

10. TRANSPORT & ACCESS

Introduction

- 10.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of transport and access.
- 10.2 A Transport Assessment (TA) (ref: ITB13091-003 R) has been prepared and is included at Appendix 10.1. The TA primarily identifies the Development's compliance with national and local transport policy in terms of a) its accessibility by non-car modes; b) the provision of safe and acceptable access; and c) setting out how the residual traffic impact (following mitigation) will be acceptable.
- 10.3 The TA does not assess the environmental impact of the road traffic generated by the Development. The assessment of the environmental impact of the additional traffic requires assessment against different criteria. Therefore, the assessment set out in this Chapter has been undertaken using the criteria set out in the Institute of Environmental Management and Assessment's Guidelines for the Environmental Assessment of Road Trafficⁱ.

Policy Context

National Planning Policy Framework (NPPF)ⁱⁱ

- 10.4 The revised NPPF was published in February 2019. Section 4 of the NPPF refers to the promotion of sustainable transport modes, giving people a real choice about how they travel. Paragraph 108 identifies the 'three key transport tests' and states:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- Safe and suitable access to the site can be achieved for all users; and*
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

- 10.5 Paragraph 109 states that, when it comes to highways matters, development *"should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe"*.

- 10.6 Paragraph 110 sets out the prioritisation of pedestrians, cyclists, those with reduced mobility, safety, security, creating attractive places, allowing for the efficient delivery of goods and access by service and emergency vehicles, and the accommodation of charging for plug-in vehicles. There is also a requirement for the assessment of movement impacts – including vehicular, pedestrians, cyclists and other non-motorised users.

Planning Practice Guidance (2014)ⁱⁱⁱ

- 10.7 The PPG is a government public web-based planning guidance resource that was launched in March 2014 and replaced several previous guidance documents, including the Department for Transport's 'Guidance on Transport Assessment' (2007).
- 10.8 In relation to transport, the PPG identifies that:

"Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements." (ID42 – 002)

Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be 'severe', which may be a reason for refusal, in accordance with the National Planning Policy Framework." (ID42-005)

Local Planning Policy

Arun Local Plan 2011-2031 (July 2018)^{iv}

- 10.9 In July 2018, Arun District Council (ADC) adopted a new Local Plan which sets out the vision for Arun District to 2031. Included in the Plan, the Site is identified as Strategic Site Allocation SD8 in Policy H SP2c, for delivery of at least 1,500 new homes (30% affordable), a local centre, a primary school including nursery, employment/ business uses (B1) and a number of sports and recreational facilities.
- 10.10 The Arun Local Plan (ALP) identifies a series of policies relating to transport. Policy T SP1 – Transport and Development identifies that development sites will be supported where they:
- *"Are designed to reduce the need to travel by car, but make provision for safe access to the site for all travel modes;*
 - *Give priority to pedestrian and cycle movements;*
 - *Incorporate appropriate levels of parking in line with WSCC Guidance;*

- *Are supported by effective and deliverable Transport Assessments and Travel Plans; and*

Explain how development can:

- *Accommodate deliveries and servicing;*
- *Give priority to pedestrian and cycle movements and have access to high-quality public transport;*
- *Create safe and secure layouts for all users;*
- *Incorporate electric charging infrastructure; and*
- *Consider the needs of people with disabilities."*

10.11 Policy T DM1 – Sustainable Travel and Public Rights of Way identifies that proposals for new development must:

- *"Be located where they are close to sustainable travel opportunities which link to key destinations;*
- *Contribute to the extension of public transport services;*
- *Make provision for pedestrian and cycling facilities; and*
- *Contributes to provision of a joined-up cycle and PROW network."*

Arun District Council Infrastructure Capacity Study and Delivery Plan (IDP)^v

10.12 The revised IDP was published in 2017 in order to take into account the additional strategic development location arising from modification to the then draft ALP. The IDP sets out the infrastructure required to support strategic development, and the underlying justifications and evidence of requirements.

10.13 The IDP attributes improvement schemes to strategic development sites and identifies the financial contributions and/or works schemes required from each site to support delivery of the development. In transport terms, the following contributions and schemes are required from the Development;

- A27/B2233 junction improvement financial contribution;
- A27/A29 junction improvement financial contribution;
- A27/A284 junction improvement financial contribution;
- A259/B2187 junction improvement financial contribution;
- Site to Ford Station sustainable link improvement works/contribution; and
- Ford Station cycle parking financial contribution.

West Sussex County Council's Transport Plan 2011-2026^{vi}

- 10.14 The West Sussex County Council (WSCC) Local Transport Plan was published in February 2011 and sets out a long-term strategy and implementation plan for making improvements to the transport system throughout the county over the next 20 years.
- 10.15 The strategy for Arun is to provide improvements to the transport system to tackle the identified transport issues as and when funding becomes available. To ensure that the regeneration aspirations of the plan are delivered, and the identified transport issues are addressed, the plan requires that developments contribute, and support, in some way to the following objectives:
- Increasing use of sustainable modes of transport;
 - Improving network efficiency in order to improve journey times and air quality;
 - Improving safety for all road users;
 - Discouraging HGVs from using unsuitable roads; and
 - Improving accessibility between communities within the District.

Ford Neighbourhood Plan^{vii}

- 10.16 The Ford Neighbourhood Plan (FNP) was passed, with modification, by the Examiner and subject to Referendum on 8 November 2018. The FNP sets out a vision for the area between 2017-2031 that reflects the thoughts of the local community. The plan sets out some key objectives in order to achieve the key aims of Ford Parish Council (FPC).
- 10.17 The Site is identified in the neighbourhood plan under Policy SA1 "Ford Airfield" and includes the following key transport policies:
- A network of open spaces, footpaths and cycleway connecting the community and its new facilities; and
 - Road improvements as necessary to Ford Lane, Horsemere Green Lane and in Yapton Road subject to detailed assessment.
- 10.18 In addition, Policy GA1 – Footpath and Cycle Network outlines that "*support will be given to proposals that improve and extend the existing footpath and cycle path network. The loss of existing footpaths and cycle paths will be resisted*".
- 10.19 Policy GA3 states that development will be supported where:

- New residential streets and access ways are design with appropriate emphasis on all modes of transport;
- Quieter streets should be designed to be suitable for a range of social activities, such as children's play;
- Building fronts should overlook streets and other routes to make pedestrians and cyclists feel safe; and
- 20mph will generally be the maximum design speed that is considered appropriate for new streets within the residential development.

Planning Policy Summary

10.20 Paragraph 108 of the NPPF identifies the three key transport criteria that decisions on development proposals should take account of. These are whether:

- The opportunities for sustainable travel have been taken up;
- Safe and suitable access can be achieved; and
- Improvements can be undertaken within the transport network that cost effectively limit the impacts of development.

10.21 The national criteria are reflected in the ALP and FNP. These local policies place an emphasis on ensuring that development is accessible by sustainable modes of transport; it creates an environment where sustainable transport is an attractive and viable mode choice; and that it enhances the local road network as necessary.

10.22 The IDP establishes locations where financial contributions towards the delivery of transport improvement works, or the delivery of improvement schemes, are required to support the delivery of allocated development.

Assessment Methodology

Consultation

10.23 A formal pre-application process has been undertaken with WSCC, in their capacity as the local highway authority. Meetings have been held with officers of WSCC to establish the parameters for the testing the impact of the Development upon the highway network, as well as continued discussions via telephone and e-mail to agree matters such as trip generation, traffic distribution and network assignment.

10.24 A series of Technical Notes, which are appended to the TA (Appendix 10.1), have been issued to WSCC to agree the scope of the Development's traffic impact. The scoping process is summarised as follows:

- Scoping Note ITB13091-002 R was submitted to WSCC on 26 March 2018, presenting the Development and setting out the proposed assessment of traffic impact;
- A pre-application 'start-up' meeting with WSCC on 25 April 2018 to discuss the content of Scoping Note ITB13091-002 R and general scope of assessment;
- A meeting with WSCC on 18 May 2018 to discuss the use of the Arun Transport Study model and trip generation;
- Trip Generation Technical Note ITB13091-007 was submitted to WSCC for comment on the 17 July 2018;
- Traffic Distribution and Assignment Technical Note ITB13091-008 was submitted to WSCC for comment on 2 August 2018; and
- Sensitivity Test Technical Note ITB13091-021 was submitted to WSCC for comment on 29 March 2019 and set out the proposed treatment of the secondary school as a sensitivity test within the ES.

Study Area

10.25 The study area for the ES Chapter has been discussed and agreed with WSCC as part of pre-application engagement and through the EIA Scoping process. The extent of the study area is shown on Figure 10.1 and, in terms of the assessment in this Chapter, includes the receptors on the highway network set out in Table 10.1.

Table 10.1: Study area

Receptor
Yapton Level Crossing
B2233 Yapton Road west of North End Road
Bilsham Road south of Burndell Road Mini-Roundabout
Burndell Road north west of Rollaston Park
Ford Level Crossing
A259 east of B2259
B2132 south of Bilsham Road Stagger
A259 west of Oystercatcher Junction
Yapton Road north of Oystercatcher Junction
A259 east of Oystercatcher Junction
Church Lane south of Horsemere Green Lane
A259 east of Church Lane Roundabout
A259 North of Broad Piece Roundabout
A284 Lyminster Road North of Wick Roundabout
A259 East of Morrisons Roundabout

Surveys

10.26 In order to establish the existing traffic flows within the agreed study area, fully classified junction turning counts have been undertaken at the following junctions during the peak periods of 0700-1000 and 1600-1900:

- Ford Lane/ Ford Road (5 July 2018);
- Ford Lane/North End Road (5 July 2018);
- North End Road/ B2233 Mini Roundabout (5 July 2018);
- Bilsham Road/ Burndell Road Mini Roundabout (5 July 2018);
- Rollaston Park/ Yapton Road (5 July 2018);
- Yapton Road/ A259 (5 July 2018);
- B2132 Bilsham Road/ A259 'Comet Corner' (26 September 2018);
- A259/ Hoe Lane/ B2259 Roundabout (5 July 2018);
- A259/ Church Lane/ Crookthorn Lane Roundabout (5 July 2018);
- A259/ Broad Piece/ B2187 Roundabout (5 July 2018);
- A27/ A284/ Maltravers St/ Ford Road Roundabout (5 July 2018);
- A27/ Yapton Lane (5 July 2018); and
- Yapton Lane/ The St Mini Roundabout (5 July 2018).

10.27 In addition, Automatic Traffic Count (ATC) surveys were undertaken at the following locations:

- Ford Lane (west of junction with Ford Road);
- Ford Road (south of junction with Ford Lane);
- Yapton Road (north of Horsemere Green Lane); and
- Rollaston Park (west of junction with Johnson Way).

10.28 This has been supplemented by additional data, in the form of 2017 peak hour Annual Average Daily Traffic (AADT) and Annual Average Weekday Traffic (AAWT) traffic flows, obtained from both the Department for Transport (DfT) and WSCC traffic count databases.

Calculation of Baseline Traffic Flows

10.29 In order to inform the Air Quality assessment (refer to ES Chapter 11), it has been necessary to provide a baseline year of 2017 so that the traffic data is consistent with both the monitoring data available from ADC and the traffic data obtained from DfT and WSCC.

Therefore, TEMPRO growth factors have been used to adjust the 2018 AADT flow data to provide a 2017 baseline.

- 10.30 24-hour AADT and 18-hour AAWT flows have been derived from the traffic surveys set out in paragraph 10.27. The flows have been converted from peak period turning counts to AADT and AAWT by using factors derived from the ATC data.
- 10.31 It should also be noted that the traffic surveys used to inform the baseline data collection were undertaken on a Thursday when Ford Market and Car Boot was operational on the Site during its peak operating season. Therefore, traffic flows associated with the Market and Car Boot, which is to be retained as on-going use during and after the Development, are included within the baseline traffic flows.

Calculation of Future Year Traffic Flows

- 10.32 The future year baseline flows have been calculated by the application of a TEMPro growth factor to the 2017 baseline data, which has derived from the National Transport Model and adjusted to take into account local level planning data. A growth rate has been derived for the Arun 006 area for both 2024 and 2031.
- 10.33 The application of a TEMPro growth factor takes into account additional traffic associated with both population and employment growth, as well as other factors such as an increase in car ownership. However, in addition to the application of a TEMPro growth factor, site-specific traffic data has been added to the future baseline where local committed developments meet the following criteria:
- The development is of a scale that requires a Transport Assessment – i.e. typically in excess of 80 units; and
 - The development would have a disproportional impact upon the operation of a junction e.g. a significant number of vehicular movements generated by a development will be required to use a specific junction.
- 10.34 The following list of committed developments were agreed with ADC inclusion for the future baseline traffic flows:
- Land at North End Road for 100 dwellings – Application Ref: Y/80/16/OUT;
 - Land East of Tye Lane, Walburton for 175 dwellings – Application Ref: WA/44/17;
 - Cinders Lane, Yapton for 51 dwellings – Application Ref: Y/5/17;

- Stakers Farm for 108 dwellings – Application Ref: Y/44/17;
- Bilsham Road for 550 dwellings - Application Refs: Y/91/17 and Y/92/17;
- Church Lane, Climping for 300 dwellings - Application Ref: CM/1/17; and
- Waste Treatment Facility – Application Ref: WSCC/027/18/F.

- 10.35 The inclusion of TEMPro growth and site-specific inclusions to calculate the baseline traffic flows of the 2024 and 2031 future years means that the cumulative impact of the Development is inherently included as part of the Operational Assessment; therefore, no additional cumulative testing is necessary.
- 10.36 The site-specific inclusions have been agreed with WSCC as part of pre-application engagement to establish the parameters of the traffic impact assessment of the Development. Technical Note ITB13091-010A Growth Committed Development and Future Year Assessments and correspondence from WSCC in response to the submission is included as an appendix to the TA (Appendix 10.1).
- 10.37 The methodology used to forecast the peak hour trip generation of the Development is set out in full in Section 7 of the TA (Appendix 10.1). The assessment comprised the use of the Trip Rate Information Computer System (TRICS) to identify surveys undertaken at locations with similar characteristics to the Development and in accordance with the TRICS Best Practice^{viii} Guidance. The exercise established that the forecast trip rates were less than that used in the Arun Transport Study^{ix} (ATS). Therefore, to ensure a robust assessment of the impact upon the network, it was agreed with WSCC as part of the pre-application engagement that the trip rates used to inform the ATS would be used when assessing the traffic impact of the Development.
- 10.38 In order to convert the trip rates derived in the TA (Appendix 10.1) to a format appropriate for ES assessment, factors have been derived from ATC data and applied to the peak hour trip rates to derive 24-hour flows. It has then been assigned to the local highway network using the distribution and assignment methodology comprising use of Census data and a bespoke Gravity Model, as agreed with WSCC through the Scoping process.
- 10.39 This data has then been added to the 2031 Baseline Flows to create “with development” traffic flows. No discount has been applied as part of this assessment to reflect trips already generated by the Site (i.e. trips associated with agricultural uses). Therefore, the assessment contains an element of double counting, thus providing a robust assessment of environmental impact.

- 10.40 To inform the Air Quality and Noise and Vibration assessments (refer to ES Chapter 11 and chapter 12) and the impact of construction traffic during peak construction activities, it has also been necessary to produce traffic data for a 2024 assessment year. In addition to a 'full buildout' scenario, the ALP housing trajectory has been used to establish the expected number of completions by the end of 2024 and the total trip generation reduced to reflect the limited number of house completions.

Calculation of Construction Traffic

- 10.41 The calculation of construction traffic has been derived from data collected at an active residential construction site and has been factored up in accordance with the project build programme.
- 10.42 Whilst it is likely that construction of the Development will be undertaken by an individual contractor, and therefore efficiencies in the delivery schedule and utilisation of workforce are more likely to be realised thus reducing the number of vehicular movements, to ensure a robust assessment it has been assumed that the Site would be constructed by multiple parties and therefore no reduction to the factored construction movements has been applied.
- 10.43 A copy of the full calculations is appended to the TA (Appendix 10.1). Non-HGV construction traffic has been assigned to the network in accordance with employee residential origins derived from 2011 Census data for the Arun 006 Mid Super Output Area. HGV traffic has been assigned to the network on the basis of all traffic travelling south, given the limitations at the Yapton Level Crossing, to the north west of the Site, and on Ford Road, to the east of the Site, for HGV traffic.

Calculation of Sensitivity Test Flows

- 10.44 As stated in ES chapter 2, to support growth identified as part of the ALP growth strategy, WSCC and ADC have identified the need to provide a new 10 Form Entry (10FE) secondary school. Locations for siting of the school have been explored by the Councils and a preferred location has been identified to the north of Ford Lane, immediately to the west of the Development (refer to Figure 2.1).
- 10.45 Through the EIA scoping process, ADC initially requested that the secondary school be considered as part of the cumulative assessment within the ES (refer to Appendix 2.3. Through further correspondence with ADC and WSCC, it was agreed that the school is to be assessed as a sensitivity test within this Transport chapter (refer to Appendix 2.5).

- 10.46 At the current time, the secondary school site has only been subject to a high-level Site Selection Study^x, prepared by Systra on behalf of ADC. WSCC and/or ADC are yet to produce a detailed technical assessment to a level which would be required to support a planning application, and which would be informed by factors such as school catchment boundaries.
- 10.47 Therefore, it has been necessary to establish the parameters of the trip generation, distribution and network assignment of traffic associated with a secondary school to be used in the sensitivity test. A Technical Note (ITB13091-021) was submitted to ADC and WSCC to agree the parameters to be used in the sensitivity test and is included at Appendix 10.2.

Assessment Criteria

- 10.48 The IEMA Guidelines for the Environmental Assessment of Road Traffic sets out that '*highway links should be assessed when traffic flows have increased by more than 30% or other sensitive areas are affected by traffic increases of at least 10%*'.
- 10.49 With regard to 'sensitive areas', paragraph 3.20 of the IEMA guidelines sets out that '*locations would include accident blackspots, conservation areas, hospitals, links with high pedestrian flows, etc. Normally it would not be appropriate to consider links where traffic flows have changed by less than 10% unless there is a significant change in the composition of traffic, e.g. a large increase in the number of Heavy Goods Vehicles.*' Assessment of the environmental impacts of both construction and operational traffic has been undertaken where these criteria have been met.

Environmental Impacts

- 10.50 As established in Chapter 2, the scope of the EIA has been agreed through the EIA Scoping process. With regard to the environmental impacts of both construction and operational road traffic, it has been agreed that this chapter considers the following environmental effects:
- Community severance;
 - Driver and pedestrian delay;
 - Accidents and safety; and
 - Fear and intimidation of road users and pedestrians.
- 10.51 The methodologies used to assess each of the environmental effects receptors is set out in ES Environmental Effects Methodologies Technical Note ITB13091-024 (Appendix 10.3).

Assessment Criteria

- 10.52 An Effect Significance Matrix has been used to establish the likely significant environmental effects of construction and operational traffic. The Effect Significance Matrix is informed by the magnitude of the impact and the sensitivity of the affected resource.
- 10.53 Magnitude is informed by the change to the baseline traffic conditions that would be brought about by the impact, as well as the duration of the change. The methodology for assessing the magnitude of the impact is set out in Table 10.3:

Table 10.3: Methodology for Assessing Magnitude

Magnitude	Description of criteria
Major	Substantial alteration to the baseline conditions such that the post Development character or conditions will be fundamentally changed
Moderate	Some alteration to the baseline conditions such that post Development character or conditions will be materially changed
Minor	Minor alteration to the baseline conditions such that the change to post Development character or conditions will be detectable but not material. The underlying baseline conditions will be similar to the pre-Development conditions.
Negligible	Very little change from baseline conditions; changes are barely distinguishable and approximate to a 'no change' scenario.

- 10.54 Sensitivity is informed by the ability of the identified receptor to absorb change, and the level of importance of the location to the wider highway network. The methodology for assessing Impact Sensitivity is set out in Table 10.4:

Table 10.4: Methodology for Assessing Sensitivity

Magnitude	Description of criteria
High	The road has little ability to absorb change without fundamentally altering its present character, or is of national or high regional importance
Moderate	The road has moderate capacity to absorb change without significantly altering its present character, or is of regional or high local importance
Low	The road is tolerant of change without detriment to its character, or is of local importance

- 10.55 Where the methodology establishes the impact to be Minor, Moderate or Major it is necessary to determine whether the impact has a positive (i.e. beneficial) or negative (i.e. adverse) impact. On this basis, the sensitivity and magnitude can then be used to determine the significance of the effect using the Effect Significance Matrix set out in Table 10.5. In EIA terms, 'Moderate' and 'Major' effects are considered to be significant.

Table 10.5: Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Beneficial/Adverse	Major-Moderate Beneficial/Adverse	Moderate-Minor Beneficial/Adverse
Moderate	Major – Moderate Beneficial/Adverse	Moderate-Minor Beneficial/Adverse	Minor Beneficial/Adverse
Minor	Moderate-Minor Beneficial/Adverse	Minor Beneficial/Adverse	Minor Beneficial/Adverse - Negligible
Negligible	Negligible	Negligible	Negligible

Limitations and Assumptions

- 10.56 The environmental impacts of construction and operational traffic relating to development can also include impact relating to the transportation of hazardous loads and the generation of dust and dirt. The IEA Guidelines acknowledge that most developments will not result in increases in the number of movements of hazardous/dangerous loads. The publication 'The Carriage of Dangerous Goods in the UK'^{xi} lists materials which can represent a hazard when in transit and provides guidance to the safe carriage of these goods. It has been assumed that the Development will not result in the transit of hazardous and/or dangerous loads, and therefore no assessment of this environmental effect.
- 10.57 Dust and dirt created by traffic can be a problem arising from the operation of certain types of development, notably quarrying and the transport of quarried materials. Dust and dirt can also be generated by the use of unbound materials in the construction of road surfaces, and the impact will depend on the management practices undertaken on site. For the purposes of the assessment, it has been assumed that the internal road network of the Development is to be constructed of a bound material and that suitable management processes will be implemented to limit the generation of dust and dirt during construction. Therefore, no assessment of this environmental effect is necessary.
- 10.58 TEMPro has been used to calculate traffic growth to inform future year traffic flows. Historically, ATC data in the local area has established that actual traffic growth has not kept pace with forecast traffic growth, and the growth forecast has overestimated background traffic growth. In the absence of a suitable alternative, TEMPro has been used and therefore provides a robust assessment of future traffic conditions.
- 10.59 It has been assumed that data obtained from WSCC, DfT and specialist traffic data collection companies accurately reflects operating conditions. It has also been assumed that for the purposes of the assessment, traffic data collected in July and September represents average operating conditions, despite evidence from data held by WSCC identifying July and

September to be periods during which 'above average' traffic flows are experienced, as summarised in Figure 10.2.

Baseline Conditions

Overview

10.60 The Site (see Figure 1.1) is bound to the north, east, south and west by the public highway.

Ford Road/Church Lane

10.61 Ford Road is located immediately adjacent to the eastern boundary of the Site, running in on a north-south alignment between Climping to the south east of the Site, and Arundel to the north east of the Site. At its southern extent, Ford Road transitions into Church Lane approximately 600m from the A259 roundabout junction.

10.62 With the exception of HMP Ford, a small area of residential dwellings immediately north and south of HMP Ford and a few sporadic and small areas of residential dwellings on the approach to Arundel, the land to the east of Ford Road/Church Lane is predominately in use for agricultural purposes. A footway with a varying width of circa 1.0 – 2.0m is provided along the majority of its length to the western side of the carriageway. A signalised crossing is provided over Ford Road, proving pedestrian access to HMP Ford.

10.63 Ford Railway Station is located to the west of Ford Road, approximately 2km to the northeast of the Site, providing rail services operated by Southern.

10.64 Ford Road provides a direct connection to the A27 approximately 5km to the north west of the Site; the A27 forms part of the national Strategic (Trunk) Road Network.

Yapton Road/Burndell Road (B2233)

10.65 The B2233 Yapton Road runs along the western boundary of the Site. No footways are provided along Yapton Road. Land to the west of Yapton Road is predominately in use for agricultural purposes. Land to the east of the carriageway is also predominately in use for agricultural purposes, with an area of housing located at the junction of Yapton Road and Horsemere Green Lane extending east.

10.66 To the north of its junction with Rollaston Park, Yapton Road joins with Burndell Road. The settlement of Yapton is located on both sides of the carriageway extending south and north.

Footways are provided on both sides of the carriageway, circa 1.5m – 2.0m wide, and a number of dropped kerb and tactile paving crossing points are provided across Burndell Road. A signalised crossing is located in the centre of the village adjacent to the Yapton and Ford Village Hall.

- 10.67 The closest bus stops to the Site are located on Yapton Road, located approximately 500m from the centre of the Site. These stops are served by the regular Stagecoach bus service 700. In addition, School Service 665 connects with Littlehampton, to the south east of the Site, and Westergate some 5.5km to the north west of the Site.

Ford Lane

- 10.68 Ford Lane borders the Site to the north. No footways are provided on either side of the carriageway.
- 10.69 Land to the north and south of Ford Lane is predominately in use for agricultural purposes, with a small cluster of employment buildings located approximately 600m west of Ford Road.

Horsemere Green Lane

- 10.70 Horsemere Green Lane is located immediately to the south of the Site, running on an east-west alignment between Yapton Road and Ford Road; the community of Climping is located predominantly to the southern side of the carriageway.
- 10.71 A footway circa 1.5m – 2.0m in width extends from the Horsemere Green Lane/Ford Road junction for a distance of approximately 250m on the southern side of the carriageway. The carriageway is traffic calmed, comprising a scheme of buildouts to provide a give-way working arrangement.

A259

- 10.72 The A259 is located approximately 1km to the south of the Site. Yapton Road and Church Lane connect with the A259. This single carriageway road is subject to the national speed limit (60mph) and provides an east-west regional connection between Goring-on-Sea and Bognor Regis. The carriageway is bordered predominately by agricultural land on both sides of the carriageway.
- 10.73 National Cycle Network (NCN) Route 2 runs adjacent to the northern side of the carriageway on a recently constructed 3.0m shared cycle/pedestrian route and provides a long-distance

cycle route between Dover and St Austell. Locally it provides a connection with Littlehampton to the east and Bognor Regis in the west.

- 10.74 Pedestrian crossing provision comprising dropped kerbs, tactile paving and refuge island is located in the vicinity of Climping Street and Crookthorn Lane to the south west and south east, respectively.

Baseline Traffic Flows

- 10.75 The baseline traffic flows for 2017, 2024 and 2031 are presented in Tables 10.6, 10.7 and 10.8 respectively.

Table 10.6: 2017 Baseline Traffic Flows

Receptor	2017 AADT flows (24 hour 0000 - 0000)		
	Total	HGVs	% HGVs
Yapton Level Crossing	8,040	538	6.7%
B2233 Yapton Road west of North End Road	8,144	255	3.1%
Bilsham Road south of Burndell Road Mini-Roundabout	7,015	248	3.5%
Burndell Road north west of Rollaston Park	9,411	366	3.9%
Ford Level Crossing	6,300	302	4.8%
A259 east of B2259	22,849	783	3.4%
B2132 south of Bilsham Road Stagger	5,635	194	3.4%
A259 west of Oystercatcher Junction	20,386	740	3.6%
Yapton Road north of Oystercatcher Junction	7,654	399	5.2%
A259 east of Oystercatcher Junction	25,544	935	3.7%
Church Lane south of Horsemere Green Lane	10,981	654	6.0%
A259 east of Church Lane Roundabout	31,476	1323	4.2%
A259 North of Broad Piece Roundabout	22,432	493	2.2%
A284 Lyminster Road North of Wick Roundabout	13,150	613	4.7%
A259 East of Morrisons Roundabout	22,860	561	2.5%

Table 10.7: 2024 Baseline Traffic Flows

Receptor	2024 AADT flows (24 hour 0000 - 0000)		
	Total	HGVs	% HGVs
Yapton Level Crossing	9,706	547	5.6%
B2233 Yapton Road west of North End Road	9,700	256	2.6%
Bilsham Road south of Burndell Road Mini-Roundabout	7,542	249	3.3%
Burndell Road north west of Rollaston Park	10,713	367	3.4%
Ford Level Crossing	6,828	311	4.6%
A259 east of B2259	29,073	926	3.2%
B2132 south of Bilsham Road Stagger	5,683	163	2.9%
A259 west of Oystercatcher Junction	21,615	755	3.5%
Yapton Road north of Oystercatcher Junction	8,635	401	4.6%
A259 east of Oystercatcher Junction	27,701	950	3.4%
Church Lane south of Horsemere Green Lane	12,473	932	7.5%
A259 east of Church Lane Roundabout	34,008	1,360	4.0%
A259 North of Broad Piece Roundabout	24,569	504	2.1%

Receptor	2024 AADT flows (24 hour 0000 - 0000)		
	Total	HGVs	% HGVs
A284 Lyminster Road North of Wick Roundabout	13,491	622	4.6%
A259 East of Morrisons Roundabout	24,939	563	2.3%

Table 10.8: 2031 Baseline Traffic Flows

Receptor	2031 AADT flows (24 hour 0000 - 0000)		
	Total	HGVs	% HGVs
Yapton Level Crossing	9,746	554	5.7%
B2233 Yapton Road west of North End Road	9,742	263	2.7%
Bilsham Road south of Burndell Road Mini-Roundabout	7,576	256	3.4%
Burndell Road north west of Rollaston Park	10,758	377	3.5%
Ford Level Crossing	6,852	319	4.7%
A259 east of B2259	29,199	939	3.2%
B2132 south of Bilsham Road Stagger	5,699	168	2.9%
A259 west of Oystercatcher Junction	21,718	764	3.5%
Yapton Road north of Oystercatcher Junction	8,670	412	4.7%
A259 east of Oystercatcher Junction	27,831	964	3.5%
Church Lane south of Horsemere Green Lane	12,649	937	7.4%
A259 east of Church Lane Roundabout	34,168	1364	4.0%
A259 North of Broad Piece Roundabout	24,677	508	2.1%
A284 Lyminster Road North of Wick Roundabout	13,547	632	4.7%
A259 East of Morrisons Roundabout	25,055	579	2.3%

Likely Significant Effects

Construction Phase

- 10.76 The 2024 local plan trajectory traffic flows, with and without Development and construction flows, and an assessment of their impact is set out in Table 10.9.

Table 10.9: 2024 Local Plan Trajectory plus Construction Traffic Flows

Receptor	AADT flows (24 hour 0000 - 0000)									
	2024 Without Development			2024 With ALP Development + Construction			Net Impact			
	Total	HGVs	% HGVs	Total	HGVs	% HGVs	Total	HGVs	Total % Change	HGV % Change
Yapton Level Crossing	9,706	547	5.6%	9,890	547	5.5%	184	0	1.89%	0.0%
B2233 Yapton Road west of North End Road	9,700	256	2.6%	10,510	256	2.4%	810	0	8.35%	0.0%
Bilsham Road south of Burndell Road Mini-Roundabout	7,542	249	3.3%	7,735	249	3.2%	193	0	2.56%	0.0%
Burndell Road north west of Rollaston Park	10,713	367	3.4%	11,351	367	3.2%	638	0	5.96%	0.0%
Ford Level Crossing	6,828	311	4.6%	7,201	311	4.3%	373	0	5.46%	0.0%
A259 east of B2259	29,073	926	3.2%	29,906	963	3.2%	833	37	2.87%	4.0%
B2132 south of Bilsham Road Stagger	5,683	163	2.9%	5,709	163	2.9%	26	0	0.45%	0.0%
A259 west of Oystercatcher Junction	21,615	755	3.5%	22,390	793	3.5%	775	38	3.59%	5.0%
Yapton Road north of Oystercatcher Junction	8,635	401	4.6%	9,500	494	5.2%	865	93	10.01%	23.2%
A259 east of Oystercatcher Junction	27,701	950	3.4%	28,270	956	3.4%	569	6	2.05%	0.7%
Church Lane south of Horsemere Green Lane	12,473	932	7.5%	13,637	1,060	7.8%	1,164	128	9.33%	13.7%
A259 east of Church Lane Roundabout	34,008	1,360	4.0%	35,136	1,466	4.2%	1,128	106	3.32%	7.8%
A259 North of Broad Piece Roundabout	24,569	504	2.1%	25,229	513	2.0%	660	9	2.69%	1.8%
A284 Lyminster Road North of Wick Roundabout	13,491	622	4.6%	13,562	662	4.9%	71	35	0.53%	6.4%
A259 East of Morrisons Roundabout	24,939	563	2.3%	25,726	663	2.6%	787	55	3.15%	9.8%

- 10.77 With reference to paragraph 10.48 of this ES Chapter, Table 10.9 identifies that none of the receptors will experience an increase in AADT in excess of 30% during construction of the Development. Therefore, none of the receptors meet the threshold for where assessment of impact should occur under normal conditions.
- 10.78 The Yapton Road north of Oystercatcher receptor will experience an increase of 10.01% AADT as a result of general construction phase traffic. In addition, the Yapton Road north of Oystercatcher receptor will experience a HGV AADT increase of 23.2% and the Church Lane South of Horsemere Green Lane will experience a HGV AADT increase of 13.7%. However, neither of the receptors and are located in an area that is deemed to be environmentally sensitive in traffic terms, as defined in paragraph 10.49 of this ES Chapter. Notwithstanding, assessment against the agreed environmental effects has been undertaken.

Community Severance

- 10.79 The impact of the Development on community severance on the Yapton Road north of Oystercatcher and the Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.10, below.

Table 10.10: Community Severance Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance
Yapton Road north of Oystercatcher	Impact in excess of 10% but significantly less than 30% assessment threshold. Baseline conditions will be similar to the post-Development conditions – Minor	Predominately agricultural land located on either side of the road. Existing community of Climping have no pedestrian access to Yapton Road and road is of local importance – Low	Negligible
Church Lane south of Horsemere Green Lane	Impact in excess of 10% but significantly less than 30% assessment threshold. Baseline conditions will be similar to the post-Development conditions – Minor	Land east of carriageway predominately agricultural land and road is of local importance – Low	Negligible

- 10.80 On this basis, the impact of the operational traffic in community severance terms will be negligible.

Driver and Pedestrian Delay

- 10.81 The impact of the construction phase of the Development on driver and pedestrian on the Yapton Road north of Oystercatcher and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.11.

Table 10.11: Driver and Pedestrian Delay Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance
Yapton Road north of Oystercatcher	ARCADY assessment establishes delay at A259/Yapton Road junction, but underlying baseline conditions will be similar to the post-Development conditions – Minor	Road is of regional and high local importance – Moderate	Minor Adverse
Church Lane south of Horsemere Green Lane	ARCADY assessment establishes delay at A259/Church Lane junction, but underlying baseline conditions will be similar to the post-Development conditions – Minor	Road is of regional and high local importance – Moderate	Minor Adverse

- 10.82 On this basis, the impact of the construction traffic in driver and pedestrian delay terms will be a temporary Minor Adverse effect.

Accidents and Safety

- 10.83 The impact of the construction phase of the Development on accidents and safety on the Yapton Road north of Oystercatcher and the Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.12.

Table 10.12: Accidents and Safety Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance
Yapton Road north of Oystercatcher	Fatal and serious accidents have been recorded at the A259/Yapton Road junction. The junction has been identified through Arun Transport Study ^{ix} as a location where increase in traffic makes junction susceptible to an increase in accidents and a detrimental impact to	Junction is of regional and high local importance – Moderate	Moderate Adverse

Receptor	Magnitude	Sensitivity	Significance
	safety. Change to baseline conditions resulting in material change – Moderate		
Church Lane south of Horsemere Green Lane	Location not identified as having an adverse accident record, nor as being susceptible to an adverse safety impact as a result of an increase in traffic. Very little change from baseline position but increase in traffic on the network will statistically increase the risk of accidents – Minor	Junction is of regional and high local importance - Moderate	Minor Adverse

- 10.84 A temporary Moderate Adverse accident and safety effect is expected at the Yapton Road/A259 junction as a consequence of the construction phase of the Development and a Minor Adverse impact at the Church Lane/A259 junction.

Fear and Intimidation

- 10.85 The impact of the construction phase of the Development on fear and intimidation on the Yapton Road north of Oystercatcher and the Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.13:

Table 10.13: Fear and Intimidation Assessment - Construction

Receptor	Average Traffic Flow (vehicles/hour)		Total 18-Hour HGV Flow		Posted Speed Limit	
	Pre-Development	Post-Development	Pre-Development	Post-Development	Pre-Development	Post-Development
Yapton Road	479 – Less than Moderate	527 – Less than Moderate	473 – Less than Moderate	566 – Less than Moderate	30	30
Church Lane	692 - Moderate	757 - Moderate	1,142 - Moderate	1,270 –Moderate	40	40

- 10.86 Neither the Yapton Road north of Oystercatcher nor the Church Lane south of Horsemere Green Lane receptor will experience a change from the baseline position as a result of the construction phase of the Development. The outputs of Table 10.13 have been considered against the Significance Effect Matrix and the assessment is set out in Table 10.14.

Table 10.14: Fear and Intimidation Significance Matrix Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher	Very little change from baseline conditions – Negligible	The road is of local importance for pedestrian and cycle journeys - Low	Negligible
Church Lane south of Horsemere Green Lane	Very little change from baseline conditions – Negligible	Junction is of local importance for pedestrian and cycle journeys - Low	Negligible

Operational Phase

10.87 The 2031 operational traffic flows, both with and without Development, and an assessment of impact is set out in Table 10.15.

Table 10.15: 2031 Operational Traffic Impacts

Receptor	AADT flows (24 hour 0000 - 0000)			2031 With Development			Net Impact			
	2031 Without Development Total	HGVs	% HGVs	Total	HGVs	% HGVs	Total	HGVs	Total Change	% Change
Yapton Level Crossing	9,746	554	5.7%	10,121	554	5.5%	374	0	3.84%	0.00%
B2233 Yapton Road west of North End Road	9,742	263	2.7%	11,245	263	2.3%	1,503	0	15.43%	0.00%
Bilsham Road south of Burndell Road Mini-Roundabout	7,576	256	3.4%	7,989	256	3.2%	413	0	5.45%	0.00%
Burndell Road north west of Rollaston Park	10,758	377	3.5%	11,810	377	3.2%	1,052	0	9.77%	0.00%
Ford Level Crossing	6,852	319	4.7%	7,486	319	4.3%	635	0	9.26%	0.00%
A259 east of B2259	29,199	939	3.2%	30,762	945	3.1%	1,563	6	5.35%	0.65%
B2132 south of Bilsham Road Stagger	5,699	168	2.9%	5,725	168	2.9%	26	0	0.45%	0.00%
A259 west of Oystercatcher Junction	21,718	764	3.5%	22,837	770	3.4%	1,118	6	5.15%	0.80%
Yapton Road north of Oystercatcher Junction	8,670	412	4.7%	10,246	412	4.0%	1,576	0	18.70%	0.00%
A259 east of Oystercatcher Junction	27,831	964	3.5%	28,949	970	3.3%	1,118	6	4.02%	0.63%
Church Lane south of Horsemere Green Lane	12,649	937	7.4%	14,011	972	6.9%	1,362	35	10.77%	3.74%
A259 east of Church Lane Roundabout	34,168	1364	4.0%	36,165	1,390	3.8%	1,997	26	5.84%	1.90%
A259 North of Broad Piece Roundabout	24,677	508	2.1%	26,049	517	2.0%	1,371	9	5.56%	1.84%
A284 Lyminster Road North of Wick Roundabout	13,547	632	4.7%	13,547	632	4.7%	0	0	0.00%	0.00%
A259 East of Morrisons Roundabout	25,055	579	2.3%	26,369	598	2.3%	1,315	19	5.25%	3.36%

10.88 With reference to paragraphs 10.45 of this ES Chapter, Table 10.9 identifies that none of the receptors will experience an increase in AADT in excess of 30%. Therefore, none of the receptors meet the threshold for where assessment of impact should occur under normal conditions.

10.89 A total of 3 receptors will experience an increase in AADT of more than 10% as a result of operational traffic:

- B2233 Yapton Road west of North End Road (15.43% AADT);
- Yapton Road north of Oystercatcher Junction (18.70% AADT); and
- Church Lane south of Horsemere Green Lane (10.77% AADT).

10.90 None of the receptors identified above are located in an area that is deemed to be environmentally sensitive in traffic terms, as defined in paragraph 10.49 of this ES Chapter. Notwithstanding, assessment against the agreed environmental effects has been undertaken.

Community Severance

10.91 The impact of the Development on community severance on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.16.

Table 10.16: Community Severance Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance of Effect
B2233 Yapton Road west of North End Road	Impact in excess of 10% but significantly less than 30% assessment threshold. Baseline conditions similar to the post-Development conditions - Minor	Southern side of carriageway is predominately agricultural – east to west movements do not cause separation of a community and road is of local importance - Low	Negligible
Yapton Road north of Oystercatcher Junction	Impact in excess of 10% but significantly less than 30% assessment threshold. Baseline conditions will be similar to the post-Development conditions - Minor	Predominately agricultural land located on either side of the road. Existing community of Climping have no pedestrian access to Yapton Road and road is of local importance – Low	Negligible
Church Lane south of Horsemere Green Lane	Impact in excess of 10% but significantly less than 30% assessment threshold. Baseline conditions will be similar to the post-Development conditions - Minor	Land east of carriageway predominately agricultural land and road is of local importance - Low	Negligible

- 10.92 On this basis, the impact of the operational traffic in community severance terms will be negligible.

Driver and Pedestrian Delay

- 10.93 The impact of the Development on driver and pedestrian on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.17.

Table 10.17: Driver and Pedestrian Delay Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance
B2233 Yapton Road west of North End Road	ARCADY assessment establishes delay at North End Road/B2233 junction that materially changes operating conditions - Moderate	Road is of local importance - Low	Minor Adverse
Yapton Road north of Oystercatcher Junction	ARCADY assessment establishes delay at A259/Yapton Road junction, but underlying baseline conditions will be similar to the post-Development conditions – Minor	Road is of regional and high local importance – Moderate	Minor Adverse
Church Lane south of Horsemere Green Lane	ARCADY assessment establishes delay at A259/Church Lane junction, but underlying baseline conditions will be similar to the post-Development conditions – Minor	Road is of regional and high local importance – Moderate	Minor Adverse

- 10.94 On this basis, the impact of the operational traffic in driver and pedestrian delay terms will be Minor Adverse at all identified assessment locations.

Accidents and Safety

- 10.95 The impact of the Development on accidents and safety on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.18.

Table 10.18: Accidents and Safety Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance
B2233 Yapton Road west of North End Road	Location is not identified as having an adverse accident record nor as being susceptible to an increase in accidents as a result of an increase in traffic. Very little change from baseline position, but increase in traffic on the network will statistically increase the risk of accidents – Minor	Junction is of local importance – Low	Minor Adverse
Yapton Road north of Oystercatcher Junction	Fatal and serious accidents have historically been recorded at the A259/Yapton Road junction. The junction has been identified through Arun Transport Study as a location where increase in traffic makes junction susceptible to an increase in accidents and a detrimental impact on safety. Change to baseline conditions resulting in material change – Moderate	Junction is of regional and high local importance - Moderate	Moderate Adverse
Church Lane south of Horsemere Green Lane	Location not identified as having an adverse accident record, nor as being susceptible to an adverse safety impact as a result of an increase in traffic. Very little change from baseline position but increase in traffic on the network will statistically increase the risk of accidents – Minor	Junction is of regional and high local importance - Moderate	Minor Adverse

10.96 A permanent Moderate Adverse effect on accident and safety is expected at the Yapton Road/A259 junction as a consequence of the Development.

Fear and Intimidation

10.97 The impact of the Development on fear and intimidation on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.19.

Table 10.19: Fear and Intimidation Assessment - Operation

Receptor	Average Traffic Flow (vehicles/hour)		Total 18-Hour HGV Flow		Posted Speed Limit	
	Pre-Development	Post-Development	Pre-Development	Post-Development	Pre-Development	Post-Development
Yapton Road West	566 – Less than Moderate	653 – Moderate	284 – Less than Moderate	284 – Less than Moderate	30	30
Yapton Road North	481 – Less than Moderate	569 – Less than Moderate	486 – Less than Moderate	486 – Less than Moderate	30	30
Church Lane	726 - Moderate	778 - Moderate	1,104 Moderate	1,148 Moderate	40	40

10.98 The B2233 Yapton Road west of North End Road is the only receptor that will experience a change from the baseline position, with an increase of 87 vehicles per hour moving the impact from just less than the moderate threshold to just over the moderate threshold. All other assessment parameters remain consistent with baseline conditions.

10.99 The outputs of Table 10.13 have been considered against the Significance Effect Matrix (Table 10.5) and the assessment is set out in Table 10.20:

Table 10.20: Fear and Intimidation Significance Matrix Assessment- Operation

Receptor	Magnitude	Sensitivity	Significance
B2233 Yapton Road west of North End Road	The underlying baseline conditions will be similar to the post-Development conditions - Minor	Road is of local importance for pedestrian and cycle journeys - Low	Negligible
Yapton Road north of Oystercatcher Junction	Very little change from baseline conditions – Negligible	Road is of local importance for pedestrian and cycle journeys - Low	Negligible
Church Lane south of Horsemere Green Lane	Very little change from baseline conditions – Negligible	Junction is of local importance for pedestrian and cycle journeys - Low	Negligible

Operational Phase – Sensitivity Test

10.100 The 2031 operational traffic flows, both without and with Development and the secondary school, and an assessment of impact is set out in Table 10.21.

Table 10.21: 2031 Operational Traffic Sensitivity Test Impacts

Receptor	AADT flows (24 hour 0000 - 0000)									
	2031 Without Development			2031 With Development Sensitivity Test			Net Impact			
	Total	HGVs	% HGVs	Total	HGVs	% HGVs	Total	HGVs	Total % Change	HGV % Change
Yapton Level Crossing	9,746	554	5.7%	10,177	554	5.4%	431	0	4.42	0.00
B2233 Yapton Road west of North End Road	9,742	263	2.7%	11,899	263	2.2%	2,158	0	22.15	0.00
Bilsham Road south of Burndell Road Mini-Roundabout	7,576	256	3.4%	8,042	256	3.2%	466	0	6.15	0.00
Burndell Road north west of Rollaston Park	10,758	377	3.5%	11,810	377	3.2%	1,052	0	9.77	0.00
Ford Level Crossing	6,852	319	4.7%	7,510	319	4.3%	659	0	9.61	0.00
A259 east of B2259	29,199	939	3.2%	30,815	945	3.1%	1,616	6	5.54	0.65
B2132 south of Bilsham Road Stagger	5,699	168	2.9%	5,725	168	2.9%	26	0	0.45	0.00
A259 west of Oystercatcher Junction	21,718	764	3.5%	22,837	770	3.4%	1,118	6	5.15	0.80
Yapton Road north of Oystercatcher Junction	8,670	412	4.7%	10,246	412	4.0%	1,576	0	18.17	0.00
A259 east of Oystercatcher Junction	27,831	964	3.5%	28,949	970	3.3%	1,118	6	4.02	0.63
Church Lane south of Horsemere Green Lane	12,649	937	7.4%	14,081	972	6.9%	1,432	35	11.32	3.74
A259 east of Church Lane Roundabout	34,168	1364	4.0%	36,235	1,390	3.8%	2,067	26	6.05	1.90
A259 North of Broad Piece Roundabout	24,677	508	2.1%	26,095	517	2.0%	1,418	9	5.74	1.84
A284 Lymminster Road North of Wick Roundabout	13,547	632	4.7%	13,547	632	4.7%	0	0	0.00	0.00
A259 East of Morrisons Roundabout	25,055	579	2.3%	26,416	598	2.3%	1,361	19	5.43	3.36

10.101 With reference to paragraph 10.49 of this ES Chapter, a secondary school may cause a location to become a 'sensitive' receptor, thus reducing the testing threshold to 10%. Table 10.15 identifies that the following receptors will experience an increase of 10% or more as a result of Development and secondary school traffic. An assessment of each receptor has been undertaken to establish whether they are considered to be a sensitive receptor.

- B2233 Yapton Road west of North End Road (22.15% AADT) – the receptor is located 1.8km to the south west of the secondary school site and is not located on a key desire line between anticipated pupil catchment area and the school. Therefore, the receptor is not considered sensitive;
- Yapton Road north of Oystercatcher Junction (18.17% AADT) – the receptor is located 2.5km to the south east of the secondary school site and is not located on a key desire line between the anticipated pupil catchment area and the school. Therefore, the receptor is not considered sensitive; and
- Link 11 – Church Lane south of Horsemere Green Lane (11.32% AADT) – the receptor is located 2.9km to the south east of the secondary school site and is not located on a key desire line between the anticipated pupil catchment area and the school. Therefore, the receptor is not considered sensitive.

10.102 No additional receptors have been identified that exceed the 30% threshold where testing may be required, and none of the receptors where the magnitude of impact is greater than 10% has been identified to be a sensitive area. Therefore, the receptors identified for testing purposes remain consistent with those identified and assessed as part of the Operational Phase assessment.

Mitigation

Construction

10.103 As part of the reserved matters applications that will come forward following outline consent for the application, full details of construction methods and programme will be required, and the Applicant will be required to implement a Construction Traffic Management Plan (CTMP) secured by way of a planning condition and Section 106 Agreement.

10.104 The CTMP will include the following details:

- The anticipated number, frequency and types of vehicles used during construction;
- The method of access and the routing of vehicles during construction;

- The parking of vehicles by site operatives and visitors;
- The loading and unloading of plant, materials and waste;
- The storage of plan and materials used in construction of the development;
- The provision of wheel washing facilities; and
- Traffic management and temporary works on the public highway.

10.105 Construction traffic will be routed to ensure that the impact upon sensitive areas, such as schools and accident black spots, is minimised.

10.106 If necessary, limitations on delivery times will be implemented to ensure disruption during peak network conditions will be minimised, and contractors attending the Site will be encouraged to use public transport.

Operation

10.107 The Development will bring forward local highway improvements to address the impacts identified in the assessment section of this ES Chapter. These will comprise:

- B2233 Yapton Road west of North End Road – a roundabout improvement at the junction of the B2233/North End Road (drawing ref: ITB13091-GA-026 in which is appended to the TA (Appendix 10.1)) to enhance the operational capacity of the junction and improvement pedestrian crossing provision, or an equivalent Section 106 financial contribution to WSCC to bring forward an alternative scheme of comprehensive corridor improvements;
- Yapton Road north of Oystercatcher Junction – a Section 106 financial contribution to WSCC to enable a scheme of comprehensive scheme of improvements to be brought forward at the A259/Yapton Road junction in accordance with the Arun Local Plan and Infrastructure Delivery Schedule to enhance operational capacity and increase safety. The arrangement is shown indicatively in drawing ITB13091-GA-025 which is appended to the TA (Appendix 10.1); and
- Church Lane south of Horsemere Green Lane – a scheme of footway and cycleway improvements on the eastern side of Church Road (drawing ref: ITB13091-GA-600 which is appended to the TA (Appendix 10.1)) to improve conditions for pedestrians and cyclists and provide a connection to National Cycle Network Route 2. The scheme builds upon the committed junction improvement at the Church Road/A259 Roundabout junction associated with planning consent CM/1/17.

10.108 In addition to the improvements listed above which directly impact the identified receptors, the Development will also bring forward additional mitigation across the study area, including:

- Framework Travel Plan ITB13091-009 (Appendix 10.4) – developed in accordance with WSCC Travel Plan Guidance, the document seeks to encourage modal shift and support the uptake of sustainable modes of travel;
- Bilsham Road south of Burndell Road Mini-Roundabout – scheme of junction improvements, or an equivalent Section 106 financial contribution to WSCC to enable the delivery of an alternative comprehensive corridor improvement, to enhance the operational capacity of the roundabout;
- Burndell Road north west of Rollaston Park – scheme of pedestrian improvements to enhance crossing provision;
- Ford Level Crossing – a scheme of works, or an equivalent Section 106 financial contribution to WSCC to enable an alternative improvement to come forward, to provide off-road pedestrian and cyclist provision along the Ford Road corridor on the approach to Ford Railway Station; and
- B2132 south of Bilsham Road Stagger – a Section 106 financial contribution to WSCC to enable a scheme of comprehensive scheme of improvements to be brought forward at the A259/Bilsham Road junction in accordance with the Arun Local Plan and Infrastructure Delivery Schedule.

Residual Effects

Construction Phase

Community Severance

10.109 The residual effect of the construction phase of the Development on community severance on the Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.22.

Table 10.22: Residual Community Severance Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher Junction	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	Predominately agricultural land located on either side of the road. Existing community of Climping have no pedestrian access to Yapton Road and road is of local importance – Low	Negligible
Church Lane south of Horsemere Green Lane	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	Land east of carriageway predominately agricultural land and road is of local importance - Low	Negligible

10.110 On this basis, the residual effect of the construction traffic on community severance will be negligible on both receptors.

Driver and Pedestrian Delay

10.111 The residual effect on the Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors during the construction phase, in terms of driver and pedestrian, is assessed in Table 10.23, below.

Table 10.23: Residual Driver and Pedestrian Delay Assessment – Construction

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher Junction	CTMP will limit movement during peak network conditions to minimise driver and pedestrian delay. Baseline conditions will be similar to post-Development with mitigation conditions - Minor	Road is of regional and high local importance – Moderate	Minor Adverse
Church Lane south of Horsemere Green Lane	CTMP will limit movement during peak network conditions to minimise driver and pedestrian delay. Baseline conditions will be similar to post-Development with mitigation conditions - Minor	Road is of regional and high local importance – Moderate	Minor Adverse

10.112 On this basis, construction of the Development will have a temporary Minor Adverse residual effect on both receptors.

Accidents and Safety

10.113 The residual effect on the Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors the construction phase of the Development, in terms of accidents and safety, is assessed in Table 10.24.

Table 10.24: Accidents and Safety Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher Junction	Junction identified as being susceptible to increase in accidents relating to increase in traffic flows; CTMP will seek to limit movement	Junction is of regional and high local importance - Moderate	Minor Adverse

Receptor	Magnitude	Sensitivity	Significance of Effect
	during peak network conditions and utilise residual off-peak capacity. WSCC led junction improvement will further enhance safety of junction. Statistically, increase in traffic flows increases risk of accidents – Minor		
Church Lane south of Horsemere Green Lane	Location not identified as having an adverse accident record, Statistically, there is an increased risk of accident arising from increase in traffic flows. CTMP will seek to minimise peak hour movements and use residual off-peak capacity – Negligible	Junction is of regional and high local importance - Moderate	Negligible

10.114 A residual effect of minor adverse significance is expected at the Yapton Road/A259 junction and a negligible effect is expected on the Church Lane/A259 junction during the construction phase of the Development.

Fear and Intimidation

10.115 The residual effects on fear and intimidation would remain negligible following mitigation, as summarised in Table 10.25.

Table 10.25: Fear and Intimidation Significance Matrix Assessment - Construction

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher Junction	Very little change from baseline conditions – Negligible	Road is of local importance for pedestrian and cycle journeys - Low	Negligible

Receptor	Magnitude	Sensitivity	Significance of Effect
Church Lane south of Horsemere Green Lane	Very little change from baseline conditions – Negligible	Junction is of local importance for pedestrian and cycle journeys - Low	Negligible

Operational Phase

Community Severance

10.116 The residual effect of the Development on community severance on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.26.

Table 10.26: Residual Community Severance Assessment Operation

Receptor	Magnitude	Sensitivity	Significance of Effect
B2233 Yapton Road west of North End Road	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	No change: Southern side of carriageway is predominately agricultural – east to west movements do not separate a community and road is of local importance - Low	Negligible
Yapton Road north of Oystercatcher Junction	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	Predominately agricultural land located on either side of the road Existing community of Climping have no pedestrian access to Yapton Road and road is of local importance – Low	Negligible
Church Lane south of Horsemere Green Lane	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	Land east of carriageway predominately agricultural land and road is of local importance - Low	Negligible

10.117 On this basis, the residual effect of the operational traffic after mitigation on community severance will be negligible on all identified receptors.

Driver and Pedestrian Delay

10.118 The residual effect of the Development in terms of driver and pedestrian delay on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.27.

Table 10.27: Residual Driver and Pedestrian Delay Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance of Effect
B2233 Yapton Road west of North End Road	ARCADY assessment establishes that mitigation decreases driver and pedestrian delay, materially improving operation to better than baseline conditions - Moderate	Road is of local importance - Low	Minor Beneficial
Yapton Road north of Oystercatcher Junction	ARCADY assessment establishes that mitigation decreases driver and pedestrian delay, materially improving operation to better than baseline conditions - Moderate	Road is of regional and high local importance - Moderate	Minor Beneficial
Church Lane south of Horsemere Green Lane	No change: baseline conditions will be similar to post-Development with mitigation conditions - Minor	Road is of regional and high local importance - Moderate	Minor Adverse

10.119 On this basis, the Development will have a Minor Beneficial residual effect on the B2233 Yapton Road west of North End Road and Yapton Road north of Oystercatcher Junction receptors. The Development, after mitigation, will result in a Minor Adverse residual effect on the Church Lane south of Horsemere Green Lane receptor.

Accidents and Safety

10.120 The residual effect of the Development in terms of accidents and safety, on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.28.

Table 10.28: Accidents and Safety Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance of Effect
B2233 Yapton Road west of North End Road	Location is not identified as having an adverse accident record nor as being susceptible to an increase in accidents as a result of an increase in traffic. Very little change from baseline position, but increase in traffic on the network will statistically increase the risk of accidents - Minor	Junction is of local importance - Low	Minor Adverse

Receptor	Magnitude	Sensitivity	Significance of Effect
Yapton Road north of Oystercatcher Junction	WSCC led junction improvement, facilitated by the Development, will improve safety at junction, but increase in traffic on the network will statistically increase the risk of accidents – Minor	Junction is of regional and high local importance - Moderate	Minor Adverse
Church Lane south of Horsemere Green Lane	Location not identified as having an adverse accident record, nor as being susceptible to an adverse safety impact as a result of an increase in traffic. Very little change from baseline position but increase in traffic on the network will statistically increase the risk of accidents – Minor	Junction is of regional and high local importance - Moderate	Minor Adverse

Fear and Intimidation

10.121 The implementation of the Travel Plan (Appendix 10.4) is expected to give rise to a 10% reduction in traffic generated by the Development; the resulting effect on the B2233 Yapton Road west of North End Road, Yapton Road north of Oystercatcher Junction and Church Lane south of Horsemere Green Lane receptors is assessed in Table 10.29.

Table 10.29: Fear and Intimidation Assessment – Operation

Receptor	Average Traffic Flow (vehicle/hour)		Total 18-Hour HGV Flow		Posted Speed Limit	
	Pre-Development	Post-Development	Pre-Development	Post-Development	Pre-Development	Post-Development
Yapton Road – west	566 – Less than Moderate	644 – Moderate	284 – Less than Moderate	284 – Less than Moderate	30	30
Yapton Road – north	481 – Less than Moderate	560 – Less than Moderate	486 – Less than Moderate	486 – Less than Moderate	30	30
Church Lane	726 - Moderate	772 - Moderate	1,104 - Moderate	1,148 - Moderate	40	40

10.122 The residual effects on fear and intimidation would remain negligible following mitigation, as summarised in Table 10.30.

Table 10.30: Fear and Intimidation Significance Matrix Assessment - Operation

Receptor	Magnitude	Sensitivity	Significance of Effect
B2233 Yapton Road west of North End Road	The underlying baseline conditions will be similar to the post-Development conditions - Minor	The road is of local importance for pedestrian and cycle journeys – Low	Negligible
Yapton Road north of Oystercatcher Junction	Very little change from baseline conditions – Negligible	The road is of local importance for pedestrian and cycle journeys - Low	Negligible
Church Lane south of Horsemere Green Lane	Very little change from baseline conditions – Negligible	Junction is of local importance for pedestrian and cycle journeys - Low	Negligible

Operational Phase – Sensitivity Test

10.123 The receptors identified for testing purposes remain consistent with those identified and assessed as part of the Operational Phase assessment.

10.124 No additional receptors were identified that exceed the 10% threshold where testing may be required, and none of the receptors where the magnitude of impact is greater than 10% was identified to be a sensitive receptor. Therefore, the residual effects remain as per that identified for the operational phase.

Cumulative Effects

10.125 Cumulative schemes are included within the main assessment and therefore the likely cumulative effects remain unchanged from the likely significant effects in the main assessment.

Table 10.31: Table of Significance – Transport & Access

Potential Effect	Nature of Effect (Permanent/Temporary)	Significance of Effect (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	
				I	UK	E	R	C	D	L		
Construction												
Yapton Road North of Oystercatcher junction - Community Severance	Temporary	Negligible	Construction Traffic Management Plan, Travel Plan, Highway Works							*	Negligible	
Yapton Road North of Oystercatcher junction - Pedestrian and Driver Delay	Temporary	Minor Adverse							*		Minor Adverse	
Yapton Road North of Oystercatcher junction - Accidents and Safety	Temporary	Moderate Adverse							*		Minor Adverse	
Yapton Road North of Oystercatcher junction - Fear and Intimidation	Temporary	Negligible								*	Negligible	
Church Lane South of Horsemere Green Lane - Community Severance	Temporary	Negligible								*	Negligible	
Church Lane South of Horsemere Green Lane - Pedestrian and Driver Delay	Temporary	Minor Adverse							*		Minor Adverse	
Church Lane South of Horsemere Green Lane - Accidents and Safety	Temporary	Minor Adverse							*		Negligible	
Church Lane South of Horsemere Green Lane - Fear and Intimidation	Temporary	Negligible								*	Negligible	
Operational												
B2233 Yapton Road West of North End Road -Community Severance	Permanent	Negligible	Travel Plan, Highway Works							*	Negligible	
B2233 Yapton Road West of North End Road - Pedestrian and Driver Delay	Permanent	Minor Adverse								*	Minor Beneficial	

B2233 Yapton Road West of North End Road - Accidents and Safety	Permanent	Minor Adverse							*	Minor Adverse
B2233 Yapton Road West of North End Road - Fear and Intimidation	Permanent	Negligible	Travel Plan						*	Negligible
Yapton Road North of Oystercatcher junction - Community Severance	Permanent	Negligible	Travel Plan, Highway Works						*	Negligible
Yapton Road North of Oystercatcher junction - Pedestrian and Driver Delay	Permanent	Minor Adverse							*	Minor Beneficial
Yapton Road North of Oystercatcher junction - Accidents and Safety	Permanent	Moderate Adverse							*	Minor Adverse
Yapton Road North of Oystercatcher junction - Fear and Intimidation	Permanent	Negligible	Travel Plan						*	Negligible
Church Lane South of Horsemere Green Lane - Community Severance	Permanent	Negligible	Travel Plan, Highway Works						*	Negligible
Church Lane South of Horsemere Green Lane - Pedestrian and Driver Delay	Permanent	Minor Adverse							*	Minor Adverse
Church Lane South of Horsemere Green Lane - Accidents and Safety	Permanent	Minor Adverse							*	Minor Adverse
Church Lane South of Horsemere Green Lane - Fear and Intimidation	Permanent	Negligible	Travel Plan						*	Negligible

*** Geographical Level of Importance**

I = International; UK = United Kingdom; E = England; R = Regional; C = County; D = District; L = Local

REFERENCES

- ⁱ Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment (2003)
- ⁱⁱ National Planning Policy Framework, Ministry of Housing Communities and Local Government (February 2019)
- ⁱⁱⁱ Planning Practice Guidance – Travel Plans, Transport Assessments and Statements: Ministry of Housing, Communities and Local Government (2014)
- ^{iv} Adoption Arun Local Plan, Arun District Council (2018)
- ^v Arun Infrastructure Capacity Study and Delivery Plan, Hampshire Service (February 2017)
- ^{vi} Local Transport Plan LTP3 2011-2026, West Sussex County Council (2011)
- ^{vii} Ford Neighbourhood Plan, Ford Parish Council (2018)
- ^{viii} TRICS Best Practice Guidance, TRICS Ltd (2012)
- ^{ix} Arun Transport Study EBR Review, Systra (2017)
- ^x Secondary School Site Selection Study, Systra (2018)
- ^{xi} The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (2009)