

11 CUMULATIVE EFFECTS

Introduction

- 11.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017¹ (hereafter referred to as 'the EIA Regulations') require that the likely significant environmental effects of a development are taken into account, including cumulative effects.
- 11.2 There is no prescriptive guidance on the methodology for the assessment of cumulative effects; however, The Planning Inspectorate (PINS) document 'Using the 'Rochdale Envelope' (July 2018)² which was drafted in relation to infrastructure projects, states the following:
- "The potential cumulative impacts with other developments will also need to be carefully identified such that the likely significant effects can be shown to have been identified and assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other development should be identified through consultation with the local planning authorities and other relevant authorities."*
- 11.3 PINS have also published an Advice Note³ on the approach to cumulative effects assessment relevant to nationally significant infrastructure projects, which provides more useful context.
- 11.4 The Institute of Environmental Management and Assessment (IEMA) Guidance⁴ identifies two types of cumulative effects:
- Inter-project effects – incremental changes caused by other development schemes occurring together with the proposed development and the cumulative effects combining to worsen the effect of a particular impact; and
 - Intra-project effects – those effects that occur as a result of impact interaction between different environmental topics within the same project. For example, a project might affect bird species as a result of direct loss of habitat and by noise and light disturbance. Each of these when considered in isolation may have a limited effect but taken together the sum is greater than the parts.

Inter-Project Cumulative Effects

- 11.5 A list of cumulative schemes for consideration in the inter-project cumulative effect assessment of the proposed development was presented to RBC as part of the EIA Scoping Opinion Request Report (ES Volume 3: Technical Appendix 2.1). Details of the full list of cumulative schemes are presented in Chapter 2: EIA Process and Methodology of this ES Volume.
- 11.6 Inter-project effects have been addressed in each technical chapter of the ES (Chapters 6-10 of ES Volume 1 and Chapters 1 and 2 of ES Volume 2), as appropriate. To avoid significant repetition, information on the potential combined effects of the proposed development together with cumulative schemes is not presented within this chapter of the ES.

Intra-Project Cumulative Effects

- 11.7 The potential for intra-project cumulative effects is considered within this Chapter.

¹ Secretary of State, 2017. Town and Country Planning (Environmental Impact Assessment) Regulations 2017, London, HMSO.

² The Planning Inspectorate. July 2018. Using the 'Rochdale Envelope'.

Intra-Project Cumulative Effects

Assessment Approach

- 11.8 As mentioned earlier, there is no established EIA methodology for assessing and quantifying the combined effects of individual effects on sensitive receptors. Accordingly, Ramboll has developed an approach which uses the defined residual effects of the proposed development to determine the potential for interactions between effects and consequently the potential for significant intra-project cumulative effects to arise.
- 11.9 The approach comprised the following steps:
1. a review of the likely residual effects (and in particular the likely significant environmental effects) presented within the ES was undertaken;
 2. the likely receptors or receptor groups were identified;
 3. the individual effects which may affect a singular receptor or receptor group were listed in a tabular/matrix format;
 4. the potential for individual effects to interact were identified; and
 5. the scale of the combined intra-project cumulative effects was assessed.
- 11.10 To ensure a proportionate approach, negligible and neutral effects have been disregarded.
- 11.11 It is noted that intra-project cumulative effects are more likely to arise when the receptor or receptor group is more sensitive to change, such as human receptors.
- 11.12 Where there is more than one effect likely to arise on a particular receptor or receptor group, the potential for effect interactions and the scale of the combined effect have been determined. The results of the assessment are presented within a tabular/matrix format within the following section of this chapter.
- 11.13 The assessment has been based on professional judgement and experience.

Assessment Results

- 11.14 Based on the methodology detailed above, Table 11.1 and Table 11.2 present the review of the potential for interactions of individual effects during the demolition and construction works and once the proposed development is complete and operational, respectively.

³ The Planning Inspectorate, December 2015. Cumulative Effects Assessment.

⁴ Institute of Environmental Management and Assessment. The State of Environmental Impact Assessment Practice in the UK. 2011.

Likely Residual Effects		Relevant Receptor Groups													
		Existing commercial uses	Existing off-site residential occupants	Future on-site commercial occupants	Future on-site residential occupants	Existing working age residents	Existing and future pedestrians	Existing social infrastructure	Users of existing off-site amenity space	Users of future on-site amenity space	Existing surrounding townscape character and views	Existing transport infrastructure	Off-site Bus Stop users	Local Economy	Listed Building
Socio-Economics	Generation of construction employment														
	Local expenditure														
Air Quality	Dust Soiling and PM10 due to demolition and construction works														
	NO2 and PM10 due to vehicle emissions														
Noise and Vibration	Demolition and Construction Noise														
	Demolition and Construction Traffic														
	Demolition and Construction Vibration														
Wind Microclimate	Wind conditions suitable for strolling														
Daylight, Sunlight and Overshadowing	Temporary change in daylight and sunlight levels														
	Change in solar glare levels														
Townscape and Visual	Detraction from the character of a Conservation Area														
	Alter setting of a Conservation Area														
	Effect on visual amenity experience														
Built Heritage	Visual and aural disruption to the setting of the listed building and the appreciation of its heritage significance caused by demolition and construction activity														
Potential for Effect Interaction and so Combined Cumulative Effect?		None	None	None	None	None	None	None	None	None	None	None	None	None	None

Major Beneficial
Moderate Beneficial
Minor Beneficial
Minor Adverse
Moderate Adverse
Major Adverse

Table 11.1: Demolition and Construction Intra-Project Cumulative Effects

Demolition and Construction

11.15 As shown in Table 11.1, the proposed development would not result in intra-project cumulative effect interactions during the demolition and construction stage.

Likely Residual Effects		Relevant Receptor Groups															
		Existing commercial uses	Future on-site commercial occupants	Existing off-site residential occupants	Future on-site residential occupants	Existing off-site human health	Existing and future pedestrians	Existing social infrastructure	Users of exisiting off-site amenity space	Users of future on-site amenity space	Users of roof top amenity	Existing surrounding townscape character and views	Existing transport infrastructure	Off-site Bus Stop users	Local Economy	Listed Building	
Socio-Economics	Provision of new housing																
	Increased spending from new employees																
	Net loss of employment on-site																
	Additional spending by employees and residents																
	Increased demand for GP provision																
	Increased demand for dentist provision																
	Increased demand on early years school places																
	Increased demand on primary school places																
	Increased demand on secondary school places																
	Provision of open space																
	Impact on levels of deprivation																
	Impact on crime levels																
Air Quality	NO2, PM10 and PM2.5 effects due to vehicle emissions																
	NO2, PM10 and PM2.5 effects due to local air quality																
Noise and Vibration	Changes in traffic noise																
	Noise from fixed plant installations																
	Noise from servicing vehicle movements																
	Noise from servicing vehicle idling																
Wind Microclimate	Unsuitable wind conditions																
	Suitable wind conditions																
Daylight, Sunlight and Overshadowing	Reduction in access to daylight and sunlight																
	Sunlight availability within amenity space																
	Creation of solar glare																
Townscape and Visual	Direct and indirect changes to Conservation Area																
	Effect on visual amenity experience																
Built Heritage	Alteration in the setting of the locally listed building																
	Alteration in the setting of the listed building																
Potential for Effect Interaction and so Combined Cumulative Effect?																	

	Major Beneficial
	Moderate Beneficial
	Minor Beneficial
	Minor Adverse
	Moderate Adverse
	Major Adverse

Table 11.2: Completed Development Intra-Project Cumulative Effects

Completed Development

11.16 As shown in Table 11.2, the proposed development would not result in intra-project cumulative effect interactions during the completed development stage.

Conclusions

- 11.17 Based on the assessments presented in Table 11.1 and Table 11.2, the proposed development would not have the potential to create to intra-project cumulative effect interaction during either the demolition and construction stage, or the completed development stage.