



13.0 Cumulative Impacts

13.1 Introduction

13.1.1 This chapter of the ES provides an assessment of the cumulative and interactive effects of the Proposed Development both in combination with other developments and from within the development itself. This is in accordance with the EIA Regulations which require:

'The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors –

- (a) Population and human health;*
- (b) Biodiversity....;*
- (c) Land, soil, water, air and climate;*
- (d) Material assets, cultural heritage and the landscape;*
- (e) The interaction between the factors referred to in sub-paragraphs (a) to (d).'* [Regulation 4(2)]

And

'A description of the likely significant effects of the development on the environment resulting from, inter alia:

.....

- (f) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.'* [Schedule 4(5)]

13.1.2 Cumulative effects within EIA are considered to be:

- Effects caused by the actions of different projects together with the project being assessed. These impacts can either contribute to an existing impact (additive) or combine to produce an additional impact (synergistic);
- Impacts between different environmental aspects of a single project which in-combination, incrementally have greater effect on particular receptors.

13.1.3 The developments to be considered as part of the cumulative assessment are set out in Table 13.8 and are also presented in Figure 13.1. These developments were identified following the exercise based on The Planning Inspectorate (PINS) Note 17 methodology.

13.2 Methodology and Scope

Policy Background

National Planning Policy Framework

13.2.1 The National Planning Policy Framework (NPPF) places an emphasis on viability and deliverability of plans, ensuring that sites and scales of development should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened. Paragraph 174 sets out that:

"Local planning authorities should set out their policy on local standards in the Local Plan, including requirements for affordable housing. They should assess the likely cumulative impacts on development in their area of all existing and proposed local standards, supplementary planning documents and policies that support the development plan, when added to nationally required standards. In order to be appropriate, the cumulative impact of these standards and policies should not put implementation of the plan at serious

risk and should facilitate development throughout the economic cycle. Evidence supporting the assessment should be proportionate, using only appropriate available evidence."

Key Legislation

EC Environmental Impact Assessment (EIA) Directive (2014/52/EU)

13.2.2 The EC Environmental Impact Assessment (EIA) Directive (85/337/EEC, as amended by the Directives 97/11/EC, 2003/35/EC, 2009/31/EC, 2011/92/EU and replaced by 2014/52/EU) requires *'the likely significant effects of projects on the environment must be considered in relation to...the cumulation of the impact with the impact of other existing and/or approved projects.*

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/571)

13.2.3 The Town and Country Planning (Environmental Impact Assessment) Regulations 1999 (as amended) outlines *'the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'* to be included within ES'.

13.2.4 As required by Schedule 4, Paragraph 5e) of the EIA Regulations (HMSO, 2017), the assessment will take into consideration other existing and /or approved projects.

Cumulative Effects Assessment Guidance

PINS Note 17 – Cumulative Effects Assessment

13.2.5 A range of public sector and industry-led guidance is available on CEA but at present there is no single, agreed industry standard method. Consequently, the approach to CEA varies between applications.

13.2.6 For this application, PINS Advice Note 17 was chosen as the main method for CEA. This sets out a staged process. Stages 1 to 2 are undertaken early in pre-application phase and form part of the Matrix 1 table in which all cumulative sites are listed, in this case Table 13.4. At these stages a Zone of Influence (ZOI) is established and a list of 'other developments' are identified. Each development identified is then categorised into tiers (shown on Table 13.2). These are dependent on the status of the development, where 1 is an application already submitted to the LPA for approval and 3 is a development identified in other plans and programmes.

13.2.7 The list obtained at these stages is then assessed cumulatively with the Proposed Development and a clear justification for scoped out sites that are likely to represent no significant effects is provided. A new 'other developments' list can then progress to stage 3 and 4 of the Matrix 2, shown in Table 13.8.

13.2.8 Matrix 2 provides a means of clearly presenting the outcomes from each stage of the process in a standardised tabular form in which all potential cumulative and residual effects are outlined.

13.2.9 Summary of the staged approach to the CEA process as per PINS Note 17 is outlined in Table 13.1 below.

**Table 13.1 Summary of the staged approach to the CEA process**

Stage	Activity
1	Identify a long list of 'other developments' to support Stage 2 Establish the Tier number for each 'other development' identified – (summary of each Tier proposed is outline don Table 8.2) Establish ZOI of scheme for environmental topics proposed to be scoped into the EIA
2	Develop a shortlist of 'other development' for CEA by applying inclusion/exclusion criteria to the Stage 1 list of 'other developments' and document these in Matrix 1
3	Gather available information regarding the shortlisted 'other development' to inform the CEA. These are then documented in Matrix 2
4	Conduct the cumulative effects assessment of the shortlisted 'other developments'

Table 13.2 CEA Tiers

Tier 1	Under construction	Decreasing level of detail likely to be available 
	Permitted application (s), whether under the PA2008 or other regimes, but not yet implemented;	
	Submitted application (s) whether under the PA2008 or other regimes but not determined;	
Tier 2	Projects on the Planning Inspectorate's Programme of Projects where a scoping report has been submitted;	
Tier 3	Projects on the Planning Inspectorate's Programme of Projects where a scoping report has not been submitted;	
	Identified in the relevant Development Plan (and emerging Development Plans – with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited;	
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents / approvals, where such development is reasonably likely to come forward.	

Assessment Methodology**Additive and synergistic**

13.2.10 Additive and synergistic effects occur as a result of the interaction of the construction and operation of the proposed development with 'other' projects and plans.

13.2.11 The additive or synergistic effects of the cumulative developments identified within Table 13.1 on the topic chapters within this ES have been assessed. The significance of effects has been discussed in line with individual topics chapters' assessment of significance.

In-combination effects

13.2.12 In-combination effects (also known as inter-relationship) are the effects which in isolation may only represent a slight effect upon a receptor, but in conjunction with the other effects arising from the topic assessments, may represent a greater effect and need to be given further consideration. For example, a local resident might be affected by the noise from the construction phase but might also be affected by dust and increased traffic. Individually, these might not be assessed as being significant, but in combination they might become significant.

13.2.13 This form of cumulative assessment is based upon the residual effects as it has been assumed that the additional mitigation detailed within individual topic chapters will be implemented, as it can be readily secured through the planning system.

13.2.14 Only those effects which have been determined to be minor/slight or above have been considered to represent an effect on identified receptors and are therefore represented in the in-combination effects table.

Temporal and Spatial limits

13.2.15 The Zone of Influence (ZOI) identified within the relevant topic chapters of this ES comprises the study area for the assessment of in-combination effects.

Scoping Assessment Stage

13.2.16 The scope of assessment was proposed in the Scoping Report (Appendix 2.1) submitted to Havant Borough Council (HBC) in February 2018. Comments received with respect to cumulative effects. These are detailed in detail in Table 2.1 of Chapter 2.

Limitations of the Assessment

13.2.17 The developments assessed within this chapter have been identified by HBC and WYG, however it is possible that other planning applications are made during the determination of this planning application which are therefore not included in this assessment.

13.2.18 Additionally, the planning references for some sites provided by the HBC in 2018 have since been replaced or updated. Namely these are:

- Berewood and Wellington Park (KS9 in the Draft Local Plan) – not outlined in Pre-submission Local Plan 2036;
- Land north of Fort Purbrook (H44 in the Draft Local Plan) – not outlined in the Pre-Submission Local Plan 2036; and,
- Former South Downs College Car Park (H45 in the Draft Local Plan) – not outlined in the Pre-Submission Local Plan 2036.



- 13.2.19 As H44 and H45 Allocated Sites now form the existing Proposed Development, these were not assessed further.
- 13.2.20 As no reference to KS9 was available in the updated Pre-Submission Local Plan, all other allocated sites within the vicinity of the Site were considered cumulatively in the initial two stages of PINS Assessment.



Table 13.4 - Cumulative Developments

Other Development Details						Stage 1			Stage 2		
ID	Application Reference	Local Authority	Site	Distance from the Site (km)	Status	Tier	Within ZOI?	Progress to Stage 2?	Overlap in temporal scope?	Scale and nature of development likely to have a significant effect	Progress to Stage 3?
1	10/02862/OUT	Winchester City Council	Berewood Outline application for the development of approx 2,550 no. dwellings including the construction of a new access from Ladybridge Roundabout, Milk Lane and completion of Maurepas Way access, a local centre (comprising retail, community building, land for healthcare, land for elderly care) public house, land for 2 primary schools, land for a nursery, land for employment uses, associated amenity space along with substantial green infrastructure, SuDS, land for allotments, main pumping station, land for cemetery, restoration of River Wallington, together with landscape structure planting (Matters for Approval Access only) Full planning application for the development of Phase 1 comprising 194 no. dwellings, internal roads, garages, driveways, pathways, boundary treatment, substation, pedestrian/cycleways, including to Maurepas Way, associated parking spaces, flood attenuation ponds, temporary play provision, associated amenity space and hard and soft landscape works. Full planning for engineering operations associated with infrastructure requirements and service provision for the detailed Phase 1 application, the temporary closure of Havant footpath No.11 and Southwick and Widley footpath No.30 with suitable alternative route provided	2	Application approved. Conditions currently being discharged for individual phases	1	Yes	Yes	Possible	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality and socio-economic effects During operational phase, this site is deemed to represent a beneficial effect in terms of provision of housing, education, amenity and retail provision. Significant effects in relation to traffic, air quality and landscape are also anticipated and therefore assessed further.	Yes
2	13/01124/FUL	Portsmouth City Council	Land adjacent to East Lodge Playing Fields Darlington Construction of a two-storey building (with ancillary accommodation in roofspace) to form 72 bed residential care home and car parking on northern part of site with access from East Lodge Park and change of use of southern part of site to open space	1	Decision permission issued in 2013, subject to conditions No updates since	1	Yes	Yes	Unknown	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality and socio-economic effects During the operational phase, some beneficial effects in terms of health and potential employment opportunities are anticipated.	Yes
3	17/00224/OUT	Portsmouth City Council	Former Dairy Site, Station Road, Portsmouth Outline application for the construction of up to 108 dwellings	2.2	Decision issued in 2017	1	No	No	Possible	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality and socio-economic effects During operational phase, this site is deemed to represent a beneficial effect in terms of provision of housing, education, amenity and retail provision.	No



Other Development Details						Stage 1			Stage 2		
ID	Application Reference	Local Authority	Site	Distance from the Site (km)	Status	Tier	Within ZOI?	Progress to Stage 2?	Overlap in temporal scope?	Scale and nature of development likely to have a significant effect	Progress to Stage 3?
4	APP/17/01243	Havant Borough Council	208 London Road, Waterloooville Erection of a single storey building to accommodate a nursery for a maximum number of 78 children including outside play area together with formation of a car park, provision of boundary treatment and landscaping and alternations to existing pedestrian and vehicular accesses following demolition of the existing house	2.2	Application approved; conditions are currently being discharged	1	No	No	Possible	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality and socio-economic effects During the operational phase, some beneficial effects in terms of potential employment opportunities are anticipated. Nonetheless, due to the distance and scale of the 'other development' effects are deemed to be non-significant and are scoped out of further assessment	No
5	APP/19/00513	Havant Borough Council	Car Park, Wellington Erection of three-storey multi-storey car park to provide 263 car parking spaces on existing Wellington Way car park	2.2	Application approved; conditions are currently being discharged	1	No	No	Possible	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality effects. During the operational phase, effects are likely to relate to transport and air quality primarily.	No
6	APP/18/00234	Havant Borough Council	Wellington Way, Waterloooville Demolition of existing shopping parade and redevelopment of the site to provide a nine-storey building consisting of 264 No. 1 bed/studio build to rent apartments and associated amenity facilities, an A2 unit (Financial and Professional Services) together with associated parking and landscaping	2.1	Application approved; conditions are currently being discharged	1	No	No	Possible	The construction programmes may overlap with potential to give rise to cumulative traffic, noise, air quality and socio-economic effects During operational phase, this site is deemed to represent a beneficial effect in terms of provision of housing, education, employment and retail provision.	Yes
7	KP8 Allocated Site	Havant Borough Council	South Downs campus Refurbishment and redevelopment of the existing campus to provide new teaching space and educational facilities	0.05	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. However, due to its close proximity to the Proposed Development it is considered significant and therefore is assessed further.	Yes
8	H22 Allocated Site	Havant Borough Council	Littlepark House Residential development of up to 50 dwellings	0.3	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. Although the development is located near the Proposed Development, due to its scale, potential effects are not considered	Yes



Other Development Details						Stage 1			Stage 2		
ID	Application Reference	Local Authority	Site	Distance from the Site (km)	Status	Tier	Within ZOI?	Progress to Stage 2?	Overlap in temporal scope?	Scale and nature of development likely to have a significant effect	Progress to Stage 3?
										to be significant and therefore are not assessed further.	
9	C11 Allocated Site	Havant Borough Council	Land at Hulbert Road Development of about 6,250m ² of employment floorspace (Class B1, B2 and B8)	0.5	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. However, due to its scale and potential beneficial effects in terms of employment provision, it is considered significant and therefore is assessed further	Yes
10	H14 Allocated Site	Havant Borough Council	Forty Acres 320 dwellings and a care home	0.8	Planning application submitted in 2018	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. However, due to its potential beneficial effects in terms of socio-economics and health care provision it is considered significant and therefore is assessed further.	Yes
11	H20 Allocated Site	Havant Borough Council	Land south of Lower Road Residential development of up to 50 dwellings	1	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. Although the development is located near the Proposed Development, due to its scale, potential effects are not considered to be significant and therefore are not assessed further.	No
12	H24 Allocated Site	Havant Borough Council	Land at Palk Road Residential development of up to 15 dwellings	1.7	Planning application not yet submitted	3	Yes	No	Unlikely	Programme of this development is not known as the application has not yet been submitted. Although the development is located near the Proposed Development, due to its scale, potential effects are not considered to be significant and therefore are not assessed further.	No
13	H17 Allocated Site	Havant Borough Council	Portsmouth Water Headquarters Residential development of up to 135 dwellings	1.8	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. However, due to its potential beneficial effects in terms of socio-	Yes



Other Development Details						Stage 1			Stage 2		
ID	Application Reference	Local Authority	Site	Distance from the Site (km)	Status	Tier	Within ZOI?	Progress to Stage 2?	Overlap in temporal scope?	Scale and nature of development likely to have a significant effect	Progress to Stage 3?
										economics it is considered significant and therefore is assessed further.	
14	H43 Allocated Site	Havant Borough Council	Goodwillies Timber Yard Residential development of up to 120 dwellings	1.8	Planning application not yet submitted	3	Yes	Yes	Unlikely	Programme of this development is not known as the application has not yet been submitted. However, due to its potential beneficial effects in terms of socio-economics it is considered significant and therefore is assessed further.	Yes



13.3 Baseline Environment

Existing baseline

Additive and synergistic

13.3.1 Developments included within the assessment are as outlined within Table 13.8.

In-combination effects

13.3.2 The environmental topics assessed within this ES and their baselines outlined within each ES chapter form the baseline environment of the assessment of in-combination effects.

Future baseline

13.3.3 The developments assessed within this chapter are considered to form the future baseline.

13.4 Mitigation within the Submitted Design

13.4.1 This form of cumulative assessment is based upon the residual effects as it has been assumed that the additional mitigation detailed within individual topic chapters will be implemented, as it can be readily secured through the planning system.

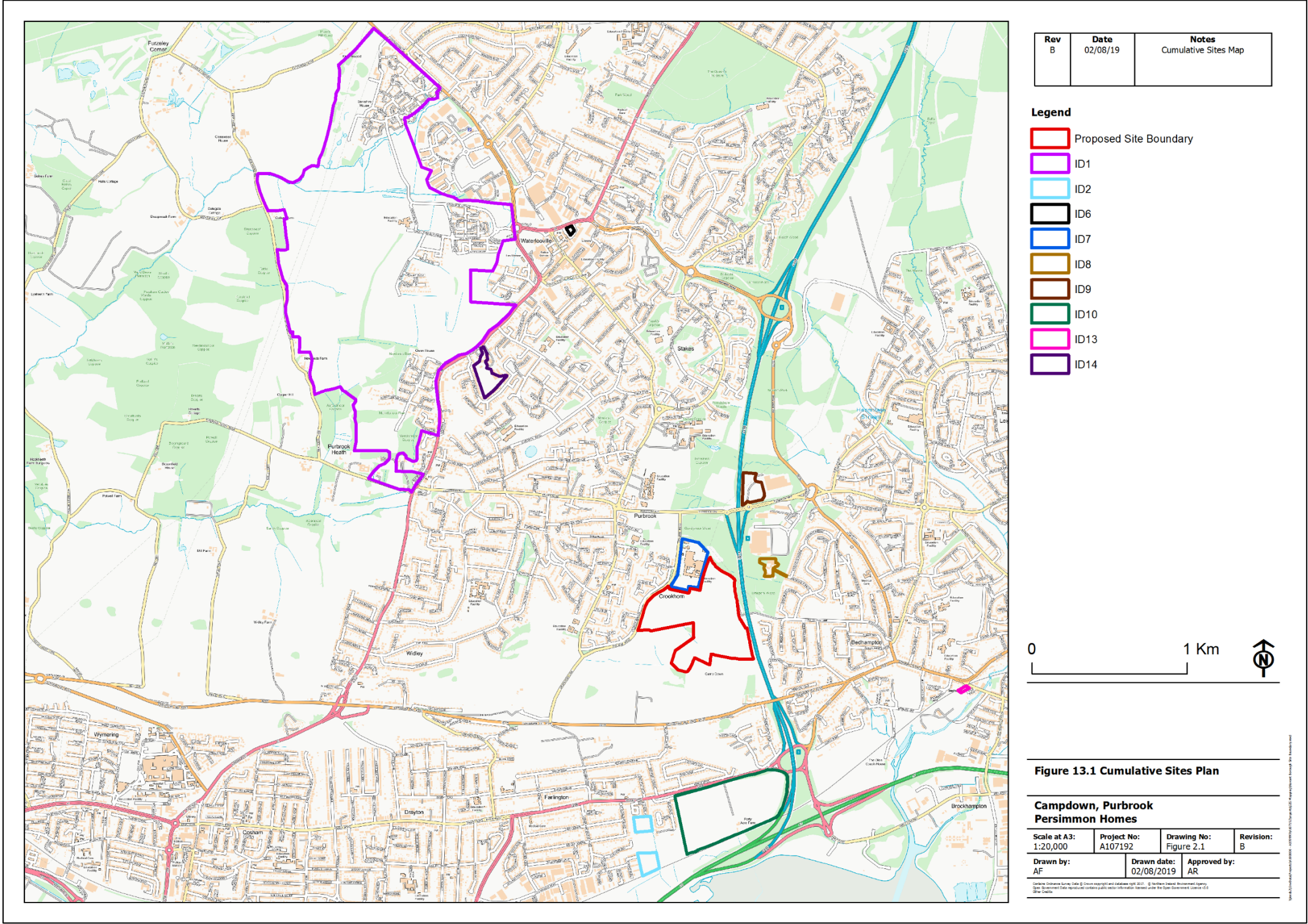
13.5 Likely Significant Environmental Effects of the Scheme

Additive and synergistic

13.5.1 The additive and synergistic effects assessment identified multiple potential effects with 'other developments' located within and outside the specified ZOI. These are outlined in Figure 13.1 and Table 13.8.



Figure 13.1 Cumulative Sites Map





Traffic and Transport

Construction Phase Effects

- 13.5.2 It is likely that the construction phases of both the Former South Downs College Car Park and land north of Fort Purbrook developments would route from the A3(M) in the same manner as the Proposed Development, therefore passing through both the College Road/Purbrook Way junction and the new proposed signalised junction on College Road.
- 13.5.3 Whilst it is not known for certain the level of HGV movements likely to be associated with the cumulative sites, a proportionate estimate has been made based upon the information for the Proposed Development. As both the Former South Downs College Car Park and Land North of Fort Purbrook developments comprise approximately 100 dwellings, this proportion has been applied to the HGV movements in the Transport Assessment produced for the Proposed Development. This therefore equates to 13 HGVs per day per site.
- 13.5.4 HGV traffic associated with the Littlepark House development to the east of the site is anticipated to route via the A3(M) roundabouts and subsequently the ASDA/Hulbert Road roundabout. As the site comprises 45 dwellings (approximately 6% of the Proposed Development) it is anticipated that 5 HGV movements would be associated with the site. The local road network is likely to be able to accommodate this additional traffic and no noticeable effect is likely on the capacity of the roundabouts.
- 13.5.5 HGV movements associated with both Berewood and Wellington Park and Forty Acres Farm are not anticipated to travel through the junctions assessed as part of the Proposed Development (particularly Junction 4 of the A3(M)) with vehicles utilising Junctions 3 and 5 of the A3(M) respectively.

Operational Phase Effects

- 13.5.6 The vehicle trips associated with Berewood and Wellington Park development have already been included in the TEMPRO growth rates used to calculate the likely traffic flows in the future year scenarios. Therefore, no additional traffic is anticipated to pass through the junctions in the vicinity of the Site that hasn't already been taken into consideration in the junction capacity modelling completed in the TA.
- 13.5.7 Similarly, the traffic associated with the Forty Acre Farm development is not to route through any of the junctions in the vicinity of the Site, with the exception of Bedhampton Hill roundabout. It was previously thought that the school trips associated with Forty Acre Farm would attend Moreland's Primary School thus subsequently routing through the Crookhorn Lane/Portsdown Hill Road junction, however confirmation has been received from HCC that they will now attend Bidbury Schools. As such minimal traffic associated with both the Forty Acre Farm site and the Proposed Development will be placed on the already over capacity Bedhampton Hill roundabout and it is therefore anticipated that both developments will pay proportionate contributions to wider improvements in this area.
- 13.5.8 As transport reports have not yet been submitted for the Former South Downs College, Fort Purbrook or Littlepark House developments, the vehicle trips associated with both the Land north of Fort Purbrook and at the Former South Downs College Car Park have been calculated using the trip rates in Table 5.3 and distributed onto the local road network in accordance with the trip distributions agreed as part of the Proposed Development. The resultant two-way vehicles movements at the main junctions are therefore summarised in the subsequent paragraphs.
- 13.5.9 The proposed signalised site access would result in an additional 54 trips in the AM peak period and 59 trips in the PM peak period associated with the Fort Purbrook Site and 51 trips and 56 trips in the AM and PM peak periods respectively associated with the South Downs College site.

- 13.5.10 At the Crookhorn Lane/Portsdown Hill Road junction, 12 and 13 vehicle trips would be placed through the junction in the AM and PM peak periods respectively from the Fort Purbrook development and 11 trips in both peak periods associated with the South Downs College development.
- 13.5.11 To the north, the Fort Purbrook site would result in an additional 43 trips in the AM peak period and 46 trips in the PM peak period, with the South Downs College site generating an additional 40 vehicle trips and 44 trips in the AM and PM peak periods respectively.
- 13.5.12 The Stakes Hill Road roundabout will see an additional 11 vehicle trips in both peak periods associated with the Fort Purbrook site and 10 and 11 trips in the AM and PM peaks respectively generated by the South Downs College site.
- 13.5.13 A total of 24 vehicle trips in the AM and 26 vehicle trips in the PM generated by the Fort Purbrook site and 22 trips (AM) and 24 trips (PM) generated by the South Downs College site are to be placed on either the A3(M) on-slip or off-slip.
- 13.5.14 In a similar manner, the vehicle trips associated with the Littlepark House development have also been placed onto the local road network in line with the trip distribution associated with the Proposed Development. It is anticipated that 7% of traffic would travel north on Hulbert Road for access to the A3(M), 8% east to Havant and 59% west towards the A3(M) and Purbrook. Therefore, an additional 18 vehicle trips are placed on the ASDA roundabout in the AM peak period and 20 trips in the PM peak period. The A3(M) roundabouts are likely to see an additional 14 (AM) and 16 (PM) traffic movements associated with the Littlepark House developments.
- 13.5.15 As the local junctions are all operating either over capacity in baseline scenarios and mitigation measures have been identified by the Proposed Development to mitigate against its own impact, it is anticipated that the three developments would pay a contribution to the improvements or look for further mitigation measures when they progress with applications.

Air Quality

- 13.5.16 Cumulative effects are defined as those that occur as a result of future activities that may impact collectively over time. Cumulative effects on air quality at the Proposed Development which have been considered in the assessment are outlined in the following Sections.

Construction Phase Effects

- 13.5.17 As stated previously a review of the HBC Planning Portal indicated that there are no approved large-scale development schemes within 500m of the Site. As such, the likelihood of concurrent dust generating activity is currently minimal. There are however a number of upcoming applications, without planning approval, within 500m of the Site. It is assumed that the implementation of standard best practice measures for the Proposed Development and upcoming developments will ensure that concurrent Construction Phase impacts are **not significant**.
- 13.5.18 With regards to HGV exhaust emissions, and as stated in the Transport Chapter it is not known for certain the level of HGV movements likely to be associated with the cumulative sites, as such a proportionate estimate has been made based upon the information for the Proposed Development.
- 13.5.19 It is estimated that HGV movements associated with the construction phases of the Former South Downs College Car Park, Land North of Fort Purbrook and Littlepark House cumulative developments will result in a total of 18 HGV movements per day. Given uncertainties regarding the duration and timing of the cumulative site's construction phases it is not anticipated that HGV movements associated with the Proposed Development will result in a cumulative impact on existing conditions. As stated previously, HGV movement associated with construction are of short-term nature and as such can be considered **not significant** when considering impacts upon long-term pollutant concentrations.



13.5.20 HGV movements associated with both Berewood and Wellington Park and Forty Acres Farm are not anticipated to travel through the junctions assessed as part of the Proposed Development

13.5.21 Based on the above and due to their transient and short-term presence in the wider context of the Proposed Development cumulative effects with relation to HGV movements have been considered **not significant**.

Operation Phase Effects

13.5.22 The assessment has considered the effect of the Proposed Development in conjunction the identified committed developments, as listed below:

- Berewood and Wellington Park (Policy KS9 in the Draft Local Plan);
- Fort Purbrook (Policy H44 in the Draft Local Plan);
- Forty Acres (Policy H15 in the Draft Local Plan);
- Littlepark House (Policy H23 in the Draft Local Plan);
- Former South Downs College Car Park (Policy H45 in the Draft Local Plan).

Archaeology and Cultural Heritage

13.5.23 Of those sites mentioned above, the following are considered to have a potential cumulative effect on Cultural heritage:

- Land adjacent to East Lodge Playing Fields, Darlington (ID2);
- South Downs Campus (ID7); and
- Forty Acres (ID10).

13.5.24 The heritage assets assessed within Chapter 7 of this ES and further examined cumulatively within this chapter are listed in Table 13.5 below.

Table 13.5 Table of Heritage Assets assessed below

Designation	Heritage Receptors	Value	Susceptibility to Change	Sensitivity
Scheduled Monument	Littlepark Wood Roman villa	High	High	High
Scheduled Monument	Bevis' Grave Neolithic long barrow and early medieval cemetery	High	Medium	Moderate/High
Scheduled Monument	Fort Purbrook	High	Low	Moderate
Statutory Listed Building	Fort Purbrook	High	Low	Moderate
Statutory Listed Building	Fort Purbrook, that part in Portsmouth Church Parish	High	Low	Moderate

Designation	Heritage Receptors	Value	Susceptibility to Change	Sensitivity
Statutorily Listed Building	The Towers	Medium	Low	Low/Moderate
NDHA	Undated Roman Enclosure (HER 17272)	Low	Low	Low
NDHA	Roman Road (HER 23328)	Low	High	Moderate
NDHA	Roman Trackway (HER 38682)	Low	High	Moderate
NDHA	Site of Farlington Redoubt and Camp Down Admiralty Semaphore Station	Low	Low	Low

Construction Phase Effects

13.5.25 Given the three cumulative sites listed above and the heritage assets located in proximity, effects are likely to occur on the following assets:

13.5.26 *Littlepark Wood Roman villa*: The magnitude of cumulative impact would be Slight Negative, with a temporary **Intermediate to Minor** adverse significance of effect. The likely magnitude of effect is Minor Adverse which is **not** considered to be **significant**.

13.5.27 *Bevis' Grave Neolithic long barrow and early medieval cemetery*: The magnitude of impact would be No Change, with a temporary Neutral significance of effect. The likely magnitude of effect is Neutral which is **not** considered to be **significant**.

13.5.28 *Fort Purbrook*: The magnitude of impact would be Slight Negative, with a temporary Intermediate to Minor adverse significance of effect. The likely magnitude of effect is Minor Adverse which is **not** considered to be **significant**.

13.5.29 *The Towers*: The magnitude of impact would be No Change, with a temporary Neutral significance of effect. The likely magnitude of effect is Neutral which is **not** considered to be **significant**.

13.5.30 *Undated Roman Enclosure (HER 17272)*: The magnitude of impact would be No Change, with a temporary Neutral significance of effect. The likely magnitude of effect is Neutral which is **not** considered to be **significant**.

13.5.31 *Roman Road (HER 23328)*: The magnitude of impact would be Slight Negative, with a temporary Minor Adverse to Neutral significance of effect. The likely magnitude of effect is Negligible/ Neutral which is **not** considered to be **significant**.

13.5.32 *Roman Trackway (HER 38682)*: The magnitude of impact would be No Change, with a permanent Neutral significance of effect. The likely unmitigated magnitude of effect is Neutral which is **not** considered to be **significant**.

13.5.33 *Site of Farlington Redoubt and Camp Down Admiralty Semaphore Station*: The magnitude of impact would be No Change, with a permanent Neutral significance of effect. The likely unmitigated magnitude of effect is Neutral which is **not** considered to be **significant**.



- 13.5.34 It can be assumed that the effects on these heritage assets will be reduced as far as practical by individual cumulative sites through good construction practices and implementation of a CEMP. These will reduce any potential effects on the cultural heritage as far as practical and therefore the overall effect is considered to be not-significant.

Potential for unrecorded Archaeology

- 13.5.35 Potential unrecorded prehistoric heritage assets on the Site are likely to have a Low to Medium Heritage Value with a High Susceptibility to Change, and the Moderate to High Sensitivity to Change. This is therefore assumed to be similar to other cumulative sites listed above.
- 13.5.36 The likely unmitigated magnitude of cumulative effect is Major which is considered to be **significant**. Nonetheless, it is considered that appropriate mitigation for the construction phase of individual cumulative sites will be chosen and incorporated within the embedded / additional mitigation of the schemes and therefore reduced to a non-significant level.

Operational Phase Effects

- 13.5.37 The cumulative impacts during the operational phase of the developments will be limited to potential views from individual sites on the heritage assets listed below:
- 13.5.38 *Littlepark Wood Roman villa*: The magnitude of impact would be Slight Negative, with a permanent **Intermediate to Minor adverse** significance of effect. The likely unmitigated magnitude of effect is Minor to Intermediate Adverse which is considered to be **significant**.
- 13.5.39 *Bevis' Grave Neolithic long barrow and early medieval cemetery*: The magnitude of impact would be No Change, with a permanent **Neutral** significance of effect. The likely unmitigated magnitude of effect is Neutral which is not considered to be **significant**.
- 13.5.40 *Fort Purbrook*: The magnitude of impact would be Slight Negative, with a permanent **Intermediate to Minor** adverse significance of effect. The likely unmitigated magnitude of effect is Minor Adverse which is **not** considered to be **significant**.
- 13.5.41 *The Towers*: The magnitude of impact would be No Change, with a permanent **Neutral** significance of effect. The likely unmitigated magnitude of effect is Neutral which is **not** considered to be **significant**.
- 13.5.42 It can be assumed that the potential effects listed above will be mitigated as far as practical through appropriate landscaping and layout design of the individual schemes. Therefore, the overall cumulative effect on the heritage assets during the operational phase is anticipated to be not significant.
- 13.5.43 As effects on the below-ground assets are anticipated to occur primarily during the construction phase, no further effects are likely during the operational phase of the cumulative schemes.

Landscape and Visual Impact Assessment

- 13.5.44 Five developments with potential cumulative effects have been identified. There is no inter-visibility between the Site and four of these developments. They are: Berewood and Wellington Park; Land north of Fort Purbrook; Littlepark House and Forty Acres. There would be no combined cumulative visual effects between the Site and these developments.
- 13.5.45 The eastern edge of the Site boundary of Land north of Fort Purbrook is on Crookhorn Lane (which becomes College Road). There may be some minor sequential visual effects for Visual Receptors travelling along Crookhorn Lane/College Road. The change in views of the proposed development at Land north of Fort Purbrook would be **Low to Negligible** as only a small part of the development would be visible due to its orientation which wraps around the settlement edge to the west. The sequential cumulative effect would be greater than the effects of the Proposed Development on these VRs.

- 13.5.46 The development of the Former South Downs College Car Park would have some positive cumulative effects. The proximity to the Site means that there would be an increased effect on landscape character of the area. Boundary vegetation which separates the two developments would be retained and there would continue to be limited views between them, except where gaps are deliberately made as part of the development proposals in order to increase connectivity and improve access to existing recreational facilities to the west of College Road and new facilities within the Proposed Development.

Construction

- 13.5.47 If the construction periods of the Proposed Development and development of the Former South Downs College Car Park were to coincide the adverse effects on landscape character would be increased.

Operation

- 13.5.48 Once the two developments are complete and occupied, they would create a continuous extension to the settlement edge.

Ecology

- 13.5.49 Appendix 9.7 which supports Chapter 9 - Ecology considers all the sensitive receptors from the proposed development with the 14 'other proposed local developments' as detailed in this chapter.
- 13.5.50 From the review of the ecological reports (where possible) of the proposed developments, some of the significant ecological features are present both on Site and the identified cumulative developments. Where significant features are common to both the Site and cumulative sites, due to spatial, temporal or ecological reasons, cumulative impacts are not considered likely. Where significant features are present on the Site and one or more of the other 14 proposed developments these are discussed further below.

Construction Phase Effects

Statutory designated sites

- 13.5.51 Due to the assumed embedded mitigation that will need to be included for these other 14 sites as well as that of the Site (in order to comply with Regulation 63 of the Conservation of Habitats and Species Regulations 2017), **no significant cumulative effects** are considered likely during construction.

Non-statutory designated sites

- 13.5.52 Due to the distance between the receptor and the development sites and the assumed embedded mitigation that will need to be included for these other 14 sites as well as that of the Site, no significant cumulative effects are considered likely during construction.

Wintering birds

- 13.5.53 Any sites which result in a significant adverse effect upon wintering birds will require mitigation to comply with Regulation 63 of the Conservation of Habitats and Species Regulations 2017. This will also have to consider in-combination effects from other developments and projects. Due to this requirement, **no significant** cumulative effects are considered likely during construction.

Bats

- 13.5.54 Whilst many of the 14 sites either support buildings or suitable foraging and commuting habitat for bats, most are a significant distance from the Site. The only in close proximity to the site (South Downs Campus) comprises refurbishment and redevelopment of the existing college campus and is unlikely to



result in significant adverse effects upon bats. Therefore, **no significant** cumulative effects are considered likely during construction for the local bat population.

Hazel dormouse

- 13.5.55 Whilst potentially suitable dormouse habitat has been identified on some of the proposed sites, he only in close proximity to the site, and potentially impacting the same dormouse population is South Downs Campus. This is unlikely to result in any impacts to habitat and will not result in any increase in recreation or residential occupation. For all other sites that support suitable habitat, these sites have no connective links due to the presence of major roads. As such it is considered therefore that there will be **no significant** cumulative effects on the local dormouse population.

Operational Phase Effects

Statutory designated sites

- 13.5.56 There is the potential for cumulative effects, for example from recreation. However, embedded mitigation will need to be included for these other 14 sites as well as that of the Site (in order to comply with Regulation 63 of the Conservation of Habitats and Species Regulations 2017). For example, the financial contribution to the Solent Recreation Mitigation Strategy mitigates both alone and cumulative effects. Therefore, it is considered that there will be **no significant** cumulative effects on designated and non-statutory sites.

Non-statutory designated sites

- 13.5.57 Due to the distance between the receptor and the development sites and the assumed embedded mitigation that will need to be included for these other 14 sites as well as that of the Site, **no significant** cumulative effects are considered likely during operation.

Wintering birds

- 13.5.58 Any sites which result in a significant adverse effect upon wintering birds will require mitigation to comply with Regulation 63 of the Conservation of Habitats and Species Regulations 2017. This will also have to consider in-combination effects from other developments and projects. Due to this requirement, **no significant** cumulative effects are considered likely during construction.

Bats

- 13.5.59 Due to the distance and lack of connective links between the Site and the development sites, and the embedded mitigation and the assumed open space that will need to be incorporated for these other 14 sites as well as that of the Site, it is considered that there will be **no significant** cumulative effects during the operational phase on the local bat population.

Hazel dormouse

- 13.5.60 Whilst potentially suitable dormouse habitat has been identified on some of the proposed sites, for those that are directly adjacent to the site (South Downs Campus) the proposals are considered too small to have a likely significant effect on the dormouse population assuming appropriate mitigation will be adopted. For all other sites that support suitable habitat, these sites have no connective links as major roads divide the proposed sites from the Site. As such it is considered that there will be **no significant** cumulative effects on the dormouse population.

Noise and Vibration

Construction Phase Effects

- 13.5.61 Should the construction phase programmes of any other proposed or committed developments in the vicinity of the Proposed Development overlap, then there is the potential for significant cumulative noise impacts at sensitive locations. However, implementation of suitable mitigation options, as outlined within this chapter, and employed at the other development sites will ensure that there is no significant cumulative effect.

Operational Phase Effects

- 13.5.62 Cumulative vehicle noise impacts may arise from additional traffic growth on the local road network as a result of proposals in the vicinity of the Site.
- 13.5.63 Traffic data for 2035, which includes anticipated future growth and vehicle trip generation from other committed developments, is imbedded in the traffic data provided.
- 13.5.64 The residual impacts assume that the mitigation and recommendations described above have been implemented in order to achieve the criteria or the lowest practicable levels.

Water Environment

Construction and Operational Phase Effects

- 13.5.65 It is not anticipated that other developments will have a significant adverse impact on the water environment within the area, as the drainage strategy for each scheme should demonstrate that the development can be implemented without increasing flood risk elsewhere, in accordance with the Havant Borough Local Plan.

Socio-Economic and Human Health

- 13.5.66 Cumulative effects are considered relevant in socio-economic terms with regard to construction employment, operational employment, housing provision, demand for school places at both primary and secondary levels, demand for healthcare provision, and demand for open space and playspace.

Construction Phase Effects

- 13.5.67 The cumulative schemes assessed within this assessment have not yet been submitted for planning therefore it is likely that the construction phases would not overlap with that of the proposed development.
- 13.5.68 All schemes would generate construction employment. As previously noted, the construction labour within Havant is relatively high, therefore, there may be some competition for locally sourced construction employment with the potential for construction workers to be employed from outside the development area. For general construction employment, this is considered to result in a **negligible adverse** cumulative effect. However, with the likely overlap in construction phases of the cumulative schemes there is potential for workers to move between employment of the schemes the local area. Overall, the provision of employment as a result of the cumulative schemes would benefit employment within the area an **intermediate beneficial** significance.

Operation

Housing Provision

- 13.5.69 Cumulative developments providing residential units are outlined in the table below.



13.5.70 Table 13.6 shows that the addition to the 735 dwellings brought forward as part of the development, cumulative schemes will provide an additional 3,540 properties into the area. This is considered to have a **significant major** beneficial cumulative effect on housing provision within Havant Borough.

Table 13.6 Housing units provided from the cumulative sites

Site	Policy number	Additional Units
Former South Downs College Car Park	H45	95
Littlepark House	H23	45
Land North of Fort Purbrook	H44	100
Forty Acres	H15	300
Berewood and Wellington Park	KS9	3,000
Total number of units		3,540

Employment Opportunities

13.5.71 The Berewood and Wellington Park site has the potential to provide retail provision. The cumulative effect is therefore considered to be significant **minor** Beneficial.

Deprivation

13.5.72 As the expected population profile for new residents is unlikely to depart from the current levels of deprivation, issues of deprivation are not of significant concern and is considered to be of **minor** beneficial significance as for the proposed development.

Expenditure Impacts

13.5.73 The cumulative developments offer an opportunity to increase local expenditure therefore is considered to be of **major** significance cumulatively.

School Provision

13.5.74 It is assumed that any additional need for school places will be brought forward within the cumulative schemes and would be catered accordingly within each individual development. Therefore, the cumulative effects in terms of primary and secondary educational facilities would be **negligible**.

Healthcare provision

13.5.75 The increase in population as a result of the 3,540 homes provided as a result of the cumulative schemes will increase the pressure on existing GP practices. It can however be assumed with a reasonable level of confidence that financial contributions towards GP patient spaces and possible expansion of existing surgeries or provision of new surgeries would be secured for these schemes as appropriate as part of the planning process. This cumulative impact on healthcare provision is therefore considered to be **negligible**.

Open space and Recreation

13.5.76 The Forty Acres site includes the provision of allotments which will have a beneficial effect on recreation for those using them. It is considered that open space would be dealt with appropriately within each cumulative scheme in response to the Havant Borough requirements however, there is not sufficient information to assess the cumulative effect.

Community Facilities

13.5.77 The cumulative developments will increase the use of existing community facilities, increasing pressure on them. It is assumed that any additional need for school places will be brought forward within the cumulative schemes and would be catered accordingly within each individual development.

Crime and Disorder

13.5.78 It is considered that crime would be dealt with appropriately within each cumulative scheme in response to the Havant Borough requirements. Naturally an increase in the population and density of a residential area would increase levels of crime and disorder however as the cumulative schemes are proportionally dispersed within the area, it is assumed that crime and disorder would not increase substantially and would represent a **minor** adverse effect.

13.5.79 The scale and significance of the residual impacts, following adequate and fair mitigation measures at all development sites, would result in the outcome summarised in Table 13.7. In many cases the additional development in Havant Borough will be beneficial especially in regard to the local economy, wealth, affordability and ensuring local business viability. Given that all schemes are required to provide adequate mitigation contributions through s.106 agreements, if in place, then it is considered any potential adverse effects would be reduced to, at worst, negligible impacts.

12.7.14 The proposed development represents a significant new capital investment in the area, will raise the overall level of economic activity and expenditure in the area, and will therefore have a beneficial economic impact within the local area. These impacts would be further increased when set in the context of other residential development proposals within the district.

12.7.15 Not only would the alternative "do nothing" option prevent these benefits from coming forward, but it would also result in a further deterioration of the affordability of housing in Borough of Havant and a reduction in the local workforce. This would have significant adverse impacts in social and economic terms.



Table 13.7: Summary of impacts upon baseline position of all developments commencing simultaneously

Area	Nature of Impact	Significance of Proposed Development	Significance inclusive of cumulative impact
Employment during construction	Positive	Intermediate	Intermediate/Major
Housing provision	Positive	Major	Major
Direct employment opportunities	Positive	Intermediate	Minor
Impact on local labour market	Positive	Major	Major
Deprivation	Positive	Minor	Minor
Expenditure impacts	Positive	Major	Major
Education	Adverse	Minor	Negligible
Health services provision	Adverse	Intermediate	Negligible
Recreation and open spaces	Positive	Intermediate	N/A
Community facilities	Adverse	Minor	Negligible
Crime and disorder	Positive	Minor	Minor

**Table 13.8 Cumulative Effects Assessment of Scoped in Cumulative Sites - Assessment Matrix 2**

ID	Tier	Application Ref	Application for 'other development'	Assessment of cumulative effect with project	Proposed mitigation
1	1	10/02862/OUT	Berewood	Construction dust and noise pollution Increase in housing provision and population Provision of amenity and public open space Provision of retail facilities Provision of nursery facilities Provision of employment opportunities Effects associated with landscape and viewpoints Effects associated with increase in vehicles	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Adverse effect – appropriate design mitigation anticipated for individual sites Adverse effect - contribution to the improvements or any further mitigation measures for individual sites are anticipated
2	1	13/01124/FUL	Land adjacent of East Lodge Playing Fields	Construction dust and noise pollution Construction effects associated with archaeology and cultural heritage Provision of a care home facility	Adverse effect - To be controlled by site-specific CEMP Adverse effect – Appropriate design mitigation anticipated for individual sites Beneficial Impact – no mitigation required
6	1	APP/18/00234	Wellington Way, Waterloooville	Construction dust and noise pollution Provision of retail and commercial floorspace Provision of employment opportunities Provision of associated parking Provision of housing, including affordable	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required
7	3	KP8 Allocated Site	South Downs Campus	Construction dust and noise pollution Provision of educational facilities Effects associated with landscape and viewpoints	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required Beneficial Impact – retention of trees proposed for the Site
8	3	H22 Allocated Site	Littlepark House	Construction dust and noise pollution Increase in housing provision and population	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required



ID	Tier	Application Ref	Application for 'other development'	Assessment of cumulative effect with project	Proposed mitigation
				Effects associated with landscape and viewpoints	Adverse effect - appropriate design mitigation anticipated for individual sites
9	3	C11 Allocated Site	Land at Hulbert Road	Construction dust and noise pollution Provision of industrial floorspace Provision of employment opportunities Effects associated with increase in vehicles	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Adverse effect - contribution to the improvements or any further mitigation measures for individual phases are anticipated
10	3	H14 Allocated Site	Forty Acres	Construction dust and noise pollution Increase in housing provision and population Provision of a care home facility Effects associated with landscape and viewpoints	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required Beneficial Impact – no mitigation required Adverse effect - appropriate design mitigation anticipated for individual sites
13	3	H17 Allocated Site	Portsmouth Water Headquarters	Construction dust and noise pollution Increase in housing provision and population	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required
14	3	H43 Allocated Site	Goodwillies Timber Yard	Construction dust and noise pollution Increase in housing provision and population	Adverse effect - To be controlled by site-specific CEMP Beneficial Impact – no mitigation required



13.6 Additional Mitigation, Compensation and Enhancement Measures

13.6.1 Assuming that standard additional mitigation measures such as good acoustic design, S106 agreements, and payments under CIL regulations will be required for each cumulative site, residual effects will be mitigation as far as practical. As other additional mitigation strategies will be site-specific, these are not yet known and cannot be assumed at this stage.

13.7 In-combination effects

13.7.1 The in-combination effects assessment (Tables 13.9 and 13.10 below) identified a number of in-combination effects on a single receptor or group of receptors, as is the case for local residents. However, primarily for the timescale reasons given above, in combination effects are not considered to be magnitudinally greater than those effects identified by individual topic chapters and as such no additional mitigation or compensation is required.



Table 13.9 In-Combination Effects during Construction

Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)
Socio Economic Employment opportunities	Intermediate beneficial		-
Transport Construction Traffic	Minor, adverse		-
Noise Construction noise	Minor, adverse	-	-
Lighting Construction lighting on ecological receptors	-	-	-
Landscape Features Changes to setting of PRoW	Slight, adverse	-	Slight, adverse
Landscape Features Changes to landscape features and character areas	Slight, adverse	-	Slight, adverse
Visual Effects Visual effects from selected viewpoints	Slight, adverse	-	-
Archaeology Effects on archaeological assets (both identified and previously unrecorded)	-	-	-
Hydrology Water use and the impact on water availability	Negligible	-	-

Table 13.10 In-Combination Effects during Operation

Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations	Ecological Receptors
Socio Economic Increase in working age population	Intermediate, beneficial	Intermediate, beneficial	-	-
Socio Economic Housing provision	Intermediate, beneficial	Intermediate, beneficial	-	-
Socio Economic Health care	Negligible	-	-	-
Socio Economic Recreation/open space/play space provision	Negligible	Negligible	-	-
Traffic Severance/ Driver delay/ pedestrian delay/ pedestrian amenity/ fear and intimidation / accidents and safety	Negligible	Negligible	-	-
Noise (Site)	Negligible	-	-	Negligible
Noise (Off -site Traffic)	Minor adverse	Minor adverse	-	Negligible
Air Quality	-	-	-	Negligible
Drainage	Negligible	-	-	-