M3 Junction 9 Improvement

Scheme Number: TR010055

6.1 Environmental Statement Chapter 15 Cumulative Effects

APFP Regulations 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 6

November 2022

Infrastructure Planning

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

M3 Junction 9 Improvement
Development Consent Order 202[x]

6.1 ENVIRONMENTAL STATEMENT - CHAPTER 15: CUMULATIVE EFFECTS

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference:	TR010055
Application Document Reference:	6.1
BIM Document Reference:	HE551511-VFK-EGN-X_XXXX_XX-RP-LE-0008
Author:	M3 Junction 9 Improvement Project Team, National Highways

Version	Date	Status of Version
Rev 0	November 2022	Application Submission

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15. Cumulative Effects

15.1 Introduction

15.1.1 This chapter considers the cumulative effects of the Scheme. Two types of cumulative effects have been considered within this chapter: Cumulative effects - effects that occur as a result of changes caused by other developments acting cumulatively with the effects of the Scheme.

15.1.2 Combined effects – effects from the combined effect of several different impacts acting together on a single receptor, such that the combined effect would be more significant than the individual effects

15.1.3 This Environmental Statement (ES) chapter details the legislative context and methodology for the assessment of combined and cumulative effects. It presents the findings of the combined and cumulative effects assessments, and where required, goes on to identify any design, mitigation and enhancement measures, and any ongoing monitoring requirements.

15.2 Legislative and policy framework

15.2.1 The Environmental Impact Assessment (EIA) Directive and the Infrastructure Planning (EIA) Regulations 2017 ('EIA Regulations') require an ES to include the assessment of the interrelationship between environmental topics and an assessment of cumulative effects with other developments.

15.2.2 Schedule 4 paragraph 5 of the EIA Regulations requires 'A description of the likely significant effects of the development on the environment resulting from, inter alia: (e) 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'. 'The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.'

15.2.3 The requirement to consider cumulative effects is also outlined in planning policy. Paragraph 4.16 of the National Policy Statement for National Networks (NPS NN) (Department for Transport (DfT), 2014) states:

> *'When considering significant cumulative effects, any ES should provide information on how the effects of the proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence).'*

15.2.4 This chapter has been prepared with reference to the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment (Planning Inspectorate, 2019), guidance on cumulative effects contained in Design Manual for Roads and Bridges (DMRB) LA104 (Highways England, 2019), the NPS NN (DfT, 2014) and the 2020 Scoping Opinion.

15.2.5 This chapter has been prepared by a competent expert; further details are provided in **Appendix 1.1 (Competent Expert Evidence)** of the **ES (Document Reference 6.3).**

15.3 Assessment methodology

Assessment of combined effects

15.3.1 The assessment of combined effects between environmental topics addresses the ways in which a single receptor, group of receptors or receptor type would likely be affected by more than one type of impact as a result of the Scheme. For example, a residential occupant could be exposed to simultaneous noise and air quality impacts as a result of earth moving activities during the construction phase.

Study area

15.3.2 The study area for the combined effects is defined by the study areas used in each of the environmental topics set out in **Chapters 5 to 14** of the **ES (Document Reference 6.1)**. The assessment is receptor-based.

Assessment of effects

15.3.3 There is no guidance for assessing the significance of combined effects, therefore assessing the significance of combined effects is a qualitative process and based on professional judgement.

15.3.4 In some instances, the same receptor or resource could experience effects reported in more than one environmental chapter or more than once within the same technical chapter. In these cases, there is the possibility that several individual effects on the same receptor (which are not significant in their own right) could result in a combined effect of greater significance than the individual effects.

15.3.5 All residual effects (i.e. after mitigation) have been considered within this assessment. This is because multiple effects have the potential to lead to a significant combined effect. The assessment has focussed on the receptor and considered its capacity to accommodate changes likely to occur (based on professional judgement) because of the Scheme.

15.3.6 Multiple impacts on a single receptor due to the Scheme could be both beneficial and adverse and could occur during the construction or operation

phase. If effects are only identified in one phase, only that phase has been reported on i.e. if there is a combined effect during construction only, operational impacts are not set out.

15.3.7 It should be noted that, in some cases, multiple effects on a single receptor will already be considered within the topic sections. These links have been recorded in the assessment section of **Chapters 5-14** of the **ES (Document Reference 6.1)** and to avoid duplication will not be reassessed. For example, the biodiversity section has evaluated impacts on ecological components due to various aspects like changes in air quality, noise, vibration, groundwater flow, land use, habitat fragmentation and vegetation clearance.

15.3.8 Potential combined effects were identified by reviewing **Chapters 5-14** of the **ES (Document Reference 6.1)** and identifying any common receptors where individual impacts would combine and potentially result in significant combined effects.

Cumulative assessment approach

15.3.9 The Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment (Planning Inspectorate, 2019) provides advice on a 'staged' process that applicants may wish to adopt in cumulative effects assessments, the four assessment stages comprise:

- Stage 1: Establish the NSIP's (Nationally Significant Infrastructure Project) zone of influence (ZoI) and identify a 'long list' of other developments which could potentially have effect interactions with the NSIP
- Stage 2: Develop a 'short list' of other developments which could potentially interact with the NSIP. Essentially, analysing the 'long list' in more detail in order to include only those developments that have potential to give rise to significant cumulative effects by virtue of overlaps in temporal scope; due to the scale and nature of the 'other development'/receiving environment; or any other relevant factors
- Stage 3: Gather available information on the shortlisted developments
- Stage 4: Assess likely significant effects arising as a result of the NSIP cumulatively with the short-listed developments.

15.3.10 In accordance with the 2020 Scoping Opinion (Planning Inspectorate (2020)) air quality, noise and vibration and material assets and waste have been scoped out of the cumulative assessment therefore are not considered further in this chapter.

15.3.11 Within the greenhouse gas (GHG) assessment (impact of the project on climate change), all global cumulative GHG sources are relevant to the effect on climate

change, and this has been taken into account by defining the global climate as a single receptor. The GHG assessment considers the combined impact of the different sources of GHGs resulting from the Scheme on the global climate. The assessment therefore inherently addresses single project cumulative effects.

15.3.12 The cumulative assessment of different developments together with the Scheme is inherent within the GHG methodology through the inclusion of the Scheme and other locally committed development within the traffic model, as well as contextualising the Scheme's GHG emissions against the UK carbon budgets.

15.3.13 As agreed through the EIA scoping process and within the 2020 Scoping Opinion, cumulative effects in relation to vulnerability to climate change alongside different local developments have been scoped out. However, the assessment in **Chapter 14** of the **ES (Document Reference 6.1)** considers the wider strategic transport routes in the local area and is therefore inherently cumulative.

Study area

15.3.14 The ZoI refers to the spatial area over which an effect from a project is likely to be experienced. **Table 15.1** identifies the ZoI for environmental disciplines that have been used to identify the long list and subsequent short list of 'other developments'.

Table 15.1: Zones of influence

Environmental aspect	Zone of Influence	Justification
Cultural Heritage	Construction – 1km from Application Boundary	1km relates to industry standard study areas and was agreed with stakeholders. A review of the Zone of Theoretical Visibility (ZTV) and a site visit was carried out and beyond these distances, effects are not anticipated to occur.
	Operation – 1km from Application Boundary	1km relates to industry standard study areas and was agreed with stakeholders. A review of the ZTV and a site visit was carried out and beyond these distances, effects are not anticipated to occur.
Landscape and Visual	Construction - 3km from Application Boundary	South Downs National Park Authority requested a 3km study area to assess landscape effects. Following

Environmental aspect	Zone of Influence	Justification
		professional review of the ZTV analysis (extending up to 5km beyond the Application Boundary), site survey and collation of baseline photography, a study area of 3km has been considered appropriate and beyond this distance, effects are not anticipated to occur.
	Operation - 3km from Application Boundary	South Downs National Park Authority requested a 3km study area to assess landscape effects. Following professional review of the ZTV analysis (extending up to 5km beyond the Application Boundary), site survey and collation of baseline photography, a study area of 3km has been considered appropriate and beyond this distance, effects are not anticipated to occur.
Biodiversity	Construction - 30km for European sites designated for bats or where hydrological links occur 2km for other designated sites 2km radius for protected species records (extended to 5km radius for bats)	There are differing zones of influence (ZoI) over which ecological features may be subject to impacts and subsequent effects, both during construction and operation. Selection of the study areas has been informed by and is in accordance with the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018)
	Operation - 2km for designated sites extended to include all areas within 200m of the Air Quality ARN (defined in LA 105: Air Quality (Highways England, 2019) and reported in **Section 5.6** of **Chapter 5 (Air Quality)** of the **ES (Document Reference 6.1)**	There are differing zones of influence (ZoI) over which ecological features may be subject to impacts and subsequent effects, both during construction and operation. Selection of the study areas has been informed by and is in accordance with the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018)

Environmental aspect	Zone of Influence	Justification
	2km radius for protected species records (extended to 5km radius for bats)	Due to potential operational effects from exhaust emissions from vehicles, the study area for designated sites has been informed by the Air Quality ARN
Geology and Soils	Construction 250m for minor planning applications and up to 2km for major development from the Application Boundary	Beyond these distances, effects are not anticipated to occur.
	Operation 250m for minor planning applications and up to 2km for major development from the Application Boundary	Beyond these distances, effects are not anticipated to occur.
Population and Human Health	Construction – 2km from the Application Boundary	Beyond this distance, effects are not anticipated to occur.
	Operation – 2km from the Application Boundary	Beyond this distance, effects are not anticipated to occur.
Road Drainage and the Water Environment	Construction - 2km for major development and 200m for minor planning applications, from the Application Boundary.	Beyond these distances, effects are not anticipated to occur.
	Operation - 2km for major development and 200m for minor planning applications, from the Application Boundary.	Beyond these distances, effects are not anticipated to occur.

Assessment of effects

15.3.15 A search for 'other development' has been undertaken using information gathered from the Planning Inspectorate's website, Local Authority Planning websites and other relevant sources.

15.3.16 The DMRB LA 104 Environmental assessment and monitoring (Highways England, 2020) states that the assessment of cumulative effects should report on:

- Road projects which have been confirmed for delivery over a similar timeframe
- Other development projects with valid planning permissions or consents orders, and for which EIA is a requirement
- Proposals in adopted development plans with a clear identified programme for delivery

15.3.17 Guidance on the identification of 'other development' to be taken into account in the consideration of cumulative effects, including the certainty to be attributed to each 'other development' is available in Planning Inspectorate Advice Note 17 (Planning Inspectorate, 2019) (Table 2), which is reproduced below:

15.3.18 Tier 1:

- Projects under construction
- Permitted application(s), whether under the Planning Act 2008 (PA 2008) or other regimes, but not yet implemented
- Submitted application(s) whether under the PA 2008 or other regimes but not yet determined

15.3.19 Tier 2:

- Projects on the Planning Inspectorate's Programme of Projects where a scoping report has been submitted

15.3.20 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 would 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.

15.3.21 Where other past projects are already complete or are expected to be completed before construction of the Scheme, and the effects of those projects are fully determined, effects arising from them have been considered as part of the baseline in this ES.

15.3.22 Applications submitted to the local authority (currently approved or not decided) five years before the start of the construction of the Scheme have been considered for inclusion in the long list. Although planning applications typically have three years to start construction once permission is granted, some of them may not yet be fully implemented and so could have a construction timescale that coincides with that of the Scheme. Taking 2024–2027 to be the construction period of the Scheme, applications registered from April 2017 onwards have been considered.

15.3.23 The cumulative effects assessment has focused primarily on the interaction between the Scheme and other developments whose construction will not have commenced, or will not be complete, before construction of the Scheme.

15.3.24 The 'long list' has taken account of requests identified through the previously adopted (and now superseded) 2019 Scoping Opinion and the 2020 Scoping Opinion:

- Inclusion of the strategic growth site in the Eastleigh Local Plan - the new link road to J10 of the M3

15.3.25 The M3 Junction 9 to 14 All Lane Running (ALR) Scheme was formally paused following the ministerial statement on 12 January 2022. However, National Highways is planning to upgrade the existing central reservation barrier to concrete, to deliver safety benefits. This scheme is known as the M3 Junction 9 to 14 Safety Barrier Improvement Scheme. Given the central reservation work from the M3 Junction 9 to 14 Safety Barrier Improvement Scheme is due to take place prior to the construction of the Scheme, it has been considered as part of the future baseline. This, and other developments which would be operable prior to the commencement of the Scheme's construction, are also considered as part of the future baseline within **Chapters 5 – 14** of the **ES (Document Reference 6.1)**.

15.3.26 It has also been cognisant of the July to August (2019) consultation exercise, which included the following request:

- Policy WT3, WIN4, WIN 5-7 as set out within the Winchester City Council 2017/2018 AMR

15.3.27 Additionally, the Statement of Community Consultation response from Winchester City Council requested the following two other developments for inclusion:

- Land East of A272 Solar Farm (ID87)

- Three Maids Hill Waste Centre (however, since EIA Scoping this application has been refused and no appeal has been made so this application has not been assessed in the cumulative effects assessment)

15.3.28 Road Investment Strategy Schemes have also been taken into account (ID 63) in **Appendix 15.1 (Long List of Cumulative Developments)** of the **ES (Document Reference 6.3).**

15.3.29 A check for refused applications subject to pending appeals was carried out, so these could be taken into account as appropriate, but none were identified.

15.3.30 The Town and Country Planning (Development Management Procedure) (England) Order 2015 has also been used to determine 'major' applications for inclusion within the 'long list' - see **Appendix 15.1 (Long List of Cumulative Developments**) of the **ES (Document Reference 6.3)**. The Order states that 'major applications' include:

- The winning and working of minerals or the use of land for mineral-working deposits
- Waste development
- The provision of dwellings where:
  - The number of dwellings to be provided is 10 or more or
  - The development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i)
  - The provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more development carried out on a site having an area of 1 hectare or more.

15.3.31 An initial 'long list' of potentially relevant other developments has been prepared in accordance with Planning Inspectorate Advice Note 17 (Planning Inspectorate, 2019), using the ZoIs identified in **Table 15.1** and the tier structure outlined above. 80 other developments were identified. The 'long list' is presented in **Appendix 15.1** (**Long List of Cumulative Developments**) of the **ES** (**Document Reference 6.3**).

15.3.32 Within The Planning Inspectorate's Advice Note 17 (Planning Inspectorate, 2019) it is acknowledged that applicants are required to stop assessment work at a particular point in time in order to be able to finalise and submit an application. To allow assessment work to progress, a 'cut-off date' for the consideration of any new 'other development' was set at 30th June 2022.

15.3.33 Where significant cumulative effects are identified additional mitigation measures have been recommended.

Significance criteria

15.3.34 The significance of cumulative effects has been determined using the criteria in **Table 15.2**, taken from the DMRB (LA 104 Section 3 Part 3.4).

Table 15.2: Magnitude of impact and typical descriptions

Magnitude of impact	Typical criteria descriptors
Major	■ Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse). ■ Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	■ Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse). ■ Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Minor	■ Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse). ■ Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	■ Very minor loss or detrimental alteration to one or more characteristics, features or elements
No change	■ No loss or alteration of characteristics, features or elements; no observable impact in either direction.

15.3.35 The significance of cumulative effects has been assessed qualitatively where quantified assessment was not possible. Where multiple effects of varying significance occurred on the same receptor professional judgement has been

used to determine the overall significance of the effect ensuring that a worst case was also assumed.

Identification of a short list of 'other development'

15.3.36 A short list of 'other development' has been prepared through a review of the long list to identify those to be taken forward into the cumulative assessment, primarily by applying threshold (inclusion/exclusion) criteria to the identified long list, as shown in **Table 15.3**.

Table 15.3: Threshold criteria

EIA Discipline	Threshold Criteria
Cultural Heritage	Any development that has a potential direct or indirect impact upon archaeological remains, built heritage assets or the historic landscape (including minor effects)
Landscape and Visual	Any development that has a potential significant landscape and visual impact (effects above minor)
Biodiversity	Any (including minor) potential impacts to European designated sites (within 10km) and significant effects to all other species and associated habitats
Geology and Soils	Any sites/developments that could potentially cause significant contamination and may create pathways either between contaminated land and receptors, or between receptors (e.g. exposure of contaminated land or excavations/piled foundations) within 2km
Population and Human Health	Housing schemes and transport infrastructure works that could affect accessibility to services in the local area, and other non-domestic development
Road Drainage and the Water Environment	Exclude schemes smaller than 1 hectare (ha) or schemes falling within Flood Zone 1 and any scheme that could contribute to contamination within surface water and water channels

15.3.37 Where it has been identified that 'other development' has breached the inclusion/exclusion thresholds (therefore requiring to be assessed), consideration has been given to whether there is temporal overlap with the Scheme. 'Other development' which breaches thresholds, yet for which there was no temporal overlap identified with the Scheme, has been considered as part of the baseline for each individual assessment topic as relevant in this ES (in that they are anticipated to be built out and in operation by the time the construction of the Scheme commences). 'Other development' for which a

temporal overlap has been identified, has been taken forward for the consideration of cumulative effects.

15.3.38 The short list was prepared through the use of the **Long List of Cumulative Developments (Appendix 15.1)** of the **ES (Document Reference 6.3)**, detailing the individual 'other development' considered, the determination as to whether each scheme falls within a specific ZoI, whether the relevant assessment thresholds have been exceeded and whether or not a temporal overlap exists. **Appendix 15.1 (Long List of Cumulative Developments)** of the **ES (Document Reference 6.3)** has been prepared using the Planning Inspectorate's guidance set out in paragraph 15.3.14.

15.3.39 Accordingly, after the application of the above thresholds and consideration of likely temporal overlap, a short list of 'other development' for consideration within the ES is shown in **Appendix 15.2 (Short List of Cumulative Developments)** of the **ES (Document Reference 6.3)**. 43 developments have been identified in the short list. **Figure 15.2 (Cumulative Effects: Short List of Cumulative Developments)** of the **ES** (**Document Reference 6.2)** shows the locations of these developments. Fifteen of the developments in the short list are draft policies or allocations, and one falls within the Road Investment Strategy (ID 63) in **Appendix 15.2 (Short List of Cumulative Developments)** of the **ES (Document Reference 6.3)**.

15.3.40 For development that is allocated through policy within Winchester Local Plan Part 2 – Development Management and Site Allocations (2017) but is not yet the subject of a planning application, there is limited environmental information available. As a precautionary approach it is assumed that there could be temporal overlap; accordingly, allocations and policies have been included in the short list for and considered further.

Information gathering

15.3.41 The following information has been sought for each of the developments included on the short list for assessment, to inform the cumulative effects assessment in the ES:

- The location and extent of the development
- Information on the design of the development
- The proposed programme for obtaining consent (if relevant), construction, operation and decommissioning
- Environmental assessment information that will allow the identification of:
  - The environmental baseline
  - The environmental effects of the development

- The environmental ZoI of the development as a whole and on a topic by topic basis
- The timescale over which effects would occur, overall and on a topic by topic basis

15.3.42 The extent to which this information is available, and the level of detail of the information, has varied between developments.

Assessment of likely significant cumulative effects

15.3.43 Through the filtering process undertaken as part of Stage 1 and Stage 2 (**paragraph 15.3.8**), developments that were not considered to have potential for cumulative effects to arise due to scale, geographical location and any temporal overlap in the construction phase with the Scheme were removed. Therefore, only those developments that have been included in the shortlist have been brought through to the assessment of cumulative effects.

15.3.44 The 'short list' developments application reference numbers and application descriptions are set out in **Appendix 15.2 (Short List of Cumulative Developments)** of the **ES (Document Reference 6.3)**. **Table 15.3** and **Table 15.4** set out the cumulative effects by topic for each of the developments for the construction and the operation of the Scheme, respectively.

15.3.45 However, within the 'short listed' developments detailed in **Appendix 15.2 (Short List of Cumulative Developments)** of the **ES (Document Reference 6.3)** many of the developments were deemed unlikely to result in cumulative effects as there was no overlap or limited spatial and temporal overlap of the environmental topics ZoI. Justification of the study areas for each topic area is given in **Table 15.1.**

15.4 Assumptions and limitations

15.4.1 The combined and cumulative assessments have been constrained by the limitations, assumptions and uncertainties presented within the individual assessments reported within **Chapters 5 – 14** of the **ES (Document Reference 6.1)**.

15.4.2 The cumulative assessment has been undertaken using available third-party information relating to the predicted environmental effects of the shortlisted development project. Where a planning application for a development has not been formally submitted for determination, the assessment has been constrained by the limited environmental information available within the public domain. These developments may also be subject to change or amendment as their designs progress.

15.4.3 To allow assessment work to progress, a 'cut-off date' for the consideration of any new 'other development' was set at 30 June 2022.

15.5 Assessment of combined effects

15.5.1 This section identifies the receptors that experience multiple effects from different environmental topics and therefore potentially bring about combined effects. The identified receptors presented within the combined effects assessment are presented below:

- River Itchen
- Agricultural land
- Public Right of Way (PRoW) Network
- Worthy Park Historic Park and Gardens (HPG)
- Habitats
- South Downs National Park
- Residential dwellings / residents

River Itchen

Construction

15.5.2 **Chapter 6 (Cultural Heritage)** of the **ES (Document reference 6.1)** identified that temporary dewatering during the construction of the new outfalls and cleaning of the existing outfall into the River Itchen would have a negligible impact upon any waterlogged archaeological, geoarchaeological and palaeoenvironmental deposits; the value of which is currently unknown. In a worst-case scenario this would have a temporary slight adverse effect upon high value remains which is not significant.

15.5.3 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** identified localised direct moderate adverse effects to watercourses as a feature of the landscape. Construction activities associated with the River Itchen are limited and small scale Works include construction of the proposed new footbridge over the River Itchen parallel to the A34, minor changes to the existing road bridges, and proposed drainage connections into the river.

15.5.4 **Chapter 8 (Biodiversity)** of the **ES (Document Reference 6.1)** and **Chapter 13 (Road Drainage and the Water Environment)** of the **ES (Document Reference 6.1)** identified a slight adverse effect of the river and riverbed during construction of the drainage outfalls could occur due to the requirement for temporary damming and dewatering of the River Itchen around each structure.

Works would be undertaken sequentially, so only one location would be affected at any one time. There will be no permanent loss or effects on qualifying features of the Special Area of Conservation (SAC) or Site of Special Scientific Interest (SSSI) habitats, and the works will not affect the overall integrity of the River Itchen SAC and SSSI.

15.5.5 **Chapter 8 (Biodiversity)** of the **ES (Document Reference 6.1)** also identified construction works (including earthworks, pilling, and spoil storage) have potential to result in a slight adverse effect from increased pollutants such as silt and dust, and as such, a reduction in water quality, which could result in habitat degradation.

15.5.6 **Chapter 9 (Geology and Soils)** of the **ES (Document Reference 6.1)** identifies that during the construction phase there is the potential for pollution releases that could impact surface water receptors, including the River Itchen. With the implementation of mitigation measures including best practice working methods the effect is anticipated to be temporary slight adverse. In addition, there is potential for mobilisation of existing contamination and creation of new pathways. A Generic Quantitative Risk Assessment for controlled waters (including the River Itchen) has concluded a low risk of significant existing contamination and therefore a potential slight adverse effect.

15.5.7 **Chapter 13 (Road Drainage and the Water Environment)** of the **ES (Document Reference 6.1)** identifies a temporary slight adverse effect on the River Itchen to water quality as a result of the construction of the new bridge over the Itchen and modifications to the Kingsworthy Bridge.

15.5.8 In summary, the effects on the River Itchen are anticipated to be moderate adverse in **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)**, slight adverse in **Chapter 8 (Biodiversity**) **(Document Reference 6.1)**, slight adverse in **Chapter 9 (Geology and Soils**) of the **ES (Document Reference 6.1)** and slight adverse in **Chapter 13 (Road Drainage and the Water Environment) (Document Reference 6.1)**.

15.5.9 Overall, the combined effect on the River Itchen SAC and SSSI during construction is not anticipated to result in a greater significance of effect than the individual topic assessments. The direct effects on the River Itchen are localised, small scale and temporary in terms of water quality. The Habitats Regulations Assessment **(Document Reference 7.5)** also takes into consideration a number of factors referenced within the individual topics above, including water quality, land take and species disruption. The HRA identified there are no appreciable in-combination effects on the River Itchen SAC.

Operation

15.5.10 **Chapter 8 (Biodiversity)** of the **ES (Document Reference 6.1)** identified potential for indirect impacts from pollution events such as traffic collisions with

an associated reduction in water quality with subsequent effects to qualifying habitats and species. With the inclusion of mitigation these effects are likely to result in a negligible beneficial impact to the SAC and SSSI, resulting in a slight beneficial effect.

15.5.11 **Chapter 13 (Road Drainage and the Water Environment)** of the **ES (Document Reference 6.1)** identifies that the impacts on surface water quantity and quality relate to the drainage design of the Scheme. Overall, there will be a slight adverse effect on the quality of the surface water that will be discharged to the River Itchen SAC and SSSI compared to the existing.

15.5.12 In summary, **Chapter 8 (Biodiversity)** of the **ES (Document Reference 6.1)** identified a slight beneficial effect on the River Itchen SAC and SSSI and **Chapter 13: Road Drainage and the Water Environment (Document Reference 6.1)** identified a slight adverse effect.

15.5.13 Therefore, the combined effect on the River Itchen SAC and SSSI is anticipated to be neutral and not significant.

Agricultural Land

Construction

15.5.14 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** states that agricultural land (both arable farmland and pastoral grassland) is a defining characteristic of the surrounding landscape. The temporary loss of agricultural land would cause moderate adverse effects.

15.5.15 **Chapter 9 (Geology and Soils)** of the **ES (Document Reference 6.1)** identifies that during the construction phase there would be temporary loss of land which would take soil out of agricultural use for the period of construction. This would result in a temporary large adverse effect on Agricultural Land Classification (ALC) grade 2 agricultural land, a temporary moderate adverse effect for ALC grade 3a agricultural land and a temporary slight adverse effect on ALC grade 3b agricultural land. No mitigation is proposed for the loss of agricultural land. However, the application boundary / footprint of the construction works has been minimised as far as practical and landowners would be compensated accordingly.

15.5.16 In summary, the temporary effects on agricultural land are predicted to be moderate adverse in **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** and between slight adverse and large adverse in **Chapter 9 (Geology and Soils)** of the **ES (Document Reference 6.1)**.

15.5.17 Overall, the combined effect on agricultural land during the construction of the Scheme is not anticipated to result in a greater significance of effect than the individual topic assessments.

Operation

15.5.18 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1**) identifies that during operation there will be a minor adverse effect associated with the loss of permanent agricultural land for new infrastructure and landscape mitigation planting.

15.5.19 **Chapter 9 (Geology and Soils)** of the **ES** (**Document Reference 6.1)** identifies that to accommodate the Scheme this would result in a very large adverse effect for ALC grade 2 agricultural land, a large adverse effect for ALC grade 3a agricultural land and a moderate adverse effect on ALC grade 3b agricultural land.

15.5.20 In summary, the residual effects on agricultural land are predicted to be minor adverse in **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** and between moderate adverse and very large adverse in **Chapter 9 (Geology and Soils)** of the **ES (Document Reference 6.1)**.

15.5.21 Overall, the combined effect on agricultural land during the operation of the Scheme is not anticipated to result in a greater significance of effect than the individual topic assessments. No mitigation is proposed for the loss of agricultural land. However, the application boundary / footprint of the Scheme has been minimised as far as practical and landowners would be compensated accordingly.

PRoW Network

Construction

15.5.22 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** identified a direct moderate adverse effect to the PRoW network and local connectivity due to diversions and closures during the construction phase which would adversely affect both the character and physical nature of the PRoW network.

15.5.23 **Chapter 12 (Population and Human Health)** of the **ES (Document Reference 6.1)** identifies a very large adverse effect on National Cycle Network Route 23 (NCN 23) and large adverse effects on Winchester bridleways 502 and 520 during construction as there would be a period of time where users would be required to be diverted from the existing route through the gyratory, which would lengthen journey time. Very large adverse effects are also identified for the A33 Southbound footpath and Easton Lane footpath as they will be lost during construction, although a new route along the proposed realignment would be provided once the Scheme is operational.

15.5.24 Overall, the combined effect on the PRoW network during the construction phase is not anticipated to result in a greater significance of effect than the individual topic assessments.

Operation

15.5.25 **Chapter 7 (Landscape and Visual)** of the **ES (Document reference 6.1)** identified that in Year 1 the Scheme would result in negligible adverse effects on the character of some routes until new planting becomes established. By Year 15 directly affected routes would be broadly back to their original character and physical appearance. This would result in a slight beneficial effect. **Chapter 12 (Population and Human Health)** of the **ES (Document Reference 6.1)** identified that there would also be a large beneficial effect on NCN 23 and moderate beneficial effects on Winchester bridleways 502 and 520, as they would be permanently altered to improve walking, cycling and other access beneath/around M3 Junction 9. improving connectivity between the city of Winchester and the South Downs National Park.

15.5.26 Overall, the combined effect on the PRoW network during the operation phase is not anticipated to result in a greater significance of effect than the individual topic assessments.

Worthy Park HPG

Construction

15.5.27 **Chapter 6 (Cultural Heritage)** of the **ES (Document Reference 6.1)** identified a temporary slight adverse effect due to the long distance views of a small part of the main works between the A34 and M3. In general, the Scheme's construction activities are unlikely to be visually or audibly noticeable.

15.5.28 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** identified a slight adverse effect on Worthy Park HPG. Overall, it is considered that the Scheme would not materially alter the quality of the views or perceptual characteristics of the Park. In a worst case some vegetation removal may be perceptible.

15.5.29 Overall, the combined effect experienced by this receptor during construction of the Scheme is considered to be slight adverse and not significant.

Habitats

Construction

15.5.30 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** identifies a moderate adverse effect to existing trees, woodlands and hedgerows as a result of vegetation removal associated with the Scheme during

the construction phase which could result in likely effects on species that occupy those habitats.

15.5.31 **Chapter 8 (Biodiversity)** of the **ES (Document Reference 6.1)** identifies that vegetation loss has the potential to impact habitats including fragmentation, disturbance, habitat degradation or species mortality. The initial loss of habitats will result in a slight adverse effect. There will be no loss of internationally or nationally important habitats.

15.5.32 Overall, the combined effect is not anticipated to result in a greater significance of effect than the individual topic assessments.

South Downs National Park

15.5.33 The assessment on the South Downs National Park within **Chapter 7 Landscape and Visual Effects** of the **ES (Document Reference 6.1)** considers impacts upon the South Downs National Park during both construction (**Table 7.20**) and operation (**Table 7.24**), from a number of other environmental topics. This includes land take, changes in lighting, noise and other impacts that may have direct physical effects or affect the tranquillity, setting and amenity of the area. Further details are also provided in **Appendix 7.3 (Schedule of Landscape Effects)** of the **ES (Document Reference 6.3)**. It is therefore considered that the assessment set out within **Chapter 7 Landscape and Visual Effects** of the **Environmental Statement (Document Reference 6.1)** considers the combined environmental effects on the South Downs National Park. The assessment is set out in the following paragraphs.

Construction

15.5.34 **Table 1.2** of **Appendix 7.3 (Schedule of Landscape Effects)** of the **ES (Document Reference 6.3)** identifies that construction activities within the South Downs National Park would be limited to a small geographical area at the western end of the South Downs National Park adjacent to the existing M3/A33/A34. Construction activities would result in a moderate adverse effect due to the visibility and noise from activities such as vegetation clearance, thinning to retained trees and other vegetation, earthworks associated with the highway and wider sympathetic land remodelling, installation of drainage features including infiltration basins, ponds and ditches, construction/ reconstruction of the highway including road signage, and construction of new PRoWs and improvements to existing PRoWs, including new bridge crossings under/over the M3, the A34, and the revised gyratory roundabout. The Application Boundary also includes construction compounds (central and ancillary), haul routes, and temporary storage areas.

15.5.35 Construction activities would result in short-term and reversible decreases to tranquillity (a recognised special quality) within the immediate environs to the Scheme due to increased noise levels, the movement of plant and machinery

(with flashing beacons) within the Application Boundary, and traffic management measures within the existing highways. Most activities would take place during the hours of daylight, but there would be some night-time activity for particular specialist operations, as well as security and safety lighting at the temporary construction compounds. All lighting relating to construction activities would be short-term and reversible. This would result in short-term and reversible effects on night skies within the Application Boundary and its environs

15.5.36 The combined effect during construction is moderate adverse.

Operation

15.5.37 **Table 1.2** of **Appendix 7.3 (Schedule of Landscape Effects)** of the **ES (Document Reference 6.3)** identifies that a significant moderate adverse effect would remain one year after the Scheme opens. It is considered there would be on-going effects from several activities including small-scale illumination of the PRoW underpasses, conversion of arable and pastoral farmland (a special quality) adjacent to the highway alignment and woodland / scrub / shrub planting and chalk grassland, continued small-scale loss of trees and scrub / shrubs, predominantly within the existing highways estate but also within the wider Application Boundary (which contribute to the special quality of a rich variety of habitats), small-scale changes arising from the presence of new gantries / VMS and motorway signage, and small to medium-scale creation/realignment of roads and reconfiguration of the existing gyratory roundabout resulting in damage to the breath taking view special quality.

15.5.38 Vegetation losses would also continue to be perceivable in the landscape and mitigation planting would not yet be established, resulting in a slight increase in visibility of vehicles on the highway and in the worst-case increased audibility of traffic within areas of the South Downs National Park. These would be localised effects with negligible changes for the wider designation, with some areas also experiencing a reduction in traffic noise. However, in a worst-case this would result in perceived decreases to tranquillity within the immediate environs to the Scheme.

15.5.39 At fifteen years after opening **Table 1.2** of **Appendix 7.3 (Schedule of Landscape Effects)** of the **ES (Document Reference 6.3)** identifies that growth and development of the landscape planting would help to integrate the Scheme into the surrounding landscape. The visibility of the Scheme would be no greater than that of the existing when seen from higher elevations on the western edge of the South Downs National Park. When viewed from lower elevations, including from the new WCH routes, the visibility of the Scheme would be reduced. Where not hidden by intervening tree cover, gantries / VMS and signage would not form a notable feature.

15.5.40 Tranquillity within the immediate environs of the Scheme would be improved over that experienced at Year 1. Audibility of traffic would remain as reported at

Year one, however following successful establishment of the proposed landscape mitigation (woodland, scrubland and linear belts of trees and shrubs) there would be less visibility of traffic from the accessible areas of the designation. An improved WCH offer would improve access to the designation from Winchester, with these users able to experience areas of open downland with chalk grassland and engage with the landscape.

15.5.41 Light levels arising from traffic using the new junction arrangements (headlights and taillights) would be broadly similar to that before the implementation of the Scheme resulting in no discernible change. Illumination from the underpasses and gantry-mounted signage would continue and this would not affect the baseline Environmental Light Zones. Furthermore, as this is outside the South Downs National Park boundary and meets the requirements of the South Downs National Park Dark Skies Technical Advice Note (TAN) it is not considered this would reduce the quality of dark night skies.

15.5.42 At fifteen years after opening, whilst it is considered effects would occur to the receptor as identified, these would be localised and therefore only result in a very small change on the South Downs National Park as a whole. The resulting effect would be slight adverse and not significant.

15.5.43 Overall, the combined effect on the South Down National Park is not anticipated to be significant.

Residential dwellings / residents

Construction

15.5.44 **Chapter 5 (Air Quality)** of the **ES (Document Reference 6.1)** identifies that construction activities only have potential to result in changes to traffic flows above the DMRB LA 105 (Highways England, 2019) criteria (of 200 HDV per day and 1,000 AADT criteria) within the Application Boundary, adjoining sections of the M3 and A34, and the A33 and Worthy Road. These areas are not at risk of exceeding the relevant limit values due to the low background concentrations and therefore it is not considered that there is a risk of them resulting in significant effects to air quality.

15.5.45 **Chapter 7 (Landscape and Visual)** of the **ES (Document Reference 6.1)** identifies significant effects at several view locations. There will be a very large adverse effect at Easton Lane, with large adverse effects experienced at St Swithun's Way in the Itchen Valley, the foot path on the crown of Magdalen Hill Down and Itchen Way close to A33/A34 bridge over River Itchen. Moderate adverse effects will be experienced at Abbotts Barton, Public Open Space at Lea View, the B3404 on the bridge over M3 looking north, the foot path adjacent to railway near Well House Lane, Easton Lane adjacent to retail/ commercial development on northern edge of Winnall and close to the existing Junction 9

Roundabout, Long Walk close to western edge of South Downs National Park, St Swithun's School and Winchester Cathedral.

15.5.46 **Chapter 11 (Noise and Vibration)** of the **ES (Document Reference 6.1)** identifies moderate adverse significant effects at 15 residential receptors located at Easton Lane, St Mary's Close and London Road.

15.5.47 **Chapter 12 (Population and Human Health)** of the **ES (Document Reference 6.1)** identifies that White Hill Cottage on Easton Lane will experience a temporary loss of 0.0213 ha with rights over the land required permanently. This will result in a moderate adverse significant effect.

15.5.48 Overall, during construction, it is considered that there will be a temporary significant combined effect at White Hill Cottage, located on Easton Lane.

15.6 Assessment of cumulative effects

15.6.1 Table **15.4** and **Table 15.5** provide a summary of effects which may arise cumulatively with the Scheme and 'other developments' identified in **Appendix 15.2 (Short List of Cumulative Development)** of the **ES (Document Reference 6.3)** relevant to each environmental topic.

Table 15.4: Summary of cumulative effects during construction

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
ID 1 **19/00601/OUT** Mixed Use development involving the erection of buildings up to 5 storeys from street level, a lower ground floor level and basement to provide up to 17,972 sqm of office (use classes B1), up to 1,896 sqm of mixed uses including potential retail, restaurant/cafe, bar and leisure uses (use class A1, A3, A4 and D2) and retention and refurbishment of the old registry office, associated car parking in	1.8km	Landscape	*Landscape* The other development is remote in nature from the Scheme located 1.8km west and within the Townscape of Winchester City. It is within the Historic core townscape character area (TCA), and no significant effects on this landscape receptor (or other landscape receptors) are reported within the Landscape and Visual Impact Assessment (LVIA) undertaken for this development. Construction activity and completion of the committed developments situated within this TCA will alter the amount of built form within its urban area; but this is considered in keeping with key characteristics. Within the wider landscape and specifically the East Winchester Downs Landscape Character Area (LCA) which falls within the South Downs National Park, the other development LVIA concludes an effect of no change to low. Due to distance and the perception of the surrounding townscape it is considered

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
basement (up to 95 spaces) and minimum of 156 cycle parking spaces and associated works. - Land East of Station Road, Winchester (also known as WIN5 and WIN6)			there is limited opportunity for even indirect cumulative landscape effects. Activity associated with construction will not alter the landscape character area's key natural and environmental characteristics which relate to surrounding open downland landscape. It is therefore considered that there are no cumulative effects on either the physical fabric and character of the townscape or the perceptual characteristics of the surrounding landscape, and special values attached to it. *Visual* Three View Locations (VL) are relevant for consideration of cumulative visual effects. Two of these locations are considered within the other developments LVIA. VL 9 Catherine's Hill (N7 SDNPA), and VL 19 / VL 19b Morestead Road (N22 SDNPA); would experience visibility of elevated activity associated with construction activity specifically cranes on the skyline for the other development however intervening landform, vegetation, and built form restricts intervisibility of the Scheme and other development. It is therefore considered that there are no cumulative visual effects. VL 17 Winchester Cathedral although not considered as part of the other developments LVIA, would experience visibility of elevated activity (given the buildings 5 storey height) associated

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			with construction activity including cranes on the skyline for the other development, however this is located within the existing townscape of Winchester and would be seen separately from the Scheme construction activity. It is therefore considered that there are no cumulative visual effects from this VL.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 3 **19/01616/REM** Application for Approval of Reserved Matters following outline planning permission 13/01694/FUL in respect of appearance, layout, landscaping, and scale for 264 dwellings and public open space for second phase 2A of the Kings Barton development - Barton Farm Major Development Andover Road (allocated under WT2)	1.9km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.9 km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
ID 4 **19/02124/REM** Reserved Matters application for details (layout, scale, appearance, and landscaping) of the second phase of development within the Neighbourhood Centre (Phase 2B, Plot 1) of Barton Farm site (known as Kings Barton). Plot 1 comprises of 231 dwellings and associated infrastructure, public open space including equipped play areas and village green. The application also includes the public realm and access to the various mixed uses within the Neighbourhood Centre, Recreation Ground and Park & Ride Facility - Barton Farm Major Development Andover Road (allocated under WT2)	1.6km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.6 km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
ID 5 **19/02118/REM** Reserved Matters application for details (layout, scale, appearance, and landscaping) of the second phase of development within the Neighbourhood Centre (Phase 2B, Plot 2) of Barton Farm site (known as Kings Barton). Plot 2 comprises of a retail food store (Retail Use lass A1), 5 smaller retail units (falling within Use Classes A1, A2, A3, A4 and A5) with associated service yard, car parking and landscaping - Barton Farm Major Development Andover Road (allocated under WT2)	1.7km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.7km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 6 **19/02122/REM**	1.6km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Reserved Matters application for details (layout, scale, appearance, and landscaping) of the second phase of development within the Neighbourhood Centre (Phase 2B, Plot 3) of the Barton Farm site (known as Kings Barton). Plot 3 comprises of a Children's Day Nursery (Use Class D1 Non-Residential Institution) with associated outdoor play area, car parking and landscaping - Barton Farm Major Development Andover Road (allocated under WT2)			species, the distance between the Scheme and this other development (1.6 km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 7 **19/02115/REM** Reserved Matters application for details (layout, scale,	1.7km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.7km), there will be no cumulative effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
appearance, and landscaping) of the second phase of development within the Neighbourhood Centre (Phase 2B, Plot 4) of the Barton Farm site (known as Kings Barton). Plot 4 comprises of a 2, 3 and 4 storey building housing an Extra Care Scheme. This includes 60 one and two-bedroom units with associated communal facilities for residents set within landscaped grounds - Barton Farm Major Development Andover Road (allocated under WT2)		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 8 **19/02116/REM** Reserved Matters application for details (layout, scale,	1.7km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.7km), there will be no cumulative effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
appearance, and landscaping) of the second phase of development within the Neighbourhood Centre (Phase 2B, Plot 5) of Barton Farm site (known as Kings Barton). Plot 5 is a mixed-use development comprising of B1 (a) Offices and D1 (Non-Residential) Training and Education Centre with associated parking, landscaping, and related infrastructure - Barton Farm Major Development Andover Road (allocated under WT2)		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 9 **19/01983/REM** Reserved Matters application for details (layout, scale,	1.6km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.6km), there will be no cumulative effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
appearance, and landscaping) of the third phase of development (Phase 3A) of Barton Farm site (also known as Kings Barton) comprising a total of 208 dwellings including public open space in pursuance of conditions 05, 11 and 12 of permission 13/01694/FUL. - Barton Farm Major Development Andover Road (allocated under WT2)		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 10 **19/01985/REM** Reserved Matters application for details (layout, scale, appearance, and landscaping) of the third phase of development (Phase 3B) of Barton Farm site (also known as Kings Barton) comprising a total of 121 dwellings and associated landscaping - Barton Farm Major	1.6km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.6km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Development Andover Road (allocated under WT2)			
ID 11 **19/01984/REM** Reserved Matters application for details (layout, scale, appearance, and landscaping) of the fourth phase of development (Phase 4A) of the Barton Farm site (also known as Kings Barton) comprising a total of 273 dwellings with associated public open space including an equipped play area (LEAP), U13/14 Football Pitch, allotments, and related infrastructure - Barton Farm Major Development Andover Road (allocated under WT2)	1.1km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1.1km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 12	1km	Biodiversity	Potential for effects to habitats and protected species from this other development. However, given the mitigation included

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
19/02029/REM Reserved Matters application for details (layout, scale, appearance, and landscaping) of the fourth phase of development (Phase 4B) of Barton Farm site (also known as Kings Barton) comprising a total of 433 dwellings including public open space in pursuance of conditions 05, 11 and 12 of permission 13/01694/FUL. - Barton Farm Major Development Andover Road (allocated under WT2)			within the Scheme to avoid effects to habitats and protected species, and the distance between the Scheme and this other development (1km), there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 30 **SDNP/20/01737/FUL** Demolition of existing agricultural building; erection of new winery building; new access track; parking; landscaping; and associated works - Street Record	3.7km	Biodiversity	The River Itchen Special Area of Conservation (SAC) is located approximately 80m to the south of this other development at its closest point. During construction, it was acknowledged that there would be potential for construction phase effects from run-off and pollution / siltation (i.e. changes in water quality). It was identified that this would be mitigated through the implementation of an Environmental Management Plan (EMP). With such mitigation in place, no impacts on the River Itchen SAC were anticipated as a result of the other development. This

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Alresford Road Itchen Stoke Hampshire			approach was agreed and accepted by the Local Planning Authority and Natural England. As such there will be no cumulative effects with the Scheme.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 46 **O/19/86980** Outline planning application for up to 59no. residential dwellings (C3 use) with associated landscaping, infrastructure, and access from Knowle Hill (all matters reserved except for access). - Land West of Allbrook Way, Knowle Hill, Eastleigh, SO50 4LZ	7.9km	Biodiversity	The River Itchen SAC is located approximately 230m from the other development at its closest point. Whilst no direct effects were anticipated as a result of the other development, it was acknowledged that, if unmitigated, there would be opportunity for indirect effects arising as a result of construction related changes in water quality (through pollution and sedimentation), changes in air quality or an increase in noise. It was identified that construction phase effects would be mitigated through construction phase drainage control, vehicle control and implementation of an EMP. With such mitigation in place, no impacts on the River Itchen SAC were anticipated as a result of the Project. This approach was agreed and accepted by the Local Planning Authority. As such there will be no cumulative effects with the Scheme.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 57 **Policy WIN4** (an allocation within the Winchester City Council Development Plan) Silver Hill Mixed Use Site - town centre uses and residential	1.1km	Landscape	*Landscape* The other development is remote in nature from the Scheme located 1.1km west and within the Townscape of Winchester City. It is within the Historic core townscape character area (TCA). Construction activity and completion of the other development situated within this TCA will alter the scale and form of built form within its urban area; but it is considered this would be in keeping with key characteristics of this character. It is therefore considered that there are no cumulative effects on either the physical fabric or character of the townscape character area. *Visual* VL 9 Catherine's Hill (N7 SDNPA), and VL 19 / VL 19b Morestead Road (N22 SDNPA) in a worst case would experience visibility of elevated construction activity – specifically cranes on the skyline for the other development, however intervening landform, vegetation, and built form restricts combined intervisibility of the Scheme and other

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			development. It is therefore considered that there are no cumulative visual effects. VL 17 Winchester Cathedral, would experience visibility of elevated construction activity including cranes on the skyline for the other development, however this is located within the existing townscape of Winchester and visually distinct and separate from the Scheme's construction activity. It is therefore considered that there are no cumulative visual effects from this VL.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 64 **Policy WIN5** (an allocation within the Winchester City Council Development Plan) Policy WIN5 - Station Approach	1.4km	Landscape	Policy WIN 7 notes the following: "assess the impact of buildings over 3 storeys on views and adjoining areas and do not exceed 4-5 storeys in height" and on this basis it is considered the development will be of a similar scale and nature to the surrounding built environment. *Landscape* The other development is remote in nature from the Scheme located 1.4km west and within the Townscape of Winchester City. It is within the Historic core townscape character area

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			(TCA). Construction activity and completion of the committed developments situated within this TCA will alter the amount of built form within its urban area; but this is considered in keeping with key characteristics. It is therefore considered that there are no cumulative effects on either the physical fabric and character of the townscape or the perceptual characteristics of the surrounding landscape, and special values attached to it. *Visual* It is considered in a worst case, receptors within the Winchester townscape would not experience combined visibility of the other development and Scheme due to intervening built form. Elevated locations (including VL 17) would experience visibility of elevated activity (given the buildings 5 storey height) associated with construction activity including cranes on the skyline for the other development, however this is located within the existing townscape of Winchester and visual distinct and separate from the Scheme construction activity. From the surrounding landscape to the east of Winchester in a worst case it is considered receptors would experience visibility of elevated construction activity – specifically cranes on the skyline for the other development. Intervening landform,

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			vegetation, and built form would however restrict combined intervisibility of the Scheme and other development. It is therefore considered that there are no cumulative visual effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 59 **Policy WIN7 (and WIN 5)** (an allocation within the Winchester City Council Development Plan) The Cattlemarket Mixed Use Site - offices and residential development	1.5km	Landscape	Policy WIN 7 notes the following: “ensure that the scale of the development respects and is not overbearing for nearby residential and other properties” and on this basis it is considered the development will be of a similar scale and nature to the surrounding built environment. As set out previously for other development 64 it is considered there are no cumulative landscape and visual effects as a result development in this location.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
ID 76 **22/00443/FUL** Refurbishment and re-development of Care Home to provide 16No. close care apartments with associated welfare and staff facilities. The proposals include the demolition of the 1980's additions, the erection of a new 2.5 storey building with single storey wing to the rear of the site and the re-ordering of the listed building	7.9km	Biodiversity	The River Itchen SAC is located just under 1km from the other development at its closest point. Whilst no direct effects were anticipated as a result of the other development, it was acknowledged that, if unmitigated, there would be opportunity for indirect effects arising as a result of construction related changes in water quality through pollution and sedimentation. It was identified that construction phase effects would be mitigated through construction pollution prevention measures secured through a Biodiversity and Mitigation Strategy secured through a planning condition. With such mitigation in place, no impacts on the River Itchen SAC are anticipated as a result of the Project. Potential effects to roosting bats and nesting birds have been identified from the other development, however appropriate mitigation is in place with measures secured through a Biodiversity and Mitigation Strategy secured through a planning condition. No potential cumulative effects have been identified.
ID 72	100m	Biodiversity	Potential effects to dormice, foraging bats, nesting birds, hedgehogs, and habitats (scrub) have been identified from the

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
22/00230/FUL Creation of a new McDonalds restaurant with drive-thru facility, car parking, landscaping and associated works.			other development. Mitigation has been proposed by the applicant to avoid potential effects to these receptors. No potential cumulative effects have been identified.
		Cultural Heritage	*Archaeological remains* The other development will not directly or indirectly impact upon any designated archaeological remains during construction and therefore will not result in any cumulative effects. There is the potential for buried archaeological remains to be present within the footprint of the other development. However, these were partially investigated during the construction of the M3 and will have been damaged or impacted during subsequent development. Should any archaeological remains survive and extend between the Proposed Development and the other development any impacts would be mitigated by a suitable programme of archaeological investigation prior to, or during, construction and any cumulative impact would be negligible which is not significant. *Built heritage* The other development will not result in direct or indirect impacts upon any built heritage asset during construction. It is

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			therefore considered that there will be no cumulative effects on any built heritage asset. *Historic landscape* The other development is located within the post 1810 settlement (general) historic landscape character type. This area is largely dominated by modern commercial and industrial buildings. This character will not be altered and as such there will be no cumulative effects upon the historic landscape character.
		Landscape and Visual	*Landscape* The other development is within the townscape of Winchester City. It is within the Winnall Trading Estate townscape character area (TCA). Construction of the other development in the worst case will introduce further construction activity within this cumulative effects however given the nature of the receptor and location on the busy highway network it is not considered this will result in cumulative effects on the character of the townscape character area. *Visual* During construction works it is considered the visibility of the Scheme will be slightly increased as a result of the vegetation

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			removal with reversible construction activity visible, however the visibility of the highway network will continue to be the focus of views. From VL12 the other development will be visible in the context of the Proposed Development, however this will be viewed in the context of the urban environment and partially obscured by intervening highway infrastructure. Therefore it is considered that there are no cumulative visual effects.
		Geology and Soils	A significant contamination source has not been identified and therefore there is no source-pathway-receptor linkage identified. Potential land stability issues would be mitigated by design prior to construction and informed by appropriate site-specific ground investigation data (best practice). As a result, no cumulative effects are predicted.
		Population and Human Health	*Land use and accessibility* The other development has the potential to increase construction traffic on the local highway network, thereby creating cumulative effects with regards to journey time reliability for those accessing the Winnall Industrial Estate. However, due to the scale of the other development, it is anticipated that cumulative effects on journey time reliability will be minor.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			Human health There is potential for cumulative effects with regards to air quality and noise. It is assumed that best practice measures will be implemented during construction which will reduce and mitigate any potential impacts, and therefore there is not anticipated to be cumulative effects. The other development is unlikely to result in cumulative effects on access to community land and assets, active travel, or social cohesion as a result of severance. There are not anticipated to be any cumulative effects on human health.
		Road Drainage and Water Environment	The other developments, along with the Scheme, would be subject to compliance with local and national policy. Under these policies and legislations, the developments are required to demonstrate (amongst other matters) nil detriment in terms of water quality and Water Framework Directive (WFD) status/potential and no increased flood risk to the site or elsewhere. As a result, no cumulative effects in relation to road drainage and the water environment are predicted.
ID 79	600m	Biodiversity	The ecological appraisal (December 2021) concludes that the site is of low ecological value, with little impacts predicted, and

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
21/03239/OUT Demolition of existing buildings, alteration to access, erection of up to 2100sqm office floorspace, up to 158 bed purpose built student accommodation; parking; landscaping; and associated features.			the potential to provide ecological enhancements and Biodiversity Net Gain on site. Potential effects to nesting birds have been identified from the other development, however mitigation has been proposed by the applicant to avoid potential effects. No potential cumulative effects have been identified.
		Cultural Heritage	*Archaeological remains* The other development will not indirectly impact upon any designated archaeological remains and will therefore not result in any cumulative effects. Given the distance between the Scheme and the other development it is unlikely that buried archaeological remains directly impacted by the Scheme would extend within the footprint, or be impacted by the other development. It is considered that there will not be any cumulative effects upon buried archaeological remains. *Built heritage* The other development will not result in direct or indirect impacts upon any built heritage asset. It is therefore considered that there will be no cumulative effects on any built heritage asset.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			Historic landscape The other development is within the post 1810 settlement (general) historic landscape character type. Within this area it is largely dominated by modern commercial and industrial buildings. This character will not be altered and as such there will be no cumulative effects upon the historic landscape character.
		Landscape and Visual	*Landscape* The other development is within the townscape of Winchester City. It is within the Winnall Trading Estate townscape character area (TCA). Construction of the other development will introduce additional activity into the character area, however it is considered overall this would not alter or affect the key characteristics of this character area and would not result in cumulative effects on the townscape character area. *Visual* Due to the intervening built form there would be no intervisibility of construction activity associated with the Scheme and other development. It is considered that there are no cumulative visual effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
		Geology and Soils	The worst-case pollutant linkage assessment for the site is identified as low/moderate and the environmental health officer will request contaminated land conditions be attached to any application for full planning permission. The proposed planning conditions require the site to be appropriately investigated, and if necessary, a remediation strategy agreed and implemented prior to construction. Therefore, no cumulative effects are envisaged during construction or operation.
		Population and Human Health	*Land use and accessibility* The other development has the potential to increase construction traffic on the local highway network, thereby creating cumulative effects with regards to journey time reliability. *Human health* There is potential for cumulative effects with regards to air quality and noise. It is assumed that best practice measures will be implemented during construction which will reduce and mitigate any potential cumulative effects, and therefore there is not anticipated to be cumulative effects. The other development is unlikely to result in cumulative effects on access to community land and assets, active travel, or social cohesion as

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			a result of severance. There is not anticipated to be any cumulative effects on human health.
		Road Drainage and Water Environment	The other development, along with the Scheme, would be subject to compliance with local and national policy. Under these policies and legislations, the developments are required to demonstrate (amongst other matters) nil detriment in terms of water quality and WFD status/potential and no increased flood risk to the site or elsewhere. As a result, no cumulative effects in relation to road drainage and the water environment are predicted.

Table 15.5: Summary of cumulative effects during operation

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
ID 1 **19/00601/OUT** Mixed Use development involving the erection of buildings up to 5 storeys from street level, a lower ground floor level and basement to provide up to 17,972 sqm of office (use classes B1), up to 1,896 sqm of mixed uses including potential retail, restaurant/cafe, bar and leisure uses (use class A1, A3, A4 and D2) and	1.8km	Landscape	*Landscape* The other development is remote in nature from the Scheme located 1.7km west and within the Townscape of Winchester City. It is within the Historic core townscape character area (TCA), and no significant effects on this landscape receptor are identified. Within the wider landscape and specifically the East Winchester Downs Landscape Character Area (LCA) which falls within the South Downs National Park, it is considered there is limited opportunity for cumulative landscape effects. The other development will not alter the landscape character area's key natural and environmental characteristics which relate to surrounding open downland landscape, or its perceptual qualities. Overall, it is therefore considered that there are no cumulative effects on either the physical fabric and character of the townscape or the perceptual characteristics of the surrounding landscape, and special values attached to it. *Visual* Following completion of construction works and following successful establishment of landscape mitigation it is considered the visibility of the Scheme will be broadly the same as the

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
retention and refurbishment of the old registry office, associated car parking in basement (up to 95 spaces) and minimum of 156 cycle parking spaces and associated works. - Land East of Station Road, Winchester (also known as WIN5 and WIN6)			existing visibility of the highway network. Furthermore, the presence of intervening landform, vegetation, and built form results in limited intervisibility of the other development and Scheme and therefore it is considered that there are no cumulative visual effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 30 **SDNP/20/01737/FUL** Demolition of existing agricultural building; erection of	3.7km	Biodiversity	The River Itchen SAC is located approximately 80m to the south of this other development at its closest point. Whilst it was acknowledged that there would be an increase in cars using the road to access the other development once operational, this was not considered significant in the context of existing road use. As such there will be no cumulative effects with the Scheme.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
new winery building; new access track; parking; landscaping; and associated works - Street Record Alresford Road Itchen Stoke Hampshire		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 62 **17/01528/OUT** The erection of up to 320 dwellings (including 40% affordable homes); the provision of 3.4 hectares of employment land for use within Use Classes B1, B2 and B8; the provision of Public Open Space	8.4km	Biodiversity	The Appropriate Assessment completed for this other development by the Competent Authority concluded that there would be no adverse effect on the integrity of the River Itchen SAC as a result of the other development, subject to implementation of mitigation to enable nitrate neutrality (i.e., to prevent a change in water quality). Given the other development contains suitable agreed mitigation, there will be no cumulative effects.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
and associated infrastructure including an 'all-moves' roundabout from the A31; the realignment of Sun Lane and provision of additional school facilities including a 'Park and Stride'. EIA development. - Land To The East Of Sun Lane Alresford Hampshire			
ID 57 **Policy WIN4** (an allocation within the Winchester City Council Development Plan)	1.1km	Landscape	*Landscape* The other development is remote in nature from the Scheme located 1.1km west and within the Townscape of Winchester City. It is within the Historic core townscape character area (TCA). Completion of the other development situated within this TCA will alter the scale and form of built form within its urban area; but it is assumed this would be in keeping with key characteristics of this character. It is therefore considered that there are no cumulative

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Silver Hill Mixed Use Site - town centre uses and residential			effects on either the physical fabric or character of the townscape character area. *Visual* The ZTV analysis undertaken for the Scheme identifies that the overall visibility of the existing highway network remains similar following construction of the Scheme. Furthermore following successful establishment of landscape mitigation combined with intervening retained vegetation, built form and landform it is considered there is very limited opportunity for intervisibility of the Scheme and other development. Therefore, no cumulative visual effects are reported.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 64 **Policy WIN5** (an allocation within the Winchester City	1.4km	Landscape	The Station Approach Area is located within the same location as other development ID 1 (19/00601/OUT), albeit other development 65 covers a broader geographical area. Policy WIN 7 notes the following “assess the impact of buildings over 3 storeys on views and adjoining areas and do not exceed 4-5 storeys in height” and on this basis it is considered the

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Council Development Plan) Station Approach			development will be of a similar scale and nature to the surrounding built environment. *Landscape* The other development is remote in nature from the Scheme located 1.4km west and within the Townscape of Winchester City. It is within the Historic core townscape character area (TCA). Completion of the other development situated within this TCA will alter the scale and form of built form within its urban area; but it is assumed this would be in keeping with key characteristics of this character. It is therefore considered that there are no cumulative effects on either the physical fabric or character of the townscape character area. *Visual* The ZTV analysis undertaken for the Scheme identifies that the overall visibility of the existing highway network remains similar following construction of the Scheme. Furthermore following successful establishment of landscape mitigation combined with intervening retained vegetation, built form and landform it is considered there is very limited opportunity for intervisibility of the Scheme and other development. Therefore, no cumulative visual effects are reported.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 59 **Policy WIN7** (an allocation within the Winchester City Council Development Plan) The Cattlemarket Mixed Use Site - offices and residential development	1.5km	Landscape	The Cattlemarket Mixed Use Site is located within the same location as other development ID 1 (19/00601/OUT), albeit other development 60 is located north of this location but within the area considered for other development 65. Policy WIN 7 notes the following: “ensure that the scale of the development respects and is not overbearing for nearby residential and other properties” and on this basis it is considered the development will be of a similar scale and nature to the surrounding built environment. As set out previously for other development 65 it is considered there are no cumulative landscape and visual effects as a result development in this location.
		All other environmental topics	No potential cumulative effects have been predicted for any other environmental topics as no possible source – pathway – receptor linkage was identified.
ID 76 **22/00443/FUL**	7.9km	Biodiversity	The River Itchen SAC is located just under 1km from the other development at its closest point. Whilst no operational effects

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
Refurbishment and re-development of Care Home to provide 16No. close care apartments with associated welfare and staff facilities. The proposals include the demolition of the 1980's additions, the erection of a new 2.5 storey building with single storey wing to the rear of the site and the re- ordering of the listed building			have been identified as a result of the other development, the Biodiversity and Mitigation Strategy has committed that operational drainage will be designed in line with DEFRA guidelines for Sustainable Drainage. Potential effects to foraging bats have been identified from the other development, however appropriate mitigation is in place with measures secured through a Biodiversity and Mitigation Strategy secured through planning condition. No potential cumulative effects have been identified.
ID 72 **22/00230/FUL** Creation of a new McDonalds	100m	Cultural Heritage	*Archaeological remains* The other development will not directly or indirectly impact upon any designated archaeological remains during operation and will therefore not result in any cumulative effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
restaurant with drive-thru facility, car parking, landscaping and associated works.			There is the potential for buried archaeological remains to be present within the footprint of the other development. However, these were partially investigated during the construction of the M3 and will have been damaged or impacted during subsequent development. Should any archaeological remains survive and extend between the Scheme and the other development any impacts would be mitigated by a suitable programme of archaeological investigation prior to, or during, construction and any cumulative impact would be negligible which is not significant. There would be no cumulative effects during operation as any impacts would have occurred and been mitigated during construction. *Built heritage* The other development will not result in direct or indirect impacts upon any built heritage asset during operation. It is therefore considered that there will be no cumulative effects on any built heritage asset. *Historic landscape* The other development is located within the post 1810 settlement (general) historic landscape character type. This area is largely dominated by modern commercial and industrial buildings. This

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			character will not be altered and as such there will be no cumulative effects upon the historic landscape character.
		Landscape and Visual	*Landscape* The other development is within the townscape of Winchester City. It is within the Winnall Trading Estate townscape character area (TCA). Completion of the other development situated within this TCA will alter the scale and form of built form; but it is assumed this would be in keeping with key characteristics of this character. It is therefore considered that there are no cumulative effects on either the physical fabric or character of the townscape character area. *Visual* Following completion of construction works and following successful establishment of landscape mitigation it is considered the visibility of the Scheme will be broadly the same as the existing visibility of the highway network. From VL12 the other development will be visible in the context of the Scheme, however this will be viewed in context of the urban environment and partially obscured by intervening highway infrastructure. Furthermore this will introduce features which are commonplace and therefore in keeping with the baseline view and therefore it is considered that there are no cumulative visual effects.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
		Geology and Soils	Potential cumulative effects are not predicted because a significant contamination source has not been identified and therefore there is no source-pathway-receptor linkage identified. Potential land stability issues would be mitigated by design informed by appropriate site specific ground investigation data (best practice).
		Biodiversity	Potential effects to foraging bats have been identified from the other development. Mitigation has been proposed by the applicant to avoid potential effects to this receptor. No potential cumulative effects have been identified.
		Population and Human Health	*Land use and accessibility* The other development has the potential to increase traffic on the local highway network, thereby creating cumulative effects with regards to journey time reliability for those accessing the Winnall Industrial Estate. However, due to the scale of the other development, it is anticipated that cumulative effects on journey time reliability will be minor. *Human health* The other development forms part of the cumulative developments that form part of the future baseline scenario. Therefore, cumulative effects with regards to air quality and noise

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			have been considered within the **ES (Document Reference 6.1**). The other development is unlikely to result in cumulative effects on access to community land and assets, active travel, or social cohesion as a result of severance. There is not anticipated to be any cumulative effects on human health.
		Road Drainage and Water Environment	The other developments, along with the Scheme, would be subject to compliance with local and national policy. Under these policies and legislations, the developments are required to demonstrate (amongst other matters) nil detriment in terms of water quality and WFD status/potential and no increased flood risk to the site or elsewhere. Without demonstrating compliance with these stringent requirements, planning permission will not be granted, and construction cannot commence and therefore, the operational phase will not be reached. As a result, no cumulative effects in relation to road drainage and the water environment are predicted.
ID 79 **21/03239/OUT** Demolition of existing buildings,	600m	Cultural Heritage	*Archaeological remains* The other development will not indirectly impact upon any designated archaeological remains and will therefore not result in any cumulative effects. Given the distance it is unlikely that archaeological remains directly impacted by the Scheme would

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
alteration to access, erection of up to 2100sqm office floorspace, up to 158 bed purpose built student accommodation; parking; landscaping; and associated features.			extend within the footprint of, and therefore be, impacted by the other development. It is considered that there will not be any cumulative effects upon buried archaeological remains. *Built heritage* The other development will not result in direct or indirect impacts upon any built heritage asset. It is therefore considered that there will be no cumulative effects on any built heritage asset. *Historic landscape* The other development is within the post 1810 settlement (general) historic landscape character type. Within this area it is largely dominated by modern commercial and industrial buildings. This character will not be altered and as such there will be no cumulative effects upon the historic landscape character.
		Landscape and Visual	*Landscape* The other development is within the townscape of Winchester City. It is within the Winnall Trading Estate townscape character area (TCA). Completion of the other development situated within this TCA will alter the scale and form of built form; but it is assumed this would be in keeping with key characteristics of this character. It is therefore considered that there are no cumulative

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			effects on either the physical fabric or character of the townscape character area. *Visual* The ZTV analysis undertaken for the Scheme identifies that the overall visibility of the existing highway network remains similar following construction of the Scheme. Furthermore, the other development lies being the extent of theoretical visibility for the Proposed Development and therefore no cumulative visual impacts are predicted.
		Geology and Soils	Potential cumulative effects are not predicted because the worst case pollutant linkage assessment for the site is identified as low/moderate, in combination with the environmental health officer requesting contaminated land conditions being attached to any application for full planning permission. The proposed planning conditions would require the site to be appropriately investigated, and if necessary a remediation strategy agreed and implemented.
		Biodiversity	No operational effects to biodiversity receptors have been identified from the other development. As such no potential cumulative effects have been identified.

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
		Population and Human Health	*Land use and accessibility* The other development has the potential to increase traffic on the local highway network, thereby creating cumulative effects with regards to journey time reliability. The other development has prepared an operational Travel Plan which will help to encourage sustainable and active travel, and help to reduce single car trips. *Human health* The other development forms part of the cumulative developments that form part of the future baseline scenario. Therefore, cumulative effects with regards to air quality and noise have been considered within the **ES (Document Reference 6.1).** The other development is unlikely to result in cumulative effects on access to community land and assets, active travel, or social cohesion as a result of severance. There is not anticipated to be any cumulative effects on human health.
		Road Drainage and Water Environment	The other development, along with the Scheme, would be subject to compliance with local and national policy. Under these policies and legislations, the developments are required to demonstrate (amongst other matters) nil detriment in terms of water quality and WFD status/potential and no increased flood risk to the site or elsewhere. Without demonstrating compliance with these stringent requirements, planning permission will not be granted,

Planning Application ID and reference number (refer to Appendix 15.2)	Approximate distance from Application Boundary	Environmental Topic	Cumulative Effect
			and construction cannot commence and therefore, the operational phase will be not be reached. As a result, no cumulative effects in relation to road drainage and the water environment are predicted.

15.7 Mitigation and monitoring

15.7.1 The assessment of combined effects on residential dwellings / residents identified a temporary significant effect at White Hill Cottage on Easton Lane. This is due to the combination of visual, noise and land take effects from construction, at that location. The significant effect is temporary in nature, being experienced during the construction period.

15.7.2 The assessment of cumulative effects with other developments identified that both developments ID 72 and ID 79 are anticipated to increase traffic on the local network during construction, and therefore have minor impacts on journey time reliability. During operation the minor impact on journey time would still be experienced.

15.7.3 Where combined effects are identified but do not result in a greater significance of effect than the individual topic assessment, and where cumulative effects are identified but are minor or below, they are not deemed to be significant and therefore no mitigation or monitoring is required.

15.7.4 Although the assessment for combined effects on residential dwellings / residents is considered to be significant, it is not anticipated to result in a greater significance of effect than individual topic assessments and therefore, the mitigation and monitoring identified in the individual topic assessments and set out within the **first iteration Environmental Management Plan (fiEMP) (Document Reference 7.3)** is considered appropriate.

15.7.5 Mitigation set out within the **fiEMP (Document Reference 7.3)** includes (but is not limited to):

- Appoint an Environmental Manager to manage environmental issues during construction
- Implement an environmental management system to ensure appropriate control measures and monitoring systems are employed during the planning and construction of the works
- Implement best practice techniques to reduce dust and noise on site
- Implement a noise and vibration management plan that will detail how local residents that may be affected by construction noise and vibration will be notified of activities that have the potential to cause a nuisance
- Early planting of new woodland to the south of White Hill Cottage to help screen the works
- Implement a stakeholder communications plan that requires community engagement prior to works commencing on site.

15.7.6 As a result of the assessment for combined effects, further mitigation specifies that engagement must be undertaken with the occupant/owner of White Hill Cottage to ensure they are provided with contact details for a site representative, are kept up to date on the construction works programme and the relevant mitigation being implemented.

15.7.7 As the assessment of cumulative effects did not identify any significant effects, no further mitigation or monitoring than that identified in the **fiEMP (Document Reference 7.3)** is required.

15.8 Summary

15.8.1 In line with DMRB LA 104 Environmental assessment and monitoring, cumulative effects (and combined effects) have been assessed.

15.8.2 In summary, a temporary significant combined effect is identified at White Hill Cottage on Easton Lane, due to the combination of visual, noise and land take effects, at that location. The combined effect is temporary in nature, being experienced during the construction period, and it is not anticipated to result in a greater significance of effect than individual topic assessments.

15.8.3 Mitigation set out within the **fiEMP (Document Reference 7.3)** includes a range of measures in addition to the implementation of a stakeholder communications plan that requires community engagement prior to works commencing on site. As a result of the assessment for combined effects, further mitigation specifies that engagement must be undertaken with the occupant/owner of White Hill Cottage to ensure they are provided with contact details for a site representative, are kept up to date on the construction works programme and the relevant mitigation being implemented.