259 and River Arun.
- The detailed accident analysis of the serious and fatal accidents has been updated to report on accidents from 2017 to 2022; and
- The future baseline has been updated using TEMPRO growth factors which cover the new peak weeks and assessment years.

Local Highway Network

A24

2.2.2 The A24 routes between Worthing on the south coast and London, and routes via towns including Horsham and Leatherhead. Within Study Area 1, the A24 routes through both urban and rural settings. In rural areas, the A24 is typically a dual carriageway and is subject to the national speed limit. In urban areas, the A24 routes through both residential and commercial areas, and numerous residential and commercial properties front onto the road and there are a number of pedestrian crossing points.

A272

2.2.3 Within Study Area 1, the A272 routes east / west between the A24 and the A23 and beyond. The A272 intersects with the A24 via a staggered crossroad and junctions with the A23 are via two grade separated roundabouts which connect to the A23 by on/off slips. The A272 is a predominantly a single carriageway rural road throughout Study Area 1. The speed limit varies between national speed limit and 50mph depending on local constraints. A section of the A272 through Cowfold is subject to a 30mph speed limit as the road routes through a village setting. Pedestrian footways are provided and residential properties front onto the A272 throughout Cowfold.

A2037

2.2.4 The A2037 routes north / south between the A283 and the A281. The road intersects with the A281 at a roundabout in the south of Henfield. The A2037 is a predominantly single lane, two-way carriageway rural through road and is subject to the national speed limit. It intersects with the A283 at a roundabout, south of Steyning. The road has limited pedestrian footways including through Henfield and Oreham Common, where some residential properties front onto the road. There is very limited pedestrian crossing points.

A280 Long Furlong

2.2.5 The A280 Long Furlong provides a connection between the A24 at Findon and the A27 south of the village of Clapham. The A280 is a single carriageway road which is predominantly subject to the national speed limit and routes through a rural setting. A small section of the A280 through Clapham Village is subject to a 40mph speed limit and a signal controlled crossing is provided adjacent to the local primary school.

A281

2.2.6 The A281 routes between Guildford and the A23 north of Brighton, the road connects multiple towns and villages along its routes including Horsham and Cowfold. Due to the length of the A281 and the numerous settlements that it routes through, the road conditions vary throughout. The A281 within Study Area 1 includes a section from Cowfold via Shermanbury to the A281 junction with the B2116 and then from Henfield to the b2117. The A281 through these sections is a single carriageway road where the speed limit and other conditions vary depending on location.

2.2.7 Through Cowfold, the A281 routes through the centre of the village where commercial properties front onto the road. Pedestrian footways are located on either side of the carriageway within Cowfold centre and on at least one side of the carriageway through the rest of the village, the road is subject to a 30mph speed limit. The A281 junctions with the A272 at two mini roundabout junctions within Cowfold centre and a signal controlled pedestrian crossing are provided.

2.2.8 Through Shermanbury, the A281 is subject to a 40mph speed limit and a pedestrian footway is provided on the eastern side of the carriageway. Residential properties / driveways front onto the A281.

2.2.9 Between Cowfold and Shermanbury the A281 is rural in nature, no pedestrian infrastructure is provided, and the national speed limit applies.

2.2.10 The section of the A281 from Henfield to the junction with the B2117 routes through the small village of Woodmancote. The A281 is 30mph though Henfield, and then 40mph past Woodmancote before changing to a national speed for the rest of the route.

A283

2.2.11 The A283 provides a connection between the A24 at Washington, West Sussex and the A27 at Shoreham-by-Sea, and the A24 at Washington southward beyond Storrington. The A283 is a single carriageway which is subject to 50mph and national speed limits at various points along its route. The A283 routes predominantly through rural areas and throughout the town of Steyning, the A283 is located within a cutting which is over bridged by local roads. The A283 intersects with the A27 via a grade separated roundabout and on-off slips.

A284

2.2.12 The A284 routes between Littlehampton and the A29 west of the village of Houghton. The A284 exists in two sections, from Littlehampton to a junction with the A27 at Crossbush and from a junction with the A27 in Arundel to the A29.

2.2.13 The section of the A284 from the A259 in Littlehampton to the A27 at Crossbush is within Study Area 1. This section of the A284 routes through the village of Lyminster and the residential suburb of Wick. In Wick, the A284 routes through a residential area where streetlighting and footways are provided and residential properties and driveways front onto the A284. The road is subject to a 30mph speed limit.

2.2.14 In Lyminster Village, the road is subject to a 30mph speed limit. Pedestrian footways exist throughout the village on at least one side of the carriageway, a small number of residential properties / driveways front onto the A284. North of Lyminster Village, the speed limit increases to 40mph and a pedestrian footway continues on the western side of the carriageway.

2.2.15 The construction of the Lyminster Bypass, which is expected to be officially designated as the A284 upon completion, will be a significant development in the road infrastructure. The Lyminster Bypass will serve to reduce the volume of traffic passing through Lyminster and reduce the transport effects on local receptors arising as a result.

A259

2.2.16 The A259 routes along the south coast between Havant in Hampshire and Folkestone in Kent. Within Study Area 1, the A259 routes between a roundabout junction with Ford Lane at Climping to a roundabout junction with the B2187 at Toddington.

2.2.17 Between Climping and the junction with the B2187 at Littlehampton (Bridge Road roundabout), the road is a single carriageway which is subject to a 40mph speed limit west of the Ferry Road junction and the national speed limit east of the

junction. A shared footway / cycleway is provided on the northern side of the carriageway.

2.2.18 Between Bridge Road roundabout and the junction with the A284 (Wick roundabout), the road is subject to the national speed limit and a shared cycleway / footway exists on the northern side of the carriageway between the signal controlled junction with Benjamin Grays Drive and the priority junction with New Courtwick Lane. Between Wick roundabout and the roundabout junction with the B2187 at Toddington, the speed limit is reduced to 40mph through this area with residential properties fronting the carriageway and pedestrian footways exist on both sides of the carriageway.

B2116

2.2.19 The B2116 routes between the A281 north of Henfield to the B2118 at Albourne. The B2116 is a single carriageway which predominantly routes through a rural area. The speed limit varies between 30mph, 40mph and the national speed limit along the B2116 depending on local constraints. Throughout Albourne, the road is subject to a 30mph speed limit and pedestrian footways are provided, residential properties / driveways front onto the road.

B2117

2.2.20 The B2117 is a single carriageway road which routes between the A281 and Pierpoint Village. Within the short section of the road included in Study Area 1, the road junctions with the B2118 by a priority junction and junctions with the A23 by means of two priority junctions which serve as on / off slips to the grade separated A23. The B2117 is rural in nature between these junctions and is subject to the national speed limit.

B2118

2.2.21 The B2118 routes between the B2117 at Muddleswood and the A23 north of Sayers Common. The B2118 is a single carriageway and is subject to the national speed limit for much of its route.

2.2.22 Through the village of Aldbourne, the B2118 is subject to a 40mph speed limit, a pedestrian footway is provided on the eastern side of the carriageway and residential properties / driveways front onto the road.

2.2.23 Through the village of Sayers Common, the B2118 is subject to a 30mph speed limit and pedestrian footways are provided on both sides of the carriageway. Residential properties / driveways front onto the B2118 and the road junctions with the B2116 by a roundabout in the centre of the village.

B2135

2.2.24 The B2135 is a rural B-road serving the village of Partridge Green in Sussex. It is subject to the national speed limit for most of its route. It starts on the A283 at the northern end of the Steyning bypass. It heads north and, although quite wide the route is windy before straightening out, before entering the small village of Ashurst. Through the village of Ashurst the road is subject to a 30mph speed limit. The road then heads into Partridge Green (also 30mph speed limit) where it meets

the B2116, and continues through the village, after which it turns north-west towards the A24.

B2139

2.2.25 The B2139 is a rural B-road which runs through Houghton, Amberly and Storrington in West Sussex. Much of the route is subject to the national speed limit, although Houghton and Storrington have a 30mph limit and Amberly is subject to a 40mph speed limit. The B2139 begins at Whiteways Lodge Roundabout with the A29 and the A284, and then runs northeast until Storrington, where it meets Pulborough Road (A283). The road is crossed by no other major roads, only residential streets when routing through villages. It is also the only access to Amberly Train Station.

Ferry Road

2.2.26 Ferry Road is a single carriageway road which routes between the A259 and the River Arun in Littlehampton. From a priority junction with the A259, the road routes through a rural area where a national speed limit applies, and narrow pedestrian footway is provided on the northern side. The road provides access to the Marina, Mobile Home Park and some other industrial buildings. Ferry Road is also the National Cycle Network Route 2 (NCN 2) providing access to Littlehampton Railway Station via the Littlehampton Harbour Bridge.

Ford Road

2.2.27 Ford Road is a single carriageway road which routes between the A27 in Arundel and Church Lane in Climping. From a roundabout junction with the A27 to the edge of Arundel, the road routes through a residential area where a 30mph speed limit applies and pedestrian footways are provided. South of Arundel the road is rural in nature and the national speed limit applies. Adjacent to Ford Railway Station, Ford Road crosses a railway line by means of a level crossing. North of the level crossing a 40mph speed limit is applied to Ford Road which exists for its remaining route to Church Lane in Climping. A pedestrian footway runs along the western side of the carriageway between Ford Railway Station and Climping.

Church Lane

2.2.28 Church Lane is a single carriageway road which routes between Ford Road in Climping to a roundabout junction with the A259 south of Climping. The road is subject to a 40mph speed limit and a pedestrian footway is provided on the eastern side of the carriageway. A small number of residential properties front onto Church Lane in Climping.

Water Lane

2.2.29 Water Lane is single carriageway rural road which routes between the A283 and Hole Street in Winston. Water Lane is subject to the national speed limit between the junction with the A283 and the periphery of Winston Village. In Winston Village, Water Lane is subject to a 40mph speed limit and a pedestrian footway is provided on the western side of the carriageway.

Kent Street

2.2.30 Kent Street is a single carriageway rural road which routes between the A272 and Wineham Lane and is subject to the national speed limit. There are no pedestrian footways on this rural road.

Wineham Lane

2.2.31 Wineham Lane is a rural road (width could enable two cars to pass) which connects the village of Wineham to the A272 to the north and the B2116 to the south. Wineham Lane is subject to the national speed limit for all sections outside Wineham. Throughout Wineham, Wineham Lane is subject to a 40mph speed limit and residential / rural properties and driveways front onto the road.

Baseline traffic flows

2.2.32 **Table 2-1** sets out the average annual weekday flow (AADF) for the date of survey and the current baseline (2021) for each highways link (highway links are shown in **Figure 32.1, Appendix C**).

2.2.33 Growth rates have been derived from TEMPro as defined in **paragraph 2.2.113**.

Table 2-1 2021 baseline traffic data (AADF) – Study Area 1

Highways Link	Historic Traffic Data			2021 Base		
	Total Vehicles	HGVs[2]	Year of Data	Total Vehicles	HGVs	HGV%
1	1925	314	2022	1925	314	16.3%
2	9859	1106	2019	10458	1135	10.9%
3	6025	253	2019	6209	255	4.1%
4	23618	1302	2019	24338	1312	5.4%
5	22400	857	2019	23083	863	3.7%
6	13248	551	2019	13652	555	4.1%
7	13546	692	2018	13959	698	5.0%
8	619	12	2019	647	12	1.9%
9	32734	1613	2013	33732	1625	4.8%

[2] Heavy Goods Vehicles (HGVs)

Highways Link	Historic Traffic Data			2021 Base		
	Total Vehicles	HGVs[2]	Year of Data	Total Vehicles	HGVs	HGV%
10	736	15	2019	827	16	2.0%
11	31936	1757	2019	32910	1770	5.4%
12	22776	923	2019	23473	930	4.0%
13	30777	1012	2018	31719	1020	3.2%
14	25731	627	2017	26899	637	2.4%
15	18580	3653	2022	18580	3653	19.7%
16	21977	750	2005	22649	755	3.3%
17	11430	2326	2022	11430	2326	20.3%
18	3444	105	2019	3550	106	3.0%
19	20485	585	2019	21112	589	2.8%
20	35481	1636	2019	36567	1648	4.5%
21	6374	362	2018	6569	364	5.5%
22	7739	341	2019	8090	346	4.3%
23	6081	141	2019	6267	142	2.3%
24	22389	991	2019	23074	998	4.3%
25	16904	745	2019	17421	751	4.3%
26	853	16	2019	879	16	1.8%
27	16889	724	2019	17406	729	4.2%
28	71894	4024	2012	74094	4054	5.5%
29	7356	1497	2022	7356	1497	20.4%
30	3147	149	2019	3243	150	4.6%
31	78611	3118	2019	81016	3141	3.9%

Highways Link	Historic Traffic Data			2021 Base		
	Total Vehicles	HGVs[2]	Year of Data	Total Vehicles	HGVs	HGV%
32	65068	2421	2019	67059	2439	3.6%
33	71173	2852	2019	73351	2873	3.9%
34	25835	548	2019	26623	552	2.1%
35	24757	469	2019	25512	473	1.9%

2.2.34 **Table 2-2** sets out the average annual weekday flow (AADF) for the date of survey and the current baseline for the new receptor locations. Traffic surveys were undertaken for Receptor P and U in May 2024. It should be noted that these flows are higher than the previous estimates figures included in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** at Deadline 1. Given the flows are higher this assessment represents a robust worst case.

Table 2-2 Baseline traffic data (AADF) – New receptors

Highways Link		Historic Data		
		Total Vehicles	HGVs	Year of Data
A	B2139, Coolham Road	8918	422	2012
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	8918	422	2012
C	A272, Cowfold Road	16904	745	2019
D	B2135, Steyning Road, East of Park Lane	4525	20	2017
E	A272, Bolney Road, East of A281, North of Oakfield Road	19786	668	2023

Highways Link		Historic Data		
		Total Vehicles	HGVs	Year of Data
F	A272, Cowfold Road West of the A23	16889	724	2019
G	A281, North of Woodside Close	6081	141	2019
H	B2135 / B2116 High Street, Partridge Green	6374	362	2019
I	A281, Brighton Road, North of Partridge Green Road	7739	341	2018
J	Wineham Lane	853	16	2019
K	B2118, East of B2116 Henfield Road	3147	149	2019
L	B2135, North of Spithandle Lane	3444	105	2019
M	A281, High Street, Henfield	7739	341	2018
N	A281, Brighton Road	4963	72	2023
O	A283 Storrington Road, Northeast of Sullington Lane	21977	750	2019
P	Michelgrove Lane	377	27	2024
Q	A284, Lyminster Road	13546	692	2019
R	Church Lane, North of the A259	9859	1106	2017

Highways Link		Historic Data		
		Total Vehicles	HGVs	Year of Data
S	Ford Road, Station Road	6025	253	2019
T	Ford Road	6025	253	2019
U	Kent Street	371	77	2024

Existing accident record

2.2.35 Personal Injury Accident (PIA) data has been obtained from DfT STATS19 data for the five-year period 1 January 2017– 31 December 2022 inclusive. The extent of Study Area 1 is illustrated in the **Figure 23.5, Volume 3** of the ES **[APP-107]**.

2.2.36 The purpose of assessing recorded PIAs is to determine whether there is a history of accidents on construction traffic routes within Study Area 1 and to investigate whether there are any patterns or contributing factors to the accidents recorded. Clusters of accidents could indicate that improvements are required to enable development to proceed as additional traffic generated during the construction phase may exacerbate existing safety issues. Further consideration has been given to those accidents involving vulnerable road users (cyclists / pedestrians) in this ES Addendum.

2.2.37 The impact of casualties differs according to the severity of the injuries sustained. Three groups are usually differentiated as follows:

- fatal: any death that occurs within 30 days from causes arising out of the accident;
- serious: records casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality; and
- slight: where casualties have injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.

Recorded accidents

2.2.38 A total of 1,085 accidents were recorded over the five-year period in Study Area 1 shown in **Table 2-3** on links between 1 January 2017 – 31 December 2022 inclusive. Of the 1,085 accidents recorded, 13 accidents were recorded as fatal, 259 accidents were recorded as serious, and 813 accidents were recorded as slight. **Table 2-3** provides a summary of the accidents and details of the accident

rate per million vehicle kilometres[3] which is a means of assessing the number of accidents against national statistics.

2.2.39 The ‘Estimated annual traffic flows’ have been calculated by using the base year for traffic for 24 hours multiplied by 365 days of the year.

2.2.40 The ‘PIA per annum million vehicle kilometres’ is measured using the accident rate per million kilometres (PIA per annum multiplied by one million kilometres), divided by the product of annual traffic flow and link length.

[3] Accident Rate means the number of accidents at a particular location on a roadway or section of roadway divided by the number of vehicles using the roadway, normally expressed in the number of accidents per million vehicle kilometres driven.

Table 2-3 Personal Injury Accident (PIA) data summary (January 2017 – December 2022)

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
A24 between A27 and A280	27	17	0	44	8.8	3.71	9391815	0.26
A27 (Warren Road) between A24 and A27	15	2	0	17	3.4	1.00	11233605	0.30
A24 between A280 and A283	18	9	0	27	5.4	4.71	12293200	0.09
A24 between A283 and A272	38	16	1	55	11	10.80	12950565	0.07

[4] One in which at least one person is slightly injured but no person is killed or seriously injured.
[5] One in which at least one person is seriously injured but no person is killed.
[6] Road fatality means any person killed immediately or dying within 30 days as a result of a road injury accident.

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
A272 between A24 and A281	21	2	0	23	4.6	4.90	6169960	0.15
A272 between A281 and A23	24	11	1	36	7.2	5.40	6164485	0.22
A23 between A272 and A2300	15	3	0	18	3.6	2.15	27153445	0.07
A23 between A2300 and B2117	22	5	0	27	5.4	5.35	21030935	0.04
A23 between B2117 and A27	52	16	0	68	13.6	6.97	28693015	0.07
A27 between A23 and A270	57	14	0	71	14.2	8.30	23749820	0.07

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
A27 between A270 and A24	151	35	1	187	37.4	9.10	24188915	0.17
A27 between A24 and A280	39	13	0	52	10.4	4.31	8313240	0.29
A27 between A280 and A284	48	12	2	62	12.4	7.31	11656640	0.15
A280 between A27 and A24	24	7	1	32	6.4	5.50	6781700	0.17
A281 between A272 and B2116	13	7	2	22	4.4	5.77	2824662	0.27
A283 between A24 and B2135	26	7	2	35	7	5.70	4171950	0.27

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
A283 between B2135 and A2037	15	4	0	19	3.8	4.11	7477098	0.12
A283 between A2037 and A27	22	9	0	31	6.2	3.60	9388895	0.18
A283 between A24 and B2139	21	5	0	26	5.2	3.20	8021532	0.20
B2135 between B2116 and A283	7	6	0	13	2.6	7.45	1257151	0.28
B2116 between B2135 and A281	5	0	0	5	1	1.70	2326601	0.25
B2116 between A281 and B2118	15	7	0	22	4.4	6	1148655	0.64

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
B2118 between A23 and B2116	3	1	0	4	0.8	2.40	2606465	0.13
B2118 between B2116 and B2117	1	2	0	3	0.6	2.00	2606465	0.12
Wineham Lane between A272 and B2116	2	1	0	3	0.6	4.75	311345	0.41
A284 between A27 and A259	24	8	0	32	6.4	2.87	4356640	0.51
A259 between Wick Roundabout and Bilsham Road	71	17	0	88	17.6	6.30	9429775	0.30

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
Ford Road between A27 and A259	12	3	0	15	3	5.31	2115475	0.09
B2135 between A24 and B2116	1	1	0	2	0.4	3.90	1651552	0.06
A281 between A2037 and A23	15	17	2	34	6.8	7.90	1811644	0.48
A281 between B2116 and A2037 (through Henfield)	8	1	0	9	1.8	1.70	1724187	0.61
Ferry Road between A259 and River Arun	1	1	1	3	0.6	1.30	114610	4.03
Kent Street between	0	0	0	0	0.0	2.60	311345 (based on flows on Wineham Lane)	0.00

Vicinity	Severity			Total	PIA per annum	Highway Link Length (km)	Estimated Annual Traffic Flow On Each Road	PIA per annum million vehicle kms
	Slight[4]	Serious[5]	Fatal[6]					
A272 and Wineham Lane								

2.2.41 From the DfT (2021) reported road casualties for Great Britain 2021 presented in RAS0302 table, the national accident rate per million vehicle kilometres by road classification were as follows:

- urban A road – 0.42;
- rural A road – 0.11;
- urban other roads – 0.37; and
- rural other roads – 0.19.

2.2.42 A comparison of the highway links listed above in **Table 2-3** and the national accident rate per million vehicle km, highlights that 18 links have an annual accident rate higher than the national average as follows:

- A272 between A24 and A281 – 0.15 compared to 0.11 for Rural A Road;
- A272 between A281 and A23 – 0.22 compared to 0.11 for Rural A Road;
- A27 between A280 and A284 – 0.15 compared to 0.11 for Rural A Road;
- A280 between A27 and A24 – 0.17 compared to 0.11 for Rural A Road;
- A281 between A272 and B2116 – 0.27 compared to 0.11 for Rural A Road;
- A283 between A24 and B2135 – 0.29 compared to 0.11 for Rural A Road;
- A283 between B2135 and A2037 – 0.12 compared to 0.11 for Rural A Road;
- A283 between A2037 and A27 – 0.18 compared to 0.11 for Rural A Road;
- A283 between A24 and B2139 – 0.20 compared to 0.19 for a Rural Other Road;
- B2135 between B2116 and A283 – 0.28 compared to 0.19 for Rural Other Road;
- B2116 between B2135 and A281 – 0.25 compared to 0.19 for Rural Other Road;
- B2116 between A281 and B2118 – 0.64 compared to 0.19 for Rural Other Road;
- Wineham Lane between A272 and B2116 – 0.41 compared to 0.19 for Rural Other Road;
- A284 between A27 and A259 – 0.51 compared to 0.42 for an Urban A Road;
- Ford Rd between A27 and A259 – 0.26 compared to 0.19 for Rural Other Road;
- A281 between A2037 and A23 – 0.48 compared to 0.11 for a Rural A Road;
- A281 between B2116 and A2037 (through Henfield) – 0.61 compared to 0.42 for an Urban A Road; and
- Ferry Road between A259 and River Arun – 4.03 compared to 0.19 for a Rural Other Road.

2.2.43 It should be noted that for the 18 highway links where these accident rates are higher than average, they may be distorted by several factors and should be treated with caution. For 10 of the highway links the accident rates are only between 0.01 and 0.09 per million above the national average which will not be perceptibly different and with daily traffic variations will be around the national averages. Some of the routes are also a mixture of differing road types though sections of urban and rural locations.

2.2.44 The remaining eight highway links where accident rates were higher than the national average are set out in further detail below:

- **A272 between A281 and A23**: Annual Accident rate of 0.22 compared to 0.11 for a Rural A Road. The accidents on this link are mostly spread evenly along the 5.4km section of road, with clusters at the A272 junctions with Wineham Lane, Foxhole Lane, and the A23. They all have various causal factors leading to the high accident rate but given the use of this part of the A272 to access the Oakendene temporary construction compound and substation the Proposed Development may have an impact on accident rates;
- **A281 between A272 and B2116**: Annual Accident rate of 0.27 compared to 0.11 for a Rural A Road. The accidents on this link are mostly spread evenly along the 5.77km section of road, with clusters at the junction with B2116;
- **A283 between A24 and B2135:** Annual Accident rate of 0.29 compared to 0.11 for a Rural A Road. This section includes clusters of accidents on the approach to the A283 junction with the A24 and at a bend in the A283 through Wiston Park, which may distort the results for the entire section;
- **B2116 between A281 and B2118**: Annual Accident rate of 0.64 compared to a 0.19 Rural Other Road. The accidents on this highway link are spread evenly along the 6km section of road and have various causes leading to a high accident rate. This highway link is only proposed to accommodate limited HGV traffic from the Proposed Development based on the routing in the **Outline CTMP** **[REP4-045]** and as such, the effects of the Proposed Development are minimal;
- **Wineham Lane between A272 and B2116:** Annual Accident rate of 0.41 compared to 0.19 of a Rural Other Road. Wineham Lane has a very low traffic base and has only recorded three accidents have been recorded in the five year period. All three of these accidents on Wineham Lane are to the south of the proposed existing National Grid Bolney substation access and therefore outside of the proposed routing within the **Outline CTMP** **[REP4-045]** updated at the Deadline 5 submission;
- **A281 between A2037 and A23**: Annual Accident Rate of 0.48 compared to 0.11 of a Rural A Road. The accidents on this link are evenly spread along the 7.9km road. This road has a moderate traffic base with 34 accidents recorded in the reported five year period;
- **A281 between B2116 and A2037 (through Henfield):** Annual Accident Rate of 0.61 compared to 0.42 of an Urban A Road. The majority of these accidents have occurred within the town of Henfield; and

- **Ferry Road between A259 and River Arun:** Annual Accident Rate of 4.03 compared to 0.19 of a Rural Other Road. The accidents on this highway link are evenly spread along the 1.3km road. They all have various causes leading to a high accident rate. This highway link is proposed to accommodate HGV movement associated with onshore construction traffic, as such there is likely to be some effects in the area.

2.2.45 Based on the assessment in **paragraph 2.2.42** and the justification for locations where accident rates are calculated to be above national averages for the type of road. It is considered there may be a safety issue on Ferry Road, which needs to be examined in more detail. However, based on the accident records for the other highways links, there is not considered to be a significant safety concern.

2.2.46 The four accidents from 2017-2022 on Ferry Road between A259 and River Arun have been examined in more detail. It is worth noting that only accidents up to 2021 have been included in **Table 2-3**.

Table 2-4 Personal Injury Accidents (PIA) on Ferry Road

Severity	Date	Conditions	Number of Casualties	Number and Type of Vehicles	Vehicle Manoeuvre	Pedestrian movement
Fatal	Tuesday, December 25, 2018, 5:12:00 PM	Road Surface: Wet or Damp Light: Darkness: no street lighting Speed limit: 60 mph	1 pedestrian (Female 36 – 45)	1 in total: Car (excluding private hire)	Vehicle proceeding normally along the carriageway, not on a bend	The pedestrian was walking in carriageway with back to traffic
Serious	Saturday, October 07, 2017, 1:19:00 AM	Road Surface: Dry Light: Darkness: no street lighting Speed limit: 60 mph	1 driver (Male 16-20)	1 in total: Car (excluding private hire)	Vehicle proceeding normally along the carriageway, not on a bend	-
Slight	Sunday, August 29, 2021, 1:00:00 PM	Road Surface: Dry Light: Daylight	1 driver (Male 36 – 45)	2 in total: Car (excluding private hire)	Both vehicles were proceeding normally	-

Severity	Date	Conditions	Number of Casualties	Number and Type of Vehicles	Vehicle Manoeuvre	Pedestrian movement
		Speed limit: 20 mph		Pedal cycle	along the carriageway, not on a bend	
Slight	Wednesday, January 12, 2022, 8:40:00 AM	Road Surface: Dry Light: Daylight Speed limit: 30 mph	1 driver (Male, unknown age)	2 in total: Car (excluding private hire) Pedal cycle	Vehicle 1 is in the act of turning right and is taking pupil to/from school. Vehicle 2 is slowing down or stopping	-

2.2.47 The detailed review of accidents recorded on Ferry Road (**Table 2-4**) show no discernible pattern, with accidents occurring during hours of daylight / darkness and in different locations. It is not therefore anticipated that these accidents trends would necessarily be exacerbated by the addition of construction traffic on this highway link.

2.2.48 A further review of the accidents outlined in **paragraph 2.2.38** has been undertaken from 2017 to 2022. Accidents which occurred on the road 500m either side of the access have been outlined in **Table 2-5**. Those accidents causing severe or fatal injury have been examined in more detail. This has been undertaken to understand whether there is a particular history of accidents in the vicinity of locations where it is proposed to take access from the highway network for the Proposed Development.

Table 2-5 Accidents within 500m either side of accesses

Name	Use	Slight	Serious	Fatal
A-01	Construction and operational	10	3	1
A-02	Light construction	2	3	1
A-03	Light construction	13	3	0
A-04	Operational	23	4	0
A-05	Construction and operational	18	4	0
A-06	Operational	17	4	0
A-08	Light construction	13	3	0
A-09	Construction and operational	7	2	0
A-10	Operational	4	1	0
A-11	Operational	12	5	0
A-12	Construction	15	4	0
A-13	Construction and operational	14	5	0
A-14	Light construction and operational	10	6	0
A-15	Construction and operational	8	4	0
A-16	Construction and operational	8	4	0

Name	Use	Slight	Serious	Fatal
A-17	Operational	1	1	0
A-18	Operational	2	1	0
A-20	Light construction & operational	5	3	1
A-21	Construction	5	3	1
A-22	Construction	9	4	1
A-23	Operational	9	4	1
A-24	Operational	2	2	0
A-25	Light construction and operational	1	0	0
A-26	Construction and operational	4	2	1
A-27	Operational	2	2	1
A-28	Construction	4	1	0
A-29	Operational	5	2	0
A-30	Operational	0	0	0
A-31	Operational	1	0	0
A-32	Operational	6	2	0
A-33	Construction	6	2	0

Name	Use	Slight	Serious	Fatal
A-34	Operational	4	1	0
A-35	Construction	3	1	0
A-36	Operational	2	0	0
A-37	Light construction	0	1	0
A-38	Light construction	0	1	0
A-39	Construction and operational	1	2	0
A-40	Construction and operational	4	1	0
A-41	Construction and operational	2	0	0
A-42	Construction and operational	6	3	0
A-43	Construction and operational	3	1	1
A-43a	Construction	3	1	1
A-43b	Operational	3	1	1
A-44	Operational	0	0	0
A-45	Operational	0	0	0
A-46	Light construction and operational	0	0	0
A-47	Construction and operational	0	0	0

Name	Use	Slight	Serious	Fatal
A-48	Construction and operational	1	3	0
A-49	Light construction and operational	0	1	0
A-50	Construction and operational	1	0	0
A-50a	Construction	1	0	0
A-50b	Operational	1	0	0
A-51	Operational	2	1	0
A-52	Construction and operational	5	2	0
A-53	Construction	3	0	0
A-54	Operational	5	1	0
A-55	Operational	6	2	0
A-56	Construction and operational	0	0	0
A-57	Construction and operational	0	0	0
A-58	Operational	3	0	1
A-59	Operational	0	0	0
A-60	Operational	0	0	0
A-61	Construction and operational	0	0	0

Name	Use	Slight	Serious	Fatal
A-62	Construction	7	2	0
A-63	Construction and operational	5	3	0
A-64	Construction and operational	5	2	0
A-65	Operational	0	0	0
A-66	Light construction and operational	0	0	0
A-67	Construction and operational	0	0	0
A-68	Construction	0	1	0
A-69	Operational	0	1	0
Total		**312**	**116**	**12**

2.2.49 Only serious and fatal accidents in **Table 2-5** at each of the accesses have been described in more detail in **paragraphs 2.2.50** to **2.2.110**. It should be noted that above there may be some double counting of accidents, where an accident occurs within 500m of several accesses along a road. The reference numbers allow the reader to look up the accident in the DfT (2022) Road Safety Data.

Ferry Road

A-1, A-2 and A-3

2.2.50 **Ref. 471705662** – A fatal accident occurred in 2018 at A-2 access point on Ferry Road. The accident involved one car travelling westbound, and occurred while the vehicle was going ahead. The road surface was wet.

2.2.51 **Ref**. **471807182** – A fatal accident occurred in 2018 on Ferry Road. The accident involved one car travelling westbound in a 60mph speed limit, and occurred while the vehicle was going ahead. The road surface was wet, in dark conditions with no lighting.

2.2.52 **Ref. 471805718** – A serious accident occurred in 2018. It involved two vehicles on a 40 mph speed limit traveling during daylight hours, in fine conditions on dry roads. The incident occurred when a pedal bike, going ahead other hit the back of a vehicle in front.

2.2.53 **Ref. 471067116** – A serious accident occurred in 2021 on the A259 Ferry Road Junction approximately 50m north of access point A-3 on Ferry Road. The accident occurred at the junction involving one motorcycle (over 500cc) travelling eastbound. At the time of the accident, it was raining and the road surface was wet.

2.2.54 **Ref. 471121405 –** A serious accident occurred in 2021, involving a motorcycle going ahead other in an easterly direction, hitting into the back of the vehicle in front.

2.2.55 **Ref. 471128821** – A serious accident occurred in 2022. The incident occurred outside of daylight hours with no lighting, during fine weather on a wet road. A car going ahead other, had a collision and hit the front of the vehicle.

A259 between Wick Roundabout and Bilsham Road

A-4, A-5 and A-6

2.2.56 All four of these serious accidents occurred in the same location at Church Lane Roundabout which is north of A-4:

2.2.57 **Ref. 471701828** – A serious accident occurred in 2017 on the A259 Church Lane Roundabout approximately 260m and 360m respectively south of access points A-5 and A-6 and 177m north of access point A-4. The accident occurred at the roundabout whilst the car was travelling west to east ahead and a pedal cyclist travelling from the east did a U-turn at the roundabout.

2.2.58 **Ref. 471805385** – A serious accident occurred in 2018 on the western approach to the A259 Church Lane Roundabout approximately 310m and 396m respectively south of access points A-5 and A-6 and 221m north of access point A-4. The accident involved a car travelling east to west and a motorcycle (over 500cc) travelling in the same direction. The accident occurred when the motorcycle overtook a moving vehicle on the offside, while the car was travelling ahead.

2.2.59 **Ref. 470945483** – A serious accident occurred in 2020 on the A259 Church Lane Roundabout approximately 369m and 376m respectively south of access points A-5 and A-6 and 175m north of access point A-4. The accident at the roundabout involved a car travelling east to west and a pedal cyclist travelling north to south. The accident occurred while both vehicles were travelling ahead.

2.2.60 **Ref. 471028772** – A serious accident occurred in 2021 on the A259 Church Lane Roundabout approximately 260m and 360m respectively south of access points A-5 and A-6 and 177m north of access point A-4. The accident at the roundabout involved a car travelling west to east and a pedal cyclist travelling south to north. The accident occurred while both vehicles were travelling ahead.

A-7

2.2.61 **Ref. 470899142** – A serious accident occurred in 2019. The incident involved four vehicles at a staggered junction. A car turned right going west, had a collision, a hit the back of the vehicle. This occurred out of daylight hours with no lighting, on wet roads.

A-8, A-9 and A-10

2.2.62 **Ref. 471803858** – A serious accident occurred in 2018 on the A259 at access point A-10 and approximately 200m and 275m south of access points A-9 and A-10 respectively. The accident involved one car travelling northbound, and occurred while the vehicle was going ahead at the right-hand bend.

2.2.63 **Ref. 471901865** – A serious accident occurred in 2019. A motorcycle travelling south east, skidded and hit the kerb. This collision happened during daylight, with rain and wet road conditions.

A284 between A27 and A259

A-11, A-12 and A-13

2.2.64 **Ref. 470882287** – A serious accident occurred in 2019 on the A284 approximately 222m north of access point A-12, and 268m north of access points A-11 and A-13. The accident involved a motorcycle (over 500cc) travelling from southeast to east going ahead at the right-hand bend. The road surface was wet, and it was raining with high winds at the time of the accident. This accident also occurred within 500m north of access points.

2.2.65 **Ref. 471174134 –** A serious accident occurred in 2022 on the A284. The accident involved a car going ahead on a right-hand bend heading in a southeast direction and colliding with another car. This occurred in darkness with no lighting, on dry roads with no high winds.

2.2.66 **Ref. 471138170 –** A serious accident occurred in 2022 on A259. The incident occurred when a motorcycle at a staggered junction during darkness with no lighting, travelled round a left hand bend, and had a collision, hitting offside of the vehicle.

A-14, A-15 and A-16

2.2.67 **Ref. 471707305** – A serious accident occurred in 2017 on the A284 approximately 160m north of access point A-14. The accident involved a car travelling southbound in wet conditions colliding with a tree off the carriageway.

2.2.68 **Ref. 470996722** – A serious accident occurred in 2020 on the A284 approximately 14m north of access point A-14. The accident involved a motorcycle (over 125cc and up to 500cc) travelling northbound going ahead at the left-hand bend. The road surface was wet at the time of the accident.

2.2.69 **Ref. 471219880 –** A serious accident occurred in 2022 on the A284. One car driving in darkness, on dry roads with no high winds, hit a kerb and overturned the car. This happened while travelling southwest, going ahead round a right hand bend.

A27 between A280 and A284

A-21, A-22 and A-23

2.2.70 **Ref. 471704560 –** A serious accident occurred in 2017 on the A27. One motorcycle travelling west, left the carriageway into the central reserve and collided with the central crash barrier. This occurred in daylight, in dry conditions with no strong winds.

2.2.71 **Ref. 471901272 –** A serious accident occurred in 2019 on the A27. A car going ahead in a west direction left the carriageway and hit a tree. The conditions at the time were daylight, with no high winds but wet road conditions.

2.2.72 **Ref. 470860406 –** A serious accident occurred in 2019 on the A27. A pedal cycle going ahead in an east direction hit an object front on. The conditions at the time of the accident were daylight, with dry roads.

2.2.73 **Ref. 470968592** – A fatal accident occurred in 2020 on the eastbound side of the A27 approximately 50m to the east of access point A-21 and 320m west of the Hammerpot accesses A-22 and A-23. The accident involved two cars both travelling west to east. The accident occurred when one car changed lane to the left, whilst the other was travelling ahead.

2.2.74 **Ref. 470968592 –** A fatal accident occurred in 2020 on the A27 involving two vehicles. The accident occurred when a car changed lane from left to right, overturned and hit a wall or fence in the vicinity. This occurred during daylight hours, with dry road conditions.

2.2.75 **Ref. 471095984 –** A serious accident occurred in 2021 on the A27. A car overtaking a moving vehicle offside hit the front of the vehicle. This occurred during daylight with wet road conditions.

2.2.76 **Ref. 471210995 –** A serious accident occurred in 2022 on the A27. During daylight hours. One car travelling west, hit collided with another vehicle while changing lane left to right.

2.2.77 **Ref. 471245024 –** A serious accident occurred in 2022 on the A27. One vehicle travelling east on dry roads during fine weather skidded while driving ahead, colliding with two parked vehicles.

2.2.78 **Ref. 471257084 –** A serious accident occurred in 2022 on the A27. The accident involved one vehicle travelling in darkness, southeast on dry roads, skidded and hit a bollard, overturning the vehicle. The weather conditions during the accident were fine with no high winds.

2.2.79 **Ref. 471254254 –** A serious accident occurred in 2022 on the A27. A car turning right hit the front of an oncoming vehicle. This occurred during daylight hours, with dry roads and fine weather conditions.

A280 between A27 and A24

A-26 and A-28

2.2.80 **Ref. 471702174 –** A serious accident occurred in 2017 on the A280. A car after leaving a junction, travelling southeast, collided with the car in front. This happened during daylight hours, in dry conditions.

2.2.81 **Ref. 471183385** – A fatal accident occurred in 2022 on the A280. After leaving a junction, a car hit the car in front while going ahead a left-hand bend. The incident occurred in daylight on dry road, travelling southwest.

2.2.82 **Ref. 471702689** – A serious accident occurred on the A280 Long Furlong bend leading to access point A-27 in 2017. The accident involved two cars; one was travelling east to southeast and the other in the opposite direction. The car travelling east to southeast was going ahead at the left-hand bend, whilst the other was also approaching the right-hand bend when a collision occurred.

2.2.83 **Ref. 471901272** – A serious accident occurred in 2019 on the A280 Long Furlong in the vicinity of the A-28 access point. One vehicle going ahead hit a tree. The conditions at the time were daylight, with no rain and wet roads.

A24 between A280 and A283

A-29

2.2.84 **Ref. 471702442** – A serious accident occurred on the A24 in 2017 approximately 85m south of access point A-29. This accident involved three vehicles; two cars and one motorcyclist. All vehicles were travelling from the north, one of the cars was turning left eastbound, whilst one of the cars was changing lane right and the motorcyclist was travelling ahead this caused an accident.

2.2.85 **Ref**. **471193368** – A serious accident occurred on the A24 in 2022. During daylight hours on wet roads, a car going ahead a left hand bend hit a wall. It was raining at the time of the accident.

A283 between A24 and B2135

A-38

2.2.86 This analysis includes only the accidents on the A283, not any at the A283/A24 junction as A-38 is on London Road.

2.2.87 **Ref. 471067366 –** A serious accident occurred in 2021 on the A283. The incident involved three vehicles, one motorcycle and two cars. The motor cycle travelling north going ahead, approaching a junction caused a collision with two cars in the vicinity. The collision occurred during daylight, in dry conditions with no strong winds.

2.2.88 **Ref. 471161501 –** A serious accident occurred in 2022 on the A283. The accident involved three cars and occurred during daylight on dry roads. One car was travelling ahead in a northeast direction which caused an accident.

A283 between A24 and B2139

A-32, A-33, A-34 and A-35

2.2.89 This analysis includes only the accidents on the A283, not any at the A283/A24 junction, which is on the periphery of the 500m buffer for A-34.

2.2.90 **Ref. 470969022** – A serious accident occurred on the A283 in 2020 approximately 28m east of access point A-33 and 268m east of access point A-32. This accident involved one car travelling westbound going ahead when it had the collision and skidded.

2.2.91 **Ref. 471215164 –** A serious accident occurred in 2022 on the A283. The accident involved two cars, one travelling east moved off from a junction and collided with the car ahead. This occurred in daylight, on dry roads with no high winds.

A283 between A24 and B2135

A-41, A-42 and A-43

2.2.92 **Ref. 471077084** – A fatal accident occurred in 2021 on the A283 approximately 15m east of the School Lane junction and access point A-43. This accident involved three vehicles; one car, and two motorcycles (one over 500cc and one 125cc and under). The car was travelling west to east and both motorcycles were travelling east to west. The smaller motorcycle slowed and stopped whilst the other vehicles were travelling ahead.

2.2.93 **Ref. 471238505 –** A serious accident occurred in 2022 on the A283. The collision involved four vehicles traveling on a stretch of road with a 60 mph speed limit. The conditions were dry with no high winds during daylight hours. The accident happened when a motorcycle attempting to overtake another in a westward direction, collided with the vehicle in front.

2.2.94 **Ref. 471803938 –** A serious accident occurred in 2018 on the A283. A car turning right at a crossroads had a collision, hitting the front of the vehicle. The conditions at the time of the incident were daylight, fine no high winds and dry roads.

2.2.95 **Ref. 471006482 –** A serious accident occurred in 2020 on the A283. A car turning right at a crossroads had a collision with another vehicle. The conditions at the time of the accident were daylight, rain no high winds and wet roads.

2.2.96 **Ref. 470982509 –** A serious accident occurred in 2020 on the A283. A car turning right at a crossroads had a collision with another vehicle. The conditions at the time were daylight, with no high winds on dry roads.

B2116 between B2135 and A281

A-55

2.2.97 **Ref. 471801964** – A serious accident occurred in 2018 on the A281 / B2116 junction approximately 224m east of access point A-55 on the B2116 and 461m east of access point A-54. This accident involved two vehicles, one van / goods vehicle (3.5 tonnes mgw or under), and one motorcyclist (125cc and under). The motorcyclist was travelling northbound ahead and the van was turning right when the accident occurred. At the time of the accident, it was raining and the road surface was wet.

B2135 between B2116 and A283

A-48

2.2.98 **Ref. 471901107** – A serious accident occurred in 2019 on the B2135 approximately 110m south of access point A-48. This accident involved two cars and one motorcycle over 500cc. One of the cars was turning right from southeast to east. One of the cars travelling southeast to north was slowing or stopping. The motorcyclist was also travelling southeast to north ahead. The collision occurred and the motorcyclist and car travelling northbound skid.

2.2.99 **Ref. 470952970** – A serious accident occurred in 2020 on the B2135 approximately 298m north of access point A-48. This accident involved one car and one pedal cyclist. Both vehicles were travelling northbound. The car went straight ahead at the junction and entered a ditch.

2.2.100 **Ref. 471801825** – A serious accident occurred in 2018. A pedal cycle travelling in a north direction, had a collision hitting the front of the vehicle. The conditions at the time were daylight, raining with no high winds and wet roads.

A-49

2.2.101 **Ref. 471186834 –** A serious accident occurred in 2022 on the B2135. A motorcycle travelling north, overtook a moving car which was also travelling northbound, this caused a collision. This happened during daylight, on dry roads.

A-51

2.2.102 **Ref. 471705415** – A serious accident occurred in 2017 on the B2135 at access point A-51. This accident involved three vehicles, one car, one pedal cyclist and one motorcyclist (over 500cc). The motorcyclists and car were travelling southbound while the pedal cyclist was travelling northbound. The motorcyclist was overtaking moving vehicle on the offside, while the pedal cyclist was turning right and the car was travelling ahead.

A281 between B2116 and A2037 (through Henfield)

A-52

2.2.103 **Ref. 470951834 –** A serious accident occurred in 2020. A car going ahead a right hand bend at a staggered junction, skidded and hit the front of the car. The conditions during the time of this accident were darkness with no lighting, on wet roads.

2.2.104 **Ref. 471801964 –** A serious accident occurred in 2018. A van turning right at a staggered junction on wet roads while it was raining had a collision, involving another vehicle**.**

A-58

2.2.105 **Ref. 470850453 –** A fatal accident occurred in 2019. A vehicle turning right out of a private driveway skidded and hit the near side, colliding with another vehicle. The conditions at the time of the accident were daylight, with no high winds and dry roads.

A281 between A272 and B2116 (through Henfield)

A-55

2.2.106 **Ref. 471804626 –** A serious accident occurred in 2018. A motorcycle travelling north east going ahead other had a collision. The conditions at the time of this condition were daylight, with dry roads and no high winds or rain.

A272 between A281 and A22

A-62 and A-63

2.2.107 **Ref. 471067793 –** A serious accident occurred in 2021 on the A272. The incident occurred when a car slowing down was hit by the car behind it. The conditions at the time of this collision were daylight, with no high winds and dry roads.

2.2.108 **Ref. 471148005 –** A serious accident occurred in 2022 on the A272. The incident involved one car, travelling round a right hand bend, over turned and left the carriageway into the central reservation, hitting a tree. The conditions at the time of the collision were daylight, with dry roads.

2.2.109 **Ref. 471175915 –** A serious accident occurred in 2022 on the A272. The accident involved a motorcycle travelling east, overtaking a moving car offside caused a collision whereby the motorcycle was hit at the front as the first point of impact. This occurred during daylight, with dry conditions.

Wineham Lane

A-68 and A-69

2.2.110 **Ref. 471171786 –** A serious accident occurred in 2022 on the Wineham Lane. The accident involved two vehicles; a motorcycle and a car, both travelling northeast. The motorcycle was travelling ahead, colliding with a car. This happened in daylight at 40mph, during dry conditions.

Summary of accident analysis

2.2.111 The detailed review of accidents at access junctions has shown there is a mix of causation factors and accident trends across different locations. Noting the requirement of construction access junctions to be provided with appropriate visibility splays or traffic management (section 4.8 of the **Outline CTMP [PEDP-35a]**), along with provision of warning signage at access junctions section 8.4 of the **Outline CTMP [PEDP-35a]**) the Proposed Development is unlikely to have a significant effect on existing accident trends.

Future baseline

Study Area 1 – Onshore works

Traffic growth

Construction effects

2.2.112 To understand the future year of assessment for the assessment of transport effects in the construction phase, the traffic generation calculations were interrogated as set out in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** to understand the peak weeks for all receptors on highways links. This provided the peak weeks required to be assessed in this ES Addendum chapter, and places future years of assessment in 2025, 2026, 2027 and 2028 albeit the majority of peak weeks were between week 70 and 85 in 2026.

2.2.113 It has been agreed with WSCC during further correspondence regarding the scope of the assessment in January/February 2021 (paragraph 23.3.45 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**) that growth rates can be derived from TEMPro and there is no requirement to include committed development or Local Plan allocations as the growth within the TEMPro estimates will account for traffic growth related to future development in the area through local plan allocations.

2.2.114 The growth rates from TEMPro are as follows:

- 2021 – 2025 – Arun - 1.066 / Horsham – 1.069;
- 2021 – 2026 – Arun – 1.0746 / Horsham – 1.0788;
- 2021 – 2027 – Arun – 1.0831 / Horsham – 1.0868; and
- 2021 – 2028 – Arun – 1.092 / Horsham – 1.095.

2.2.115 The HGV growth rates derived from the DfT Transport Statistics are as follows:

- 2021 – 2025 – 1.062;
- 2021 – 2026 – 1.075;
- 2021 – 2027 – 1.093; and
- 2021 – 2028 – 1.109.

2.2.116 New growth rates have been used to factor the baseline data up to the future assessment years where there has been a change in peak week. These are included in **paragraph 2.2.117** and **paragraph 2.2.118**.

2.2.117 In addition, the new base survey flows for Receptor P and U have resulted in additional growth factors. The following TEMPro growth rates have been applied to the new base survey flows for Receptor P and U:

- 2023 – 2025 – Horsham 1.022
- 2023 – 2027 – Horsham 1.041
- 2024 – 2026 – Horsham 1.021
- 2024 – 2028 – Horsham 1.037

2.2.118 The following HGV growth rates have been applied to the base survey flows for the new receptor:

- 2023 – 2025 – 1.031;
- 2023 – 2026 – 1.0465; and
- 2023 – 2027 – 1.062.
- 2024 – 2026 – 1.020; and
- 2024 – 2028 – 1.041.

2.2.119 The resultant future year traffic generation is set out in **Table 2-6** and **Table 2-7**.

Table 2-6 Future year assessment (Total Construction Traffic Peak Week)

Highway Link	Peak Week	Future Assessment Year	Growth Rate to Future Year			Future Year of Assessment (24 hour)	
			Total Vehicles	HGV		Total Vehicles	HGV
1	Ferry Road	70	2026	1.075	1.075	2069	338
2	Church Lane	72	2026	1.075	1.075	11238	1221
3	Ford Road	72	2026	1.075	1.075	6672	274
4	A27, West of Arundel	162	2028	1.092	1.109	26568	1454
5	A259, West of Wick	72	2026	1.075	1.075	24805	928
6	A284, North of Wick	72	2026	1.075	1.075	14671	597
7	A284 Lyminster	72	2026	1.075	1.075	15000	750
9	A27, Arundel Station	162	2028	1.092	1.109	36822	1801
11	A27, South of Crossbush	70	2026	1.075	1.075	35365	1903
12	A27 High Salvington	162	2028	1.095	1.109	25701	1031
13	A24/A27 Offington (Warren Road)	162	2028	1.095	1.109	34729	1130
14	A24 Findon	83	2026	1.079	1.075	29019	685

Highway Link	Peak Week	Future Assessment Year	Growth Rate to Future Year			Future Year of Assessment (24 hour)	
			Total Vehicles	HGV		Total Vehicles	HGV
15	A280, Long Furlong	162	2028	1.095	1.1085	20343	4049
16	A283, West of A24	85	2026	1.079	1.075	24434	812
17	A283, East of A24	83	2026	1.079	1.075	12331	2501
18	B2135, South of Ashurst	83	2026	1.079	1.075	3829	114
19	A283, Steyning	85	2028	1.079	1.075	22776	633
20	A24, South of A272	83	2026	1.079	1.075	39448	1772
21	B2116 Partridge Green Road	83	2026	1.079	1.075	7087	392
22	A281, South Shermanbury	162	2028	1.095	1.1085	8858	384
23	A281, South of Cowfold	125	2027	1.087	1.093	6811	155
24	A281, Cowfold centre	125	2027	1.087	1.093	25077	1091
25	A272, Station Road, Cowfold	125	2027	1.087	1.093	18933	820
26	Wineham Lane, South of A272	125	2027	1.087	1.093	955	18
27	A272, West of A23	125	2027	1.087	1.093	18917	797

Highway Link	Peak Week	Future Assessment Year	Growth Rate to Future Year			Future Year of Assessment (24 hour)	
			Total Vehicles	HGV		Total Vehicles	HGV
28	A23, North of A272	162	2028	1.079	1.075	79933	4358
29	B2188, Sayers Common	0	2025	1.069	1.062	7863	1590
30	B2116, Henfield Road, Albourne	0	2025	1.069	1.062	3467	159
31	A23, North of the A272	162	2028	1.079	1.075	87401	3377
32	A27, West of A23	70	2026	1.079	1.075	72343	2622
33	A27, East of A23	70	2026	1.079	1.075	79131	3089
34	A259, West of Church Street	72	2026	1.075	1.075	28609	594
35	A259 East of Wick	83	2026	1.075	1.075	27415	508

Table 2-7 Future year assessment for new receptors (Total Construction Traffic Peak Week)

	Highway Link	Peak Week	Future Assessment Year	Growth Rate to Future Year		Future Year of Assessment (24 hour)	
				Total Vehicles	HGV	Total Vehicles	HGV
A	B2139, Coolham Road	83	2026	1.237	1.217	11033	513
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	83	2026	1.237	1.217	11033	513
C	A272, Cowfold Road	125	2027	1.087	1.093	18371	814
D	B2135, Steyning Road, East of Park Lane	83	2026	1.107	1.140	5008	
E	A272, Bolney Road, East of A281, North of Oakfield Road	125	2027	1.041	1.062	20589	709
F	A272, Cowfold Road West of A23	125	2027	1.087	1.093	18917	797
G	A281, North of Woodside Close	125	2027	1.087	1.093	6811	155
H	B2135 / B2116 High Street, Partridge Green	83	2026	1.079	1.075	7087	392
I	A281, Brighton Road, North of Partridge Green Road	125	2027	1.087	1.093	8792	378
J	Wineham Lane	125	2027	1.087	1.093	955	18
K	B2118, East of B2116 Henfield Road	N/A	2025	1.069	1.062	3467	159
L	B2135, North of Spithandle Lane	83	2026	1.079	1.075	3716	114

	Highway Link	Peak Week	Future Assessment Year	Growth Rate to Future Year		Future Year of Assessment (24 hour)	
				Total Vehicles	HGV	Total Vehicles	HGV
M	A281, High Steet, Henfield	162	2027	1.087	1.093	8792	378
N	A281, Brighton Road	N/A	2025	1.022	1.031	5072	74
O	A283 Storrington Road, Northeast of Sullington Lane	85	2026	1.079	1.075	24434	812
P	Michelgrove Lane	162	2028	1.037	1.04062	391	28
Q	A284, Lyminster Road	72	2026	1.075	1.075	15000	750
R	Church Lane, North of A259	72	2026	1.075	1.075	11238	1221
S	Ford Road, Station Road	72	2026	1.075	1.075	6672	274
T	Ford Road	72	2026	1.075	1.075	6672	274
U	Kent Street	160	2028	1.037	1.04062	385	80

2.3 Methodology for ES assessment

2.3.1 The following sections are from section 2.3 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and have been repeated for reference to aid in assessing the significance of residual transport effects in line with Section 23.4 of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**.

Methodology (paragraph 23.8.2 to 23.8.13 of Chapter 23: Transport, Volume 2 of the ES [APP-064])

2.3.2 GEART (IEA, 1993) identifies the following environmental effects that can occur as a result of traffic associated with the Proposed Development.

- severance: is the perceived division that can occur within a community when it becomes separated by a major traffic artery. It may result from the difficulty of crossing a heavily trafficked road, for example;
- driver delay: traffic delays as a result of the Proposed Development traffic;
- pedestrian amenity: the effect on the relative pleasantness of a pedestrian journey as a result of changes in traffic flow, traffic composition and pavement width / separation from traffic;
- pedestrian delay: the ability of people to crossroads as a result of changes in traffic volume, composition and speed, the level of pedestrian activity, visibility and general physical conditions of the Proposed Development. Consideration is given to the effects on public right of way (PRoW) users due to the closure and diversion of PRoWs;
- fear and intimidation: these may be experienced by people as a result of an increase in traffic volume and its proximity or the lack of protection caused by such factors as narrow pavement widths; and
- accidents and safety: the risk of accidents occurring where the Proposed Development is expected to produce a change in the character of traffic.

2.3.3 The guidance that is followed when assessing the potential significance of road traffic effects is summarised in GEART (IEA, 1993), which states that:

"*The detailed assessment of impacts is…likely to concentrate on the period during which the absolute level of an impact is at its peak, as well as the hour at which the greatest level of change is likely to occur*." (Paragraph 3.10).

2.3.4 To assess the impact at its peak, the likely percentage increase in traffic is determined by comparing estimates of traffic generated by the Proposed Development with future predicted baseline traffic flows on the road links in the Study Area.

2.3.5 GEART (IEA, 1993) provides two rules that are used to establish whether an environmental assessment of traffic effects should be carried out on receptors:

- Rule 1: Include roads where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and

- Rule 2: Include any specifically 'sensitive' areas where traffic flows are predicted to increase by 10% or more.

2.3.6 It should be noted that, according to GEART (IEA, 1993), predicted traffic flow increases below 10% are generally not considered to be significant as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed not to result in significant environmental effects and have therefore not been assessed further as part of this study.

2.3.7 In terms of transport and access effects, the receptors are the users of the roads within the Study Area and the locations (towns/villages/AQMAs) through which those roads pass.

2.3.8 The new receptors potentially requiring assessment are included below in **Table 2-8**.

Table 2-8 New Receptors potentially requiring assessment

New Receptor	Highways Link	Comments
A	B2139, Coolham Road	Residents living in properties adjacent to highway and living in Coolham village, pedestrians travelling along the road.
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	Residents living in properties adjacent to highway.
C	A272, Cowfold Road	Residents living in properties, and little Barn Owls Nursery adjacent to the highway.
D	B2135, Steyning Road East of Park Lane	Residents living in properties adjacent to highway.
E	A272, Bolney Road East of A281, North of Oakfield Road	Pedestrians travelling along the road, residents living in properties adjacent to the highway, and living in Cowfold village.
F	A272 Cowfold Road West of the A23	Residents living in properties adjacent to highway.
G	A281 North of Woodside Close	Residents living in properties, and commercial properties adjacent to highway.
H	B2135/B2116 High Street, Partridge Green	Pedestrians travelling along the road, residents living in properties adjacent to

New Receptor	Highways Link	Comments
		the highway, and living in Partridge Green village.
I	A281, Brighton Road North of Partridge Green Road	Residents living in properties adjacent to highway.
J	Wineham Lane	Residents living in properties adjacent to highway.
K	B2118 East of B2116 Henfield Road	Pedestrians travelling along the road particularly given Albourne Recreation Ground. Commercial properties lie adjacent to the highway.
L	B2135 North of Spithandle Lane	Pedestrians travelling along the road particularly given campsites and Ashurst Village Hall adjacent to the highway. The B2135 also links to School Lane, which attaches to Ashurst C of E Primary School. Residents are also living in properties adjacent to highway.
M	A281, High Steet, Henfield	Pedestrians travelling along the road, residents living in properties adjacent to the highway, and living in Henfield.
N	A281, Brighton Road, Woodmancote	Pedestrians travelling along the road, residents living in properties adjacent to the highway
O	A283 Storrington Road Northeast of Sullington Lane	Residents living in properties in proximity to highway. Various commercial properties adjacent to the highway.
P	Michelgrove Lane	Pedestrians travelling along the road, residents living in properties adjacent to the highway
Q	A284, Lyminster Road	Residents living in properties adjacent to highway.
R	Church Lane North of the A259	Pedestrians travelling along the road due to the highway's connection to Clymping C of E Primary School via Crookthorn Lane. Residents are also living in properties adjacent to highway.

New Receptor	Highways Link	Comments
S	Ford Road, Station Road	Residents living in properties adjacent to highway.
T	Ford Road	Residents living in properties adjacent to highway.
U	Kent Street	Pedestrians traveling along the road, residents living in properties adjacent to highway.

Receptor sensitivity

2.3.9 The sensitivity of each highway link included in the assessment has been assigned a sensitivity in accordance with GEART (IEA, 1993). This is based on professional judgement and related to the proximity, volume and type of receptors along the highway link. **Table 2-9** summarises the rationale used to determine the sensitivity against the corresponding receptors.

Table 2-9 Highways Link sensitivity

Sensitivity	Description / reason	Receptor
High	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident blackspots, retirement homes and urban / residential homes without footways that are used by pedestrians and cyclists.	Residents / workers travelling to and from work or home on foot and by car or bicycle, school children, leisure walkers and equestrians.
Medium	Receptors of medium sensitivity to change in traffic flows including: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycle ways, community centres, parks and recreation facilities.	Residents / workers travelling to and from work or home on foot and by car or bicycle, people visiting these land uses.
Low	Receptors with low sensitivity to change in traffic flows: places of worship, public open space, nature conservation areas, listed buildings, tourist / visitor attractions and residential areas with adequate footway provision.	Residents / workers travelling to and from work or home on foot or car or bicycle and people visiting these land uses.
Negligible	Receptors with negligible sensitivity to traffic flows including: Motorway and	Residents / workers travelling by foot or by car or bicycle.

Sensitivity	Description / reason	Receptor
	Dual Carriageways and / or land uses sufficiently distant from affected routes and junctions.	

2.3.10 In accordance with GEART (IEA, 1993), where the sensitivity of a road link is judged as high or medium, Rule 2 is applied and where traffic flows are predicted to increase by 10% or more, an assessment of environmental effects is undertaken. Where the sensitivity is judged as low or negligible results, Rule 1 is applied and where traffic flows are predicted to increase by more than 30%, or where the number of HGVs is predicted to increase by more than 30%, an assessment of environmental effects of the road link is undertaken.

2.3.11 Details of the sensitivity of the highways links and receptors are set out in **Table 2-12** and **Table 2-13**.

Magnitude of change

2.3.12 GEART (IEA, 1993) recognises that professional judgement should be used as part of the assessment and states the following:

"*For many effects there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources*." (Paragraph 4.5, IEA,1993)

2.3.13 Based on the Rule 1 and Rule 2 (**paragraph 2.1.6**) and the sensitivity of the receptors (**paragraph 2.4.3**), **Table 2-10** shows the magnitude of change applied to the environmental effects to help identify levels of significance. The indicators to assess the magnitude of change are based on advice included within GEART (IEA, 1993) and professional judgement. These are presented in **Table** 2-10.

2.3.14 It should be noted that, according to GEART (IEA, 1993), predicted traffic flow increases below 10% are generally not considered to be significant as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed not to result in significant environmental effects and have therefore not been assessed further as part of this study.

Table 2-10 Magnitude of change

Transport effect	High	Medium	Low	Negligible
Severance	Change in total traffic or HGV flows over 91%	Change in total traffic or HGV	Change in total traffic or HGV	Change in total traffic or HGV

Transport effect	High	Medium	Low	Negligible
		flows of 61%-90%	flows of 31%-60%	flows of less than 30%
Driver Delay	High increase in queuing at junctions and / or congestion on road links	Medium increase in queuing at junctions and / or congestion on road links	Low increase in queuing at junctions and / or congestion on road links	Low or no increase in queuing at junctions and / or congestion on road links
Pedestrian Amenity **Pedestrian Delay** **Fear and Intimidation**	Based on general level of pedestrian activity, visibility and physical conditions such as traffic flow, traffic composition, crossing points and pavement width / separation from traffic			
Accidents and Safety	Based on general level of pedestrian activity, visibility and physical conditions such as traffic flow, traffic composition, crossing points and pavement width / separation from traffic			

Significance evaluation methodology (paragraph 23.8.19 to 23.8.22 of Chapter 23: Transport, Volume 2 of the ES **[APP-064]**)

2.3.15 The significance of a likely transport effect is derived by considering the sensitivity of the receptor (derived from **Table 2-12** and **Table 2-13**) against the magnitude of change (derived from **Table 2-10**) as defined in **Table 2-11**.

Table 2-11 Significance evaluation matrix

Receptor sensitivity	Magnitude of change: High	Medium	Low	Negligible
High	Major (Significant)	Major (Significant)	Moderate (Significant)	Negligible (Not Significant)
Medium	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)
Low	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Negligible (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

2.3.16 The following terms have been used to classify the level of transport effects, where they are predicted to occur:

- major adverse or major beneficial – where the Proposed Development will cause a significant deterioration or improvement to the existing environment;
- moderate adverse or moderate beneficial – where the Proposed Development will cause a noticeable deterioration or improvement to the existing environment;
- minor adverse or minor beneficial – where the Proposed Development will cause a small deterioration or improvement to the existing environment; and
- negligible – no discernible deterioration or improvement to the existing environment.

2.3.17 For the purposes of the assessment presented in this chapter, major and moderate effects are considered to be 'Significant', whilst minor and negligible effects are considered 'Not Significant'.

2.3.18 Effects can also be described, for example, as:

- beneficial, negligible or adverse;
- temporary (short-term, medium-term, long-term) or permanent; and
- local, district, regional or national.

2.4 Construction phase – onshore works

2.4.1 This section from **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** has been updated to reflect:

- The changes to the total number of construction traffic vehicles generated at certain accesses during of the construction phase of the onshore elements of the Proposed Development. This reflects the use of assumption that where optionality exists between access junctions, construction traffic has been routed to the junction which provides a worst-case assessment of identified receptors. In addition to provide a robust analysis of light construction accesses where minimal flows had been estimated in **Chapter 23 Transport, Volume 2** of the ES **[APP-064]**, 10 LGV two-way movements have been assigned to some accesses as seen in **Table 2-2**;
- The methodology used to identify total construction traffic peak week and the HGV peak week for the sensitivity tests;
- The sensitivity of the new receptors and the new calculated magnitude of change for all receptors, including those with the new routing avoiding Cowfold; and
- The resultant significance of residual effect for those highway links that require further assessment of transport effects.

2.4.2 The access points and their associated LGVs and HGVs are outlined in the updated **Outline Construction Traffic Management Plan (CTMP) [REP4-0045]** and updated **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP3-021]**.

Sensitivity of receptor

2.4.3 The sensitivity of each highway link included in the assessment has been assigned a sensitivity in accordance with GEART (IEA, 1993). This is based on professional judgement and related to the proximity, volume and type of receptors along the highway link.

2.4.4 The sensitivity of receptors (the highways links assessed based on the receptors present) and the GEART (IEA, 1993) rules that apply regarding the change in traffic flows are set out within the ES and shown below in **Table 2-12**.

Table 2-12 Highway link receptor sensitivity

Link No	Highway link	Comments	Receptor Sensitivity	GEART rule
1	Ferry Road	The highway link is a two-way single lane carriageway with no properties directly fronting the road and no pedestrian footways.	Negligible	1
2	Church Lane	The highway link is a two-way single lane carriageway south of the village of Climping with no properties directly fronting the road but with footways.	Low	1

Link No	Highway link	Comments	Receptor Sensitivity	GEART rule
3	Ford Road	The highway link is a two-way single lane carriageway in south Arundel with properties directly fronting the road and footways.	Medium	2
4	A27, West of Arundel	The highway link is a dual carriageway west of Arundel with some properties directly fronting the road and footways.	Low	1
5	A259, West of Wick	The highway link is a two-way single lane carriageway in Wick with properties directly fronting the road and footways and a segregated cycle way part of the National Cycle Network (NCN).	High	2
6	A284, North of Wick	The highway link is a two-way single lane in Wick with properties directly fronting the road and footways.	High	2
7	A284, Lyminster	The highway link is a two-way single lane carriageway in Wick with properties directly fronting the road and footways.	High	2
8	Crossbush Lane, Crossbush	The highway link is a two-way single lane carriageway in Crossbush with properties directly fronting the road and footways.	Medium	2
9	A27, Arundel Station	The highway link is a two-way single lane carriageway near Arundel Station with footways.	Low	1
10	Crossbush Lane, Warningcamp	The highway link is a two-way single lane carriageway in Warningcamp with some properties directly fronting the road and no footways.	Low	1
11	A27, South of Crossbush	The highway link is a dual carriageway south of Crossbush with no properties directly fronting the road and footways.	Negligible	1
12	A27, High Salvington	The highway link is a two-way single lane carriageway north of Salvington with properties directly fronting the road with footways.	Medium	2

Link No	Highway link	Comments	Receptor Sensitivity	GEART rule
13	A24/A27, Offington (Warren Road)	The highway link is a two-way single lane carriageway north of Salvington with properties directly fronting the road with footways.	Medium	2
14	A24, Findon	The highway link is a two-way single lane carriageway north of Salvington with properties directly fronting the road with footways.	Medium	2
15	A280, Long Furlong	The highway link is a two-way single lane carriageway at Clapham with properties directly fronting the road with footways on a WSCC signed HGV route.	Low	1
16	A283, West of A24	The highway link is a two-way single lane carriageway at east of Storrington with some properties directly fronting the road and footways.	Low	1
17	A283, East of A24	The highway link is a two-way single lane carriageway at north of Washington, West Sussex with properties directly fronting the road and footways.	Medium	2
18	B2135, South of Ashurst	The highway link is a two-way rural single lane carriageway with some properties directly fronting the road and no footways.	Low	1
19	A283, Steyning	The highway link is a two-way single lane carriageway with no properties directly fronting the road or footways.	Negligible	1
20	A24, South of A272	The highway link is a two-way single lane carriageway with no properties directly fronting the road or footways.	Negligible	1
21	B2116, Partridge Green Road	The highway link is a two-way single lane carriageway with some properties directly fronting the road and footways.	Low	1
22	A281, South Shermanbury	The highway link is a two-way single lane carriageway with properties directly fronting the road and footways.	Medium	2

Link No	Highway link	Comments	Receptor Sensitivity	GEART rule
23	A281, South of Cowfold	The highway link is a two-way single lane carriageway at Cowfold with properties directly fronting the road and footways.	High	2
24	A281, Cowfold Centre	The highway link is a two-way single lane carriageway at Cowfold with properties directly fronting the road and footways.	High	2
25	A272, Station Road, Cowfold	The highway link is a two-way single lane carriageway at Cowfold with properties directly fronting the road and footways.	High	2
26	Wineham Lane, South of A272	The highway link is a two-way rural single lane carriageway with some properties directly fronting the road and footways.	Low	1
27	A272, West of A23	The highway link is a two-way single lane carriageway with properties directly fronting the road and footways.	Low	1
28	A23, North of the A272	The highway link is a dual carriageway with no properties directly fronting the road or footways.	Negligible	1
29	B2118, Sayers Common	The highway link is a two-way single lane carriageway at Sayers Common with properties directly fronting the road and footways.	Medium	2
30	B2116, Henfield Road, Albourne	The highway link is a two-way single lane carriageway at Albourne Green with properties directly fronting the road and footways.	Medium	2
31	A23, North of the A27	The highway link is a dual carriageway with no properties directly fronting the road or footways.	Negligible	1
32	A27, West of A23	The highway link is a dual carriageway with no properties directly fronting the road or footways.	Negligible	1

Link No	Highway link	Comments	Receptor Sensitivity	GEART rule
33	A27, East of A23	The highway link is a dual carriageway with no properties directly fronting the road or footways.	Negligible	1
34	A259, West of Church Street	The highway link is a two-way single lane carriageway south of Climping with some properties directly fronting the road, footways and a segregated cycle route part of the NCN.	Low	2
35	A259, East of Wick	The link is a two-way single lane carriageway through Wick with properties directly fronting the road and footways.	Medium	2

2.4.5 21 new receptors have been identified as detailed in **Table 2-13**. A cautious approach has been taken to identifying these additional receptors as part of the sensitivity to ensure that the maximum scope of construction traffic assessments is completed across the Study Area. This results in new receptors being identified on the same highway links or in close proximity to those already assessed within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**. The location of these additional receptors is shown on an updated version of **Figure 32.2** included in **Appendix C**.

2.4.6 **Table 2-13** identifies the sensitivity of the new receptors, and the GEART (IEA, 1993) rules that apply.

Table 2-13 Additional receptors sensitivity

New Receptor	Highways Link	Comments	Receptor sensitivity	GEART Rule
A	B2139, Coolham Road	Residents living in properties adjacent to highway and living in Coolham Village, pedestrians travelling along the road.	High	2
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	Residents living in properties adjacent to highway.	High	2
C	A272, Cowfold Road	Residents living in properties, and little Barn Owls Nursery adjacent to the highway.	High	2

New Receptor	Highways Link	Comments	Receptor sensitivity	GEART Rule
D	B2135, Steyning Road East of Park Lane	Residents living in properties adjacent to highway.	High	2
E	A272, Bolney Road East of A281, North of Oakfield Road	Pedestrians travelling along the road, residents living in properties adjacent to the highway, and living in Cowfold village.	High	2
F	A272 Cowfold Road West of the A23	Residents living in properties adjacent to highway.	Medium	2
G	A281 North of Woodside Close	Residents living in properties, and commercial properties adjacent to highway.	Medium	3
H	B2135/B2116 High Street, Partridge Green	Pedestrians travelling along the road, residents living in properties adjacent to the highway, and living in Partridge Green village.	High	2
I	A281, Brighton Road North of Partridge Green Road	Residents living in properties adjacent to highway.	High	2
J	Wineham Lane south of Kent Street	Residents living in properties adjacent to highway.	High	2
K	B2118 East of B2116 Henfield Road	Pedestrians travelling along the road particularly given Albourne Recreation Ground. Commercial properties lie adjacent to the highway.	Low	2
L	B2135 North of Spithandle Lane	Pedestrians travelling along the road particularly given campsites and Ashurst Village Hall adjacent to the highway. The B2135 also links to School Lane, which attaches to Ashurst C of E Primary School. Residents are also living in	High	2

New Receptor	Highways Link	Comments	Receptor sensitivity	GEART Rule
		properties adjacent to highway.		
M	A281, High Steet, Henfield	Pedestrians travelling along the road, residents living in properties adjacent to the highway, and living in Henfield.	Medium	2
N	A281, Brighton Road, Woodmancote	Pedestrians travelling along the road, residents living in properties adjacent to the highway	High	1
O	A283 Storrington Road Northeast of Sullington Lane	Residents living in properties in proximity to highway. Various commercial properties adjacent to the highway.	Low	2
P	Michelgrove Lane	Pedestrians travelling along the road, residents living in properties adjacent to the highway	High	2
Q	A284, Lyminster Road	Residents living in properties adjacent to highway.	Medium	1
R	Church Lane North of the A259	Pedestrians travelling along the road due to the highway's connection to Clymping C of E Primary School via Crookthorn Lane. Residents are also living in properties adjacent to highway.	High	2
S	Ford Road, Station Road	Residents living in properties adjacent to highway.	High	2
T	Ford Road	Residents living in properties adjacent to highway.	High	2
U	Kent Street	Pedestrians traveling along the road, residents living in properties adjacent to highway.	High	2

Magnitude of change

2.4.7 **Table 2-14** is based on the peak week in total construction traffic at each receptor (the peak week for any given link may be different as the highest construction traffic flows will not be uniform across highway links during the construction programme), setting out the magnitude of change of the proposed peak daily (24 hour) development traffic on the identified highways links and presents the following information, for total vehicles and HGVs:

- future year baseline traffic per highways link;
- the predicted daily traffic flows per highways link for total vehicles and HGVs; and
- the percentage impact of the Proposed Development traffic per highways link for total vehicles and HGVs.

2.4.8 **Table 2-14** identifies highway links with percentage impacts that exceed the GEART (IEA,1993) assessment thresholds based on the highways link sensitivity are set out in red.

Table 2-14 Onshore construction traffic percentage impact per highways link – based on total construction traffic peak week for each given highway link

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
1	Ferry Road	2069	338	94	32	4.5%	9.5%
2	Church Lane	11238	1221	367	51	3.3%	4.2%
3	Ford Road	6672	274	87	0	1.3%	0.0%
4	A27, West of Arundel	26568	1454	88	81	0.3%	5.5%
5	A259, West of Wick	24805	928	312	45	1.3%	4.9%
6	A284, North of Wick	14671	597	138	45	0.9%	7.6%
7	A284 Lyminster	15000	750	138	45	0.9%	6.1%
9	A27, Arundel Station	36822	1801	91	81	0.2%	4.5%

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
11	A27, South of Crossbush	35365	1903	186	105	0.5%	5.5%
12	A27 High Salvington	25701	1031	128	123	0.5%	11.9%
13	A24/A27 Offington (Warren Road)	34729	1130	128	123	0.4%	10.8%
14	A24 Findon	29019	685	75	0	0.3%	0.0%
15	A280 Long Furlong	20343	4049	118	108	0.6%	2.7%
16	A283, West of A24	24434	812	203	51	0.8%	6.3%
17	A283, East of A24	12331	2501	411	12	3.3%	0.5%
18	B2135, South of Ashurst	3829	114	68	28	1.8%	25.0%
19	A283, Steyning	22776	633	102	54	0.4%	8.6%
20	A24, South of A272	39448	1772	139	19	0.4%	1.0%
21	B2116 Partridge Green Road	7087	392	4	0	0.1%	0.0%
22	A281, South Shermanbury	8858	384	79	48	0.9%	12.6%
23	A281, South of Cowfold	6811	155	59	0	0.9%	0.0%
24	A281, Cowfold Centre	25077	1091	168	32	0.7%	3.0%
25	A272, Station Road, Cowfold	18933	820	168	32	0.9%	3.9%

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
26	Wineham Lane, South of A272	955	18	70	41	7.3%	>100%
27	A272, West of A23	18917	797	214	85	1.1%	10.6%
28	A23, North of the A272	79933	4358	110	83	0.1%	1.9%
29	B2188, Sayers Common	7863	1590	0	0	0.0%	0.0%
30	B2116, Henfield Road, Albourne	3467	159	0	0	0.0%	0.0%
31	A23, North of the A272	87401	3377	109	93	0.1%	2.7%
32	A27, West of A23	72343	2622	141	95	0.2%	3.6%
33	A27, East of A23	79131	3089	92	47	0.1%	1.5%
34	A259, West of Church Street	28609	594	76	17	0.3%	2.9%
35	A259, East of Wick	27415	508	96	0	0.3%	0.0%

Table 2-15 New receptors percentage impact per highways link –based on total construction traffic peak week for each given highway link

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
A	B2139, Coolham Road	11033	489	13	0	0.1%	0.0%

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	11033	489	13	0	0.1%	0.0%
C	A272, Cowfold Road	18371	814	168	32	0.9%	4.0%
D	B2135, Steyning Road, East of Park Lane	4881	22	41	0	0.8%	0.0%
E	A272, Bolney Road, East of A281, North of Oakfield Road	20589	709	225	32	1.1%	4.6%
F	A272, Cowfold Road West of the A23	18917	797	214	85	1.1%	10.6%
G	A281, North of Woodside Close	6811	155	59	0	0.9%	0.0%
H	B2135 / B2116 High Street, Partridge Green	7087	392	4	0	0.1%	0.0%
I	A281, Brighton Road, North of Partridge Green Road	8792	378	59	0	0.7%	0.0%
J	Wineham Lane south of Kent Street	955	18	28	0	3.0%	0.0%

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
K	B2118, East of B2116 Henfield Road	3467	159	0	0	0.0%	0.0%
L	B2135, North of Spithandle Lane	3716	114	44	6	1.2%	5.5%
M	A281, High Steet, Henfield	8792	378	64	48	0.7%	12.8%
N	A281, Brighton Road	5072	74	0	0	0.0%	0.0%
O	A283 Storrington Road, Northeast of Sullington Lane	24432	812	203	51	0.8%	6.3%
P	Michelgrove Lane	391	28	62	40	15.9%	>100%
Q	A284, Lyminster Road	15000	750	138	45	0.9%	6.1%
R	Church Lane, North of the A259	11238	1221	367	51	3.3%	4.2%
S	Ford Road, Station Road	6672	274	87	0	1.3%	0.0%
T	Ford Road	6672	274	87	0	1.3%	0.0%
U	Kent Street	385	80	60	55	15.6%	68.6%

2.4.9 As outlined in **Table 2-14** and **Table 2-15**, based on the GEART rules and the sensitivity of the receptors, three receptors fall under Rule 1 for the total construction traffic peak week:

- 26 - Wineham Lane;
- P – Michelgrove Lane; and
- U – Kent Street.

2.4.10 Whilst five receptors fall under GEART Rule 2 for the total construction traffic peak week :

- 12 – A27 High Salvington;
- 13 - A24/A27 Offington (Warren Road);
- 22 - A281, South Shermanbury;
- F – A272, Cowfold Road West of the A23; and
- M – A281, High Steet, Henfield.

2.4.11 Therefore, eight receptors require further assessment to understand the environmental effects in this ES Addendum.

2.4.12 **Table 2-14** reports on the impacts based on the peak week in total construction traffic. Whilst this provides an overall worst-case scenario of total construction traffic, at some receptor locations the total construction traffic calculation was made up of a high LGV count but few or zero HGVs, which may understate impacts associated with HGV construction traffic.

2.4.13 As a further test, the assessment has also been undertaken using the peak week of HGV construction traffic at any given receptor to highlight locations where this is different to the peak week for total construction traffic at any given receptor. This HGV assessment has also been used as a further check to confirm if a detailed assessment is required at any additional receptors.

2.4.14 **Table 2-16** provides an assessment based on the peak week of HGV construction traffic at each receptor.

Table 2-16 Onshore construction traffic percentage impact per highways link – based on HGV peak week at each given highway link

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
1	Ferry Road	2069	338	94	32	4.5%	9.5%
2	Church Lane	11416	1259	104	55	0.9%	4.4%

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
3	Ford Road	N/A – not an HGV route in Outline CTMP					
4	A27, West of Arundel	26568	1454	88	81	0.3%	5.5%
5	A259, West of Wick	24805	928	232	50	0.9%	5.3%
6	A284, North of Wick	14671	597	132	50	0.9%	8.3%
7	A284 Lyminster	15238	773	74	52	0.5%	6.7%
9	A27, Arundel Station	36822	1801	91	81	0.2%	4.5%
11	A27, South of Crossbush	36033	1962	128	108	0.4%	5.5%
12	A27 High Salvington	25701	1031	128	123	0.5%	11.9%
13	A24/A27 Offington (Warren Road)	34729	1130	128	123	0.4%	10.8%
14	A24 Findon	N/A – not an HGV route in Outline CTMP					

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
15	A280 Long Furlong	20343	4049	118	108	0.6%	2.7%
16	A283, West of A24	24434	812	203	51	0.8%	6.3%
17	A283, East of A24	12515	2579	124	59	1.0%	2.3%
18	B2135, South of Ashurst	3887	117	46	40	1.2%	33.8%
19	A283, Steyning	22945	644	90	63	0.4%	9.8%
20	A24, South of A272	39741	1802	120	39	0.3%	2.1%
21	B2116 Patridge Green Road	N/A – not an HGV route in Outline CTMP					
22	A281, South Shermanbury	8858	384	79	48	0.9%	12.6%
23	A281, South of Cowfold	6682	157	45	12	0.6%	7.5%
24	A281, Cowfold centre	25077	1091	155	39	0.6%	3.5%

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
25	A272, Station Road, Cowfold	18933	820	155	39	0.8%	4.7%
26	Wineham Lane, South of A272	955	18	70	41	7.3%	>100%
27	A272, West of A23	18917	797	212	101	1.1%	12.7%
28	A23, North of the A272	81125	4494	110	83	0.1%	1.8%
29	B2188, Sayers Common	N/A – not an HGV route in Outline CTMP					
30	B2116, Henfield Road, Albourne	N/A – not an HGV route in Outline CTMP					
31	A23, North of the A272	88705	3482	109	93	0.1%	2.7%
32	A27, West of A23	73423	2804	139	131	0.2%	4.8%
33	A27, East of A23	80312	3185	80	62	0.1%	1.9%

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
34	A259, West of Church Street	28609	594	63	18	0.2%	3.1%
35	A259, East of Wick	N/A – not an HGV route in Outline CTMP					

Table 2-17 New receptors impact assessment – based on HGV peak week at each given highway link

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
A	B2139, Coolham Road	N/A – not an HGV route in Outline CTMP					
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	10931	483	0	0	0.0%	0.0%
C	A272, Cowfold Road	18933	820	155	39	0.8%	4.7%
D	B2135, Steyning Road, East	N/A - not an HGV route in Outline CTMP					

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
	of Park Lane						
E	A272, Bolney Road, East of A281, North of Oakfield Road	20589	709	204	39	1.0%	5.4%
F	A272, Cowfold Road West of the A23	18917	797	212	101	1.1%	12.7%
G	A281, North of Woodside Close	6862	157	45	12	0.6%	7.5%
H	B2135 / B2116 High Street, Partridge Green	N/A - not an HGV route in Outline CTMP					
I	A281, Brighton Road, North of Partridge Green Road	8858	384	45	12	0.5%	3.1%
J	Wineham Lane south of Kent Street	N/A - not an HGV route in Outline CTMP					
K	B2118, East of B2116 Henfield Road	N/A - not an HGV route in Outline CTMP					

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
L	B2135, North of Spithandle Lane	3771	116	28	20	0.7%	17.0%
M	A281, High Steet, Henfield	8473	372	64	48	0.8%	13.0%
N	A281, Brighton Road	N/A - not an HGV route in Outline CTMP					
O	A283 Storrington Road, Northeast of Sullington Lane	24434	812	203	51	0.8%	6.3%
P	Michelgrove Lane	385	28	51	49	13.0%	>100%
Q	A284, Lyminster Road	15238	773	74	52	0.5%	6.7%
R	Church Lane, North of the A259	11416	1259	104	55	0.9%	4.4%
S	Ford Road, Station Road	N/A - not an HGV route in Outline CTMP					
T	Ford Road	N/A - not an HGV route in Outline CTMP					
U	Kent Street	385	80	60	55	15.6%	68.6%

2.4.15 As outlined in **Table 2-16** and **Table 2-17**, based on the GEART (IEA, 1993) rules and the sensitivity of the receptors, four receptors fall under Rule 1:

- 18 – B2135 South of Ashurst;
- 26 - Wineham Lane;
- P – Michelgrove Lane; and
- U – Kent Street.

2.4.16 Whilst five receptors fall under GEART Rule 2:

- 12 – A27 High Salvington;
- 13 – A24/A27 Offington (Warren Road);
- 22 - A281, South Shermanbury
- F - A272, Cowfold Road West of the A23;
- M – A281, High Steet, Henfield;

2.4.17 Therefore, nine receptors require further assessment to understand the impacts on the environmental effects.

2.4.18 As shown in **Table 2-16** and **Table 2-17**, Receptor 15 A280 Long Furlong has a HGV peak week impact of 2.7% (108 HGVs per day) when using the assumption that all HGVs route to access A-26 / A-28 from the south via the A27 (as described in **paragraph 2.1.18**). Of this impact, 49 HGVs relate to access A-26 / A-28 as shown by Receptor P Michelgrove Lane. Should HGVs be required to access A-26 / A-28 from the north, due to routing from the Washington temporary construction compound, they would be required to complete a U-turn at Clapham roundabout to turn left into A-26 or A-28 as defined in the **Outline Construction Traffic Management Plan (CTMP)** **[REP4-045]**. This would add an additional 98 HGV movements to Receptor 15 as a result of the HGVs accessing A-26 / A-28 needing to travel through Clapham four times rather than twice (twice on entry and twice on exit). This would mean the HGV peak week impact on Receptor 15 would be 5.1% (206 HGVs) and would not require detailed further assessment according to GEART (IEA, 1993).

2.4.19 A further sensitivity test for the Cowfold AQMA has been undertaken below, which assesses if all 100% of HGV traffic, including the 28% travelling from the A27 West, is routed via the A27 and A23. The impact assessment for the total construction traffic peak week and HGV peak week is shown in **Table 2-18** and **Table 2-19** respectively for links that would be impacted by this alternative routing.

Table 2-18 Receptors impact assessment – based on total construction traffic peak week at each given highway link

Link No	Location	Future Year Base Traffic		Total Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
24	A281, Cowfold centre	25077	1091	135	0	0.5%	0.0%
25	A272, Station Road, Cowfold	18933	820	135	0	0.7%	0.0%
27	A272, West of A23	18917	797	250	140	1.3%	17.5%
31	A23, North of the A272	88049	3434	141	116	0.2%	3.4%
F	A272, Cowfold Road West of the A23	18917	797	250	140	1.3%	17.5%

Table 2-19 Receptors impact assessment – based on HGV peak week at each given highway link

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
24	A281, Cowfold centre	24664	1060	2	0	0.0%	0.0%
25	A272, Station	18622	797	2	0	0.0%	0.0%

Link No	Location	Future Year Base Traffic		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
	Road, Cowfold						
27	A272, West of A23	18917	797	250	140	1.3%	17.5%
31	A23, North of the A272	88049	3482	141	116	0.2%	3.3%
F	A272, Cowfold Road West of the A23	18917	797	250	140	1.3%	17.5%

2.4.20 Based on the traffic flow increases identified in **Table 2-18** and **Table 2-19**, GEART (IEA, 1993) rules for assessment and the sensitivity of the receptors, the A272 Cowfold Road West of the A23 (receptor F) require further assessment to understand the environmental effects. As this link was already identified for detailed assessment the predicted traffic flow increases contained within **Table 2-18** and **Table 2-19** will be used for the detailed environmental assessment as a worst case scenario.

2.4.21 For reference, updates to the following tables from **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** have been provided in **Appendix A** to reflect updated construction traffic routing, noting that the worst-case impact at each receptor is now reflected by the sensitivity test used within this ES Addendum:

- Table 23-36: Onshore construction traffic percentage impact per highway link – peak week;
- Table 23-37: Onshore construction traffic percentage impact per highways link – section based peak weeks; and
- Table 23-38: Onshore construction traffic percentage impact per highways link – AAWT.

Significance of residual effect

2.4.22 Where the percentage change in total traffic or HGVs is 30% or more at non-sensitive locations (Rule 1) or 10% or more at sensitive locations (Rule 2) (outlined in **paragraph 2.1.6**), an assessment of the environmental effects is needed. Based on the results presented in **Table 2-14** and the defined sensitivities set out within **Table 2-12**, there are 14 highway links where the percentage change in HGVs results in the need for an assessment.

2.4.23 The highway links that require detailed environmental assessment based on the total construction traffic peak week screening method are as follows:

- Highway Link 12 – A27 High Salvington (Rule 2);
- Highway Link 13 – A24/A27 Offington (Rule 2);
- Highway Link 22 - A281, South Shermanbury (Rule 2);
- F – A272, Cowfold Road West of the A23 (Rule 2);
- M – A281, High Steet, Henfield (Rule 2);
- P – Michelgrove Lane (Rule 1); and
- U – Kent Street (Rule 1).

2.4.24 As a sensitivity test, the HGV peak week also identified the following receptors as requiring assessment as follows, noting some receptors appear in both:

- Highway Link 12 – A27 High Salvington (Rule 2);
- Highway Link 13 – A24/A27 Offington (Rule 2);
- Highway Link 18 – B2135, South of Ashurst (Rule 1);
- Highway Link 22 – A281, South Shermanbury (Rule 2);
- Highway Link 26 – Wineham Lane, South of A272 (Rule 1);
- F – A272, Cowfold Road West of the A23 (Rule 2);
- M – A281, High Steet, Henfield (Rule 2);
- P – Michelgrove Lane (Rule 2); and
- U – Kent Street (Rule 2).

Highway Link 12 – A27 High Salvington

2.4.25 As set out in **Table** 2-14, based on the Total Construction Traffic Peak (Week 162), the Total Traffic is predicted to increase on this link by 0.5% (an increase of 128 Total vehicles) over a 24-hour period.

2.4.26 In addition, as shown in **Table 2-16**, based on the HGV Peak (Week 162), the HGV traffic is predicted to **increase by 11.9%** (an increase of 123 HGVs) over a 24-hour period.

2.4.27 The sensitivity of the highway link has been identified as **Medium** (**Table 2-12**) and therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 2 (IEA, 1993).

2.4.28 **Table 2-20** sets out the assessment of the transport environmental effects at Highway Link 12 and the significance of effect.

Table 2-20 Highway Link 12 – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs on the link is less than 30% for both the Total and HGV peak week. Therefore, based on **Table 2-11** the magnitude of change is **Negligible**. It should be noted that the worst-case increase in total traffic during the peak week of construction traffic (Week 162) is 0.5%. The worst-case increase in HGVs is 11.9%, compared to the future year base level. This 11.9% increase is associated with an increase of 123 HGVs per day, or 10 HGVs per hour. The significance of residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, the A27 is a two-lane carriageway which routes through a predominantly rural area with a 40mph speed limit. As noted above, the worst-case increase in total traffic during the peak week of construction is 0.5% and the increase in HGVs during the HGV peak week is 11.9% compared to the future year base level. At the total construction traffic peak, this is predicted to be an additional 128 vehicles per day or 10-11 per hour. During the HGV peak week, there is predicted to be an additional 123 HGVs per working day which, or approximately 10-11 HGVs per hour. It is not considered that this will result in any perceptible delay to drivers on the highway link or local junctions. It should be noted that at this link the peak will only last for one week. Either side of week 162 traffic falls away to lower levels. Therefore, the magnitude of change is **Negligible**.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	The significance of residual effect on driver delay is **Negligible (Not Significant)**.		
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The A27 has footways on both sides with one side separated from the road by grass verge. A number of side roads branch off from the highway link along its route, which also provide pedestrian footways in this location. There is a pedestrian refuge island and signalised crossing on the A27 on this link. With the existing footways to walk alongside the road and formal pedestrian crossings, combined with the peak impacts of one construction vehicle every 5-6 minutes, the Proposed Development is not considered to have a material impact on pedestrian transport. On this basis, the magnitude of change is **Negligible**. The significance of residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Accidents and safety	As set out in **Table 2-3**, the A27 between A280 and A24 has an accident rate of 0.29 per million vehicle kilometres which is below the average for an Urban A Road (0.42). Therefore, the magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. The significance of residual effect on accidents and safety is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

2.4.29 Based on **Table 2-20**, the overall significance of residual effects at Highways Link 12 and associated receptors is therefore considered to be **Not Significant** in EIA terms.

Highways Link 13 – A24/A27 Offington (Warren Road)

2.4.30 As set out in **Table 2-14**, based on the Total Construction Traffic Peak (Week 72), the total traffic is predicted to increase on this link by 0.4% (an increase of 128 Total vehicles) over a 24-hour period.

2.4.31 In addition, as shown in **Table 2-16**, based on the HGV Peak (Week 162), the HGV traffic is predicted to **increase by 10.8%** (an increase of 123 HGVs) over a 24-hour period.

2.4.32 The sensitivity of the highway link has been identified as **Medium** (**Table 2-12**) and therefore, a change in total traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 2 (IEA, 1993).

2.4.33 **Table 2-20** sets out the assessment of the transport environmental effects at Highway Link 13 and the significance of effect.

Table 2-21 Highway Link 13 – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs on the link is less than 30% for both the Total Construction Traffic and HGV peak week. Therefore, based on **Table 2-11** the magnitude of change is **Negligible**. It should be noted that the worst-case increase in total traffic during the peak week of construction traffic (Week 162) is 0.4%. The worst-case increase in HGVs is 10.8%, compared to the future year base level. This 10.8% increase is associated with an increase of 123 HGVs per day, or 10 per hour. The significance of residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, the A27 is a two-lane carriageway which routes through a predominantly rural area with a 40mph speed limit. As noted above, the worst-case increase in total traffic during the peak week of total construction traffic is 0.4% and the increase in HGVs during the HGV peak	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	week is 10.8% compared to the future year base level. At the total construction traffic peak, this is predicted to be an additional 128 vehicles per day or 10-11 per hour. During the HGV peak week, there is predicted to be an additional 123 HGVs per working day which, or approximately 10-11 HGVs per hour. It is not considered that this will result in any perceptible delay to drivers on the highway link or local junctions. It should be noted that at this link the peak will only last for one week. Either side of week 162 traffic falls away to lower levels. Therefore, the magnitude of change is **Negligible**. The significance of residual effect on driver delay is **Negligible (Not Significant)**.		
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The A27 has footways on both sides with one side separated from the road by grass verge. A number of side roads branch off from the highway link along its route, which also provide pedestrian footways in this location. There is a pedestrian refuge island and signalised crossing on the A27 on this link. With the existing footways to walk alongside the road and formal pedestrian crossings, combined with the peak impacts of one construction vehicle every 5-6 minutes, the Proposed Development is not considered to have a material impact on pedestrian transport in comparison with existing traffic flow on this link. On this basis, the magnitude of change is **Negligible**. The significance of residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
Accidents and safety	As set out in **Table 2-3**, the A27 between A280 and A24 has an accident rate of 0.11 per million vehicle kilometres which is below the average for an Urban A Road (0.42). Therefore, the magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. The significance of residual effect on accidents and safety is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

2.4.34 Based on **Table 2-21**, the overall significance of residual effects at Highways Link 12 and associated receptors is therefore considered to be **Not Significant** in EIA terms.

Highways Link 18 – B2135, South of Ashurst

2.4.35 As set out in **Table 2-14**, based on the Total Construction Traffic Peak (Week 83), the Total Traffic is predicted to increase on this link by 1.8% (an increase of 68 Total vehicles) over a 24-hour period.

2.4.36 In addition, as shown in **Table 2-16** based on the HGV Peak (Week 158), the HGV traffic is predicted to **increase by 33.8%** (an increase of 40 HGVs) over a 24-hour period.

2.4.37 The sensitivity of the highways link has been identified as **Low** (**Table 2-12**) and therefore, therefore, a change in Total Traffic or HGVs of 30% or more requires an assessment of environmental effects under GEART Rule 1 (IEA, 1993).

2.4.38 **Table 2-22** sets out the assessment of the transport environmental effects at highway link 18 and the significance of effect.

Table 2-22 Highway Link 18 – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs is lower than 30% in the Total peak week. However, the change in HGVs on the highway link is greater than 30% in the HGV peak week. Therefore, based on **Table 2-11** the magnitude of change is **Low**.	Low	Minor Adverse (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	The significance of residual effect on severance is **Minor Adverse (Not Significant)**.		
Driver delay	In this location, the B2135 is a two-way rural single lane carriageway with some properties directly fronting the road. The increase at the peak of the construction phase is predicted to be an additional 68 total vehicles or 40 HGVs, per working day which will result in an approximately 5-6 additional vehicles in total or up to 3 additional HGVs per hour. In the context of the existing level of traffic flow on the highway link, it is not considered that this will result in any perceptible change in delay to drivers on the highway link or at local junctions. Therefore, the magnitude of change is **Negligible**. The significance of the residual effect on driver delay is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The B2135 at this location has no footways on either side of the road and no crossings near this location. The lack of significant pedestrian desire lines and infrastructure combined with the peak impacts of only one additional vehicle every five minutes or one HGV every 15-20 minutes (based on the HGV peak week) the impacts are not considered to be significant on the pedestrian transport effects. On this basis, the magnitude of change is therefore **Negligible.** The significance of residual effect on pedestrian amenity, pedestrian delay	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	and fear and intimidation is **Negligible (Not Significant)**.		
Accidents and safety	As set out in **Table 2-3**, the B2135 between B2116 and A283 has an accident rate of 0.28 per million vehicle kilometres which is above the average for a Rural Other Road (0.19) Detailed assessment of the link indicates only 13 accidents in the 5-year time frame of assessment. Of these, 3 accidents are within 500m of the receptor location. Therefore, the magnitude of change for accidents and safety is **Low** in the context of the existing accident rate. Therefore, the significance of residual effect on accidents and safety is **Minor Adverse (Not Significant)**.	Low	Minor Adverse (Not Significant)

2.4.39 Based on **Table 2-22**, the overall significance of residual effects at Highways Link 18 and associated receptors is therefore considered to be **Not Significant**.

Highway Link 22 – A281, South Shermanbury

2.4.40 As set out in **Table 2-14**, based on the Total Construction Traffic Peak (Week 162), the Total Traffic is predicted to increase on this link by 0.9% (an increase of 79 Total vehicles) over a 24-hour period.

2.4.41 In addition, as shown in **Table 2-16** based on the HGV Peak (Week 162), HGV traffic is predicted to **increase by 12.6%** (an increase of 48 HGVs) over a 24-hour period.

2.4.42 The sensitivity of the highways link has been identified as **Medium** (**Table 2-12**) and therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 2 (IEA, 1993).

2.4.43 **Table 2-23** sets out the assessment of the transport environmental effects at highway link 22 and the significance of effect.

Table 2-23 Highway Link 22 – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs is below 30% for both the total and HGV peak weeks. Therefore, based on **Table 2-11**, the magnitude of change is **Negligible**. The significance of residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, the A281 link is a two-way single lane carriageway with properties directly fronting the road and footways. The increase at the peak of the construction phase is predicted to be 79 total vehicles or 48 HGVs (based on per working day, which will result in an approximately 6-7additional vehicles or 4 additional HGVs per hour. In the context of the existing level of traffic flow on the highway link, it is not considered that this will result in any perceptible change in delay to drivers on the highway link or at local junctions. Therefore, the magnitude of change is **Negligible**. The significance of residual effect on driver delay is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The A281 at this location has footways on one side of the road which is generally separated from the road by grass verges. There are no crossings for pedestrians along the road. The lack of significant pedestrian desire lines and infrastructure combined with the peak impacts of only one additional vehicle every 9-10 minutes and one HGV every 15 minutes (based on HGV	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	peak week) the impacts are not considered to be significant on the pedestrian transport effects. On this basis, the magnitude of change is therefore **Negligible**. The significance of effects on pedestrian amenity, pedestrian delay and fear and intimidation is **Negligible (Not Significant)**.		
Accidents and safety	As set out in **Table 2-3**, the A281 between the A272 and B2116 has an accident rate of 0.27 per million vehicle kilometres which is above the average for a Rural A Road (0.11). Detailed assessment of the link indicates only 22 accidents in the time frame of assessment. Whilst a number of the accidents have occurred in the five years, there are two small clusters around the two B2116 junctions. The detailed accident assessment combined with the increase in an HGV only every 15 minutes. Therefore, the magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. Therefore, the residual effect on accidents and safety is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

2.4.44 Based on **Table 2-23**, the overall significance of residual effects at Highways Link 22 and associated receptors is therefore considered to be **Not Significant** in EIA terms.

Highways Link 26 – Wineham Lane, South of the A272

2.4.45 As set out in **Table 2-14**, based on the Total Construction Traffic Peak (Week 125), the Total Traffic is predicted to increase on this link by 7.3% (an increase of 70 Total vehicles) over a 24-hour period.

2.4.46 In addition, as shown on **Table 2-16**, based on the HGV Peak (Week 125), HGV traffic is predicted to **increase by more than 100%** (an increase of 41 HGVs) over a 24-hour period.

2.4.47 The sensitivity of the highways link has been identified as **Low** (**Table 2-12**) and therefore, therefore, a change in Total Traffic or HGVs of 30% or more requires an assessment of environmental effects under GEART Rule 1 (IEA, 1993).

2.4.48 **Table 2-24** sets out the assessment of the transport environmental effects at highway link 26 and the significance of effect.

Table 2-24 Highway Link 26 – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	Wineham Lane has a very low baseline of total traffic (948 Total vehicles in the future year) and HGVs (17 HGVs) across 24 hours and therefore, even a small increase in absolute terms of 41 HGVs a day at the peak leads to a high percentage impact. The percentage change in total traffic on the highway link is below 30% for the total and HGV peak weeks. However, in the HGV peak week, the HGVs increase by more than 90% on the highway link and based on **Table 2-14**, this results in a High magnitude of change. However, the affected sections of road are largely pedestrian free with only occasional pedestrian movements and construction traffic peak is anticipated to be 5-6 total vehicles per hour (one every five minutes) or 3-4 HGVs per hour (one every 15 minutes). As such, the magnitude of change is considered to be **Negligible**. Therefore, the significance of residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, Wineham Lane is a two-way single carriageway which routes through a partially rural setting. The existing traffic flows on the highway link are very low, especially for HGVs.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	The increase at the peak of the construction phase is predicted to be an additional 70 vehicles or 41 HGVs per working day which will result in approximately 5-6 total vehicles per hour (one every five minutes) or 3-4 HGVs per hour. The affected sections of road will continue to operate significantly below their theoretical link capacity and are therefore unlikely to result in congestion problems. It is considered that this will not result in any perceptible delay to drivers on the highway link or local junctions. Therefore, the magnitude of change is **Negligible**. The significance of residual effect on driver delay is **Negligible (Not Significant)**.		
Pedestrian amenity, Pedestrian delay and Fear and intimidation	Wineham Lane in this location has no footways and a lack of crossings. However, there are a high number of PRoWs within the area. The lack of significant pedestrian desire lines and infrastructure combined with the peak impacts of only 5-6 total vehicles per hour (one every five minutes) or 3-4 HGVs per hour the impacts are not considered to be significant on the pedestrian transport effects. On this basis, the magnitude of change is **Negligible**. Therefore, the significance of residual effects on pedestrian amenity, pedestrian delay and fear and intimidation is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Accidents and safety	As set out in **Table 2-3**, Wineham Lane has an accident rate of 0.41 per million vehicle kilometres which is above the average for a Rural Other Road (0.19).	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	Detailed assessment of the link indicates only 3 accidents over the 5 year time frame of assessment. All of these accidents are south of the Frylands Lane. The detailed accident assessment combined with the increase of 3-4 HGVs per hour. Therefore, the magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. Therefore, the significance of residual effect on accidents and safety is **Negligible (Not Significant)**.		

2.4.49 Based on **Table 2-11**, the overall significance of residual effects at Highways Link 26 and associated receptors is therefore considered to be **Not Significant** in EIA terms.

F – A272 Cowfold Road West of the A23

2.4.50 As set out in **Table 2-15**, based on the Total Construction Traffic Peak (Week 125), the Total Traffic is predicted to increase on this link by 1.1% (an increase of 214 Total vehicles) over a 24-hour period.

2.4.51 In addition, as shown in **Table 2-17**, based on the HGV Peak (Week 124), the HGV traffic is predicted to **increase by 12.7%** (an increase of 101 HGVs) over a 24-hour period.

2.4.52 The sensitivity of the highways link has been identified as **Medium** (**Table 2-12**) and therefore, therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 2 (IEA, 1993).

2.4.53 **Table 2-25** sets out the assessment of the transport environmental effects at highway link F and the significance of effect.

Table 2-25 Highway Link F – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total and HGV traffic on the highway link is less than 30% for the peak week, and for the HGV peak. Therefore, based on **Table 2-11**, the magnitude of change is **Negligible**. The residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, the A272 is a two-way single lane carriageway with residents living in properties adjacent to the highway. The increase at the peak of the construction phase is predicted to be an additional 250 vehicles per day or 140 HGVs, per working day which will result in an approximately 20 vehicles per hour or 11-12 additional HGVs per hour. It is considered that this will result in some perceptible delay to drivers on the highway link and local junctions. Therefore, the magnitude of change is **Low**.	Low	Minor Adverse (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	The significance of residual effect on driver delay is **Minor Adverse (Not Significant)**.		
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The A272 at this location has footways on either side of the road, with a signalised crossing. During the peak of the construction phase, it is anticipated that one additional vehicle will be generated every 3-4 minutes or up to one HGV will be generated every 5 minutes on the link. Therefore, based on professional judgement, it is considered that this increase will be perceptible to pedestrians wishing to cross the road. The magnitude of change is **Low** for the pedestrian amenity, pedestrian delay and fear and intimidation. Therefore, the residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Minor Adverse (Not Significant)**.	Low	Minor Adverse (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
Accidents and safety	As set out in **Table 2-3**, the link has an accident rate of 0.27 per million vehicle kilometres which is below the average for a Rural Other Road (0.42). The Proposed Development will result in one additional vehicle every 3-4 minutes or up to one HGV every 5 minutes during the construction phase peak. The magnitude of change for accidents and safety is **Low** in the context of the existing accident rate. Therefore, the residual effect on accidents and safety is **Minor Adverse (Not Significant)**.	Low	Minor Adverse (Not Significant)

2.4.54 Based on **Table 2-25**, the overall significance of residual effects at Highways Link 26 and associated receptors is therefore considered to be **Not Significant** in EIA terms.

M – A281, High Steet, Henfield

2.4.55 As set out in **Table 2-15**, based on the Total Construction Traffic Peak (Week 162), the Total Traffic is predicted to increase on this link by 0.7% (an increase of 64 Total vehicles) over a 24-hour period.

2.4.56 In addition, as shown in **Table 2-17**, based on the HGV Peak (Week 162), the HGV traffic is predicted to **increase by 13.0%** (an increase of 48 HGVs) over a 24-hour period.

2.4.57 The sensitivity of the highways link has been identified as **Medium** (**Table 2-12**) and therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 2 (IEA, 1993).

2.4.58 **Table 2-26** sets out the assessment of the transport environmental effects at highway link M and the significance of effect.

Table 2-26 Highway Link M (A281 High Street, Henfield) – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs on the highway link is than 30% for both the total and HGV peak week. Therefore, based on the **Table 2-11** the magnitude of change is **Negligible**. The significance of residual effect on severance is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)
Driver delay	In this location, the A281 is a two-way single lane carriageway with residents living in properties adjacent to the highway. The IEA (1993) guidelines note that these additional delays are only likely to be significant when the traffic on the network in the Study Area is already at, or close to, the capacity of the system. Normal fluctuations in traffic flows are expected up to 10% and therefore, only increases in traffic above this threshold are likely to cause additional congestion. In this case, the link does not exceed 10%. The increase at the peak of the construction phase is predicted to be an additional 64 total construction vehicles and 48 HGVs (based on HGV peak week), per working day which will result in an approximately 5-6 additional construction traffic vehicles or 4 HGVs per hour. Therefore, the magnitude of change is **Negligible**. The significance of the residual effect on driver delay is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
Pedestrian amenity, Pedestrian delay and Fear and intimidation	The A281 at this location has footways on both sides of the road with bus stops, a pedestrian signalised crossing opposite Church Street and a refuge island opposite Bishops Close to assist pedestrians crossings. During the peak of the construction phase, it is anticipated that one additional vehicle or HGV will be generated every 15 minutes on the link. Therefore, based on professional judgement and the existing infrastructure, it is considered that this increase will not be perceptible to pedestrians wishing to cross the road. Therefore, the magnitude of change is **Low** for the pedestrian amenity, pedestrian delay and fear and intimidation. The significance of residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Minor Adverse (Not Significant)**.	Low	Minor Adverse (Not Significant)
Accidents and safety	As set out in **Table 2-3**, the A281 between the B2116 and A2037 (through Henfield) link has an accident rate of 0.64 per million vehicle kilometres which is above the average for an Urban A Road (0.42). Detailed assessment of the link indicates only 9 accidents in the 5-year time frame of assessment. Of these 8 caused slight injury and one was caused serious, as well as 2 accidents involving pedal cyclists or pedestrians. The Proposed Development will result in one additional HGV every 15 minutes during the construction phase peak (based on HGV peak week). The magnitude of change for	Low	Minor Adverse (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	accidents and safety is **Low** in the context of the existing accident rate. Therefore, the residual effect on accidents and safety is **Minor Adverse (Not Significant)**.		

2.4.59 Based on **Table 2-26**, the overall significance of residual effects at Highways Link M and associated receptors is therefore considered to be **Not Significant** in EIA terms.

P – Michelgrove Lane

2.4.60 As set out in **Table 2-15**, based on the Total Construction Traffic Peak (Week 162), the Total Traffic is predicted to increase on this link by 15.9% (an increase of 62 Total vehicles) over a 24-hour period.

2.4.61 In addition, as shown in **Table 2-17**, based on the HGV Peak (Week 162), HGV traffic is predicted to **increase by more than 100%** (an increase of 49 HGVs) over a 24-hour period.

2.4.62 The sensitivity of the highways link has been identified as **High** (**Table 2-12**) and therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 1 (IEA, 1993).

2.4.63 **Table 2-27** sets out the assessment of the transport environmental effects at highway link P and the significance of effect.

Table 2-27 Highway Link P – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic and HGVs on this highway link is greater than 90% for both the peak week, and the HGV peak week. Therefore, based on **Table 2-11** the magnitude of change is High. As such, the significance of residual effect on severance would be classified as Major (Significant) based upon **Table 2-11**. However, it is noted that peak total	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	construction traffic on Michelgrove Lane is 5-6 vehicles per hour or 4-5 HGVs which at most is a vehicle every 10 minutes. Taking this into account, proposed passing places along with limited number of impacted receptors and lack of connections to essential facilities on Michelgrove Lane the magnitude of change is **Negligible**. The significance of residual effect on driver delay is **Negligible (Not Significant)**.		
Driver delay	In this location, Michelgrove Lane is a narrow, single lane carriageway with residents living in properties adjacent to the rural road. The increase at the peak of construction phase is predicted to be an additional 62 vehicles per working day which, will result in approximately 5-6 additional vehicles per hour or one construction traffic vehicle every 10-12 minutes. In the context of the existing level of traffic flow on the highway link, it is considered that this will not result in perceptible change in delay to drivers on the highway link or at local junctions. Therefore, the magnitude of change is **Negligible**. The significance of residual effect on driver delay is **Negligible (Not Significant)**.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
Pedestrian amenity, Pedestrian delay and Fear and intimidation	Michelgrove Lane at this location is a single lane road bordered by vegetation, meaning pedestrians will have to walk on the road. There are no footways or crossings. During the peak of the construction phase, it is anticipated that one additional construction traffic vehicle every 10-12 minutes and one HGV will be generated every 12-15 minutes on the link. The lack of significant pedestrian desire lines and infrastructure combined with the peak impacts are not considered to have a major detrimental impact on pedestrian transport users. However, the traffic management strategy for Michelgrove Lane (contained within Appendix D of the **Outline Construction Traffic Management Plan [REP4-045]** contains a series of controls to reduce conflicts between non-motorised users and construction traffic where these occur. On this basis, the magnitude of change is **Low**. The significance of residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Moderate Adverse (Significant)**.	Low	Moderate Adverse (Significant)
Accidents and safety	There are no accidents recorded on Michelgrove Lane. However, there are some at the junction of Michelgrove Lane and the A280.	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	The Proposed Development will result in an additional HGV every 12-15 minutes during the construction phase peak (based on HGV peak week) and the traffic management strategy for Michelgrove Lane (contained within Appendix D of the **Outline Construction Traffic Management Plan [REP4-045]** includes a series of controls to reduce conflicts between construction vehicles and general traffic / non-motorised users. The magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. Therefore, the residual effect on accidents and safety is **Negligible (Not Significant)**.		

2.4.64 Based on **Table 2-27** the overall significance of residual effects at Highways Link P and associated receptors is therefore considered to be **Significant** in EIA terms in relation to pedestrian amenity, pedestrian delay and fear and intimidation.

2.4.65 Whilst the predicted peak in construction traffic is anticipated to result in a significant environmental effect it should be noted that total construction flows are spread across the construction period. There are two anticipated peaks in construction traffic; the first peak is associated with the haul road, construction, cable trenching, duct laying, backfilling and HDD activities and the second peak is associated with cable pulling and haul road reinstatement. The first peak in construction activity will result in approximately 40 HGVs per day using Michelgrove Lane or 3-4per hour and this first peak will last for approximately four weeks. During this first phase of construction activity, the average HGV flow on Michelgrove Lane will be 1-2 vehicles per hour during this phase of activity which will last approximately 30 weeks. During the second peak of construction activities, there will be a peak of approximately 244 HGVs using Michelgrove Lane per week, equivalent to approximately 50 per day or 4-5 per hour, for a period of approximately 6 weeks. Overall, the average HGV flow on Michelgrove Lane will be 2-3 vehicles per hour during this second phase of activity which will last approximately 10 weeks. Overall, construction traffic will use Michelgrove Lane for approximately 45 weeks of the construction programme.

2.4.66 Taking account of anticipated construction traffic flows across the construction programme, and traffic management strategy being developed by the Applicant to support use of this route, it is anticipated that the reported significant effects will be short-term in nature.

U – Kent Street

2.4.67 As set out in **Table 2-15** and **Table 2-17**, this link shared the same Total Construction Traffic Peak and HGV Peak (Week 160), which will increase the Total Traffic by 15.6% and HGV traffic by 68.6% (an increase of 60 Total vehicles including 55 HGVs) over a 24-hour period.

2.4.68 In reviewing this data, it should be highlighted that the baseline traffic data for this link has been based on traffic survey data undertaken from 2024. Also, these traffic flow increases should be considered in the context of construction traffic associated with the two temporary construction access junctions which will be located on Kent street (A-61 and A-64).

2.4.69 The peak week construction traffic reported in **Table 2-15** and **Table 2-17** relate to use of construction access A-64, which is located approximately 200m south of the junction with the A272. The peak construction traffic flow associated with Access A-61, located 700m south of the A272, however is much lower than A-64 with a total construction traffic peak of 31 vehicles per day and an HGV peak of 28 vehicles per day. Importantly, use of access A-61 and A-64 do not overlap so the construction traffic flows on Kent Street will only be associated with one access at a time. These differences in peak construction at A-61 and A-64 have been taken into account in detailed environmental assessments contained in **Table 2-28**.

2.4.70 The sensitivity of the highways link has been identified as **High** (**Table 2-12**) and therefore, a change in Total Traffic or HGVs of 10% or more requires an assessment of environmental effects under GEART Rule 1 (IEA, 1993).

2.4.71 **Table 2-28** sets out the assessment of the transport environmental effects at highway link P and the significance of effect.

Table 2-28 Highway Link U – assessment of transport environmental effects

Effect	Comments	Magnitude of change	Significance of residual effect
Severance	The percentage change in total traffic on this highway link is 17.1% for the Total construction traffic peak (which includes the traffic travelling to accesses A-61 and A-64 on Kent Street). In addition, in number of HGVs increases by 68.6% on the highway link during the HGV peak week. Therefore, based on **Table 2-11**, the magnitude of change is High. As such the significance of	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	residual effect on severance would be classified as Major (Significant) based upon **Table 2-11**. However, the peak in construction traffic at access A-64 is 4-5 HGVs per hour (one HGV every 12 minutes) and this will only impact the northern most 200m of Kent Street, which based on an average walking speed of 3mph could be walked in approximately 2.5 minutes. Therefore, based on the assumption that the impacted section of Kent Street could be walked without encountering an HGV, plus the very limited demand and lack of desire lines to key facilities, the magnitude of change is considered to be negligible. It is also noted that peak total construction traffic on Kent Street, between accesses A-61 and A-64, is 2-3 vehicles including HGVs which is a vehicle every 20 minutes. Taking this into account, with limited number of impacted receptors and lack of connections to essential facilities on Kent Street the magnitude of change between access A-61 and A-64 is also considered to be **Negligible**. The significance of residual effect on severance is **(Not Significant)**.		
Driver delay	In this location, Kent Street is a narrow, single lane carriageway with residents living in properties adjacent to the rural road. The increase at the peak of construction phase at access A-64 is predicted to be an additional 60 vehicles per working day will result in approximately 5 additional vehicles per hour or one construction traffic vehicle 12 minutes. The peak of construction traffic at access A-61 is	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	much lower, with an estimated flow of 2-3 construction vehicles per hour. In the context of the existing level of traffic flow on the highway link, it is considered that this will not result in perceptible change in delay to drivers on the highway link or at local junctions. In addition to this the proposed traffic management strategies presented in Appendix D of the **Outline Construction Traffic Management Plan (CTMP) [REP4-045]** (updated a Deadline 5) also needs to considered. This traffic management strategy will involve the use of banksmen to hold traffic north or south of construction accesses A-61 and A-64 whilst HGVs enter or exit the site which will lead to delays to general traffic. Based upon the holding time estimated to be a maximum of five minutes for northbound traffic and two minutes for southbound traffic and the low levels of traffic on Kent Street (and alternative routes available via Wineham Lane) the magnitude of change is **Low**. The significance of residual effect on driver delay is **Minor (Not Significant)**.		

Effect	Comments	Magnitude of change	Significance of residual effect
Pedestrian amenity, Pedestrian delay and Fear and intimidation	Kent Street at this location is a single lane road bordered by vegetation, meaning pedestrians will have to walk on the road. There are no footways or crossings. During the peak of the construction phase, it is anticipated that one additional construction traffic vehicle every 12 minutes on the link to access A-64 and one additional construction traffic vehicle every 20 minutes between access A-61 and A-64. Furthermore, the traffic management strategy for Kent Street (contained within Appendix D of the **Outline Construction Traffic Management Plan [REP4-045]** contains a series of controls to reduce conflicts between non-motorised users and construction traffic. Taking account of the limited level of pedestrian demand north of access A-64, the lack of significant pedestrian desire lines and trip attractors and measures contained within the **Outline Construction Traffic Management Plan [REP4-045]** the magnitude of change is considered to be **Low**. The significance of residual effect on pedestrian amenity, pedestrian delay and fear and intimidation is **Moderate Adverse (Significant)**.	Low	Moderate Adverse (Significant)
Accidents and safety	There are no accidents recorded on Kent Street. However, there are some at the junction of Kent Street and the A272. The Proposed Development will result in an additional HGV every 20 minutes during the Construction phase peak and the traffic management strategy for Kent Street (contained within Appendix D of the	Negligible	Negligible (Not Significant)

Effect	Comments	Magnitude of change	Significance of residual effect
	Outline Construction Traffic Management Plan [REP4-045] includes a series of controls to prevent conflicts between construction vehicles and general traffic / non-motorised users. The magnitude of change for accidents and safety is **Negligible** in the context of the existing accident rate. Therefore, the residual effect on accidents and safety is **Negligible (Not Significant)**.		

2.4.72 Based on **Table 2-28** the overall significance of residual effects at Highways Link U and associated receptors is therefore considered to be **Significant** in EIA terms in relation to pedestrian amenity, pedestrian delay and fear and intimidation.

2.4.73 Construction traffic will need to use Kent Street for approximately 38 weeks of the construction programme although it is noted that this will not be continuous. There are multiple peaks in construction traffic for access A-61 and A-64, associated with different construction activities that include haul road construction, cable trenching, duct laying, backfilling, HDD activities, cable pulling and haul road reinstatement.

2.4.74 Whilst the peak week of construction traffic is predicted to lead to a significant environmental effect, the peak in construction traffic is anticipated to last approximately two weeks only, during which time 3-5 HGVs per hours will use Kent Street. In between peaks the traffic flows will be minimal per day. For example, outside of these peak periods, it is predicted HGV flows will be more than 10 vehicles per day (one per hour) for only 13 weeks of the construction programme.

2.4.75 Taking account of anticipated construction traffic flows across the construction programme, and traffic management strategy being developed by the Applicant to support use of this route, it is anticipated that the Proposed Development will not generate significant effects on transport outside of the peak construction period.

Summary of residual effects

2.4.76 **Table 2-29** presents an updated summary of the assessment of significant effects, any relevant embedded environmental measures and residual effects on transport receptors. The embedded environmental measures relevant to the assessment of transport effects are set out within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and the **Commitments Register** **[REP4-057]**.

Table 2-29 Summary of residual effects

Activity and Impact	Magnitude of change	Receptor (highway link) and sensitivity	Embedded environmental Measures	Assessment of residual effect (significance)
Construction phase				
Severance	7 Links where GEART (IEA, 1993) thresholds are triggered	12 – Medium 13 – Medium 18 – Low 22 – Medium 26 – Low F – Medium M – Medium P – High U – High	C-1, C-2, C-18, C-157, C-158, C-159, C-165, C-166, C-169	**Negligible (Not Significant) – Minor Adverse (Not Significant)**
Driver delay	7 Links where GEART (IEA, 1993) thresholds are triggered	12 – Medium 13 – Medium 18 – Low 22 – Medium 26 - Low F – Medium M – Medium P – High U – High	C-1, C-2, C-18, C-157, C-158, C-159, C-165, C-166, C-169	**Negligible (Not Significant) – Minor Adverse (Not Significant)**
Pedestrian amenity, Pedestrian delay and Fear and intimidation	8 Links where GEART (IEA, 1993) thresholds are triggered	12 – Medium 13 – Medium 18 – Low 22 – Medium 26 – Low F – Medium M – Medium **P – High** **U – High**	C-1, C-2, C-18 157, C-158, C-159, C-165, C-166, C-169	**Negligible (Not Significant) – Moderate Adverse (Significant)**
Accidents and safety	7 Links where GEART (IEA, 1993) thresholds are triggered	12 – Medium 13 – Medium 18 – Low 22 – Medium 26 - Low F – Medium M – Medium P – High U – High	C-1, C-2, C-18, C-157, C-158, C-159, C-165, C-166, C-169	**Negligible (Not Significant) – Minor Adverse (Not Significant)**

2.4.77 This section of the ES Addendum has provided an assessment of impacts of the Proposed Development based on the individual peak construction traffic week and

peak HGV construction traffic week for all identified receptors. Using this methodology, significant environmental effects have been identified on Michelgrove Lane (receptor P) and Kent Street (receptor U) in relation to pedestrian amenity, pedestrian delay and fear and intimidation.

2.4.78 These conclusions however are based on the absolute peak week of construction activities at each receptor and as identified in **paragraphs 2.4.65** and **2.4.73** these peak periods do not occur over a long period. For example, on Michelgrove Lane construction traffic flows will remain above 50 construction vehicles in total per day and HGV flows will remain above 40 HGVs per day for only ten weeks of the construction programme. Similarly, on Kent Street, construction traffic flows will be above 50 per day for only one week and HGV flows will remain above 40 HGVs per day for two weeks. It is also noted that the Applicant has produced traffic management strategies for both Michelgrove Lane and Kent Street (Appendix D of the **Outline Construction Traffic Management Plan (CTMP)** **[REP4-045]**) to facilitate safe access by construction traffic and minimise disruption to local residents and users of each link.

2.4.79 Taking these factors into account, it can be concluded that the significant effects identified within this chapter will be short term only.

3. Air quality

3.1 Introduction

3.1.1 **Section 3** of this ES addendum (**Document Reference: 6.2.32**) presents an updated assessment of the likely significant air quality effects of construction traffic emissions expected from Rampion 2 in light of the new traffic data produced. The results of this assessment have been compared with the results of the assessment of air quality effects of construction traffic emissions reported in the **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. Updates reported in this Section also seek to address responses received between 20 September 2023 and 06 November 2023 from Relevant Representations (RRs) where possible.

3.1.2 **Section 2** of this ES Addendum provides details on the updates made to the traffic data used in the **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. Considering the new traffic data presented in **Section 2** a review of the construction traffic assessment reported in the **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** was required.

3.1.3 The traffic data reported in **Section 2** of this ES addendum have been screened against indicative criteria for requiring a detailed air quality assessment. The traffic data was also compared against the traffic data that was utilised in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**.

3.1.4 This Section includes the following:

- Consultation and engagement;
- Methodology for ES addendum assessment;
- Updated assessment of air quality effects in the following Air Quality Management Areas (AQMAs):
  - Worthing AQMA – Assessment of construction traffic effects: A qualitative assessment is reported of the impact of construction traffic associated with the updated traffic data compared with the impact of construction traffic reported within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**; and
  - Cowfold AQMA – Assessment of construction traffic effects: To address a response obtained from a Relevant Representation (RR) (see **Table 3-1**), a detailed modelling assessment of construction traffic effects within Cowfold AQMA is provided alongside a sensitivity test of meteorological data. The model verification has been updated to include more monitoring locations which also addresses RR response (see **Table 3-1**).

3.1.5 **Section 3** is supported by the following technical appendices:

- **Appendix B**: Full results of Cowfold AQMA assessment; and

3.1.6 **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** should be read in conjunction with this ES Addendum.

Consultation and engagement

3.1.7 Relevant Representations (RRs) are responded to fully as part of the Examination of the Development Consent Order (DCO) Application for Rampion 2. **Table 3-1** reports the RR comment, which is addressed in this Section of the ES Addendum and outlines how this is addressed.

Table 3-1 Relevant Representations comment

Relevant Representation	Relevant Representation comment	How addressed in this ES Addendum
Horsham District Council **[RR-148]**	7.9 Regarding model verification (Appendix 19.1: Full results of construction road traffic modelling), full information is required on the methodology to select monitoring sites for model verification. It is noted that the worst-case site (Cowfold 37) was not used in model verification, neither were a number of other sites. Details are therefore required of the initial verification including Monitored Road NOx Contribution versus Unverified Modelled Road NOx, which monitoring sites were used, and which were removed from the verification process with justification for both. It is recommended that all statistical parameters for model performance including the RMSE, fractional bias and correlation coefficient, be presented to give a full picture of the model performance, in line with the recommendations of the TG(16) guidance 7.11 Also sought is clarification regarding the choice of meteorological data to model Cowfold. Data from Shoreham station does not reflect the conditions at Cowfold.	Model verification has been updated as part of the detailed modelling assessment of construction traffic effects within Cowfold. The results of this updated model verification are reported within **Appendix B: Full results of Cowfold AQMA assessment**. This details the use of the more monitoring locations which report annual averaged concentrations of nitrogen dioxide (NO_2) during 2019 to incorporate into the model verification. The assessment of construction traffic effects within Cowfold AQMA has used meteorological data from the Gatwick Airport observing station and from Shoreham to enable a comparison of the model outputs. This is reported within **Paragraph 3.1.15** where clarification regarding the choice of meteorological data is provided.

Methodology for ES Addendum assessment

Air quality effects from construction traffic

3.1.8 **Chapter 23: Transport, Volume 2** of the ES **[APP-063]** reported the assessment of transport effects from Rampion 2. Road traffic was calculated along key routes affected by the Proposed Development. The calculations of road traffic expected along key routes affected by the Proposed Development have been updated and reported within **Section 2: Transport**. These calculations have been used in this Section to assess the air quality effects from construction traffic associated with the Proposed Development.

3.1.9 Traffic flows are available on a 24-hour basis (i.e. all traffic regardless of time of day) and are split into Light Duty Vehicles (LDVs) (LDVs; under 3.5 tonnes) and Heavy Goods Vehicles (HGVs) (HGVs; over 3.5 tonnes). In **Chapter 23: Transport, Volume 2** of the ES **[APP-063]**, modelled road links were divided into those that directly provide access to parts of the temporary construction site, and those that provide more general distribution of traffic on primary routes. The assessment within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** considered the peak daily traffic data, and it represented a highly conservative assessment.

3.1.10 Air dispersion modelling of traffic emissions requires the use of Annual Average Daily Traffic (AADT). AADT are usually calculated based on the average daily traffic during a calendar year. **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** utilised AADTs based on the peak daily traffic during the worst construction year (year 2), therefore overestimating potential impact from traffic emissions. In light of the new traffic data, AADT based on average daily traffic during each construction year were calculated and used for this assessment. The worst construction year which is Year 2 has been modelled and reported here.

3.1.11 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) (EPUK and IAQM, 2017) provides guidance on when it is appropriate to carry out a detailed air quality assessment of a development that generates road traffic. The key criteria for the present assessment are that a detailed assessment may be required if there is:

- a change in LDV flows of:
  - more than 100AADT within or adjacent to an AQMA;
  - more than 500AADT elsewhere; or
- a change in HGV flows of:
  - more than 25AADT within or adjacent to an AQMA;
  - more than 100AADT elsewhere.

3.1.12 Examination of the new traffic data showed that there are 2 road links where these criteria are exceeded, whereas in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** an additional 2 road links have been screened in as requiring detailed assessment. The links that have been screened in are the A27 High Salvington and A24 Offington. These links are either within or in close proximity of the

Worthing AQMA. These road links were brought forward for comparison against the AADTs previously assessed through detailed modelling in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**.

Consideration of Worthing AQMA

3.1.13 A detailed modelling assessment of construction traffic effects in the Worthing AQMA was presented in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. A qualitative assessment of effects from construction traffic based on the new traffic data from the Proposed Development within Worthing AQMA is reported in this ES Addendum.

Consideration of Cowfold AQMA

3.1.14 Construction traffic flows reported in the **Section 2: Transport** along road links within Cowfold AQMA are below the criteria reported in **paragraph 3.1.11**. However, due to a request from HDC (outlined in **Table 3-1**), the detailed modelling assessment of construction traffic emissions within Cowfold AQMA has been updated. The response relates to the meteorological data used in the assessment and the model verification.

3.1.15 This assessment has used meteorological data from the Gatwick Airport meteorological station and the Shoreham meteorological station which was used in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. Gatwick Airport meteorological station is further away from Cowfold; however the elevation is closer to the elevation at Cowfold. A sensitivity testing using both stations was undertaken and presented in **Appendix B: Full results of Cowfold AQMA assessment**. The results of the sensitivity test indicate that the magnitude of impacts predicted are marginally higher using Gatwick Airport; however, the significance of the predicted impacts is unchanged. Therefore, this assessment presents the modelling results using Gatwick Airport.

3.1.16 In accordance with the Department for Environment, Food and Rural Affairs (Defra)'s *Local Air Quality Management Technical Guidance* (LAQM TG22) (2022), a model verification and adjustment was carried out and is presented in **Appendix B: Full results of Cowfold AQMA assessment**. The adjustment factor applied was **2.285** for the Cowfold AQMA model. Concentrations of NO_2 were determined after applying the adjustment to the nitrogen oxides (NO_x) roads contribution. Additional monitoring locations have been considered in model verification compared to monitoring locations considered within the model verification undertaken for the assessment within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. This includes consideration of diffusion tube 37 as requested by HDC.

3.1.17 With the exception of the items discussed above in **paragraphs 3.1.15** and **3.1.16**, the methodology remains unchanged relating to the modelled scenarios, the sensitive receptors included in the assessment, and the modelled road links as outlined in the methodology section of the **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**

Updated assessment of air quality effects

Worthing AQMA – Assessment of construction traffic effects

3.1.18 As discussed within **paragraph 3.1.12**, review of the updated traffic data against the criteria from the EPUK and IAQM (EPUK and IAQM, 2017) show that the AADT along road link A27 High Salvington and road link A24 Offington are above the indicative criteria for undertaking a detailed assessment of effects as was the case for the assessment with **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**. Comparing the 24-hour AADT reported for these road links as presented in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** concludes that the 24-hour AADT traffic flows reported within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** were higher.

3.1.19 The AADT expected from the Proposed Development alone were compared and are reported below in **Table 3-2**. The 24-hour AADT reported within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** were subtracted from the 24-hour AADT derived from this ES addendum. A negative result is obtained demonstrating that the 24-hour AADT derived from this ES Addendum are lower than the 24-hour AADT reported within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**.

Table 3-2 Comparison of 24-hour AADT along the A27 and the A24

Road link	24-hour AADT reported in Chapter 19: Air quality, Volume 2 of the ES [APP-060]		24-hour AADT reported in ES Addendum		Difference	
	HGV	LDV	HGV	LDV	HGV	LDV
A27 High Salvington	55	35	34	13	-21	-22
A24 Offington (Warren Road)	54	46	34	1	-20	-45

3.1.20 The AADTs reported in the ES along the A27 and the A24 were used to undertake a detailed modelling assessment of construction traffic effects within Worthing AQMA. Since **Table 3-2** demonstrates that these traffic flows are higher than those derived from this ES Addendum, the assessment of construction traffic effects within the Worthing AQMA reported in the **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** presents as a conservative assessment. Effects within the Worthing AQMA remain as **Negligible** significance and **Not Significant** in EIA terms.

Cowfold AQMA – Assessment of construction traffic effects

Magnitude of impact

3.1.21 Full quantitative results of the modelling are presented in **Appendix B: Full results of Cowfold AQMA assessment**. Key results are summarised in **paragraphs 3.1.22** to **3.1.29**.

3.1.22 The following discussion uses terminology promulgated by the Environment Agency (2023) but widely used in air quality assessments. The Process Contribution (PC) is the contribution to the concentration of pollutant arising from the Proposed Development, in this case from road traffic generated by temporary construction activity. The Predicted Environmental Contribution (PEC) is the total concentration, including the contribution from the Proposed Development plus the contribution from all other sources, including background sources and road traffic not associated with the Proposed Development.

3.1.23 Results presented in the following paragraphs for the Cowfold AQMA are to several decimal places. This is to aid comparison against Air Quality Objectives (AQOs) (which are set for the protection of human health and nature conservation sites), between receptors and between the 'With Proposed Development' and 'Without Proposed Development' scenarios. The number of decimal places should not be interpreted as an indication of the precision of the results.

Annual NO_2 concentrations

3.1.24 For annual mean NO_2, the greatest PC at any of the modelled human receptors is 0.53µg m^{-3} at the R37 receptor, representing a residential property on the A281. The PEC here is modelled to be 20.04µg m^{-3}. Under EPUK and IAQM (2017) guidance, this impact is classified as Negligible. At all other modelled receptors, the impact from predicted annual mean NO_2 concentrations is classified as Negligible.

3.1.25 As the annual mean NO_2 is well below 60µg m^{-3} at all modelled receptors, Defra *LAQM TG22* (Defra, 2022) suggests that there is no risk of an exceedance of the hourly mean NO_2 AQO of 200µg m^{-3} at any of the modelled receptors.

Annual PM_{10} concentrations

3.1.26 For annual mean PM_{10}, the greatest PC at any of the modelled human receptors is 0.560µg m^{-3}, at the R37 receptor. The PEC here is modelled to be 15.70µg m^{-3}, or 39.24% of the AQO of 40µg m^{-3}. Under EPUK and IAQM (2017) guidance, the impact at all modelled human receptors is classified as Negligible.

3.1.27 Using the formula in Defra *LAQM TG22* (2022) to estimate daily mean Particular Matter $(PM)_{10}$ concentrations, it is estimated that there will be two days in the year when the hourly PM_{10} is above 50µg m^{-3}, compared with a limit in the AQO of 35 days per year. There is therefore no risk of an exceedance of the AQO for daily mean PM_{10}.

Annual $PM_{2.5}$ concentrations

3.1.28 For annual mean $PM_{2.5}$, the greatest PC at any of the modelled human receptors is 0.089µg m^{-3}, again at the R37 receptor. The PEC here is modelled to be 10.14µg m^{-3}, or 50.72% of the AQO of 20µg m^{-3}. Under EPUK and IAQM (2017) guidance, the impact at all modelled human receptors is classified as Negligible.

Sensitivity or value of receptor

3.1.29 Effects have been assessed at human receptors within both AQMAs, considered to have a high sensitivity, with relevant exposure in accordance with Defra *LAQM TG22* (2022). AQOs are set with such receptors in mind.

Significance of residual effect

3.1.30 All effects from the construction traffic are classified as Negligible within Cowfold AQMA. In view of the small overall effects, and the temporary nature of the construction phase, the residual effect, taking into account the high sensitivity of the receptors, is direct, temporary and of **Negligible** significance, which is **Not Significant** in EIA terms. As a result, no additional mitigation is required.

3.1.31 The assessment in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** concluded the same overall effect which was that residual effect was of **Negligible** significance and was **Not Significant** in EIA terms.

4. Noise and vibration (onshore)

4.1 Introduction

4.1.1 **Section 4** of this ES addendum (**Document Reference: 6.2.32**) presents an updated assessment of the likely significant noise effects of construction traffic expected from Rampion 2.

4.1.2 **Section 2** of this ES Addendum provides details on the updates made to the traffic data and in light of the new traffic data, a review of the construction traffic noise assessment reported in the **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** was required and where relevant, an updated assessment has been included in this ES addendum (**Document Reference: 6.2.32**).

4.2 Input data

4.2.1 Construction traffic noise predictions have been undertaken using a spreadsheet incorporating Calculation of Road Traffic Noise (CRTN) (Department of Transport Welsh Office, 1988) as outlined in paragraph 21.8.6 within **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**. This has been undertaken for a 'do minimum' (without development traffic) and a 'do something' (with peak week development traffic) construction traffic scenarios.

4.2.2 These two scenarios are compared to determine the change in traffic noise as a result of the construction works. The difference between the 'do minimum ' and 'do something' scenarios has been assessed using short-term criteria within the Design Manual for Roads and Bridges (DMRB) (Standards for Highways, 2020) updated noise assessment section (Volume 11, Section 3, Part 7, LA111).

4.2.3 The Basic Noise Level (as per CRTN method (Department of Transport Welsh Office, 1988)) is calculated at 10 m for each scenario and this is used to represent changes at all receptor locations for a particular road link.

4.2.4 The traffic noise prediction is based on road link traffic flows (18 Hour Annual Average Weekday Traffic, (AAWT)), percentage of heavy goods vehicle (HGV) within the traffic flows, and average speed (KPH) for each road link (see **Table 4-1)** CRTN calculations of traffic noise for roads that have AAWT flows less than 1,000 are unreliable. Increases in vehicle noise on these roads will likely be noticeable at times during the construction phase, particularly during the peak construction week assessed. However, where there are noticeable changes in traffic (Kent Street and Michelgrove Lane) (see **Table 4-3 and Table 4-4**) receptors adjacent to these roads would not be subject to absolute noise levels which would be deemed to be significant (i.e. because the total flow would still be small).

Table 4-1 Updated traffic data for noise predictions

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do something' Future Assessment Year (Peak Week Development Traffic)	% HGV
1	Ferry Road	96	2049	16	2143	17
2	Church Lane	67	11166	11	11233	11
3	Ford Road	41	6444	4	6445	4
4	A27, West of Arundel	64	25627	5	25702	5
5	A259, West of Wick	69	12273	7	12379	7
6	A284, North of Wick	48	14151	4	14257	4
7	A284 Lyminster	67	14708	5	14776	5
9	A27, Arundel Station	64	35518	5	35594	5
11	A27, South of Crossbush	96	34112	5	34291	5
12	A27 High Salvington	48	24426	4	24555	4
13	A24/A27 Offington (Warren Road)	64	33006	3	33105	3
14	A24 Findon	64	27734	2	27737	2
15	A280 Long Furlong	64	19580	20	19680	20
16	A283, West of A24	66	23764	3	23903	4
17	A283, East of A24	84	12185	20	12320	20

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do something' Future Assessment Year (Peak Week Development Traffic)	% HGV
18	B2135, South of Ashurst	77	3835	3	3881	4
19	A283, Steyning	83	22658	3	22737	3
20	A24, South of A272	64	38072	4	38137	4
21	B2116 Partridge Green Road	46	6900	5	6900	5
22	A281, South Shermanbury	64	8758	4	8811	5
23	A281, South of Cowfold	48	6619	2	6642	2
24	A281, Cowfold centre	48	24189	4	24278	4
25	A272, Station Road, Cowfold	48	18263	4	18353	4
26	Wineham Lane, South of A272	96	922	2	988	6
27	A272, West of A23	64	18247	4	18397	4
28	A23, North of the A272	96	78252	5	78333	5
29	B2188, Sayers Common	60	7709	20	7709	20
30	B2116, Henfield	48	3344	4	3344	4

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do something' Future Assessment Year (Peak Week Development Traffic)	% HGV
	Road, Albourne					
31	A23, North of the A272	96	85563	4	85652	4
32	A27, West of A23	96	70822	3	70944	4
33	A27, East of A23	96	77467	4	77528	4
34	A259, West of Church Street	64	27596	2	27618	2
35	A259, East of Wick	64	26220	2	26221	2

Table 4-2 Traffic data for noise predictions on Links not previously assessed

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do Something' Future Assessment Year (Peak Week Development Traffic)	% HGV
A	B2139, Coolham Road	67	10759	5	10932	5
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	67	10759	5	10932	5
C	A272, Cowfold Road	96	18263	4	18948	4
D	B2135, Steyning	76	4873	0	4960	0

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do Something' Future Assessment Year (Peak Week Development Traffic)	% HGV
	Road, East of Park Lane					
E	A272, Bolney Road, East of A281, North of Oakfield Road	48	19980	3	20617	4
F	A272, Cowfold Road West of the A23	96	18247	4	18956	4
G	A281, North of Woodside Close	48	6619	2	6868	2
H	B2135 / B2116 High Street, Partridge Green	64	6900	5	7022	6
I	A281, Brighton Road, North of Partridge Green Road	48	8758	4	8864	4
J	Wineham Lane	64	922	2	983	4
K	B2118, East of B2116 Henfield Road	96	3344	4	3467	5
L	B2135, North of Spithandle Lane	83	3721	3	3783	3
M	A281, High Steet, Henfield	48	8378	4	8473	4
N	A281, Brighton Road	75	4996	1	5072	1
O	A283 Storrington	84	23764	3	24504	4

Road Link ID	Road Link	Average Speed (KPH)	AAWT 'Do minimum' Future Assessment Year	% HGV	AAWT 'Do Something' Future Assessment Year (Peak Week Development Traffic)	% HGV
	Road, Northeast of Sullington Lane					
P	Michelgrove Lane	96	10	10	72	56
Q	A284, Lyminster Road	48	14708	5	15298	5
R	Church Lane, North of the A259	41	11166	11	11477	11
S	Ford Road, Station Road	64	6444	4	6616	4
T	Ford Road	64	6444	4	6616	4
U	Kent Street	64	100	10	160	34

4.2.5 The flows presented in **Table 4-1** and **Table 4-2** represent the peak flow at any given highway link and are a worst case.

4.2.6 **Table 4-3** and **Table 4-4** present the results of the construction road traffic noise predictions calculated at 10m (in accordance with the CRTN (Department of Transport Welsh Office (1988)) from each road link based on the above flows.

4.2.7 Whilst the premises affected by road traffic will be at varying distances from the road, the assessment is mainly based on the difference between the future baseline scenario and the future 'with development' scenario as shown in **Table 4-3** and **Table 4-4**. This assessment supersedes the assessment presented in Table 21.35 of the **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]**.

Table 4-3 Noise predictions 10m from construction traffic routes

Road Link ID	Road Link	Basic Noise Level 'Do minimum' (Decibels (dB))	Basic Noise Level 'Do something' (dB)	Difference +/- (dB)
1	Ferry Road	66.4	66.7	0.3
2	Church Lane	71.3	71.4	0.1
3	Ford Road	65.1	65.1	0.0
4	A27, West of Arundel	73.4	73.5	0.1
5	A259, West of Wick	71.1	71.2	0.1
6	A284, North of Wick	69.0	69.1	0.1
7	A284 Lyminster	71.3	71.4	0.1
9	A27, Arundel Station	74.7	74.8	0.1
11	A27, South of Crossbush	77.6	77.6	0.0
12	A27 High Salvington	71.3	71.5	0.2
13	A24/A27 Offington (Warren Road)	74.0	74.1	0.1
14	A24 Findon	73.0	73.0	0.0
15	A280 Long Furlong	74.9	74.9	0.0
16	A283, West of A24	72.8	72.9	0.1
17	A283, East of A24	74.4	74.4	0.0
18	B2135, South of Ashurst	65.9	66.2	0.3
19	A283, Steyning	74.2	74.3	0.1
20	A24, South of A272	75.0	75.0	0.0

Road Link ID	Road Link	Basic Noise Level 'Do minimum' (Decibels (dB))	Basic Noise Level 'Do something' (dB)	Difference +/- (dB)
21	B2116, Partridge Green Road	66.3	66.3	0.0
22	A281, South Shermanbury	68.6	68.7	0.1
23	A281, South of Cowfold	65.1	65.2	0.1
24	A281, Cowfold centre	71.4	71.5	0.1
25	A272, Station Road, Cowfold	70.2	70.3	0.1
26	Wineham Lane, South of A272	Low Flow	Low Flow	N/A
27	A272, West of A23	71.7	71.8	0.1
28	A23, North of the A272	81.2	81.2	0.0
29	B2188, Sayers Common	70.6	70.6	0.0
30	B2116, Henfield Road, Albourne	62.9	62.9	0.0
31	A23, North of the A272	81.3	81.3	0.0
32	A27, West of A23	80.5	80.5	0.0
33	A27, East of A23	80.9	80.9	0.0
34	A259, West of Church Street	72.9	72.9	0.0
35	A259, East of Wick	72.6	72.6	0.0

Table 4-4 Noise predictions 10m from construction traffic routes on road links previously not assessed

Road Link ID	Road Link	Basic Noise Level 'Do minimum' (dB)	Basic Noise Level 'Do something' (dB)	Difference +/- (dB)
A	B2139, Coolham Road	69.8	69.9	0.1
B	A272, West Chiltington Lane, Pound Lane, Shipley Road	69.8	69.9	0.1
C	A272, Cowfold Road	74.7	74.9	0.2
D	B2135, Steyning Road, East of Park Lane	66.3	66.3	0.0
E	A272, Bolney Road, East of A281, North of Oakfield Road	70.3	70.5	0.2
F	A272, Cowfold Road West of the A23	74.7	74.9	0.2
G	A281, North of Woodside Close	65.1	65.4	0.3
H	B2135 / B2116 High Street, Partridge Green	67.8	67.9	0.1
I	A281, Brighton Road, North of Partridge Green Road	67.1	67.2	0.1
J	Wineham Lane	Low Flow	Low Flow	N/A
K	B2118, East of B2116 Henfield Road	67.3	67.5	0.2

Road Link ID	Road Link	Basic Noise Level 'Do minimum' (dB)	Basic Noise Level 'Do something' (dB)	Difference +/- (dB)
L	B2135, North of Spithandle Lane	66.4	66.6	0.2
M	A281, High Steet, Henfield	66.9	67.0	0.1
N	A281, Brighton Road	66.5	66.5	0.0
O	A283 Storrington Road, Northeast of Sullington Lane	74.6	74.8	0.2
P	Michelgrove Lane	Low Flow	Low Flow	N/A
Q	A284, Lyminster Road	69.6	69.8	0.2
R	Church Lane, North of the A259	69.4	69.6	0.2
S	Ford Road, Station Road	67.2	67.3	0.1
T	Ford Road	67.2	67.3	0.1
U	Kent Street	Low Flow	Low Flow	N/A

4.2.8 The resultant differences in traffic noise between the 'Do minimum' and 'Do something' scenarios on links that are not 'Low flow' are all 0.3dB or lower in **Table 4-3** and **Table 4-4**

Magnitude of change

4.2.9 The magnitude of change for construction traffic noise increases between 0 and 1 dB $L_{A10, 18h}$ is **Very Low** in line with Table 21-23 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]**.

Sensitivity of receptor

4.2.10 The sensitivity of the noise sensitive receptors identified is considered to be **Medium** for residential receptors and **High** for non-residential receptors (places of worship and schools) in line with Table 21-22 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]**.

Significance of residual effect

4.2.11 The embedded environmental measures (as shown in Table 21-20 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]**) include commitments C-22 and C-33 (**Commitments Register** **[APP-254]**) which will be implemented to minimise the disturbance of noise sensitive receptors.

4.2.12 For residential receptors, the magnitude of change is up to Very Low and the sensitivity of the receptors are Medium. Therefore, there is a direct, temporary residual effect of **Negligible / Minor adverse significance**, which is **Not Significant** in EIA terms.

4.2.13 For non-residential receptors (places of worship and schools), the magnitude of change is up to Very Low and the sensitivity of the receptors is High. Therefore, there is a direct, temporary residual effect of **Minor adverse significance** and **Not Significant** in EIA terms.

4.2.14 All worst-case construction traffic noise effects are, therefore, **Not Significant**.

5. Glossary and abbreviations

Table 5-1 Glossary of terms and abbreviations

Term (acronym)	Definition
AADF	Annual Average Daily Traffic Flow
AADT	Annual Average Daily Traffic
AAWT	Annual Average Weekday Traffic
AIL	Abnormal Indivisible Loads
AQMA	Air Quality Management Area. If a Local Authority identifies any locations within its boundaries where the Air Quality Objectives are not likely to be achieved, it must declare the area as an AQMA. The area may encompass just one or two streets, or it could be much bigger. The Local Authority is subsequently required to put together a plan to improve air quality in that area — a Local Air Quality Action Plan.
AQO	Air Quality Objective. The Air Quality Objectives are policy targets generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances, within a specified timescale. The Objectives are set out in the UK Government's Air Quality Strategy for the key air pollutants.
Baseline	Refers to existing conditions as represented by latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of development.
Baseline conditions	The environment as it appears (or would appear) immediately prior to the implementation of the Proposed Development together with any known or foreseeable future changes that will take place before completion of the Proposed Development.
CTMP	Construction Traffic Management Plan
DCO Application	An application for consent to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the Application and make a recommendation to the Secretary of State, who will

Term (acronym)	Definition
	decide on whether development consent should be granted for the Proposed Development.
Defra	Department for Environment, Food and Rural Affairs
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EfT	Emission Factor Toolkit
Embedded environmental measures	They are measures to avoid or reduce environmental effects that are directly incorporated into the design for the Proposed Development.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').
Environmental Statement (ES)	The written output presenting the full findings of the Environmental Impact Assessment.
EPUK	Environmental Protection UK
Future Baseline	Refers to the situation in future years without the Proposed Development.
GEART	Guidelines for the Environmental Assessment of Road Traffic publication by Institute of Environmental Assessment (IEA), 1993.
NCN	National Cycle Network
HGV	Heavy Goods Vehicle
IEA	Institute of Environmental Management
Impact	The changes resulting from an action.
KM	Kilometres
KPH	Kilometres per hour
LDV	Light Duty Vehicle. Cars and vans up to 3.5 t gross vehicle weight.

Term (acronym)	Definition
LGV	Light Goods Vehicle
Likely Significant Effects	It is a requirement of Environmental Impact Assessment Regulations to determine the likely significant effects of the Proposed Development on the environment which should relate to the level of an effect and the type of effect.
LTP	Local Transport Plan
Magnitude (of change)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short term or long term in duration'. Also known as the 'degree' or 'nature' of change.
MPH	Miles Per Hour
Nationally Significant Infrastructure Project (NSIP)	Nationally Significant Infrastructure Projects are major infrastructure developments in England and Wales which are consented by DCO. These include proposals for renewable energy projects with an installed capacity greater than 100MW.
NCN	National Cycle Network
NOx	Oxides of nitrogen. The sum of NO_2 and nitric oxide (NO).
NO_2	Nitrogen dioxide.
OAL	Open Access Land
Onshore part of the proposed DCO Order Limits	An area that encompasses all planned onshore infrastructure.
OTP	Operational Travel Plan
Proposed DCO Order Limits	The proposed DCO Order Limits combines the search areas for the offshore and onshore infrastructure associated with the Proposed Development. It is defined as the area within which the Proposed Development and associated infrastructure will be located, including the temporary and permanent construction and operational work areas.
PIA	Personal Injury Accident
Planning Inspectorate	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications,

Term (acronym)	Definition
	examinations of local plans and other planning-related and specialist casework in England and Wales.
PM	Particulate matter
PEC	Predicted Environmental Contribution
PC	Process contribution
Receptor	These are as defined in Regulation 5(2) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to pollutants which could potentially arise as a result of the Proposed Development.
RED	Rampion Extension Development Limited
RMSE	Root Mean Square Error
RR	Relevant Representation
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.
Significant effects	It is a requirement of the EIA Regulations to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. Where possible significant effects should be mitigated. The significance of an effect gives an indication as to the degree of importance (based on the magnitude of the effect and the sensitivity of the receptor) that should be attached to the impact described. Whether or not an effect should be considered significant is not absolute and requires the Application of professional judgement. Significant – 'noteworthy, of considerable amount or effect or importance, not insignificant or negligible'.

Term (acronym)	Definition
	Those levels and types of landscape and visual effect likely to have a major or important / noteworthy or special effect of which a decision maker should take particular note.
SRN	Strategic Road Network
Temporal Scope	The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.
Temporary or permanent effects	Effects may be considered as temporary or permanent. In the case of wind energy development the Application is for a 30 year period after which the assessment assumes that decommissioning will occur and that the site will be restored. For these reasons the development is referred to as long term and reversible.
The Applicant	Rampion Extension Development Limited (RED)
The Proposed Development / Rampion 2	The development that is subject to the application for development consent, as described in **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**.
TGTN	Traffic Generation Technical Note, summarising the methodology underlying the calculation of proposed trip generation.
WSCC	West Sussex County Council

6. References

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Appendix A
Update of Chapter 23 Impact Assessment tables

To provide another level of detail and robustness, peak week 83 has also been recalculated.

Table A-1 presents the percentage change for peak week 83.

Table A-1 Impact assessment based on total peak during – Peak Week 83

Link No	Location	Future Year Base Traffic (2026/27)		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total	HGV	Total	HGV	Total	HGV
1	Ferry Road	2069	338	62	18	3.0%	5.2%
2	Church Lane	11238	1221	935	46	8.3%	3.8%
3	Ford Road	6672	274	290	0	4.4%	0.0%
4	A27, West of Arundel	26154	1410	167	35	0.6%	2.5%
5	A259, West of Wick	24805	928	786	50	3.2%	5.3%
6	A284, North of Wick	14671	597	284	50	1.9%	8.3%
7	A284 Lyminster	15000	750	284	50	1.9%	6.6%
9	A27, Arundel Station	36249	1747	204	35	0.6%	2.0%
11	A27, South of Crossbush	35365	1903	400	90	1.1%	4.8%
12	A27 High Salvington	25323	1000	130	97	0.5%	9.7%

Link No	Location	Future Year Base Traffic (2026/27)		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total	HGV	Total	HGV	Total	HGV
13	A24/A27 Offington (Warren Road)	34218	1096	99	997	0.4%	6.2%
14	A24 Findon	29019	685	54	0	1.3%	0.0%
15	A280 Long Furlong	20044	3927	108	67	1.4%	1.0%
16	A283, West of A24	24434	812	86	13	2.7%	0.6%
17	A283, East of A24	12331	2501	114	14	12.8%	0.5%
18	B2135, South of Ashurst	3829	114	25	0	2.0%	21.5%
19	A283, Steyning	22776	633	25	21	1.4%	3.9%
20	A24, South of A272	39448	1772	71	18	1.6%	1.0%
21	B2116 Patridge Green Road	7087	392	2	0	0.3%	0.0%

Link No	Location	Future Year Base Traffic (2026/27)		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total	HGV	Total	HGV	Total	HGV
22	A281, South Shermanbury	8728	372	41	0	1.0%	0.5%
23	A281, South of Cowfold	6761	153	1.4%	0.4%	1.4%	0.4%
24	A281, Cowfold Centre	24892	1073	1.8%	1.7%	1.8%	1.7%
25	A272, Station Road, Cowfold	18794	807	2.4%	2.3%	2.4%	2.3%
26	Wineham Lane, South of A272	948	17	1.5%	0.0%	1.5%	0.0%
27	A272, West of A23	18777	784	2.4%	6.3%	2.4%	6.3%
28	A23, North of the A272	79933	4358	0.3%	1.2%	0.3%	1.2%
29	B2188, Sayers Common	7936	1609	0.0%	0.0%	0.0%	0.0%
30	B2116, Henfield Road, Albourne	3499	161	0.0%	0.0%	0.0%	0.0%

Link No	Location	Future Year Base Traffic (2026/27)		HGV Peak Week Construction Traffic (per weekday)		Magnitude of change percentage impact	
		Total	HGV	Total	HGV	Total	HGV
31	A23, North of the A272	87401	3377	0.2%	1.9%	0.2%	1.9%
32	A27, West of A23	72343	2622	0.5%	3.0%	0.5%	3.0%
33	A27, East of A23	79131	3089	287	41	0.4%	1.3%
34	A259, West of Church Street	28609	594	241	18	0.8%	3.1%
35	A259 East of Wick	27415	508	359	0	1.3%	0.0%

To provide another level of detail and robustness, peak week has also been calculated for each of the three construction sections (Section 1 at the southern end, Section 2 in the middle and Section 3 at the northern end (see **paragraph 2.1.11**).

Table A-2 presents the percentage change for the peak weeks in Section 1, Section 2, and Section 3.

Table A-2 Onshore construction traffic percentage impact per highways link – section-based peak weeks

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
1	Ferry Road	78	3.8%	12	3.4%	62	3.0%	18	5.2%	62	3.0%	18	5.2%
2	Church Lane	1365	12.1%	51	4.2%	935	8.3%	46	3.8%	935	8.3%	46	3.8%
3	Ford Road	436	6.5%	0	0.0%	290	4.4%	0	0.0%	290	4.4%	0	0.0%
4	A27, West of Arundel	217	0.8%	43	3.1%	167	0.6%	35	2.5%	167	0.6%	35	2.5%
5	A259, West of Wick	1110	4.5%	45	4.9%	786	3.2%	50	5.3%	786	3.2%	50	5.3%
6	A284, North of Wick	241	1.6%	45	7.6%	284	1.9%	50	8.3%	284	1.9%	50	8.3%
7	A284 Lyminster	241	1.6%	45	6.1%	284	1.9%	50	6.6%	284	1.9%	50	6.6%

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
9	A27, Arundel Station	273	0.8%	43	2.5%	204	0.6%	35	2.0%	204	0.6%	35	2.0%
11	A27, South of Crossbush	386	1.1%	101	5.3%	400	1.1%	90	4.8%	400	1.1%	90	4.8%
12	A27 High Salvington	223	0.9%	98	9.8%	150	0.6%	67	6.8%	150	0.6%	67	6.8%
13	A24/A27 Offington (Warren Road)	223	0.7%	98	9.0%	150	0.4%	67	6.2%	150	0.4%	67	6.2%
14	A24 Findon	262	0.9%	0	0.0%	375	1.3%	0	0.0%	375	1.3%	0	0.0%
15	A280 Long Furlong	255	1.3%	63	1.6%	289	1.4%	41	1.0%	289	1.4%	41	1.0%

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
16	A283, West of A24	457	1.9%	13	1.6%	665	2.7%	5	0.6%	665	2.7%	5	0.6%
17	A283, East of A24	1008	8.2%	14	0.5%	1579	12.8%	12	0.5%	1579	12.8%	12	0.5%
18	B2135, South of Ashurst	40	1.0%	0	0.0%	77	2.0%	24	21.5%	77	2.0%	24	21.5%
19	A283, Steyning	209	0.9%	21	3.3%	323	1.4%	25	3.9%	323	1.4%	25	3.9%
20	A24, South of A272	506	1.3%	15	0.8%	622	1.6%	19	1.0%	622	1.6%	19	1.0%
21	B2116 Partridge Green Road	17	0.2%	0	0.0%	21	0.3%	0	0.0%	21	0.3%	0	0.0%
22	A281, South	88	1.0%	0	0.0%	87	1.0%	2	0.5%	87	1.0%	2	0.5%

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
	Sherman bury												
23	A281, South of Cowfold	96	1.4%	0	0.0%	93	1.4%	1	0.4%	93	1.4%	1	0.4%
24	A281, Cowfold Centre	438	1.8%	15	1.4%	450	1.8%	19	1.7%	450	1.8%	19	1.7%
25	A272, Station Road, Cowfold	438	2.3%	15	1.9%	450	2.4%	19	2.3%	450	2.4%	19	2.3%
26	Wineham Lane, South of A272	17	1.8%	2	13.8%	15	1.5%	0	0.0%	15	1.5%	0	0.0%
27	A272, West of A23	432	2.3%	39	5.0%	442	2.4%	49	6.3%	442	2.4%	49	6.3%

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
28	A23, North of the A272	219	0.3%	60	1.4%	214	0.3%	54	1.2%	214	0.3%	54	1.2%
29	B2188, Sayers Common	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
30	B2116, Henfield Road, Albourne	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
31	A23, North of the A272	225	0.3%	70	2.1%	215	0.2%	65	1.9%	215	0.2%	65	1.9%
32	A27, West of A23	335	0.5%	92	3.5%	349	0.5%	78	3.0%	349	0.5%	78	3.0%
33	A27, East of A23	262	0.3%	45	1.5%	287	0.4%	41	1.3%	287	0.4%	41	1.3%
34	A259, West of	311	1.1%	17	2.9%	241	0.8%	18	3.1%	241	0.8%	18	3.1%

Link No	Location	Section-based Peak Week Construction Traffic Impact (per weekday)											
		Section 1 (Peak Week 72)				Section 2 (Peak Week 83)				Section 3 (Peak Week 83-90)			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
	Church Street												
35	A259, East of Wick	479	1.7%	0	0.0%	359	1.3%	0	0.0%	359	1.3%	0	0.0%

A further means of testing robustness, the change in Annual Average Weekday Traffic (AAWT) on each of the highway links has been calculated for years 1, 2, 3 and 4 of the construction programme.

Table A-3 presents the percentage change in AAWT flows for each highway link by year.

Table A-3 Onshore construction traffic percentage impact per highways link – AAWT

Link No	Location	Magnitude of change impact – AAWT															
		Year 1				Year 2				Year 3				Year 4			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
1	Ferry Road	7	0.3%	0	0.0%	42	2.0%	7	2.0%	4	0.2%	0	0.1%	6	0.3%	1	0.2%
2	Church Lane	36	0.3%	6	0.5%	192	1.7%	25	2.1%	24	0.2%	6	0.5%	27	0.2%	3	0.2%
3	Ford Road	8	0.1%	0	0.0%	46	0.7%	0	0.0%	5	0.1%	0	0.0%	7	0.1%	0	0.0%
4	A27 West of Arundel	6	0.0%	3	0.2%	49	0.2%	30	2.1%	27	0.1%	24	1.7%	11	0.0%	9	0.6%
5	A259 West of Wick	30	0.1%	5	0.5%	167	0.7%	26	2.8%	21	0.1%	4	0.5%	23	0.1%	3	0.4%
6	A284 North of Wick	13	0.1%	5	0.8%	81	0.6%	26	4.4%	22	0.1%	4	0.7%	11	0.1%	3	0.6%
7	A284 Lyminster	14	0.1%	6	0.8%	84	0.6%	29	3.9%	22	0.1%	4	0.6%	13	0.1%	5	0.6%
9	A27, Arundel Station	7	0.0%	3	0.2%	55	0.2%	30	1.7%	28	0.1%	24	1.4%	12	0.0%	9	0.5%
11	A27, South of Crossbush	16	0.0%	9	0.5%	113	0.3%	62	3.3%	47	0.1%	29	1.5%	21	0.1%	14	0.7%

Link No	Location	Magnitude of change impact – AAWT															
		Year 1				Year 2				Year 3				Year 4			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
12	A27 High Salvington	12	0.0%	9	1.0%	64	0.3%	50	5.1%	12	0.0%	11	1.1%	17	0.1%	15	1.5%
13	A24/A27 Offington (Warren Road)	12	0.0%	9	0.9%	64	0.2%	50	4.7%	12	0.0%	11	1.0%	17	0.0%	15	1.4%
14	A24 Findon	3	0.0%	0	0.0%	41	0.1%	0	0.0%	32	0.1%	0	0.0%	6	0.0%	0	0.0%
15	A280 Long Furlong	4	0.0%	1	0.0%	64	0.3%	36	0.9%	47	0.2%	31	0.8%	17	0.1%	14	0.3%
16	A283, West of A24	6	0.0%	0	0.0%	110	0.4%	12	1.5%	62	0.3%	0	0.0%	10	0.0%	0	0.0%
17	A283, East of A24	13	0.1%	1	0.0%	212	1.7%	15	0.6%	122	1.0%	20	0.8%	21	0.2%	6	0.2%
18	B2135, South of Ashurst	1	0.0%	0	0.0%	24	0.6%	4	3.9%	17	0.4%	5	4.6%	5	0.1%	3	2.8%
19	A283, Steyning	4	0.0%	3	0.4%	49	0.2%	19	3.1%	40	0.2%	25	3.9%	8	0.0%	6	0.8%

Link No	Location	Magnitude of change impact – AAWT															
		Year 1				Year 2				Year 3				Year 4			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
20	A24, South of A272	6	0.0%	0	0.0%	86	0.2%	12	0.7%	70	0.2%	11	0.6%	14	0.0%	1	0.1%
21	B2116 Partridge Green Road	0	0.0%	0	0.0%	3	0.0%	0	0.0%	3	0.0%	0	0.0%	1	0.0%	0	0.0%
22	A281, South Shermanbury	2	0.0%	0	0.0%	30	0.3%	5	1.4%	41	0.5%	6	1.6%	12	0.1%	4	1.1%
23	A281, South of Cowfold	2	0.0%	0	0.0%	27	0.4%	1	0.8%	38	0.6%	2	1.0%	9	0.1%	1	0.5%
24	A281, Cowfold Centre	5	0.0%	0	0.0%	79	0.3%	12	1.1%	95	0.4%	11	1.0%	21	0.1%	1	0.1%
25	A272, Station Road, Cowfold	5	0.0%	0	0.0%	79	0.4%	12	1.5%	95	0.5%	11	1.3%	21	0.1%	1	0.1%
26	Wineham Lane, South of A272	1	0.1%	0	0.0%	13	1.4%	1	3.5%	23	2.4%	5	29.9%	5	0.5%	1	5.2%

Link No	Location	Magnitude of change impact – AAWT															
		Year 1				Year 2				Year 3				Year 4			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
27	A272, West of A23	6	0.0%	1	0.1%	95	0.5%	33	4.2%	110	0.6%	30	3.8%	23	0.1%	4	0.5%
28	A23, North of the A272	7	0.0%	5	0.1%	65	0.1%	40	0.9%	57	0.1%	26	0.6%	17	0.0%	10	0.2%
29	B2188, Sayers Common	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
30	B2116, Henfield Road, Albourne	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
31	A23, North of the A272	7	0.0%	5	0.2%	68	0.1%	46	1.4%	50	0.1%	31	0.9%	15	0.0%	10	0.3%
32	A27, West of A23	12	0.0%	8	0.3%	89	0.1%	58	2.2%	46	0.1%	35	1.3%	19	0.0%	16	0.6%
33	A27, East of A23	7	0.0%	4	0.1%	61	0.1%	30	1.0%	43	0.1%	20	0.6%	13	0.0%	8	0.2%

Link No	Location	Magnitude of change impact – AAWT															
		Year 1				Year 2				Year 3				Year 4			
		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs		Total Vehicles		HGVs	
34	A259, West of Church Street	7	0.0%	2	0.3%	42	0.1%	9	1.6%	7	0.0%	2	0.3%	5	0.0%	1	0.2%
35	A259, East of Wick	9	0.0%	0	0.0%	53	0.2%	0	0.0%	12	0.0%	0	0.0%	8	0.0%	0	0.0%

Appendix B
Full results of Cowfold AQMA assessment

ADMS-Roads model verification

The Cowfold Air Quality Management Area (AQMA) model verification report, within the **Chapter 19: Air quality, Volume 2** of the Environmental Statement (ES) **[APP-060]**, has been updated to include more monitoring locations within the Cowfold AQMA. Reference should be made to Section 19.8 of **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** for the methodology adopted in this model verification.

Verification calculations

The verification of the modelling output was performed in accordance with the methodology provided in LAQM.TG (22) (Department for Environment, Food and Rural Affairs (Defra), 2022). **Table B-1** shows that there was the systematic under prediction of monitored concentrations for all sites.

Table B-1 Verification, modelled versus monitored

Location	2019 Modelled Annual Mean NO_2 (μgm^{-3})	2019 Monitored Annual Mean NO_2 (μgm^{-3})	% (Modelled-Monitored)/ Monitored
12	19.4	31.6	-38.6
21	22.8	30.7	-25.8
22	17.1	26.8	-36.3
35	16.4	22.5	-27.2
36	14.5	23.5	-38.2
37	18.0	36.1	-50.3
44	17.0	23.6	-28.0

Table B-2 shows the comparison of modelled road-NO_X, a direct output from the ADMS-Roads modelling, with the monitored road-NO_X, determined from the LAQM NO_X to NO_2 conversion tool.

Table B-2 Comparison of modelled and monitored road NO_X to determine verification factor

Site	2019 Modelled Annual Mean Road NO_X (μgm^{-3})	2019 Monitored Annual Mean Road NO_X (μgm^{-3})	Ratio
12	17.2	42.1	2.4
21	23.8	40.2	1.7
22	12.8	32.0	2.5
35	11.5	23.3	2.0
36	8.0	25.3	3.2
37	14.4	52.0	3.6
44	12.6	25.5	2.0

The road-NOx adjustment factor was determined as the slope of the best fit line between the 'measured' road contribution and the model derived road contribution, forced through zero (**Figure B-1**). This factor was then applied to the modelled road-NOx concentration for each monitoring site to provide adjusted modelled road-NOx concentrations. The total NO_2 concentrations were then determined by inputting the adjusted modelled road-NOx concentrations and the background NO_2 concentration into the NOx to NO_2 calculator.

Table B-3 shows the comparison of the modelled NO_2 concentration calculated by multiplying the modelled road NO_X by the adjustment factor of 2.285 using the LAQM's NO_X to NO_2 conversion tool to calculate the total adjusted modelled NO_2. This factor was also used to adjust Particulate Matter (PM) concentrations in the absence of PM monitoring data. Both groups had the same adjustment factor.

Figure B-1 Comparison of Measured Road-NOx with Unadjusted Modelled Road-NOx

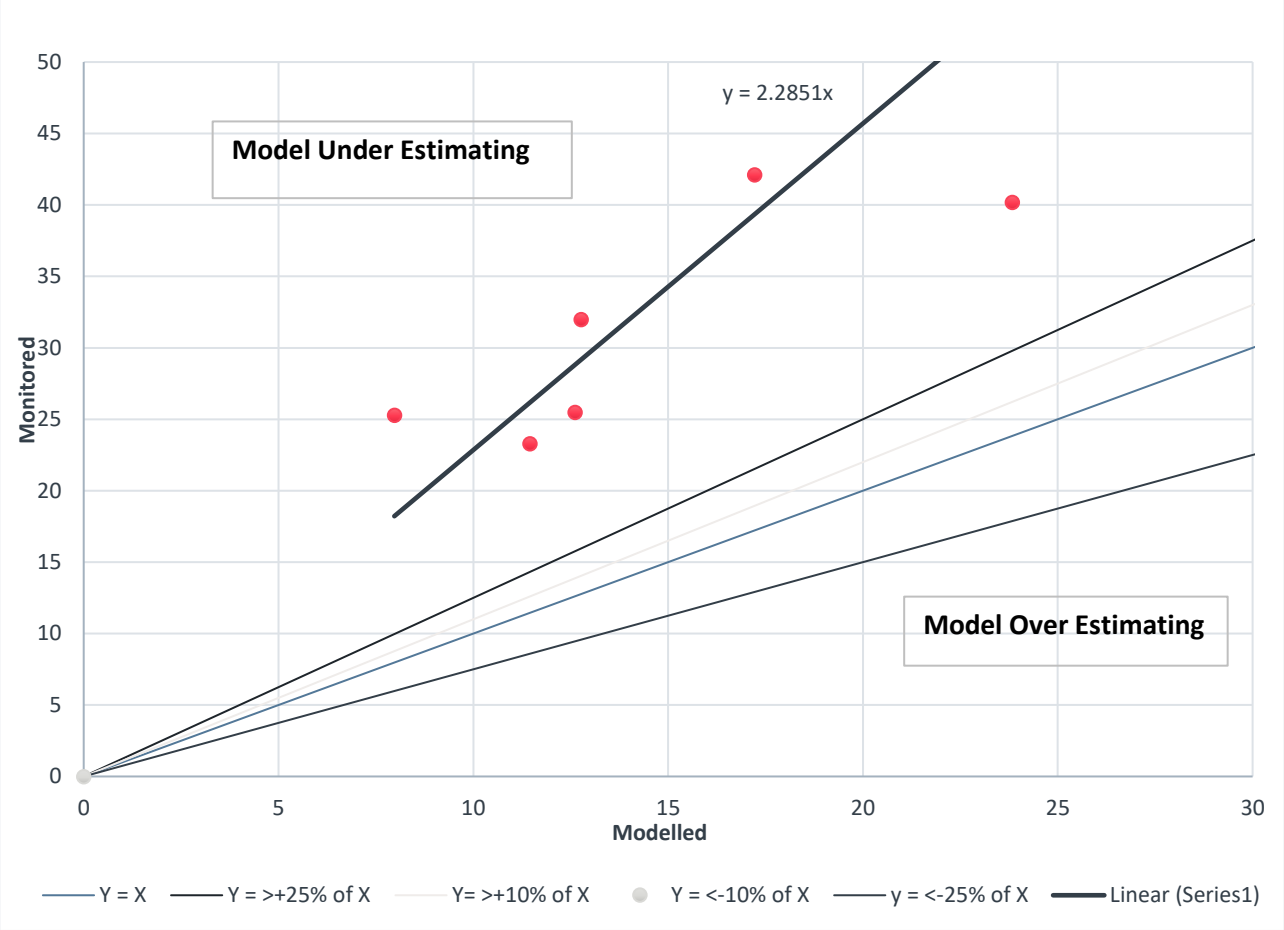


Table B-3 Comparison of modelled and monitored road NO_X to determine verification factor

Site	2019 Background NO_2 Concentration (μgm^{-3})	2019 Adjusted Modelled Annual Mean NO_2 (μgm^{-3})	2019 Monitored Annual Mean NO_2 (μgm^{-3})	% (Adjusted Modelled-Monitored)/ Monitored
12	10.2	30.3	31.6	-4.1%
21	10.2	37.2	30.7	21.1%
22	10.2	25.4	26.8	-5.1%
35	10.2	23.9	22.5	6.4%
36	10.2	19.9	23.5	-15.2%
37	10.2	27.3	36.1	-24.5%
44	10.2	25.3	23.6	7.0%

Prior to adjustment, the calculated Root Mean Square Error (RMSE) was 10.7µg/m$^{3.}$ Following adjustment, this reduced to 4.5µg/m^3. This is well within the 25% range for acceptable performance and is close to the ideal range of 10% for model performance. Therefore, in accordance with LAQM.TG (22) (Defra, 2022), the model predictions are considered robust. The correlation coefficient after adjustment is 0.595. The fractional bias parameter is 0.1 demonstrating a slight under prediction, however this is close to the ideal value of 0.0.

Meteorological data sensitivity test

A sensitivity test has been undertaken where modelled annual mean nitrogen dioxide (NO_2) concentrations have been predicted utilising Gatwick airport meteorological data and Shoreham meteorological data. **Table B-4** reports the PC predicted at discrete receptor locations and the associated impacts. Data from both meteorological stations report negligible impacts. The PCs predicted using Gatwick airport data are marginally higher at some receptor locations and therefore full modelling results are presented in the proceeding section utilising meteorological data from Gatwick airport meteorological station.

Table B-4 Modelled annual mean NO_2 impacts due to construction traffic – Sensitivity test

ID	AQO (µg m^{-3})	Gatwick airport meteorological data			Shoreham meteorological data		
		PC (µg m^{-3})	PC (% of AQO)	Impact	PC (µg m^{-3})	PC (% of AQO)	Impact
R1	40	0.04	0.10	Negligible	0.03	0.07	Negligible
R2	40	0.03	0.07	Negligible	0.02	0.05	Negligible
R3	40	0.03	0.07	Negligible	0.02	0.05	Negligible
R4	40	0.03	0.07	Negligible	0.04	0.10	Negligible
R5	40	0.03	0.07	Negligible	0.04	0.10	Negligible
R6	40	0.04	0.10	Negligible	0.04	0.10	Negligible
R7	40	0.04	0.10	Negligible	0.05	0.13	Negligible
R8	40	0.05	0.12	Negligible	0.03	0.07	Negligible
R9	40	0.05	0.13	Negligible	0.04	0.10	Negligible
R10	40	0.06	0.15	Negligible	0.05	0.13	Negligible

ID	AQO (µg m^{-3})	Gatwick airport meteorological data			Shoreham meteorological data		
		PC (µg m^{-3})	PC (% of AQO)	Impact	PC (µg m^{-3})	PC (% of AQO)	Impact
R11	40	0.09	0.23	Negligible	0.11	0.27	Negligible
R12	40	0.08	0.20	Negligible	0.11	0.27	Negligible
R13	40	0.1	0.25	Negligible	0.08	0.20	Negligible
R14	40	0.15	0.38	Negligible	0.12	0.30	Negligible
R15	40	0.21	0.52	Negligible	0.15	0.38	Negligible
R16	40	0.59	1.48	Negligible	0.42	1.05	Negligible
R17	40	0.15	0.38	Negligible	0.12	0.30	Negligible
R18	40	0.19	0.47	Negligible	0.13	0.33	Negligible
R19	40	0.13	0.32	Negligible	0.14	0.35	Negligible
R20	40	0.41	1.03	Negligible	0.54	1.35	Negligible
R21	40	0.2	0.50	Negligible	0.27	0.68	Negligible
R22	40	0.08	0.20	Negligible	0.09	0.23	Negligible
R23	40	0.11	0.27	Negligible	0.14	0.35	Negligible
R24	40	0.08	0.20	Negligible	0.09	0.23	Negligible
R25	40	0.06	0.15	Negligible	0.06	0.15	Negligible
R26	40	0.07	0.18	Negligible	0.07	0.18	Negligible
R27	40	0.05	0.12	Negligible	0.05	0.12	Negligible
R28	40	0.04	0.10	Negligible	0.04	0.10	Negligible
R29	40	0.06	0.15	Negligible	0.06	0.15	Negligible
R30	40	0.13	0.33	Negligible	0.11	0.27	Negligible
R31	40	0.04	0.10	Negligible	0.06	0.15	Negligible
R32	40	0.02	0.05	Negligible	0.04	0.10	Negligible
R33	40	0.01	0.02	Negligible	0.01	0.02	Negligible

ID	AQO (µg m^{-3})	Gatwick airport meteorological data			Shoreham meteorological data		
		PC (µg m^{-3})	PC (% of AQO)	Impact	PC (µg m^{-3})	PC (% of AQO)	Impact
R34	40	0.01	0.02	Negligible	0.01	0.02	Negligible
R35	40	0.21	0.52	Negligible	0.18	0.45	Negligible
R36	40	0.34	0.85	Negligible	0.42	1.05	Negligible
R37	40	0.42	1.05	Negligible	0.52	1.30	Negligible
R38	40	0.41	1.03	Negligible	0.52	1.30	Negligible
R39	40	0.45	1.13	Negligible	0.55	1.38	Negligible
R40	40	0.5	1.25	Negligible	0.68	1.70	Negligible
R41	40	0.24	0.60	Negligible	0.37	0.92	Negligible
R42	40	0.28	0.70	Negligible	0.39	0.97	Negligible
R43	40	0.31	0.77	Negligible	0.43	1.08	Negligible
R44	40	0.24	0.60	Negligible	0.33	0.83	Negligible
R45	40	0.26	0.65	Negligible	0.36	0.90	Negligible
R46	40	0.16	0.40	Negligible	0.12	0.30	Negligible
R47	40	0.24	0.60	Negligible	0.19	0.48	Negligible
R48	40	0.37	0.92	Negligible	0.29	0.72	Negligible
R49	40	0.02	0.05	Negligible	0.02	0.05	Negligible
R50	40	0.02	0.05	Negligible	0.01	0.02	Negligible

ADMS-Roads model results

The traffic roads model considered receptors R1 to R50 and they represent residential properties or other locations of relevant exposure along the considered road links. **Table B-5** reports the locations of the receptors that have been considered in the assessment. **Table B-6** to **Table B-8** present modelled annual mean NO_2 and PM (PM_{10} and $PM_{2.5}$) concentrations, along with the impact descriptor according to IAQM (2017) guidance. Results are presented to several decimal places. This is to aid comparison against Air Quality Objectives (AQOs), between receptors and between the 'With

Proposed Development' and 'Without Proposed Development' scenarios. The number of decimal places should not be interpreted as an indication of the accuracy of the results.

Table B-5 List of receptors where impacts due to construction traffic are modelled

ID	Description	X coordinates	Y coordinates	Height (m)	In AQMA?
R1	Human	521021	122756	1.6	Yes
R2	Human	521055	122735	1.6	Yes
R3	Human	521133	122688	1.6	Yes
R4	Human	521097	122670	1.6	Yes
R5	Human	521150	122655	1.6	Yes
R6	Human	521182	122659	1.6	Yes
R7	Human	521210	122661	1.6	Yes
R8	Human	521251	122693	1.6	Yes
R9	Human	521228	122685	1.6	Yes
R10	Human	521274	122696	1.6	Yes
R11	Human	521310	122650	1.6	Yes
R12	Human	521286	122654	1.6	Yes
R13	Human	521333	122667	1.6	Yes
R14	Human	521325	122608	1.6	Yes
R15	Human	521321	122578	1.6	No
R16	Human	521358	122586	1.6	Yes
R17	Human	521340	122627	1.6	Yes
R18	Human	521319	122558	1.6	No
R19	Human	521328	122522	1.6	No
R20	Human	521363	122542	1.6	Yes
R21	Human	521345	122534	1.6	Yes
R22	Human	521321	122500	1.6	No

ID	Description	X coordinates	Y coordinates	Height (m)	In AQMA?
R23	Human	521356	122481	1.6	No
R24	Human	521364	122441	1.6	No
R25	Human	521321	122451	1.6	No
R26	Human	521360	122393	1.6	No
R27	Human	521349	122335	1.6	No
R28	Human	521317	122329	1.6	No
R29	Human	521341	122293	1.6	No
R30	Human	521309	122252	1.6	No
R31	Human	521322	122201	1.6	No
R32	Human	521294	122123	1.6	No
R33	Human	521211	122041	1.6	No
R34	Human	521161	121890	1.6	No
R35	Human	521409	122562	1.6	Yes
R36	Human	521380	122517	1.6	Yes
R37	Human	521403	122500	1.6	Yes
R38	Human	521412	122494	1.6	Yes
R39	Human	521443	122478	1.6	Yes
R40	Human	521463	122469	1.6	Yes
R41	Human	521489	122449	1.6	Yes
R42	Human	521583	122448	1.6	No
R43	Human	521604	122455	1.6	No
R44	Human	521642	122460	1.6	No
R45	Human	521688	122480	1.6	No
R46	Human	521932	122598	1.6	No
R47	Human	522002	122574	1.6	No

ID	Description	X coordinates	Y coordinates	Height (m)	In AQMA?
R48	Human	522073	122562	1.6	No
R49	Human	521331	122754	1.6	No
R50	Human	521304	122784	1.6	No

Table B-6 Modelled annual mean NO_2 impacts due to construction traffic

ID	AQO[7] ($\mu g\ m^{-3}$)	PC[8] ($\mu g\ m^{-3}$)	PEC [9]($\mu g\ m^{-3}$)	PC (% of AQO)	PEC (% of AQO)	Impact
R1	40	0.04	13.96	0.10	34.90	Negligible
R2	40	0.03	13.03	0.07	32.58	Negligible
R3	40	0.03	13.37	0.07	33.43	Negligible
R4	40	0.03	12.86	0.07	32.15	Negligible
R5	40	0.03	12.33	0.07	30.83	Negligible
R6	40	0.04	13.43	0.10	33.58	Negligible
R7	40	0.04	14.00	0.10	35.00	Negligible
R8	40	0.05	13.36	0.12	33.40	Negligible
R9	40	0.05	14.67	0.13	36.68	Negligible
R10	40	0.06	14.19	0.15	35.48	Negligible
R11	40	0.09	17.65	0.23	44.13	Negligible
R12	40	0.08	15.84	0.20	39.60	Negligible
R13	40	0.1	19.30	0.25	48.25	Negligible
R14	40	0.15	19.64	0.38	49.10	Negligible
R15	40	0.21	14.94	0.52	37.35	Negligible
R16	40	0.59	20.10	1.48	50.25	Negligible

[7] Air Quality Objective
[8] Process Contribution
[9] Predicted Environmental Contribution

ID	AQO[7] (µg m^{-3})	PC[8] (µg m^{-3})	PEC [9](µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R17	40	0.15	21.21	0.38	53.03	Negligible
R18	40	0.19	13.16	0.47	32.90	Negligible
R19	40	0.13	11.79	0.32	29.48	Negligible
R20	40	0.41	15.01	1.03	37.53	Negligible
R21	40	0.2	13.75	0.50	34.38	Negligible
R22	40	0.08	10.41	0.20	26.03	Negligible
R23	40	0.11	11.36	0.27	28.40	Negligible
R24	40	0.08	10.60	0.20	26.50	Negligible
R25	40	0.06	9.82	0.15	24.55	Negligible
R26	40	0.07	10.49	0.18	26.23	Negligible
R27	40	0.05	10.35	0.12	25.88	Negligible
R28	40	0.04	10.01	0.10	25.03	Negligible
R29	40	0.06	10.60	0.15	26.50	Negligible
R30	40	0.13	13.16	0.33	32.90	Negligible
R31	40	0.04	9.91	0.10	24.78	Negligible
R32	40	0.02	9.76	0.05	24.40	Negligible
R33	40	0.01	8.92	0.02	22.30	Negligible
R34	40	0.01	6.50	0.02	16.25	Negligible
R35	40	0.21	11.54	0.52	28.85	Negligible
R36	40	0.34	13.52	0.85	33.80	Negligible
R37	40	0.42	14.13	1.05	35.33	Negligible
R38	40	0.41	13.99	1.03	34.98	Negligible
R39	40	0.45	14.46	1.13	36.15	Negligible
R40	40	0.5	15.04	1.25	37.60	Negligible
R41	40	0.24	11.48	0.60	28.70	Negligible

ID	AQO[7] (µg m^{-3})	PC[8] (µg m^{-3})	PEC [9](µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R42	40	0.28	11.66	0.70	29.15	Negligible
R43	40	0.31	12.11	0.77	30.28	Negligible
R44	40	0.24	11.03	0.60	27.58	Negligible
R45	40	0.26	11.33	0.65	28.33	Negligible
R46	40	0.16	10.04	0.40	25.10	Negligible
R47	40	0.24	9.96	0.60	24.90	Negligible
R48	40	0.37	11.60	0.92	29.00	Negligible
R49	40	0.02	11.80	0.05	29.50	Negligible
R50	40	0.02	11.01	0.05	27.53	Negligible

Table B-7 Modelled annual mean PM_{10} impacts due to construction traffic

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R1	40	0.02	15.64	0.04	39.11	Negligible
R2	40	0.01	15.26	0.03	38.16	Negligible
R3	40	0.02	15.37	0.04	38.42	Negligible
R4	40	0.01	15.17	0.03	37.93	Negligible
R5	40	0.01	14.92	0.03	37.31	Negligible
R6	40	0.02	15.32	0.04	38.30	Negligible
R7	40	0.02	15.47	0.04	38.68	Negligible
R8	40	0.01	14.95	0.04	37.37	Negligible
R9	40	0.02	15.69	0.05	39.22	Negligible
R10	40	0.01	14.90	0.04	37.25	Negligible
R11	40	0.03	15.96	0.06	39.91	Negligible
R12	40	0.02	15.23	0.05	38.07	Negligible
R13	40	0.03	16.44	0.07	41.11	Negligible

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R14	40	0.04	16.79	0.11	41.98	Negligible
R15	40	0.06	15.23	0.14	38.08	Negligible
R16	40	0.15	16.43	0.38	41.08	Negligible
R17	40	0.04	17.28	0.11	43.21	Negligible
R18	40	0.05	14.71	0.13	36.76	Negligible
R19	40	0.04	14.61	0.11	36.52	Negligible
R20	40	0.15	15.78	0.38	39.46	Negligible
R21	40	0.07	15.25	0.18	38.13	Negligible
R22	40	0.03	14.16	0.08	35.39	Negligible
R23	40	0.04	14.55	0.11	36.38	Negligible
R24	40	0.03	14.27	0.08	35.67	Negligible
R25	40	0.02	13.96	0.06	34.91	Negligible
R26	40	0.03	14.22	0.06	35.55	Negligible
R27	40	0.02	14.14	0.05	35.36	Negligible
R28	40	0.02	14.01	0.04	35.04	Negligible
R29	40	0.02	14.11	0.04	35.28	Negligible
R30	40	0.02	14.55	0.06	36.36	Negligible
R31	40	0.01	13.95	0.03	34.88	Negligible
R32	40	0.01	13.96	0.03	34.91	Negligible
R33	40	0.01	13.64	0.02	34.11	Negligible
R34	40	0.00	12.46	0.00	31.15	Negligible
R35	40	0.07	14.53	0.18	36.32	Negligible
R36	40	0.14	15.47	0.35	38.67	Negligible
R37	40	0.17	15.79	0.43	39.47	Negligible
R38	40	0.17	15.73	0.42	39.32	Negligible

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R39	40	0.17	15.71	0.43	39.27	Negligible
R40	40	0.17	15.63	0.43	39.08	Negligible
R41	40	0.09	14.62	0.23	36.54	Negligible
R42	40	0.11	14.82	0.29	37.05	Negligible
R43	40	0.13	15.02	0.33	37.56	Negligible
R44	40	0.10	14.56	0.24	36.40	Negligible
R45	40	0.11	14.70	0.28	36.74	Negligible
R46	40	0.07	14.15	0.17	35.39	Negligible
R47	40	0.10	13.90	0.26	34.74	Negligible
R48	40	0.16	14.61	0.39	36.52	Negligible
R49	40	0.01	14.45	0.02	36.12	Negligible
R50	40	0.01	14.32	0.02	35.81	Negligible

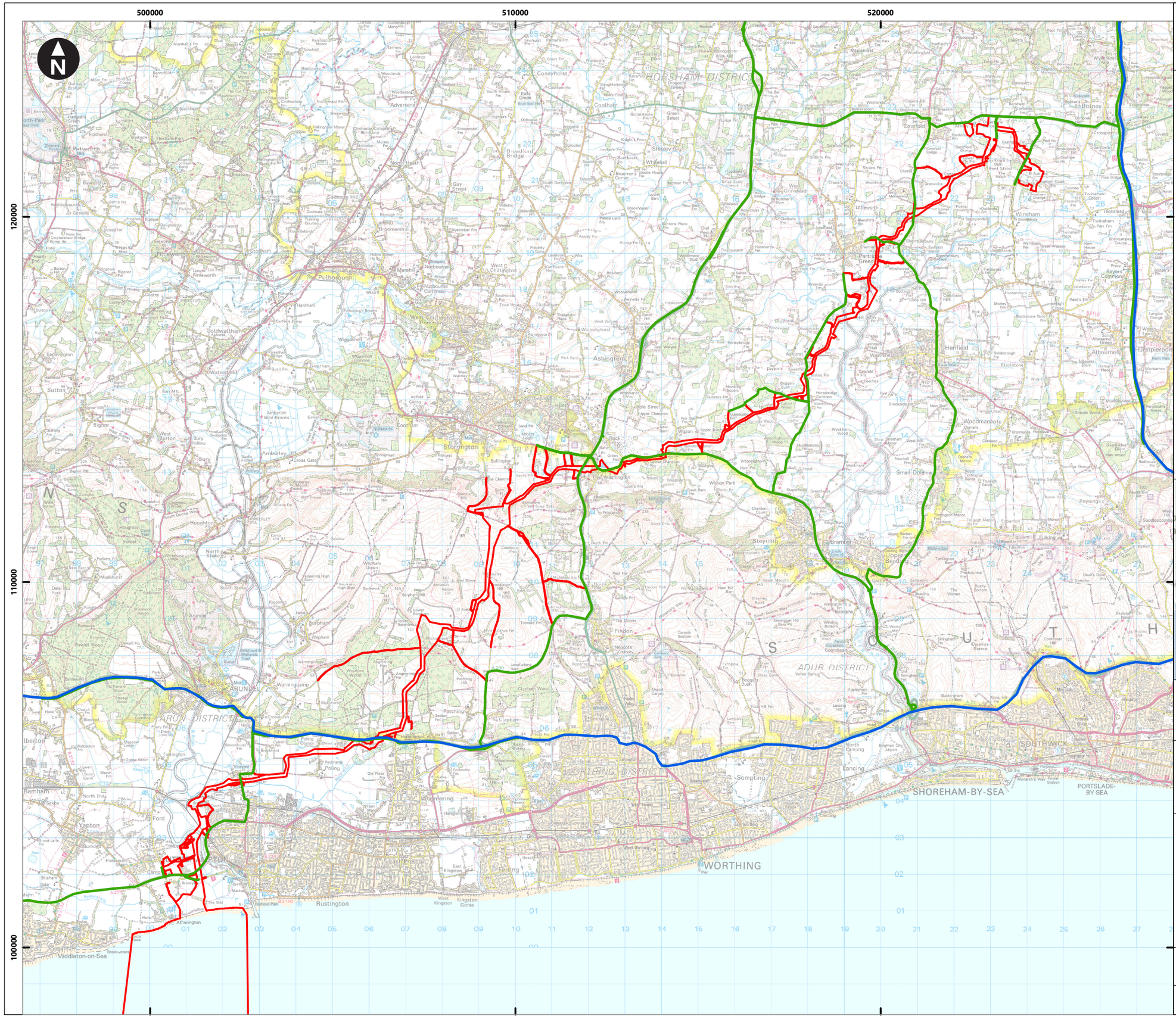
Table B-8 Modelled annual mean $PM_{2.5}$ impacts due to construction traffic

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R1	20	0.01	10.11	0.04	50.56	Negligible
R2	20	0.01	9.90	0.04	49.51	Negligible
R3	20	0.01	9.96	0.04	49.80	Negligible
R4	20	0.01	9.85	0.04	49.25	Negligible
R5	20	0.01	9.72	0.04	48.58	Negligible
R6	20	0.01	9.94	0.04	49.68	Negligible
R7	20	0.01	10.02	0.05	50.10	Negligible
R8	20	0.01	9.74	0.04	48.69	Negligible
R9	20	0.01	10.14	0.05	50.71	Negligible
R10	20	0.01	9.72	0.04	48.61	Negligible

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R11	20	0.01	10.32	0.07	51.59	Negligible
R12	20	0.01	9.91	0.05	49.56	Negligible
R13	20	0.02	10.59	0.08	52.95	Negligible
R14	20	0.02	10.78	0.12	53.88	Negligible
R15	20	0.03	9.91	0.16	49.53	Negligible
R16	20	0.09	10.59	0.43	52.96	Negligible
R17	20	0.02	11.05	0.12	55.26	Negligible
R18	20	0.03	9.61	0.14	48.05	Negligible
R19	20	0.02	9.54	0.12	47.72	Negligible
R20	20	0.08	10.20	0.42	50.98	Negligible
R21	20	0.04	9.90	0.20	49.52	Negligible
R22	20	0.02	9.29	0.09	46.45	Negligible
R23	20	0.02	9.51	0.12	47.55	Negligible
R24	20	0.02	9.35	0.09	46.76	Negligible
R25	20	0.01	9.18	0.06	45.92	Negligible
R26	20	0.01	9.33	0.07	46.64	Negligible
R27	20	0.01	9.28	0.05	46.42	Negligible
R28	20	0.01	9.21	0.05	46.07	Negligible
R29	20	0.01	9.27	0.05	46.36	Negligible
R30	20	0.01	9.53	0.07	47.64	Negligible
R31	20	0.01	9.18	0.03	45.90	Negligible
R32	20	0.01	9.18	0.03	45.91	Negligible
R33	20	0.00	9.01	0.02	45.03	Negligible
R34	20	0.00	8.08	0.00	40.40	Negligible
R35	20	0.04	9.50	0.21	47.49	Negligible

ID	AQO (µg m^{-3})	PC (µg m^{-3})	PEC (µg m^{-3})	PC (% of AQO)	PEC (% of AQO)	Impact
R36	20	0.08	10.01	0.39	50.07	Negligible
R37	20	0.09	10.19	0.47	50.94	Negligible
R38	20	0.09	10.16	0.47	50.78	Negligible
R39	20	0.10	10.15	0.48	50.75	Negligible
R40	20	0.10	10.12	0.48	50.58	Negligible
R41	20	0.05	9.54	0.26	47.72	Negligible
R42	20	0.06	9.65	0.32	48.26	Negligible
R43	20	0.07	9.76	0.36	48.82	Negligible
R44	20	0.05	9.51	0.27	47.55	Negligible
R45	20	0.06	9.58	0.30	47.92	Negligible
R46	20	0.04	9.29	0.18	46.43	Negligible
R47	20	0.06	8.90	0.28	44.49	Negligible
R48	20	0.09	9.29	0.43	46.45	Negligible
R49	20	0.00	9.46	0.02	47.30	Negligible
R50	20	0.00	9.39	0.02	46.93	Negligible

Appendix C
Figures



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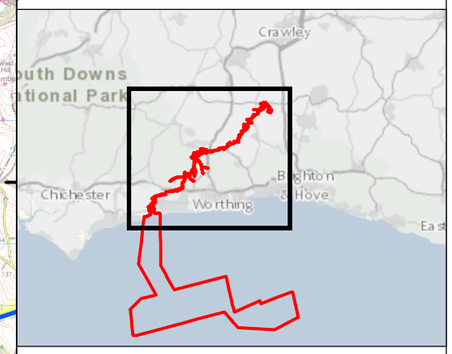
Key

- Proposed DCO Order Limits
- Strategic Road Network
- HGV approved



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Rampion Extension Development

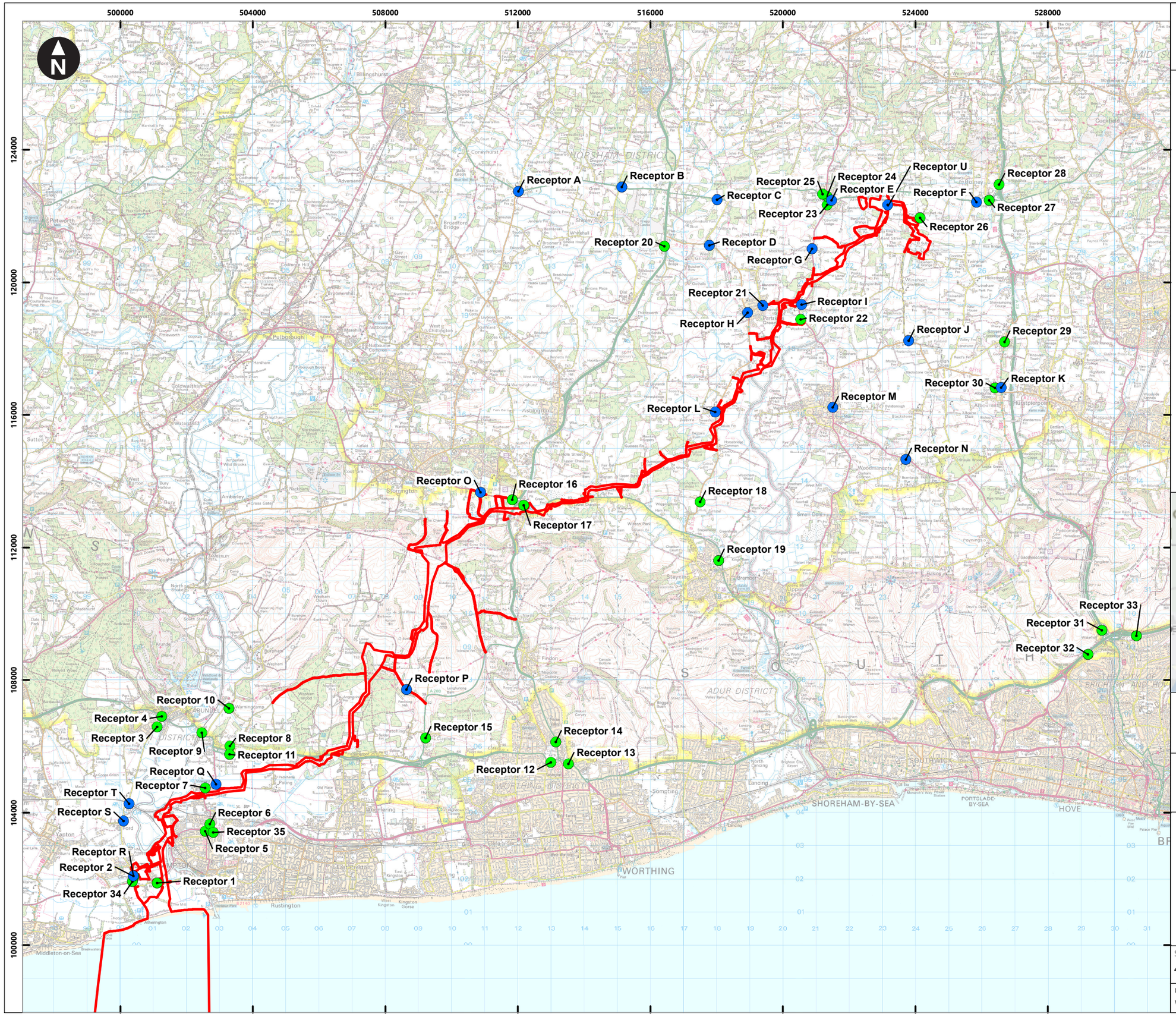
Rampion 2 WIND FARM

Rampion 2 Offshore Wind Farm

Figure 32.1 Location of Onshore Elements of Proposed Development and Highway Context

Environmental Statement Addendum

System Identifier:				Version:
42285-WSPE-ES-ON-FG-OT-7505				2.0
Company:	Drawn By:	Chk/Aprvd:	Drawn Date:	Status:
WSP	SHEPS	SUTET	09/07/2024	FINAL



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Key

- Proposed DCO Order Limits
- Highway links for study area 1 (presented in DCO submission, chapter 23, figure 22)
- Additional highway links for study area 1

Kilometres

0 0.5 1 2 3 4

1:110,000

British National Grid Transverse Mercator

Rampion Extension Development

Rampion 2 WIND FARM

Rampion 2 Offshore Wind Farm

Figure 32.2 Study Area 1 Highway Links

Environmental Statement Addendum

System Identifier:				Version:
42285-WSPE-EX-ON-FG-OT-3592				1.0
Company: WSP	Drawn By: SUTET	Chk/Aprvd: MORGS	Drawn Date: 28/02/2024	Status: Final

Rampion 2
WIND FARM