

National Grid
Cable Tunnel Replacement
Project

Environmental Statement
Volume V

Chapter 23: Cumulative Effects
Assessment

December 2023



Quality information

Prepared by		Checked by		Verified by		Approved by
HW – Senior EIA Consultant		HT – Principal EIA Consultant		DR – EIA Technical Director		DR – EIA Technical Director

Prepared for:

National Grid Electricity Transmission

Prepared by:

AECOM Limited
Aldgate Tower, 2 Leman Street
London, E1 8FA
United Kingdom

T: +44 20 7061 7000
aecom.com

© 2023 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

23	Cumulative Effects Assessment	23-1
23.1	Introduction	23-1
23.2	Legislation, Policy and Guidance.....	23-1
23.3	Consultation	23-2
23.4	Scope and Methodology	23-4
23.5	Assumptions and Limitations	23-9
23.6	Assessment of Combined Effects	23-10
23.7	Assessment of Cumulative Effects	23-21
23.8	Mitigation and monitoring.....	23-51
23.9	Summary.....	23-51
23.10	References	23-52

Figures

Figure 23-1: Cumulative Development Shortlist – Tilbury.....	23-22
Figure 23-2: Cumulative Development Shortlist - Gravesend	23-23

Plates

Plate 23-1: Staged Approach to Cumulative Assessment	23-5
--	------

Tables

Table 23-1: EIA Screening Opinion Response	23-2
Table 23-2: Typical descriptors of the significance of in-combination effects.....	23-4
Table 23-3: Cumulative Effects Assessment – Zone of influence	23-6
Table 23-4: Typical Descriptors of the Significance of Cumulative Effects	23-8
Table 23-5: Screening for interaction between receptor groups and technical chapters	23-10
Table 23-6: Combined Effects – Construction Phase (Tilbury)	23-12
Table 23-7: Combined Effects – Construction Phase (Gravesend)	23-14
Table 23-8: Combined Effects – Operational Phase (Tilbury).....	23-17
Table 23-9: Combined Effects – Operational Phase (Gravesend).....	23-19
Table 23-10: Shortlist of Other Development and Cumulative Assessment.....	23-24

23 Cumulative Effects Assessment

23.1 Introduction

- 23.1.1 This chapter of the Environmental Impact Assessment (EIA) report provides the assessment of cumulative and combined effects arising from the construction and operation of the Tilbury to Grain and Tilbury to Kingsnorth (TKRE) Cable Tunnel Replacement Project (hereafter 'the Proposed Development').
- 23.1.2 The cumulative effects assessment of the Proposed Development considers the following types of effect:
- **Cumulative Effects:** These effects, sometimes referred to as inter-project effects, derive from scheme-specific impacts which, when considered together with the impacts of other planned developments, could result in a new or different significant effect or an effect of greater significance than the scheme's effect when considered in isolation; and
 - **Combined Effects:** These effects, sometimes referred to as intra-project effects, derive from combinations of different scheme-specific impacts which, when acting together on the same receptor, would result in a new or different likely significant effect(s) or an effect of greater significance than one impact would result in when considered in isolation.
- 23.1.3 The assessment has been based on the best available data from other plans, projects, and associated information that is currently in the public domain or has been provided to the Proposed Development team. The assessment assumes that publicly available information is accurate and has relied on collaboration with a range of statutory consultees, local authorities, and other developers to identify any changes in information that may be pertinent to the assessment. It has also been tailored to the feedback received during screening, more information is provided in Section 23.3.1.
- 23.1.4 This assessment is supported by Appendix 23.1 Cumulative Assessment Long and Short List of Other Developments (ES Volume VI) and the following figures:
- Figure 23.1: Cumulative Development Shortlist - Tilbury; and
 - Figure 23.2: Cumulative Development Shortlist – Gravesend;

23.2 Legislation, Policy and Guidance

- 23.2.1 Schedule 4 Part 5 of the 2017 EIA Regulations (Ref 23-1) requires the inclusion of a description of likely significant effects from the development on the environment, resulting from:
- "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"*
- 23.2.2 Schedule 4 Part 5 of the 2017 EIA Regulations also requires that the description of the likely significant effects should cover:
- "the direct effects and any indirect, secondary, cumulative, trans-boundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development."*
- 23.2.3 The National Planning Policy Framework (NPPF) (Ref 23-2) paragraph 185 requires that cumulative effects are considered in decision-making:
- "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development"*

Guidance

23.2.4 The following guidance has been used to inform the scope of the cumulative and in-combination effects appraisals, and to assist the identification and mitigation of likely significant effects:

- Cumulative Effects Assessment – Advice Note Seventeen:** Guidance on cumulative effects assessments relevant to nationally significant infrastructure projects. Although the Proposed Development is not defined as a nationally significant infrastructure project, the approach set out in this guidance can be applied to a range of project types. This guidance has been applied when undertaking a staged process of identification and appraisal of other planned developments within the assessment of cumulative effects (Ref 23-3).

23.3 Consultation

23.3.1 A request for an EIA Screening Opinion, accompanied by a detailed Environmental Screening Report was submitted by National Grid to both Local Planning Authorities (LPA), Thurrock Council and Gravesham Borough Council.

23.3.2 In July 2023, Thurrock Council confirmed through their screening opinion that the Proposed Development **would not be considered EIA development** and on 3 August 2023, Gravesham Borough Council confirmed through their screening opinion that the Proposed Development **would be considered EIA development**.

23.3.3 The detailed Environmental Screening Report also contained the proposed scope of a non-statutory environmental appraisal, including that relevant to the cumulative effects assessment and an initial draft longlist. Table 23-1 provides the EIA Screening opinion responses that were received in relation to the assessment of cumulative effects.

Table 23-1: EIA Screening Opinion Response

Screening Opinion	Where addressed within the ES.
Gravesham Borough Council	
Historic England's comments provided to Gravesham Borough Council: We confirm that the report is detailed, thorough and adequate for the purposes of this assessment, and we acknowledge there are limited numbers of designated heritage assets affected. We also confirm we broadly support the assessment, the list of the key receptors, cumulative impacts and summary of effects as set out in the Historic Environment section.	The Applicant supports and acknowledges Historic England's support for the assessment methodology set out in the environmental screening report, accompanying the EIA Screening Request. However, following the positive screening opinion received by Gravesham Borough Council, a cumulative effects assessment is being produced within this environmental statement (ES) to support the planning application. The methodology has been further developed as outlined in Section 23.4 of this Chapter.
<u>Conclusion</u> Having assessed the available evidence it is the Local Planning Authority's opinion that the proposal is EIA development and that accordingly an Environmental Statement is required to accompany a planning application, please refer to the Screening Matrix in Appendix 1 for full details. Given the nature of the development, the location and sensitivity of the area and the likely potential impact outlined in respect of biodiversity and ecology, geology and hydrology, noise and vibration, heritage and archaeology, landscape/townscape and visual effects, transport and access and cumulative impacts, it is considered that the proposal would be likely to have a significant impact on the environment. Gravesham Borough Council therefore concludes	The whole of the onshore Proposed Development has now been considered an EIA Development and this statutory ES provides the information required by the 2017 Regulations. The purpose of this ES chapter is to support the planning application for the Proposed Development documenting the assessment of its likely significant cumulative effects on the environment, and detailing the mitigation measures proposed to prevent, reduce or offset significant adverse effects.

Screening Opinion	Where addressed within the ES.
that the development is EIA development and that an EIA is therefore required.	
Thurrock Council	
Schedule 3 of the 2017 Regulations sets out the selection criteria for screening developments that may require an EIA. The key criteria are: 1. characteristics of development; 2. location of the development; and 3. types and characteristics of the potential impact. On the basis of the submitted request, the local planning authority considers that the proposal is Schedule 2 development, but would not have the potential to generate significant environmental effects in the location proposed so as to require the submission of an EIA. The conclusion is that the proposal DOES NOT REQUIRE EIA. The reasons for this conclusion, based upon the commentary set out in your request for a Screening Opinion, are set out below. The characteristics of development must be considered with particular regard to: (b) cumulation with other existing development and/or approved development - the proposals would not give rise to any significant cumulative impacts;	Following the positive screening opinion received by Gravesham Borough Council, this chapter presents a cumulative effects assessment as part of the ES to support the planning application.

23.4 Scope and Methodology

Assessment of Combined Effects

- 23.4.1 The assessment of combined effects considers whether a single environmental receptor or resource would likely be affected by more than one type of impact as a result of the construction or operation phases of the Proposed Development. The assessment methodology involved the identification of impact interactions associated with the Proposed Development upon separate environmental receptors and resources, in order to understand the overall environmental effect of the Proposed Development.
- 23.4.2 The significance of combined effects upon environmental resources and receptors has been determined through:
- use of professional judgement of competent experts with relevant and appropriate experience;
 - input provided by the competent experts responsible for the production of the individual technical assessments; and
 - taking into account the criteria and definitions set out in Table 23-2, which are derived from professional experience of undertaking cumulative assessments.
- 23.4.3 The significance criteria for combined effects are set out in Table 23-2.

Table 23-2: Typical descriptors of the significance of in-combination effects

Significance Category	Typical Descriptions of Effect
Major (adverse or beneficial)	Where the combined effects upon an individual or collection of environmental receptors would be highly significant (adverse or beneficial). Effects would be: • widespread/ large scale for a receptor of high value; • permanent for a receptor or receptors of high value; • localised for a receptor or receptors of very high value; • temporary for a receptor or receptors of very high value. Effects at this level are likely to be material in the decision-making process.
Moderate (adverse or beneficial)	Where the combined effects upon an individual or collection of environmental receptors would be significant (adverse or beneficial). Effects would be: • permanent for a receptor or receptors of medium value; • localised for a receptor or receptors of high value; • temporary for a receptor or receptors of high value. Effects at this level can be considered to be material decision-making factors.
Minor (adverse or beneficial)	Where the combined effects upon an individual or collection of environmental receptors would be noteworthy but not significant (adverse or beneficial). Effects would be: • permanent for receptors of low value; • localised for a receptor or receptors of medium or high value; • temporary for a receptor or receptors of medium or high value. Effects at this level are not material in the decision-making process.
Negligible	Where the combined effects upon an individual or collection of environmental receptors would be negligible and not significant (adverse or beneficial).

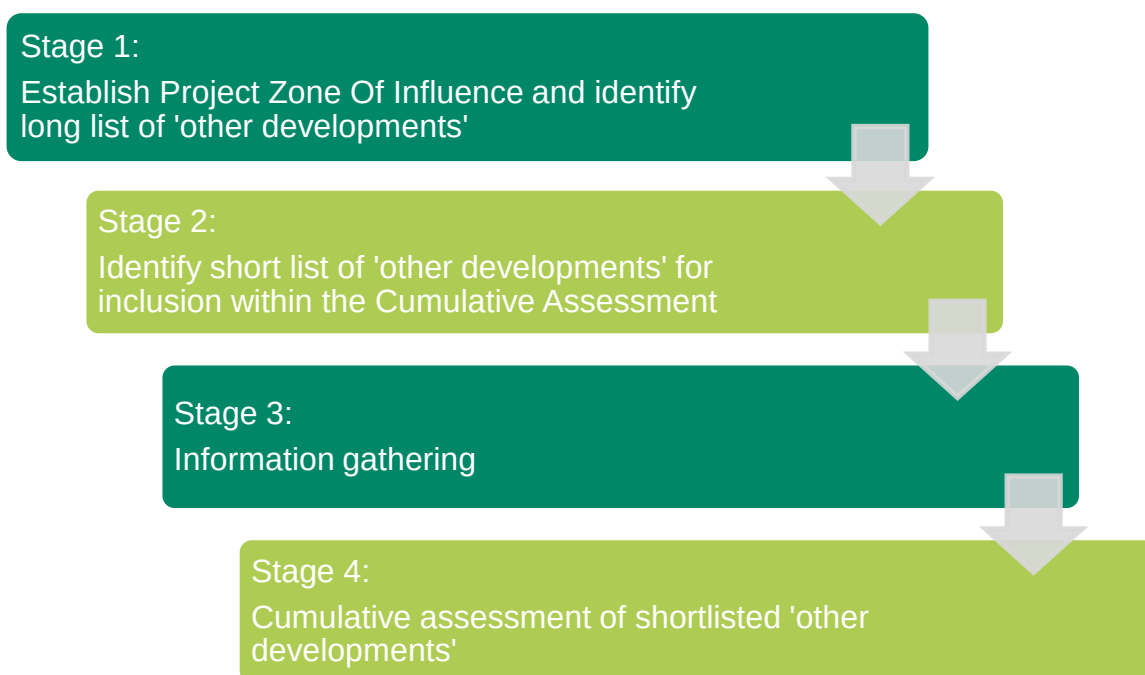
* Note that the term 'value' refers here to both intrinsic value and sensitivity.

- 23.4.4 Within the assessment for combined effects, the value of receptors is based on the highest rating attributed by the relevant environmental topic assessments. For example, if a receptor is high value for landscape and medium value for biodiversity, it is deemed to be high value for the purpose of the assessment.
- 23.4.5 Combined and cumulative effects which are moderate and major (adverse or beneficial) are deemed to be significant.

Assessment of Cumulative Effects

- 23.4.6 In accordance with Advice Note Seventeen, the approach to cumulative assessment follows a staged approach, as summarised in Plate 23-1 and detailed below.

Plate 23-1: Staged Approach to Cumulative Assessment



Receptors

- 23.4.7 The cumulative effects assessment only considers those receptors that would experience a residual effect associated with the Proposed Development on its own. For receptors where the residual effects of the Proposed Development are assessed to be neutral or negligible, it is considered that such receptors would not experience significant cumulative effects with other developments.

Stage 1: Establishing the long list of 'other existing development and/or approved development'

- 23.4.8 This stage involved a search of Thurrock Council and Gravesham Borough Council planning portals, the Planning Inspectorate's website and the marine management organisations public register to determine the other proposed developments within the area that could have a cumulative impact with the Proposed Development. The following criteria has been used to identify developments that are of sufficient scale to have the potential to result in cumulative effects in association with the Proposed Development:
- All residential applications proposing 10 units or more submitted in the last 5 years within 2km of the Proposed Development;

- All mixed-use and employment applications proposing 1ha of development or more submitted in the last 5 years within 2km of the Proposed Development; and
- All nationally significant infrastructure projects submitted in the last 5 years within 2km of the Proposed Development. Some developments have been included that are over 5 years old where activity has been recorded on the applications, for example reserved matters applications.

23.4.9 In some instances, other developments that do not fit the above criteria have been considered within the long and shortlist based on professional judgement and distance from the Proposed Development.

23.4.10 The maximum study area or cumulative 'Zone of Influence' (Zol) is defined in Table 23-3: for each environmental topic. This is based on the study areas used for the topic assessments in Chapters 7 to 14 of Volume III and Chapters 15 to 22 of volume IV of this ES. These Zols form the search area in which to identify other development for inclusion on the long list for consideration in the cumulative effects assessment.

Table 23-3: Cumulative Effects Assessment – Zone of influence

Environmental topic	Maximum Zol	Cumulative Zol*
Ecology	2km	Construction and operation: 2 km from the Proposed Development boundary. As set out in Section ES Volume III Chapter 7: Biodiversity - Tilbury and Volume IV Chapter 15: Biodiversity - Gravesend, multiple study areas were used to search for and assess effects on designated sites and species. The study area for internationally designated sites is greater than 2 km (set at up to 10km) however the number of projects within this larger Zol may have led to a disproportionate level of appraisal. It was therefore decided to test the potential for cumulative effects with other major projects within 10 km. If significant cumulative effects were identified in the core assessment the appraisal would be extended to more distant projects; however if cumulative effects were found not to be significant it was considered unnecessary to extend the appraisal beyond 10 km.
Landscape and Visual	1.5km	Construction and operation: the extent of the Zol for the landscape and visual assessment is defined by a 1.5 km radius from the Proposed Development boundary. Beyond this distance, the Proposed Development is not considered likely to give rise to significant landscape and visual effects, due to distance and intervening topography and vegetation. This is based on a Zone of Theoretical Visibility (ZTV).
Historic Environment	1km	Construction and operation: 1 km from the Proposed Development boundary for designated heritage assets and their settings.
Traffic and Transport	-	The Traffic and Transport assessment inherently considers the cumulative developments within the core assessment and modelling undertaken within Volume III Chapter 10 and Volume IV Chapter 18: Traffic and Transport and is therefore not assessed further in this chapter.
Noise and Vibration	1km	Construction: Noise Zol for the construction phase is 300m. Operation: Noise Zol for the operational phase is 1km.
Air Quality	250m	Construction: 250 m from construction activities that are likely to create dust. A detailed quantitative air quality assessment is not required for construction phase traffic emissions as reported within ES Volume III Chapter 11: Air Quality and Volume IV Chapter 20 and therefore it is not considered likely that there will be any significant cumulative effects and so construction traffic emissions are not considered further. Operation: The operational phase air quality assessment is scoped out and therefore no cumulative effects are anticipated.

Environmental topic	Maximum Zol	Cumulative Zol*
Water Environment	1km	Construction and Operation: 1km from the Proposed Development Boundary.
Materials and Waste	-	In regard to Materials and Waste, a detailed cumulative effects assessment has not been undertaken since: a. As part of their planning function, Waste Planning Authorities (WPAs) are required to ensure that enough land is available to accommodate facilities for the treatment of all waste arising in the area, either within the WPA area, or through export to suitable facilities in other areas; and b. Minerals Planning Authorities (MPAs) are similarly required to ensure an adequate supply of minerals, sufficient to meet the needs of national and regional supply policies, and local development needs. In preparing their waste management strategies, the WPAs already take into account waste generation at the regional and sub-regional scale, since these are the figures which are then used for determining the need for waste facilities. The landfill void capacity remaining (which is used to evaluate the effects of the Proposed Development) already takes into account the cumulative effects of waste generated by other developments, and hence a separate cumulative impact assessment is not required for waste. It is therefore not necessary or feasible for each development within the region to, in effect, duplicate the function of the WPA as part of the EIA process.

*Note: Where the Zol of another development is within very close proximity to the Zol of the Scheme, a judgement as to whether the Scheme's Zol should be extended to include the other development has been made. For example, if a cumulative schemes' Zol was within 50 m of the Scheme's Zol, then a judgement could be made to include or not include the relevant environmental topic for assessment, justification is provided where this is the case.

- 23.4.11 Planning applications older than 5 years at the commencement date of this study have not been considered. The only exception is where a reserved matters application or subsequent planning application has been submitted, which relates to an older outline or hybrid planning application.
- 23.4.12 At total of 23 developments, consisting of five DCO applications, 14 planning applications from Thurrock Council planning portal and four planning applications from Gravesham Borough Council planning portal were identified as the Long List of Other Developments. The Long List can be found in Table 1 of Appendix 23.1 in ES Volume VI.

Stage 2: Establishing a shortlist of 'other existing development and/or approved development'

- 23.4.13 The developments on the Long List were reviewed to identify those with the potential to result in potentially significant cumulative effects in association with the Proposed Development. This included consideration for the nature and scale of the development, and potential temporal and/ or spatial interactions with receptors affected by the Proposed Development in the relevant Zols. Those developments where the potential for cumulative effects was identified were placed on the Short List.
- 23.4.14 For some developments, there is limited information available regarding the delivery programmes and environmental assessment information available to understand temporal and environmental interactions with the Proposed Development.
- 23.4.15 A total of seven developments, consisting of two DCO applications, two planning applications from Thurrock Council planning portal and three planning applications from Gravesham Borough Council planning portal were identified for further cumulative assessment on the Short List of Other Developments. The Short List can be found in Table 2 of Appendix 23.1 in ES Volume VI.

Stage 3: Information Gathering

23.4.16 This stage involved sourcing further information relating to the shortlisted developments to establish the details of their likely environmental effects and potential for cumulative effects in association with the Proposed Development. This information has been primarily obtained from documentation submitted as part of planning applications or used in the appraisals for site allocations. Information gathered for each development included (where available) the design of the development, its location, the expected development timelines, and likely environmental effects.

Stage 4: Assessment

23.4.17 Those developments which met the inclusion criteria set out in the above stages are incorporated into the final assessment, which involves the identifying where effects are likely to occur and assessing the effects on environmental receptors and resources, taking into account any mitigation measures.

23.4.18 The following information is documented for each of the developments on the shortlist:

- A brief description of the development;
- Residual environmental effects resulting from the cumulative scheme; and
- An indication of likely residual cumulative effects.

Significance of cumulative effects

23.4.19 The significance of cumulative effects upon environmental resources and receptors has been determined using professional judgement, by the competent experts responsible for the production of the individual technical assessments. Typical descriptions for the significance of cumulative effects are noted in Table 23-4 below.

Table 23-4: Typical Descriptors of the Significance of Cumulative Effects

Significance Category	Typical Descriptions of Effect
Major (adverse or beneficial)	Where the cumulative effects in association with other development upon an individual or collection of environmental receptors would be highly significant (adverse or beneficial). Effects would be: • widespread/ large scale for a receptor of high value; • permanent for a receptor or receptors of high value; • localised for a receptor or receptors of very high value; • temporary for a receptor or receptors of very high value. Effects at this level are likely to be material in the decision-making process.
Moderate (adverse or beneficial)	Where the cumulative effects in association with other development upon an individual or collection of environmental receptors would be significant (adverse or beneficial). Effects would be: • permanent for a receptor or receptors of medium value; • localised for a receptor or receptors of high value; • temporary for a receptor or receptors of high value. Effects at this level can be considered to be material decision-making factors.
Minor (adverse or beneficial)	Where the cumulative effects in association with other development upon an individual or collection of environmental receptors would be noteworthy but not significant (adverse or beneficial). Effects would be: • permanent for receptors of low value; • localised for a receptor or receptors of medium or high value; • temporary for a receptor or receptors of medium or high value. Effects at this level are not material in the decision-making process.

Significance Category	Typical Descriptions of Effect
Negligible	Where the cumulative effects in association with other development upon an individual or collection of environmental receptors would be negligible and not significant (adverse or beneficial).

* Note that the term 'value' refers here to both intrinsic value and sensitivity.

23.4.20 Generally, cumulative effects which are moderate or major (adverse or beneficial) are deemed to be significant and are expected to be material in the decision-making process.

23.5 Assumptions and Limitations

23.5.1 The assessment of potential cumulative and combined effects is based on publicly available information relating to other developments and is limited to the information that is available.

23.5.2 The significance of potential combined and cumulative effects has been determined in accordance with the criteria set out in Table 23-2 and Table 23-4, respectively, which are derived from professional experience of undertaking cumulative assessments for other infrastructure projects, given the lack of a clear methodology within the EIA Regulations.

23.6 Assessment of Combined Effects

- 23.6.1 Combined effects are where receptors could be affected by more than one type of impact. Where a receptor has been identified as only experiencing one effect or where only one topic has identified effects on that receptor, there is no potential for combined effects.
- 23.6.2 Table 23-5 summarises the screening for interaction between receptor groups and technical chapters. Those receptors coloured green indicate where one receptors is assessed in more than one technical chapter. Those receptors coloured grey indicate where receptors are assessed wholly within a single topic technical chapters of this ES, and therefore no further consideration of combined effects is required.

Table 23-5: Screening for interaction between receptor groups and technical chapters

Receptors	Technical Chapters							
	Biodiversity	Landscape and Visual	Historic Environment	Traffic and Transport	Noise and Vibration	Air Quality	Water Environment	Materials and Waste
Residential Receptors		✓		✓	✓	✓		
Landscape Character Areas		✓						
Public Rights of Way (including National Cycle Network routes)		✓		✓				
Historic Buildings			✓					
Archaeological Sites			✓					
Ecological Receptors*		✓			✓	✓	✓	
Water Framework Directive (WFD) Waterbodies							✓	
Surface Water Quality							✓	
Hydromorphology							✓	
Groundwater							✓	
Flood Risk							✓	
Construction material supply								✓
Waste receptor sensitivity								✓

- 23.6.3 Although certain receptors are identified above as being relevant to multiple topic assessments some of these interactions have been inherently assessed within the core assessments and are therefore not assessed further in this assessment, these include:

- **Biodiversity*** (ES Volume III Chapter 7 and VI Chapter 15): Impacts to ecological receptors are wholly assessed within the technical chapters including changes in water quality, construction dust deposition, construction and operational noise and lighting effects, in combination with other factors such as habitat loss;
- **Historic Environment** (ES Volume III Chapter 9 and VI Chapter 17): Impacts to historic environment receptors are wholly assessed within the technical chapters including potential visual and noise impacts;
- **Water Environment** (ES Volume III Chapter 13 and VI Chapter 21): Impacts to water environment receptors, namely changes in surface water quality, hydromorphology, groundwater and flood risk have been wholly assessed within the technical chapters;
- **Materials and Waste** (ES Volume III Chapter 14 and VI Chapter 22): Material and waste receptors are wholly assessment within the technical chapters.

23.6.4 Table 23-6, Table 23-7, Table 23-8, Table 23-9 below provide the combined effects assessment for the receptors that are identified within more than one technical ES chapter as receiving residual environmental effects.

Table 23-6: Combined Effects – Construction Phase (Tilbury)

Receptor	Impacts which may affect receptor	Potential combined effects and outcome of assessment				Mitigation	Residual combined effect
		Dust (assessment in ES Volume III Chapter 12 Air Quality)	Noise (assessed in ES Volume III Chapter 11 Noise and Vibration)	Visual (assessed in ES Volume III Chapter 9 Landscape and Visual)	Traffic and Transport (assessed in ES Volume III Chapter 10 Traffic and Transport)		
Residential Receptors	- Landscape and Visual - Traffic and Transport - Air Quality - Noise	Effects on human health and amenity from dust soiling. The assessment of effects on sensitive receptors resulted in negligible effects, which are not significant.	Changes in noise as a result of changes in traffic noise from construction traffic. Assessment of effects resulted in negligible effects which is not significant.	Viewpoint 4: Fort Road, was selected as it is adjacent to the rear of properties at Pepys Close, Tilbury. The assessment outcome on this viewpoint was minor adverse, which is not significant.	N/A	No additional mitigation proposed beyond that included in the respective ES chapters.	Minor adverse (not significant) combined effect on residential receptors as a result of combined impacts from construction dust, construction traffic noise and visual impacts during construction.
Public Rights of Way (including National Cycle Network routes)	- Landscape and Visual - Traffic and Transport	N/A	N/A	The following viewpoints were selected to assess views from local PRoW: - Viewpoint 1, 2, 6: English Coast Path (PRoW 146). The outcome of assessment on this PRoW was minor adverse which is not significant; - Viewpoint 3: PRoW 14. The outcome of assessment on this PRoW was negligible adverse which is not significant; - Viewpoint 5: PRoW 72. The outcome of	Non-Motorised User Amenity: Negligible/ minor adverse (Not significant)	No additional mitigation proposed beyond that included in the respective ES chapters.	Minor adverse (not significant) combined effects to users of PRoW 146, PRoW 144, PRoW 72, PRoW NG 1, PRoW NG 2, NCN route 1 and PRoW 68 resulting from combined impacts from visual impacts and non-motorised user amenity impacts resulting from the construction phase.

Receptor	Impacts which may affect receptor	Potential combined effects and outcome of assessment				Mitigation	Residual combined effect
		Dust (assessment in ES Volume III Chapter 12 Air Quality)	Noise (assessed in ES Volume III Chapter 11 Noise and Vibration)	Visual (assessed in ES Volume III Chapter 9 Landscape and Visual)	Traffic and Transport (assessed in ES Volume III Chapter 10 Traffic and Transport)		
				assessment on this PRoW was negligible adverse (not significant); - Viewpoint 7, 11: Saxon Shore Way (PRoW NG 1). The outcome of the assessment on this PRoW was negligible adverse (not significant); - Viewpoint 8: PRoW NG 2 (footpath) and NCN route 1. The outcome of assessment on this PRoW was negligible adverse (not significant); and - Viewpoint 12: PRoW 68. The outcome of assessment on this PRoW was neutral (not significant).			

Table 23-7: Combined Effects – Construction Phase (Gravesend)

Receptor	Impacts which may affect receptor	Potential combined effects and outcome of assessment				Mitigation	Residual combined effect
		Dust (assessment in ES Volume IV Chapter 20 Air Quality)	Noise (assessed in ES Volume IV Chapter 19 Noise and Vibration)	Visual (assessed in ES Volume IV Chapter 16 Landscape and Visual)	Traffic and Transport (assessed in ES Volume III Chapter 18 Traffic and Transport)		
Residential Receptors	• Landscape and Visual • Traffic and Transport • Air Quality • Noise	Effects on human health and amenity from dust soiling. The assessment of effects on sensitive receptors resulted in negligible effects which are not significant.	Changes in noise as a result of changes in traffic noise from construction traffic. The assessment of effects resulted in negligible effects which are not significant.	Viewpoint 4: Fort Road, was selected as it is adjacent to the rear of properties at Pepys Close, Tilbury. The assessment outcome on this viewpoint was neutral which is not significant.	N/A	No additional mitigation proposed beyond that included in the respective ES chapters.	Negligible adverse (not significant) combined effect on residential receptors as a result of combined impacts from dust impacts, construction traffic noise and visual impacts during construction.
Public Rights of Way (including National Cycle Network routes)	• Landscape and Visual • Traffic and Transport	N/A	N/A	The following viewpoints were selected to assess views from local PRoW: • Viewpoint 1: English Coast Path (PRoW 146) and NCN Route 13 near Tilbury Fort. The outcome of the assessment on this PRoW was negligible adverse which is not significant; • Viewpoint 2: English Coast Path (PRoW 146) and NCN Route 13 near Tilbury Fort. The outcome of the assessment on this	Non-Motorised User Amenity: Negligible/minor adverse (Not significant)	No additional mitigation proposed beyond that included in the respective ES chapters.	Minor adverse (not significant) combined effects to users of PRoW 146, NCN 13, PRoW 144, PRoW 72, PRoW NG 1, PRoW NG 2, NCN route 1 and PRoW 68 resulting from combined impacts from visual impacts and non-motorised user amenity impacts resulting from the construction phase.

Receptor	Impacts which may affect receptor	Potential combined effects and outcome of assessment				Mitigation	Residual combined effect
		Dust (assessment in ES Volume IV Chapter 20 Air Quality)	Noise (assessed in ES Volume IV Chapter 19 Noise and Vibration)	Visual (assessed in ES Volume IV Chapter 16 Landscape and Visual)	Traffic and Transport (assessed in ES Volume III Chapter 18 Traffic and Transport)		
				PRoW was negligible adverse which is not significant); - Viewpoint 3: PRoW 144 (footpath). The outcome of this assessment on this PRoW was neutral which is not significant; - Viewpoint 5: PRoW 72. The outcome of the assessment on this PRoW was neutral which is not significant; - Viewpoint 6: English Coast Path (PRoW 146) and NCN Route 13. The outcome of the assessment on this PRoW was minor adverse which is not significant; - Viewpoint 7: Saxon Shore Way (PRoW NG 1). The outcome of the assessment on this PRoW was minor adverse which is not significant; - Viewpoint 8: PRoW NG 2 (footpath) and NCN route 1. The outcome of the			

Receptor	Impacts which may affect receptor	Potential combined effects and outcome of assessment				Mitigation	Residual combined effect
		Dust (assessment in ES Volume IV Chapter 20 Air Quality)	Noise (assessed in ES Volume IV Chapter 19 Noise and Vibration)	Visual (assessed in ES Volume IV Chapter 16 Landscape and Visual)	Traffic and Transport (assessed in ES Volume III Chapter 18 Traffic and Transport)		
				assessment on this PRoW was minor adverse which is not significant; - Viewpoint 11: Saxon Shore Way (PRoW NG 1). The outcome of the assessment on this PRoW was minor adverse which is not significant; - Viewpoint 12: PRoW 68. The outcome of the assessment on this PRoW was neutral which is not significant.			

Table 23-8: Combined Effects – Operational Phase (Tilbury)

Receptor	Value	Potential combined effects			Mitigation	Residual combined effect
		Dust (assessment in ES Volume III Chapter 12 Air Quality)	Noise (assessed in ES Volume III Chapter 11 Noise and Vibration)	Visual (operational year 1 winter) (assessed in ES Volume III Chapter 9 Landscape and Visual)		
Residential Receptors	• Landscape and Visual • Traffic and Transport • Air Quality • Noise	Effects on human health and amenity from dust soiling. The assessment of effects on sensitive receptors resulted in negligible effects which are not significant.	Changes in noise as a result of the noise emissions from the ventilation fans within the headhouse. The assessment outcome was below a Lowest Observable Adverse Effect Level (LOAEL) (the level above which adverse effects on health and quality of life can be detected, which is not significant.	was selected as it is adjacent to the rear of properties at Pepys Close, Tilbury. The assessment outcome on this viewpoint was negligible adverse, which is not significant.	No additional mitigation proposed beyond that included in the respective ES chapters.	Negligible adverse (not significant) combined effect on residential receptors as a result of combined impacts from dust impacts, headhouse noise emissions and visual impacts during the operational phase of the Proposed Development.
Public Rights of Way (including National Cycle Network routes)	• Landscape and Visual • Traffic and Transport	N/A	N/A	The following viewpoints were selected to assess views from local PRoW: • Viewpoint 1, 2, : English Coast Path (PRoW 146). The outcome of the assessment was negligible adverse which is not significant; • Viewpoint 3: PRoW 144. The outcome of the assessment was negligible adverse which is not significant; • Viewpoint 5: PRoW 72. The outcome of the assessment was	No additional mitigation proposed beyond that included in the respective ES chapters.	No combined effects on PRoW's during the operational phase of the development.

Receptor	Value	Potential combined effects			Mitigation	Residual combined effect
		Dust (assessment in ES Volume III Chapter 12 Air Quality)	Noise (assessed in ES Volume III Chapter 11 Noise and Vibration)	Visual (operational year 1 winter) (assessed in ES Volume III Chapter 9 Landscape and Visual)		
				neutral which is not significant; - Viewpoint 6: English Coast Path (PRoW 146) and NCN Route 13. The outcome of the assessment was negligible adverse which is not significant; - Viewpoint 7, 11: Saxon Shore Way (PRoW NG 1). The outcome of the assessment was negligible beneficial which is not significant; - Viewpoint 8: PRoW NG 2 (footpath) and NCN route 1. The outcome of the assessment was neutral which is not significant.		

Table 23-9: Combined Effects – Operational Phase (Gravesend)

Receptor	Value	Potential combined effects			Mitigation	Residual combined effect
		Dust (assessment in ES Volume IV Chapter 20 Air Quality)	Noise (assessed in ES Volume IV Chapter 19 Noise and Vibration)	Visual (operational year 1 winter) (assessed in ES Volume IV Chapter 16 Landscape and Visual)		
Residential Receptors	• Landscape and Visual • Traffic and Transport • Air Quality • Noise	Effects on human health and amenity from dust soiling. The assessment of effects on sensitive receptors resulted in negligible effects which is not significant.	N/A	Viewpoint 4: Fort Road, was selected as it is adjacent to the rear of properties at Pepys Close, Tilbury. The assessment outcome on this viewpoint was neutral which is not significant.	No additional mitigation proposed beyond that included in the respective ES chapters.	Negligible adverse (not significant) combined effect on residential receptors as a result of combined impacts from dust impacts, headhouse noise emissions and visual impacts during the operational phase of the Proposed Development.
Public Rights of Way (including National Cycle Network routes)	• Landscape and Visual • Traffic and Transport	N/A	N/A	The following viewpoints were selected to assess views from local PRoW: • Viewpoint 1: English Coast Path (PRoW 146) and NCN Route 13. The outcome of the assessment on this PRoW was assessed as negligible adverse which is not significant; • Viewpoint 2: English Coast Path (PRoW 146) and NCN Route 13. The outcome of the assessment on this PRoW was assessed as negligible adverse which is not significant; • Viewpoint 3: PRoW 144. The outcome of the assessment on this PRoW was assessed as neutral which is not significant; • Viewpoint 5: PRoW 72. The outcome of the assessment on this	No additional mitigation proposed beyond that included in the respective ES chapters.	No combined effects on PRoW's during the operational phase of the development.

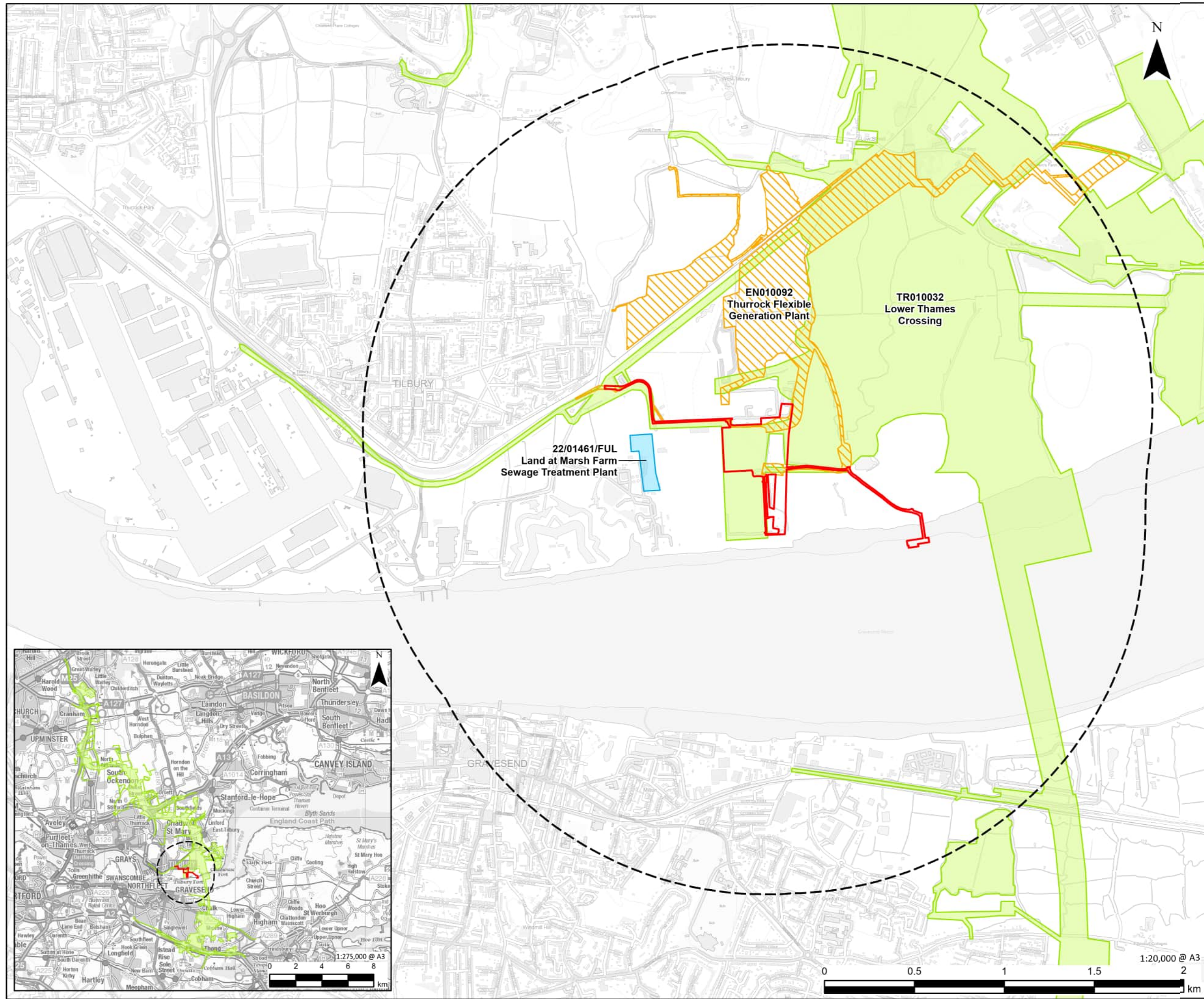
Receptor	Value	Potential combined effects			Mitigation	Residual combined effect
		Dust (assessment in ES Volume IV Chapter 20 Air Quality)	Noise (assessed in ES Volume IV Chapter 19 Noise and Vibration)	Visual (operational year 1 winter) (assessed in ES Volume IV Chapter 16 Landscape and Visual)		
				PRoW was neutral which is not significant; - Viewpoint 6: English Coast Path (PRoW 146) and NCN Route 13. The outcome of the assessment on this PRoW was negligible adverse which is not significant; - Viewpoint 7: Saxon Shore Way (PRoW NG 1). The outcome of the assessment on this PROW was minor adverse which is not significant; - Viewpoint 8: PRoW NG 2 (footpath) and NCN route 1. The outcome of the assessment on this PRoW was negligible adverse which is not significant; - Viewpoint 11: Saxon Shore Way (PRoW NG 1). The outcome of the assessment on this PRoW was negligible adverse which is not significant); - Viewpoint 12: PRoW 68. The outcome of the assessment on this PRoW was neutral which is not significant.		

23.7 Assessment of Cumulative Effects

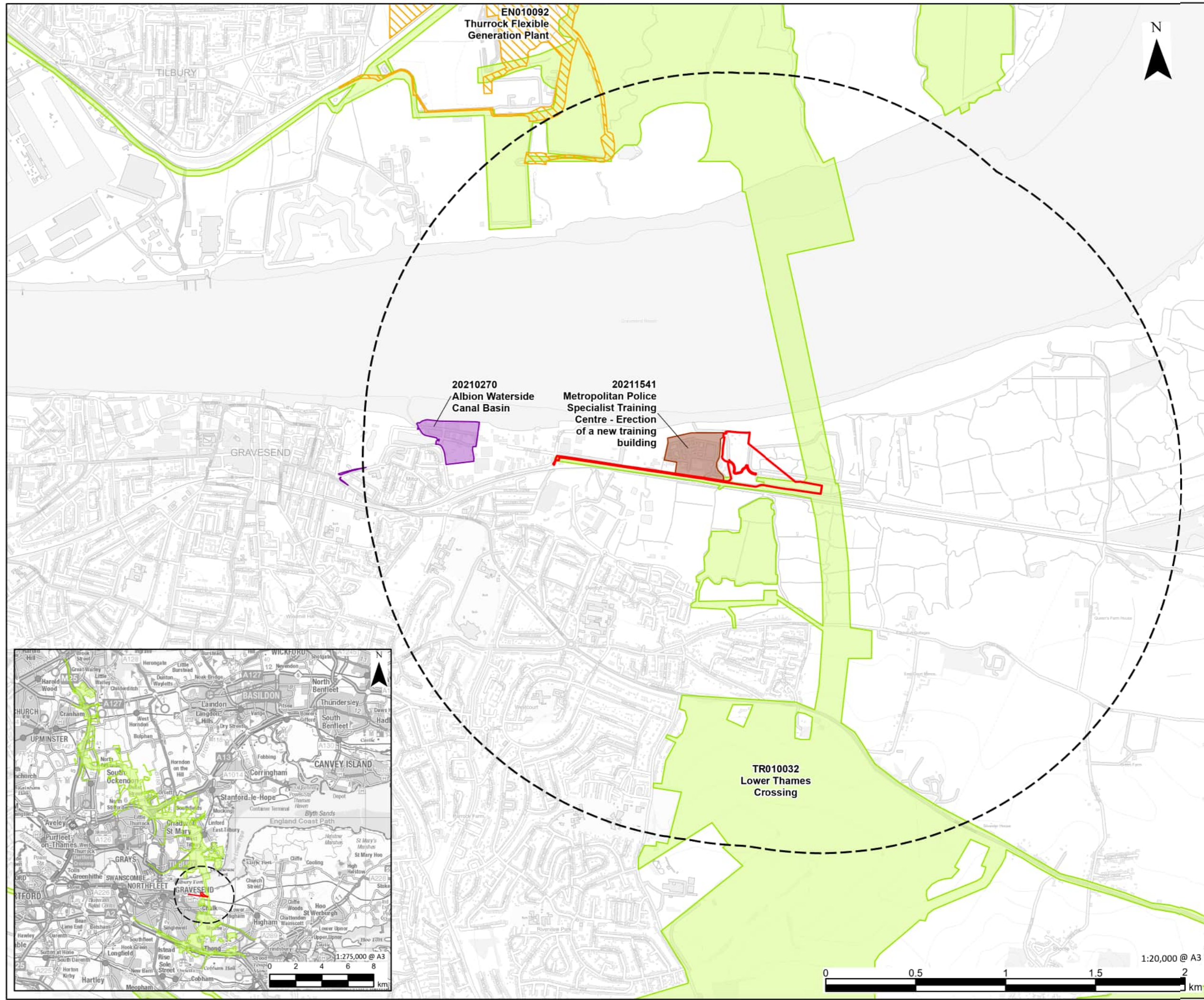
23.7.1 A total of five Other Developments have been shortlisted for inclusion in the assessment of cumulative effects. These are listed in the Long List of Other Developments Table 2 of Appendix 23.1 and comprise:

- Nationally Significant Infrastructure Projects:
 - **ID N.1 - TR010032:** Lower Thames Crossing (National Highways). The Lower Thames Crossing will be a new road crossing connecting Kent, Thurrock and Essex; and
 - **ID N.2 - EN010092:** Thurrock Flexible Generation Plant - The Proposed Development comprises the construction and operation of Gas Reciprocating engines with up to 600 MW electrical capacity and Battery Storage with up to 150 MW electrical capacity.
- Thurrock Council:
 - **ID T.3 - 22/01461/FUL:** Land at Marsh Farm Sewage Treatment Plant - Removal of existing structures and buildings, re-grading of the land, laying of a concrete pavement, installation of upgraded drainage, lighting and security fencing and use of the land for port-related storage including haulier parking and/or storage of new motor vehicles and/or storage of port-related product with access from Tilbury2 port;
- Gravesham Borough Council:
 - **ID G.1 – 20211541:** Erection of a new concrete live fire skills house training building (plus abseil frame) with new ancillary support building and associated works; and
 - **ID G.3 – 20210270:** Hybrid planning application comprising: Part A - Full planning application for demolition of existing buildings and structures, construction of a mixed use development comprising C3 and C2 Residential Uses and commercial floorspace (Use Class E), a new river wall, works to Swing Bridge, highway junction improvements at Milton Road and Ordnance Road, associated new public open spaces and public realm improvements, car and cycle parking, landscaping, infrastructure and earthworks and ancillary works; and Part B - Outline planning application with all matters reserved (apart from access) for demolition of all existing buildings and structures and the construction of a mixed use development comprising C3 Uses and commercial floorspace (Use Class E) with associated vehicular access, car parking, landscaping, associated infrastructure and earthworks and ancillary works. (The proposed development would consist of up to 1,500 homes and up to 4,500sqm (GIA) of commercial floorspace); and

23.7.2 The cumulative effects assessment for each environmental discipline for both construction and operation (where scoped into the assessment) is presented on Figure 23-1 and Figure 23-2.



AECOM	
PROJECT	
TKRE National Grid	
CLIENT	
National Grid	
CONSULTANT	
AECOM Limited 100 Embankment Cathedral Approach Manchester, M3 7FB www.aecom.com	
LEGEND	
	Red Line Boundary (Above Ground)
	Cumulative Effects Assessment - Zone of Influence
Cumulative Development Shortlist - Tilbury	
	22/01461/FUL - Land at Marsh Farm Sewage Treatment Plant
	EN010092 - Thurrock Flexible Generation Plant
	TR010032 - Lower Thames Crossing
NOTES	
Reproduced from Ordnance Survey digital map data © Crown copyright 2023. All rights reserved. Licence number 0100031673.	
ISSUE PURPOSE	
Cumulative Effects EIA	
PROJECT NUMBER	
60677311	
FIGURE TITLE	
Cumulative development shortlist - Tilbury	
FIGURE NUMBER	
Figure 23.1	



LEGEND

	Red Line Boundary (Above Ground)
	Cumulative Effects Assessment - Zone of Influence
Cumulative Development Shortlist - Gravesend	
	20210270 - Albion Waterside Canal Basin
	20211541 - Metropolitan Police Specialist Training Centre
	EN010092 - Thurrock Flexible Generation Plant
	TR010032 - Lower Thames Crossing

NOTES

Reproduced from Ordnance Survey digital map data © Crown copyright 2023. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE

Environmental Statement

PROJECT NUMBER

60677311

FIGURE TITLE

Cumulative Development Shortlist -
Gravesend

FIGURE NUMBER

Figure 23.2

Table 23-10: Shortlist of Other Development and Cumulative Assessment

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
Nationally Significant Infrastructure Projects							
N.1	<u>TR010032</u>	Lower Thames Crossing (National Highways). The Lower Thames Crossing will be a new road crossing connecting Kent, Thurrock and Essex.	0 m (Tilbury and Gravesend)	In examination. Expected to start construction 2026	<u>Biodiversity</u> <u>Construction:</u> It is assumed that the Construction period for the Proposed Developments will coincide. Lower Thames Crossing will utilise land to the west of the Tilbury SEC for construction laydown and land to the north for service diversions. Land to the northeast of the Tilbury SEC will in due course be utilised for spoil storage. The works in the vicinity of the Tilbury Site will result in a cumulative loss of habitat suitable for invertebrates, reptiles and birds. While each scheme contains mitigation for their effects there is potential for nearby habitat loss to result in displacement of the local reptiles population and result in a change in the baseline conditions (depending on the final programme for both developments). This may impact the appropriateness of further displacement as a mitigation for temporary impacts on reptiles during the construction of the Proposed Development. In the event that lower Thames Crossing site clearance works commence in the area prior to the pylon and overhead line works for the Proposed Development at	<u>Biodiversity</u> Reptile survey of field to the north of the Tilbury SEC to be undertaken prior to site clearance for pylon and overhead line works. If results suggest increased density of reptiles using this element of the Site, then trapping of reptiles and relocation to areas of retained habitat to the south of the proposed Tilbury SEC to be implemented.	<u>Biodiversity</u> Temporary adverse effect (significant) (approximately 4 years) on the structure and function of the Canal and Grazing Marsh Higham LWS at the District level. Temporary adverse effect (significant) (approximately 4 years) on conservation status of remnant grazing marsh habitats Temporary adverse (significant) effect (approximately 4 years) on conservation

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					Tilbury, then it is recommended that surveys for these areas are updated to ensure currently proposed mitigation measures remain suitable. The habitat losses as a consequence of the Proposed Development are considered sufficiently small that with other mitigation measures embedded into both development implemented, no cumulative impacts on bird assemblages are expected. <i>Gravesend</i> There is a physical overlap between the Proposed Developments. Fields to be utilised for the construction of the proposed Gravesend SEC and associated spoil storage do not overlap with land required for the Lower Thames Crossing. However, land required to upgrade the terminal pylon and replacing overhead lines in the southeast corner of the Gravesend Site, also falls within area proposed for the Milton Construction Compound. The access to the Milton Construction Compound will be via Wharf Road which is also the access road for the Gravesend Site. As a worst case if construction works co-inside they may result in a combined temporary direct impact on approximately 8.7ha of habitat within the		status of breeding and wintering bird populations utilising habitats at and adjacent to the Gravesend Site.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					LWS (14% of the LWS). The extent of disturbance to adjoining habitat will be limited by the CEMP measures and construction area noise fencing proposed under the Proposed Development. The Lower Thames Crossing Environmental Statement reports a moderate adverse effect on the Canal and Grazing Marsh Higham LWS, which is Not Significant. However, the cumulative effect of both schemes happening in parallel would (based on the Proposed Development assessment methodology) likely result in a temporary (approximately 4 years) adverse effect on structure and function of the LWS at the District level which is Significant. The loss of the same areas of habitat for the duration of construction will also increase the impacts on remnant grazing marsh habitats and breeding and wintering bird populations utilising these habitat areas. In both cases they are expected to increase the resulting effects to temporary significant adverse effects at the District level. All of these effects will be reversible following completion of construction and reinstatement. <u>Operation:</u> The operational phase of the Lower Thames Crossing		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					identifies likely significant effects of nitrogen deposition on a number of habitats north and south of the River Thames. However, the operational Proposed Development will not act as a source of operational NO_x and as a consequence no cumulative effect is expected. No operational infrastructure from Lower Thames Crossing will remain in the vicinity of the Proposed Development after construction. During the period Lower Thames Crossing remains under construction, all potential impacts will be addressed by the Lower Thames Crossing CEMP.		
					<u>Landscape and Visual:</u> <u>Construction:</u> <i>Tilbury:</i> The construction of the Proposed Development with the Lower Thames Crossing would occur within a similar part of the Tilbury Marshes LLCA. The addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of the character area. The scale of activity in relation to that required for the Lower Thames Crossing would be small and of limited geographic extent resulting in a low cumulative magnitude.	<u>Landscape and Visual:</u> Landscape mitigation proposed as part of the Proposed Development	<u>Landscape and Visual</u> - Minor adverse (not significant) cumulative effect on landscape character and visual amenity during construction. Negligible (Not significant) cumulative effect for landscape character and

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario in which construction of the Lower Thames Crossing is likely to be a notable component of the views is also considered to result in a low cumulative magnitude of effect. <i>Gravesend:</i> The construction of the Proposed Development with the Lower Thames Crossing would occur within a similar part of the Eastern Marshes LCA and the Shorne and Higham Marshes LLCA. The addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of both character areas. The scale of activity in relation to that required for the Lower Thames Crossing would be small and of limited geographic extent resulting in a low cumulative magnitude. The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario in which construction of the Lower Thames Crossing is likely to be a notable component of the views is also considered to result in a low cumulative magnitude of effect. <u>Operation:</u>		visual amenity during operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					<i>Tilbury:</i> The operational effects from the Proposed Development on landscape character and visual amenity would be negligible adverse or neutral and consequently are not considered to give rise to a significant cumulative effect. <i>Gravesend:</i> The operational effects from the Proposed Development on landscape character would be negligible adverse or neutral and consequently are not considered to give rise to a significant cumulative effect. The majority of residual visual effects are considered to result in a barely discernible change in views other than for recreational users of a short section of the Saxon Shore Way where minor adverse effects are assessed. The introduction of the Proposed Development into the cumulative scenario at these locations is considered to result in a negligible cumulative magnitude of effect as the addition of the Proposed Development would result in a barely perceptible cumulative change to these views.		
					<u>Historic Environment</u> <u>Construction (Tilbury):</u> The Environmental Statement for Lower Thames Crossing has assessed a minor adverse (not significant) effect on the Tilbury Fort (NHLE 1021092) heritage asset based on temporary visual	<u>Historic Environment</u> A full programme of archaeological mitigation is also proposed as part of the Proposed Development.	<u>Historic Environment</u> Minor adverse (not-significant) temporary cumulative effect on Tilbury Fort

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					intrusion and noise into the setting of the asset. Tilbury Fort (NHLE 1021092) has also been assessed in this ES chapter as a minor adverse (not-significant) effect based upon temporary visual intrusion and noise into the setting of the asset. Therefore, cumulatively, there will be a minor adverse (not-significant) temporary cumulative effect upon the asset. <u>Construction (Gravesend)</u> The Environmental Statement for Lower Thames Crossing has assessed a moderate adverse impact to both Filborough Farmhouse (NHLE 1089020) and Granary at Little Filborough Farm (NHLE 1089062), based upon visual intrusion from construction works. The magnitude of impact to these assets have been assessed in this Environmental Statement as minor adverse (not significant) temporary impact to these assets based upon visual intrusion during construction works to the assets. The cumulative temporary magnitude of impact to these assets is therefore assessed as moderate adverse (significant). It should be noted that the residual significant cumulative effect is driven by the moderate adverse effect as detailed in the LTC assessment and it is considered that the cumulative effect		(NHLE 1021092) during construction. Moderate adverse (significant) cumulative effects for Filborough Farmhouse (NHLE 1089020) and Granary at Little Filborough Farm (NHLE 1089062) from visual intrusion during construction. Minor Adverse (Not-significant) cumulative effect for the Milton Rifle Range during construction.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					would be no worse than the effect presented in isolation. This effect in isolation has been mitigated as far as appropriate and therefore there are no additional mitigation measures proposed beyond those recommended in the technical chapter. The Lower Thames Crossing Environmental Statement assessed the Milton Rifle Range as holding a moderate adverse magnitude of impact resulting from partial removal of the asset during the construction of a temporary works compound within the rifle range. Whilst the grounds would be reinstated once the works have been completed, this will result in a medium adverse effect. However, in their assessment, once mitigation is undertaken the magnitude of effect has been reduced to minor adverse, which is assessed as not significant. The magnitude of impact to the Milton Rifle Range has been assessed as minor adverse within this ES Chapter which will result in the partial removal of the asset through construction activities. Due to a minor adverse magnitude of impact on Milton Rifle Range being assessed within the Lower Thames Crossing Proposed Development and a minor adverse magnitude of impact within this ES Chapter, there will be a cumulative effect upon the asset that will		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					result in a minor adverse magnitude of impact. <u>Operation (Tilbury):</u> The Environmental Statement for Lower Thames Crossing has assessed a neutral effect (not significant) significance of effect on the Tilbury Fort (NHLE 1021092) heritage asset based on no change into the setting of the asset. Tilbury Fort (NHLE 1021092) has also been assessed in this ES chapter as a minor adverse (not significant) significance of effect based upon temporary visual intrusion and noise into the setting of the asset. Therefore, cumulatively there will be no cumulative effect upon the asset. <u>Operation (Gravesend)</u> No significant cumulative effects.		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					<u>Noise and Vibration</u> <u>Construction:</u> The same noise sensitive receptors identified in this chapter are identified in the Lower Thames Crossing construction noise assessment; however, no significant construction effects are identified on these receptors. Therefore, the potential for cumulative construction effects is not significant. <u>Operation:</u> No significant operational noise effects are identified in the operational noise assessment. Therefore, the potential for operational noise effects is not significant.	<u>Noise and Vibration</u> None required	<u>Noise and Vibration:</u> Not significant
					<u>Air Quality</u> <u>Construction:</u> Should the Proposed Development's construction coincide with the construction of Other Development N.1, there is the potential for construction dust impacts to occur on receptors that are within 250m of both the Proposed Development and Other Development N.1. A review of the ES submitted for Other Development N.1 demonstrates that the applicant for that scheme is committed to a high level of dust mitigation. If mitigation at both the Proposed Development and Other Development is applied correctly, then both construction sites should be capable of controlling dust impacts to the extent that effects are not significant.	<u>Air Quality</u> The assessment has identified the level of dust (and PM10) mitigation required to control dust impacts from having a significant effect. These are secured through the CEMP.	<u>Air Quality:</u> Not significant

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					The increase in road traffic movements due to the construction of the Proposed Development (<25 two-way HDV movements per day) is below all applicable screening criteria and has not required detailed assessment. The impact of vehicle emissions associated with this level of traffic impact is negligible and will not contribute to a significant cumulative effect. <u>Operation:</u> The Proposed Development has scoped out operation phase air quality effects, therefore no cumulative effects are anticipated.		
					<u>Water Environment and Flood Risk</u> <u>Construction:</u> Pollution risk to the Thames catchment and groundwater bodies from construction site runoff containing pollutants and fine sediment; chemical spillages; increased flood risk during construction. <u>Operation:</u> Pollution and flood risk to the Thames catchment and groundwater bodies from scheme through increased runoff from new increased pervious area.	<u>Water Environment</u> <u>Construction:</u> Works to be controlled by a CEMP and any permissions required from the Environment Agency. <u>Operation:</u> An Outline Drainage Management Plan and Flood Risk Assessment has been submitted with the Planning Application for the Proposed Development, incorporating SuDS to control runoff rate and provide treatment of pollutants. Appropriate	<u>Water Environment</u> – negligible (not significant) effect during construction and operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
						design of structures is to be included.	
N.2	EN010092	Thurrock Flexible Generation Plant - The Proposed Development comprises the construction and operation of Gas Reciprocating engines with up to 600 MW electrical capacity and Battery	0 m (Tilbury)	DCO granted 16 th February 2022 Construction is expected to start in 2024	<u>Biodiversity</u> <u>Construction:</u> The consented DCO includes options for use of access routes that adjoin the Proposed Development at Tilbury. However, it is understood that these access routes will no longer be implemented. As a consequence, no works are expected adjacent to the Proposed Development. No significant cumulative effects are expected. <u>Operation:</u> Both schemes identify no significant effects with regards to the operational phases. No significant cumulative effects are expected.	<u>Biodiversity:</u> Reptile survey of field to the north of the Tilbury SEC to be undertaken prior to site clearance for pylon and overhead line works. If results suggest increased density of reptiles using this element of the Site, then trapping of reptiles and relocation to areas of retained habitat to the south of the proposed Tilbury SEC to be implemented.	<u>Biodiversity:</u> No significant residual effects.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
		Storage with up to 150 MW electrical capacity.			<u>Landscape and Visual:</u> <u>Construction:</u> <i>Tilbury:</i> The construction of the Proposed Development with the Thurrock Flexible Generation Plant would occur within a similar part of the Tilbury Marshes LLCA. The addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of the character area. The scale of activity in relation to that required for the Generation Plant would be small and of limited geographic extent resulting in a low cumulative magnitude. The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario in which construction of the Generation Plant is likely to be a notable component of the views is also considered to result in a low cumulative magnitude of effect. <i>Gravesend:</i> The construction of the Proposed Development with the Thurrock Flexible Generation Plant would occur within separate landscape character areas and as a result the potential for cumulative effects during construction would be very limited.	<u>Landscape and Visual</u> Landscape mitigation proposed as part of the Proposed Development	<u>Landscape and Visual</u> Minor adverse (not significant) and Negligible cumulative effects on landscape character and visual amenity during construction. Negligible (Not significant) cumulative effect on landscape character and visual amenity during operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					Similarly, there would be limited intervisibility between the Proposed Development and the Thurrock Flexible Generation Plant resulting in a negligible cumulative visual effect during construction. <u>Operation:</u> <i>Tilbury and Gravesend</i> The operational effects from the Proposed Development on landscape character and visual amenity would be negligible adverse or neutral and consequently are not considered to give rise to a significant cumulative effect.		
					<u>Historic Environment</u> <u>Construction:</u> The Environmental Statement for Thurrock Flexible Generation Plant has assessed a minor adverse (not significant) significance of effect on the Tilbury Fort (NHLE 1021092) heritage asset based on temporary visual intrusion and noise into the setting of the asset. Tilbury Fort (NHLE 1021092) has also been assessed in this ES as a minor adverse (not-significant) effect based upon temporary visual intrusion and noise into the setting of the asset. Therefore, cumulatively, there will be a minor adverse (not-significant) temporary cumulative effect upon the asset.	N/A	<u>Historic Environment</u> Minor adverse (not significant) temporary cumulative effect on Tilbury Fort (NHLE 1021092) during construction. Moderate adverse (significant) cumulative effect on Tilbury Fort (NHLE 1021092) during operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					No other heritage asset will be affected by the Thurrock Flexible Generation Plant scheme. <u>Operation:</u> The Environmental Statement for Thurrock Flexible Generation Plant has assessed a moderate adverse (significant) significance of effect on the Tilbury Fort (NHLE 1021092) heritage asset based on visual alteration of the setting of the asset. Tilbury Fort (NHLE 1021092) has been assessed in this ES as a minor adverse (not significant) significance of effect based upon a slight alteration to the setting of the asset. Therefore, cumulatively, there will be a moderate adverse (significant) cumulative effect upon the asset. It should be noted that the residual significant cumulative effect is driven by the moderate adverse effect (as detailed in the Thurrock flexible generation plant assessment and it is considered that the cumulative effect would be no worse than the effect presented in isolation. This effect in isolation has been mitigated as far as appropriate and therefore there are no additional mitigation measures proposed beyond		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					those recommended in the technical chapter.		
					<u>Noise and Vibration</u> <u>Construction:</u> No significant effects are identified during the construction phase. Therefore, the potential for cumulative construction effects is not significant. <u>Operation:</u> The ES of the other development identifies potential for moderate adverse operational noise effects; however, the predicted noise levels are sufficiently higher than those associated with the Proposed Development such that there would be no increase in cumulative operational noise levels. Therefore, the potential for operational noise effects is not significant.	N/A	<u>Noise and Vibration:</u> Not significant
					<u>Air Quality</u> <u>Construction:</u> Should the Proposed Development's construction coincide with the construction of Other Development N.2, there is the potential for construction dust impacts to occur on receptors that are within 250m of both the Proposed Development and Other Development N.2. A review of the ES submitted for	<u>Air Quality</u> The assessment has identified the level of dust (and PM₁₀) mitigation required to control dust impacts from having a significant effect. These are secured through the CEMP.	<u>Air Quality:</u> Not significant

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					Other Development N.2 demonstrates that the applicant for that scheme is committed to a high level of dust mitigation. If mitigation at both the Proposed Development and Other Development is applied correctly, then both construction sites should be capable of controlling dust impacts to the extent that effects are not significant. The increase in road traffic movements due to the construction of the Proposed Development (<25 two-way HDV movements per day) is below all applicable screening criteria and has not required detailed assessment. The impact of vehicle emissions associated with this level of traffic impact is negligible and will not contribute to a significant cumulative effect. Should the Other Development N.2 be operation during the construction of the Proposed Development, then there is the potential for the Proposed Developments generators to have a cumulative impact with the Other Development's energy generation plant. Emissions associated with the Proposed Development's generators have been mitigated as far as reasonably practical through use of low emissions technology and height of emissions release. Furthermore, the Proposed Development's generators will only be operational for a period of 8-months. With this in mind, it is considered unlikely that the Proposed Development		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					generators will contribute to a significant effect. <u>Operation:</u> The Proposed Development has scoped out operation phase air quality effects, therefore no cumulative effects are anticipated.		
					<u>Water Environment and Flood Risk</u> <u>Construction:</u> Pollution risk to the Thames catchment and groundwater bodies from construction site runoff containing pollutants and fine sediment; chemical spillages; increased flood risk during construction. <u>Operation:</u> Pollution risk to the Thames catchment and groundwater bodies from site runoff containing pollutants. Increased impermeable areas also increased risk of flooding.	<u>Water Environment</u> <u>Construction</u> Works to be controlled by a CEMP and any permissions required from the Environment Agency. <u>Operation</u> An Outline Drainage Management Plan and Flood Risk Assessment has been submitted with the Planning Application for the Proposed Development, incorporating SuDS to control runoff rate and provide treatment of pollutants. Appropriate design of structures is to be included.	<u>Water Environment</u> Negligible cumulative effects during construction and operation.
Thurrock Council							
T.3	22/01461/FUL	Land at Marsh Farm Sewage Treatment Plant -	370 m	Application granted planning permission on	<u>Biodiversity</u> <u>Construction:</u> No significant residual effects are expected. The location of the Site	<u>Biodiversity:</u> None required	<u>Biodiversity:</u> No significant effects.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
		Removal of existing structures and buildings, re-grading of the land, laying of a concrete pavement, installation of upgraded drainage, lighting and security fencing and use of the land for port-related storage including haulier parking and/or storage of new motor vehicles and/or storage or port-related product with access from Tilbury2 port.		30th March 2023. Construction start date is unknown.	means it is separated from the populations affected by the Proposed Development by large areas of existing industrial land. There is limited connectivity between the populations affected and no significant cumulative effect is expected. <u>Operation:</u> As above Landscape and Visual: <u>Construction:</u> The construction of the Proposed Development with this cumulative development would occur within a similar part of the Tilbury Marshes LLCA. The addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of the character area. The scale of activity for both the Proposed Development and that required for the works at the Sewage Treatment Plant would be small, localised and of limited geographic extent resulting in a low cumulative magnitude. The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario has the potential to result in combined visibility from some of the viewpoints and in particular, from the recreational routes		
					<u>Construction:</u> The construction of the Proposed Development with this cumulative development would occur within a similar part of the Tilbury Marshes LLCA. The addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of the character area. The scale of activity for both the Proposed Development and that required for the works at the Sewage Treatment Plant would be small, localised and of limited geographic extent resulting in a low cumulative magnitude. The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario has the potential to result in combined visibility from some of the viewpoints and in particular, from the recreational routes	Landscape and Visual Landscape mitigation proposed as part of the Proposed Development	Landscape and Visual - Minor adverse (not significant) cumulative effect on landscape character and visual amenity during construction. Landscape and Visual – Negligible (Not significant) cumulative effect on landscape character and visual amenity during operation

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					along the River Thames. However, the additional construction activity likely to be apparent in views would be limited and is considered to result in a low cumulative magnitude of effect. <u>Operation:</u> The operational effects from the Proposed Development on landscape character and visual amenity would be negligible adverse or neutral and consequently are not considered to give rise to a significant cumulative effect.		
					<u>Historic Environment</u> <u>Construction:</u> No cumulative effects anticipated. <u>Operation:</u> No proposed mitigation will be undertaken as part of the Proposed Development; however, it is anticipated that appropriate investigation measures are currently being undertaken as part of the development of Land at Marsh Farm Sewage Treatment Plant. No cumulative effects anticipated.	N/A	N/A
					<u>Noise and Vibration</u> The other development is located beyond the 300 m study area for the Proposed Development, therefore cumulative construction phase effects have been scoped out of this assessment. In addition, a noise and vibration assessment was not submitted as part of the other developments planning application because noise was not a material concern. As such, the	N/A	N/A

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					potential for noise and vibration effects is not significant.		
					<u>Air Quality</u> The other development is located beyond the 250 m construction phase study area for the Proposed Development, therefore cumulative construction phase effects have been scoped out of this assessment.	N/A	N/A
					<u>Water Environment and Flood Risk</u> <u>Construction:</u> No Risk <u>Operation:</u> No Risk	N/A	N/A
Gravesham Borough Council							
G.1	20211541	Erection of a new concrete live fire skills house training building (plus abseil frame) with new ancillary support building and associated works.	0m	Application granted planning permission on 11th February 2022. Construction start date is unknown. From aerial imagery, it does not appear this	<u>Biodiversity:</u> <u>Construction:</u> Works are entirely within an area of existing hardstanding, adjoining the western boundary of the Gravesend Site. No ecological information was submitted alongside the application, but none are expected based on the nature of the development. <u>Operation:</u> The permission includes a planning condition to ensure sensitive lighting design. Assuming the condition is implemented no cumulative effects are expected.	<u>Biodiversity</u> None required.	<u>Biodiversity</u> No significant effects.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
				development has started.	<u>Landscape and Visual:</u> <u>Construction:</u> The construction of the Proposed Development and the cumulative development would occur within a similar part of the Eastern Marshes LCA and the Shorne and Higham Marshes LLCA. If constructed simultaneously the addition of construction activity associated with the Proposed Development into the cumulative scenario would temporarily extend the influence of construction plant and activity within a localised and small part of both character areas resulting in a small cumulative magnitude of effect. The introduction of additional construction plant and activity from the Proposed Development into a cumulative baseline scenario has the potential to locally intensify construction activity in views experienced by recreational receptors using the Saxon Shore Way for a short section of the route resulting in a low cumulative magnitude of effect. Other visual receptors considered are unlikely to experience views of both developments simultaneously due to limited intervisibility. <u>Operation:</u> The operational effects from the Proposed Development on landscape character would be negligible adverse or neutral and consequently are not	<u>Landscape and Visual</u> Landscape mitigation proposed as part of the Proposed Development	<u>Landscape and Visual:</u> Minor adverse (not significant) cumulative visual effect during construction on recreational users of the Saxon Shore Way. Minor adverse (not significant) cumulative effect on landscape character during construction. Negligible (Not significant) cumulative effects for landscape character and visual amenity during operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					considered to give rise to a significant cumulative effect. The majority of residual visual effects from the Proposed Development are considered to result in a barely discernible change in views other than for recreational users of a short section of the Saxon Shore Way where minor adverse effects are assessed. The introduction of the Proposed Development into the cumulative scenario at these locations is considered to result in a negligible cumulative magnitude of effect as the addition of the Proposed Development would result in a barely perceptible cumulative change to these views.		
					<u>Historic Environment</u> No cumulative effects anticipated.		
					<u>Noise and Vibration</u> A noise and vibration assessment was not submitted as part of the cumulative development application because noise was not a material concern. As such, the potential for noise and vibration effects is not significant.	N/A	N/A
					<u>Air Quality</u> <u>Construction:</u> Should the Proposed Development's construction coincide with the construction or operation of Other Development G.1, there is the potential for construction dust impacts to occur on receptors that are within 250m of both	N/A	N/A

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					the Proposed Development and Other Development G1. A review of the planning documents submitted for Other Development G.1 suggests that emissions from the Other Development will be negligible. The mitigation proposed for the Proposed Development will be capable of controlling dust impacts to the extent that cumulative effects are not significant. The operation of Other Development T.7 may introduce a new receptor, if the materials to be stored there are dust sensitive. The level of mitigation identified in the assessment the Proposed Development will be capable of controlling emissions to the extent that impact on the Other Development will not be significant. <u>Operation:</u> The Proposed Development has scoped out operation phase air quality effects, therefore no cumulative effects are anticipated.		
					<u>Water Environment and Flood Risk</u> <u>Construction:</u> Pollution risk to the Thames catchment and groundwater bodies from construction site runoff containing pollutants and fine sediment; chemical spillages; increased flood risk during construction. <u>Operation:</u> Increased flood and pollution risk. Increased impermeable area could	<u>Water Environment</u> <u>Construction:</u> Works to be controlled by a CEMP and any permissions required from the Environment Agency. <u>Operation:</u> An Outline Drainage Management Plan and Flood Risk Assessment	<u>Water Environment:</u> Negligible (Not significant) cumulative effect during construction and operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
					increase run off to nearby drains and then into the Thames.	has been submitted with the Planning Applications for the Proposed Development, incorporating SuDS to control runoff rate and provide treatment of pollutants. Appropriate design of structures is to be included.	
G.3	20210270	Hybrid planning application comprising: Part A - Full planning application for demolition of existing buildings and structures, construction of a mixed use development comprising C3 and C2 Residential Uses and commercial floorspace (Use Class E), a new river wall, works to Swing Bridge, highway	1.4km	Application is pending decision. Construction start date is unknown.	<u>Biodiversity</u> <u>Construction:</u> Well separated from the Proposed Development and no clear functional linkages. No cumulative effects expected. <u>Operation:</u> Well separated from the Proposed Development and no clear functional linkages. No cumulative effects expected.	<u>Biodiversity</u> None required	<u>Biodiversity</u> None required
					<u>Landscape and Visual:</u> <u>Construction:</u> The construction of the Proposed Development with this cumulative development would occur within separate landscape character areas and as a result the potential for cumulative effects during construction would be very limited. Similarly, there would be limited intervisibility between the Proposed Development and the cumulative development resulting in a negligible	<u>Landscape and Visual</u> Landscape mitigation proposed as part of the Proposed Development	<u>Landscape and Visual</u> Negligible (Not significant) cumulative effects on landscape character and visual amenity during construction and operation.

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
		junction improvements at Milton Road and Ordnance Road, associated new public open spaces and public realm improvements, car and cycle parking, landscaping, infrastructure and earthworks and ancillary works; and Part B - Outline planning application with all matters reserved (apart from access) for demolition of all existing buildings and structures and the construction of a mixed use development			cumulative visual effect during construction. <u>Operation:</u> Once operational the introduction of the Proposed Development into the cumulative scenario would result in very limited cumulative effect on landscape character or visual amenity due to lack of shared receptors and limited intervisibility. <u>Historic Environment</u> The other development is located beyond the 1 km study area for the Proposed Development, therefore cumulative effects have been scoped out of this assessment. <u>Historic Environment</u> The other development is located beyond the 1 km study area for the Proposed Development, therefore cumulative effects have been scoped out of this assessment. <u>Noise and Vibration</u> The other development is located beyond the study area for the Proposed Development, therefore cumulative effects have been scoped out of this assessment. <u>Air Quality</u> The other development is located beyond the study area for the Proposed Development, therefore cumulative effects have been scoped out of this assessment. <u>Water Environment and Flood Risk</u> The other development is located beyond the study area for the Proposed Development, therefore cumulative effects have been scoped out of this assessment.		

ID	Application Reference	Brief description	Distance from Proposed Development's red line boundary	Status of Development	Assessment of cumulative effect	Proposed mitigation	Residual cumulative effects
		comprising C3 Uses and commercial floorspace (Use Class E) with associated vehicular access, car parking, landscaping, associated infrastructure and earthworks and ancillary works. (The proposed development would consist of up to 1,500 homes and up to 4,500sqm (GIA) of commercial floorspace).					

23.8 Mitigation and monitoring

- 23.8.1 No additional mitigation or monitoring, over that required by the technical chapters of this ES, is required.

23.9 Summary

Combined effects

- 23.9.1 It is concluded that no significant combined effects will arise as a result of the Proposed Development.

Cumulative Effects

- 23.9.2 The assessment of cumulative effects determines that if the construction phase of the Proposed Development and Lower Thames Crossing (LTC) (ID N.1 - TR010032) takes place simultaneously there is the likelihood of a moderate adverse (significant) temporary cumulative effect on Filborough Farmhouse (NHLE 1089020) and Granary at Little Filborough Farm (NHLE 1089062), due to visual intrusion during the construction phase. It should be noted that the residual significant cumulative effect is driven by the moderate adverse effect as detailed in the LTC assessment and it is considered that the cumulative effect would be no worse than the effect presented in isolation in the LTC assessment. The minor adverse effects presented within this ES for both receptors has been mitigated as far as appropriate and therefore there are no additional mitigation measures proposed beyond those recommended in the technical chapter.
- 23.9.3 If the construction phase of the Proposed Development and Lower Thames Crossing (LTC) (ID N.1 - TR010032) takes place simultaneously there is also the likelihood of temporary adverse (significant) effect (approximately 4 years) on the structure and function of the Canal and Grazing Marsh Higham LWS at the District level, temporary adverse (significant) effect (approximately 4 years) on conservation status of remnant grazing marsh habitats and a temporary adverse (significant) effect (approximately 4 years) on conservation status of breeding and wintering bird populations utilising habitats at and adjacent to the Gravesend Site. It should be noted that all of these effects will be reversible following completion of construction and reinstatement.
- 23.9.4 The assessment of cumulative effects determines that during operation there is likely to be a moderate adverse (significant) cumulative effect to Tilbury Fort (NHLE 1021092) as a result of Thurrock Flexible Generation Plant (ID N.2 - EN010092) and the Proposed Development due to an alteration of the setting of the asset. As per the significant effect identified above, it should be noted that the residual significant cumulative effect in this case is also driven by the moderate adverse effect detailed in the Thurrock flexible generation plant assessment and it is considered that the cumulative effect would be no worse than the effect presented in isolation in the Thurrock Flexible Generation Plant assessment. The minor adverse effect presented within this ES has been mitigated as far as appropriate and therefore there are no additional mitigation measures proposed beyond those recommended in the technical chapter.
- 23.9.5 It is concluded that no other significant cumulative effects will arise as a result of the Proposed Development and the other identified developments.

23.10 References

Ref 23-1 The Town and Country Planning (Environmental Impact Assessment) Regulations (2017)

Ref 23-2 Department for Levelling Up, Housing and Communities (2023). National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Ref 23-3 The Planning Inspectorate, Advice Note 17: Cumulative Effects Assessment, 2019. Available at: [Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects | National Infrastructure Planning \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/advice-note-seventeen-cumulative-effects-assessment-relevant-to-nationally-significant-infrastructure-projects/)

23.11 Abbreviations

Site	Reason for Designation
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
KM	Kilometre
LLCA	Local Landscape Character Area
LOAEL	Lowest Observable Adverse Effect Level
LPA	Local Planning Authorities
LTC	Lower Thames Crossing
LWS	Local Wildlife Site
MPA	Mineral Planning Authority
NCN	National Cycle Network
NOx	Nitrous Oxides
NPPF	National Planning Policy Framework
PRoW	Public Right of Way
SEC	Sealing End Compound
SuDS	Sustainable urban Drainage Systems
TKRE	Tilbury to Grain and Tilbury to Kingsnorth
WFD	Water Framework Directive
WPA	Waste Planning Authorities
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

