

Chapter Eleven ♦ Landscape and visual effects

INTRODUCTION

- 11.1 This chapter sets out a preliminary assessment of the potential landscape and visual effects, potential mitigation measures and residual effects of the Proposed Development (as described in Chapter five). At this stage, this assessment is preliminary only and is not exhaustive; other effects and mitigation requirements may be identified in light of on-going baseline studies and survey work, stakeholder/public consultation and evolution of the project design. An Environmental Statement will be submitted with the application for the Proposed Development and this will set out the full assessment.
- 11.2 The assessment is informed by a preliminary Landscape and Visual Impact Assessment (LVIA) baseline report (see **Appendix 11.1**), which should be read in conjunction with this Chapter.
- 11.3 Landscape and visual effects are independent but related issues. Landscape effects relate to changes to the landscape fabric and the features contributing to the landscape character and quality. Visual effects relate to the appearance of such changes within views and the resulting effect on visual amenity.
- 11.4 The landscape and visual assessment is underway and has examined the current landscape and visual baseline conditions within the Project Site and its broader context with reference to sensitive visual receptors and landscape designations. The assessment process will involve an ongoing analysis of the likely landscape and visual effects of the evolving development proposals and, where impacts cannot be avoided through design, will recommend additional mitigation measures.

METHODOLOGY AND DATA SOURCES

EIA Scoping Opinion

- 11.5 LRCH submitted a Scoping Report, under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, to the Planning Inspectorate in June 2020. The Scoping Opinion is due to be received at the end of July 2020 and all consultee comments and scoping responses relevant to the chapter will be given due consideration as part of the preparation of the Environmental Statement (ES) which will be submitted as part of the application for the Proposed Development.
- 11.6 A previous Scoping Opinion, under Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009, was received from the Planning Inspectorate in December 2014, which included comments in relation to the Landscape

Section of the 2014 Scoping Report. At that stage, the Project Site consisted solely of the Kent Project Site and the 2014 Scoping Report and Scoping Opinion only dealt with this area. The comments from the 2014 Scoping Opinion are included within Table 11.1. Also contained within the table is a description of how each comment has been addressed since.

Table 11.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Landscape (December 2014).

Paragraph	Inspectorate's comments	Action taken
3.17	The landscape and visual assessment in the scoping report refers to the Zone of Theoretical Visibility (ZTV). The Secretary of State advises that the ES should describe the model used, provide information on the area covered and the timing of any survey work and the methodology used.	The ZTV model is discussed below and will be covered in more detail within the Landscape and Visual Baseline, of which timings and coverage is specified. Photography has and will continue to be undertaken in line with the latest Landscape Institute <i>Visual Representation of Development Proposals</i> (Technical Guidance Note 06/19).
3.17	The Secretary of State recommends that the location of viewpoints and photomontages should be agreed with the local authorities and welcomes the intention in the Scoping Report to do so.	The intention remains to agree the viewpoint, photomontage and night photoviewpoint locations with the relevant local authorities as part of ongoing consultation.
3.17	The comments received from Kent County Council (KCC) and Dartford Borough Council (DBC) provided in Appendix 2 of this Opinion should be considered when establishing the baseline to be used in the assessment and the approach to the assessment in particular with respect to landscape character. DBC have also provided guidance on viewpoints to be included, as have KCC and GBC (in Appendix 2).	Consideration will be given to all published landscape character baseline information across all local authority areas. The Applicant intends to once again agree the scope of photoviewpoint selection with each local authority, due to changes in baseline circumstances over the past six years.
3.18	The Secretary of State notes and welcomes the intention to include views from across the Thames in the assessment, and to assess the impact of lighting and nocturnal visual effects during construction and operation.	Views from across the Thames are to be included in the assessment.
3.18	The applicant should consider any measures as may be required by the Civil Aviation Authority (CAA) with respect to	Consideration will be given to any lighting needed for crane operations required by the CAA within the

Paragraph	Inspectorate's comments	Action taken
	cranes and aviation safety (see Appendix 2 for the CAA response) within the assessment of lighting impacts.	assessment presented within the ES.
3.19	The Secretary of State notes that the southern part of the indicative DCO boundary shown in the Scoping Report lies within Green Belt. The landscape and visual impact assessment will need to take account of the potential impact of the development to the Green Belt, including assessment of the impact to the openness of the Green Belt, with particular reference to the National Planning Policy Framework. In this regard it will also be appropriate to consider alternatives, in order to justify any requirement for highway improvements proposed within the Green Belt.	The landscape and visual impact assessment will take into account the potential impact to the openness and permanence of Green Belt. Predicted effects are considered at the end of this PEIR chapter.
3.20	The Secretary of State encourages the applicant to agree the scope of the cumulative impact assessment with consultees, and notes the overarching approach to cumulative assessment outlined in the Scoping Report.	The Applicant will seek to agree the scope of cumulative impacts with regards to landscape and visual amenity with relevant consultees.
3.21	The proposals will be for large buildings and other structures, as well as the creation of built areas on a currently un-built open site. The Secretary of State requests that careful consideration should be given to the form, siting and use of materials and colours in terms of minimising the adverse visual impact of these structures and maximising potential beneficial visual aspects. The Secretary of State notes the comments in Table 5.6 and Table 5.7 of the Scoping Report regarding the use of high quality architectural engineering and landscape design, and encourages the use of these techniques to create a development that integrates with the environment and provides opportunity for enhancement of views. Design elements such as green roofs and	Consideration of such matters is being employed throughout the EIA process as is best practice.

Paragraph	Inspectorate's comments	Action taken
	walls may provide opportunities in this regard. HS1 have also provided comment (Appendix 2) related to this consideration.	
3.22	The proposals will also include changes to the existing landform in places, indicated in particular in Chapter 7 of the Scoping Report. The Secretary of State advises that it will be important to show how the EIA has considered these aspects with respect to landscape and visual impacts. There is likely to be need for coherence with the water management, soils and ground conditions, cultural heritage, and ecology topic areas, a point also made by KCC in Appendix 2. The ES should consider the need for an integrated Landscape and Ecology Master Plan in this regard.	The Applicant is ensuring close liaison across all environmental disciplines throughout the EIA process as is best practice.
3.23	It will be essential for the project, including any mitigation works proposed, to take the presence of existing infrastructure into account within its design, and the applicant is referred to comments in Appendix 2 from HS1 with respect to existing assets, National Grid (NG) with respect to safety and access, and from the PLA with regards to navigation for river traffic, including making provision for existing equipment, sightlines across the peninsular and potential effects from lighting of the development.	Consideration of such matters is being employed throughout the EIA process as is best practice.

Assessment Methodology and Significance Criteria

- 11.7 In accordance with best practice, the LVIA has been undertaken in line with the 'Guidelines for Landscape and Visual Impact Assessment – Third Edition (LI/IEMA)' (GLVIA3) as relevant to EIA schemes.

Assessment Methodology

- 11.8 The tables within Appendix 11.1, Annex EDP 2 offer a template for assessing the overall sensitivity of any landscape or visual receptor, as determined by combining judgements

of their susceptibility to the type of change or development proposed and the value attached to the landscape or view as set out at paragraph 5.38 of GLVIA 3rd Edition (2013).

- 11.9 However, the narrative in this report may demonstrate that assessment of overall sensitivity can change on a case-by-case basis. For example, a high susceptibility to change and a low value may result in a medium overall sensitivity, unless it can be demonstrated that the receptor is unusually susceptible or is in some particular way more valuable. A degree of professional judgment applies in arriving at the overall sensitivity for both landscape and visual receptors.

Significance of Effect

- 11.10 The purpose of the EIA process is to identify the significant environmental effects (both beneficial and adverse) of development proposals. Schedule 4 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('2017 EIA Regulations') specifies the information to be included in all environmental statements, which should include a description of:

'The likely significant effects of the development on the environment ... should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.'

- 11.11 In order to consider the likely significance of any effect, the sensitivity of each receptor is combined with the predicted magnitude of change to determine the significance of effect, with reference also made to the geographical extent, duration and reversibility of the effect within the assessment. Having taken such a wide range of factors into account when assessing sensitivity and magnitude at each receptor, the significance of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in Table 11.2 below.

- 11.12 The parameters identified for the evaluation of effects follows recommendations for the assessment of visual effects, in guidance published by Scottish Natural Heritage¹ (the generally accepted best practice method of assessment), which states that:

'The matrix of three classes on each axis producing 9 cells, only 3 of which are typically judged as significant, is in our view simplistic and unrefined and quite unsuitable as a tool for widespread use. In particular it implies a degree of certainty about a very restricted definition of significance that we do not believe is justified. Expanding a 3 x 3 (9 cells) matrix to 4 x 4 (16 cells) or even 5 x 5 (25 cells) is much more representative of the diversity of size and sensitivity found in visual impact assessment.'

¹ Scottish Natural Heritage (2002) *Visual Assessment of Windfarms Best Practice*, Scottish Natural Heritage Commissioned Report F01AA303A

Table 11.2: Level of effects matrix

Overall Sensitivity	Overall Magnitude of Change				
	Very High	High	Medium	Low	Very Low
Very High	Substantial	Major	Major/- Moderate	Moderate	Moderate/- Minor
High	Major	Major/- Moderate	Moderate	Moderate/- Minor	Minor
Medium	Major/- Moderate	Moderate	Moderate/- Minor	Minor	Minor/- Negligible
Low	Moderate	Moderate/- Minor	Minor	Minor/- Negligible	Negligible
Very Low	Moderate/- Minor	Minor	Minor/- Negligible	Negligible	Negligible/- None

11.13 Each effect is described and evaluated individually through the combination of all of the relevant factors and assessed as either significant or not significant. For landscape and visual effects, those effects identified at a substantial, major, major/moderate or moderate level (bold type within matrix above) are generally considered to be significant and those effects assessed at a moderate/minor, minor, minor/negligible or negligible level are considered to be not significant.

11.14 In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining whether the overall change in the view will be significant or not and, where this occurs, this is explained in the assessment.

Cumulative Effects

11.15 Cumulative effects generally occur where there may be simultaneous or sequential visibility of two or more developments of the same type and scale, or where the consideration of other schemes would increase an effect identified. Where other similar schemes are in the planning system and made known to the Applicant, or are under construction, these are considered in conjunction with the Proposed Development.

Field Surveys

11.16 A field assessment of local site circumstances, including a photographic survey of the character and visual context of the Project Site and its surroundings, and an analysis of Rights of Way, was undertaken between January and April 2020 in order to gather robust baseline information. Field assessments were undertaken, as far as is practicable, in accordance with best practice guidance which states that such assessments should be undertaken when the leaves are absent from the majority of trees/vegetation and visibility is at its greatest.

11.17 These field-based assessments were undertaken by qualified landscape architects, during good weather conditions.

Study Areas

11.18 As a result of baseline analysis, together with an understanding of the nature and scale of the Proposed Development, and the likely extent and distribution of effects, the assessment defines the following study areas, as represented on Figure 11.1:

- Broad Study Area – set at 6km distance from the Project Site (providing the broad geographical context); and
- Detailed study area – set at 2km from the Project Site (the area within which any significant effects are likely to fall).

11.19 A broad study area of 6km was adopted, as shown on Figure 11.1, enabling the geographical scope of the assessment to be defined and to provide the wider geographical context of the study. The search focussed on the local planning policy context, on identifying national and local landscape and other associated designations (e.g. Areas Of Outstanding Natural Beauty (AONB), historic parks and gardens) and providing a general geographical understanding of the site and its broader context (for example, in relation to landform, transport routes and the distribution and nature of settlement).

11.20 Following initial analysis and subsequent field work, and having an appreciation of the development proposed, a refinement of the study area has been undertaken that focuses on those areas and features that are likely to be affected by the Proposed Development. A Zone of Theoretical Visibility (ZTV) for the proposal was produced across the 6km study area to aid understanding of the potential geographical extent of visual effects and help define a more detailed study area. The extent of this detailed study area is 2km from the Project Site boundary, although occasional reference may be made to features beyond this area where appropriate. This detailed study area is illustrated on Figure 11.1.

Limitations and Assumptions

11.21 Baseline conditions have been established using existing assessments, available documentation and field assessment; it is important to note that these baseline conditions may change between submission of the application for the Proposed Development and before or during the construction of the Proposed Development. This could be, for example, because of other developments going ahead that are currently unknown.

11.22 Within reasonable limits, the assessment is undertaken in consideration of the ‘worst case’ scenario for the Proposed Development, i.e. those potential outcomes, situations or location that would result in the most elevated effect on landscape and visual receptors. It therefore identifies the greatest degree of change likely to accrue and may be subject to mitigating factors or alternative conditions that might reduce those effects. For example, visual effects are considered in both summer and winter context; although the magnitude of change and effect is expressed for winter landscape conditions when

trees are bare of leaf cover and the visibility of development is at its greatest. Where this is the case, the assessment identifies alternative conditions or further mitigation which might result in impacts being less pronounced.

- 11.23 The assessment applies a pre-determined methodology to arrive at conclusions (Appendices 11.3 and 11.4, which will follow within the full ES submission). This procedure brings a degree of objective, procedural rigor into what otherwise might be judged to be 'personal opinion'. Professional judgement still plays its part, but the purpose of adopting a methodology is to make the process as clear and logical as possible.
- 11.24 This assessment has been undertaken with regard to the phases of the Proposed Development and assumed build rate therein. A Landscape Strategy Document to be submitted with the DCO application, will illustrate proposed planting, hard surface treatments and habitat creation within other open areas. This will be accompanied by an appropriate management plan to be agreed by all parties.

CONSULTATION

- 11.25 In addition to the consultation responses received in the 2014 Scoping Opinion and due to be received in the 2020 Scoping Opinion, the assessment has been informed by further consultation with the Dartford, Gravesham Borough Councils, Thurrock Council as well as Kent County Council in June-July 2020 in order to agree the photoviewpoint selection and methodology.

RELEVANT LAW, POLICY AND GUIDANCE

Legislative and Policy Context

European Landscape Convention 2000

- 11.26 The European Landscape Convention (ELC), which was signed by the UK in February 2006 and became binding in 2007, is the first international convention to focus specifically on landscape issues and aims to protect and manage landscapes in Europe and to plan positively for change within them. The ELC highlights the importance of developing landscape policies dedicated to the protection, management and creation of landscapes, and establishing procedures for the general public and other stakeholders to participate in policy creation and implementation.
- 11.27 The ELC defines landscape as '*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*' (Council of Europe, 2004).

Hedgerow Regulations 1997

- 11.28 The Hedgerow Regulations (UK Parliament, 1997) aim to protect hedgerows, which play an important role in supporting and enhancing biodiversity, as well as defining the character of the English and Welsh countryside.
- 11.29 According to the regulations, a hedgerow is important if it has existed for 30 years or more, and it satisfies various wildlife, landscape or historical criteria specified in the regulations.

Policy Framework***National Policy Statements***

- 11.30 National Policy Statements (NPS) set out the need for and government's policies to deliver Nationally Significant Infrastructure Projects (NSIPs) in England. Chapter three of this report explains that there is no NPS for business and commercial NSIP projects. However, to the extent that the Proposed Development includes transport and highways infrastructure, regard will be had to relevant policy in the NPS for National Networks, including:
- Environmental and social impacts (NPS paragraphs 3.2-3.5);
 - Criteria for '*good design*' for national network infrastructure (NPS paragraphs 4.28-4.35);
 - Climate change adaptation (NPS paragraphs 4.36-4.47);
 - Landscape and visual impacts (NPS paragraphs 5.143-5.161); and
 - Land use including open space, green infrastructure and Green Belt (NPS paragraphs 5.162-5.185).

National Planning Policy Framework 2019 (NPPF)

- 11.31 At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, this being the key principle running throughout the document and the development of NPPF policies. Considering this broad aim alongside the three dimensions of sustainable development, in particular that relating to environmental matters, the role of LVIA is key in the creation of successful places in which to live and work.
- 11.32 For landscape, this means recognising the intrinsic beauty of the countryside (NPPF paragraph 170) and balancing any 'harm' to the landscape resource with the benefits of the scheme in other respects.

11.33 With regards to statutory landscape designations, paragraph 172 states that:

‘Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues’ and the ‘scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest’.

11.34 No part of the DCO Order Limits falls within or adjacent to the above specified statutory landscape designations.

11.35 In consideration of landscape and visual impacts of light pollution, paragraph 180 bullet point c states that new development should *‘limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation’.*

Local Plan Policy

11.36 As explained earlier in this report, the Project Site falls within three Local Planning Authority (LPA) areas: Dartford and Gravesham Boroughs in Kent and Thurrock, a unitary authority on the Essex side of the river. The relevant adopted local statutory planning documents include:

- Dartford Borough Core Strategy (adopted 2011);
- Dartford Borough Development Policies Plan (adopted 2017);
- Gravesham Borough Local Plan Core Strategy (adopted 2014);
- Saved policies (saved in 2007) from the Gravesham Borough Local Plan First Review (adopted 1994);
- Thurrock Borough Core Strategy and Policies for Managing Development (adopted 2015); and
- Saved policies (saved in 2012) from Thurrock Borough Local Plan (adopted 1997).

11.37 A summary of the landscape and visual amenity relevant policy contained within the above documents and how it has been addressed by the Proposed Development is provided in Table 11.3 below.

Table 11.3: Summary of Landscape and Visual Amenity Relevant Policy

Policy	Summary of policy requirement	How addressed in the scheme
Dartford Borough Core Strategy (Adopted 2011)		
Policy CS6 – Thames Waterfront Priority Area	Protecting and enhancing Black Duck Marsh and Dartford Marshes as areas of biodiversity value and public recreational areas for quiet enjoyment, to the extent that the ecological protection of the area permits. New development will be expected to include connecting corridors of natural habitat along the river to enhance biodiversity linkages and to protect s41 species and other species of local ecological value.	Potential mitigation measures have been identified to contribute to policy objectives.
Policy CS14 – Green Belt	Preserve the openness of the Green Belt, maintain its national and local planning purposes and protect it from inappropriate development.	A2(T) works only covered by the Green Belt, could be considered exceptional circumstances in the case of an NSIP.
Dartford Borough Development Policies Plan (Adopted 2017)		
Policy DP22 – Green Belt in the Borough	Preserve the openness of the Green Belt, maintain its national and local planning purposes and protect it from inappropriate development.	A2(T) works only covered by the Green Belt, could be considered exceptional circumstances in the case of an NSIP.
Policy DP25 – Nature Conservation and Enhancement	Proposals should seek to avoid any significant adverse impact on existing biodiversity features. In all development proposals existing trees should be retained wherever possible.	Potential mitigation measures have been identified to contribute to policy objectives.
Gravesham Borough Local Plan Core Strategy (Adopted 2014)		
Policy CS12 – Green Infrastructure	Policy seeks to restore, protect, enhance and where appropriate create green assets. Connectivity between urban and rural areas in the borough will be encouraged to ensure that such green assets are multi-functional in use. Opportunities to increase green infrastructure will be pursued in new developments through the incorporation of features such as green roofs, green walls and other habitat/wildlife creation and also	Potential mitigation measures have been identified to contribute to policy objectives.

Policy	Summary of policy requirement	How addressed in the scheme
	innovative technology.	
Policy CS19 – Development and Design Principles	New development will be visually attractive, fit for purpose and locally distinctive. It will conserve and enhance the character of the local built, historic and natural environment, integrate well with the surrounding local area and meet anticrime standards	Potential mitigation measures have been identified to deal with the quality and appearance of the Proposed Development.
Thurrock Borough Core Strategy and Policies for Managing Development (Adopted 2015)		
Policy CSTP18 – Green Infrastructure	Policy seeks to restore, protect, enhance and where appropriate create green assets. Connectivity between urban and rural areas in the borough will be encouraged to ensure that such green assets are multi-functional in use. Opportunities to increase green infrastructure will be pursued in new developments through the incorporation of features such as green roofs, green walls and other habitat/wildlife creation and also innovative technology.	Potential mitigation measures have been identified to contribute to policy objectives.
Policy CSTP23 – Thurrock Character and Distinctiveness	The policy seeks to protect, manage and enhance the character of Thurrock to ensure improved quality and a strengthened sense of place.	Potential mitigation measures have been identified to deal with the quality and appearance of the Proposed Development.
Policy CSTP28 – River Thames	New development will maintain or enhance views, particularly of key features including heritage and landscapes, and will improve recreational interaction with the river and its setting	Potential mitigation measures have been identified to deal with the quality and appearance of the Proposed Development.
Policy PMD2 – Design and Layout	The Council requires all design proposals to respond to the sensitivity of the site and its surroundings, to optimise the potential of the site to accommodate development, to fully investigate the magnitude of change that would result from the proposals, and mitigate against	Potential mitigation measures have been identified to deal with the quality and appearance of the Proposed Development.

Policy	Summary of policy requirement	How addressed in the scheme
	negative impacts. With regard to landscape: Features contributing to the natural landscape in the Borough, such as woods, hedges, specimen trees, unimproved grassland, ponds and marshes, will be protected and where appropriate enhanced to maintain their landscape and wildlife value. Provision and enhancement of landscape features will also be required to contribute to multiple uses and/or eco-system services, including amenity, recreation, flood alleviation and Sustainable Urban Drainage Systems	

BASELINE CONDITIONS

Landscape Designations and Other Relevant Considerations

11.38 A summary of relevant designations is provided below and illustrated in Figures 11.1 and 11.2:

- There is one statutory landscape designation within the 6km search area. The Kent Downs Area of Outstanding Natural Beauty (AONB) lies approximately 5.1km south-east of the Kent Project Site;
- No non-statutory landscape designations exist within the 6km search area;
- The southern area of the Kent Project Site, south of the A2(T) main road, is in the metropolitan green belt;
- A small number of public rights of way (PRoW) cross the Project Site; and
- Four blocks of Ancient Woodland fall within the southern part of the Kent Project Site, two of which lie between the A2(T) and A296, whilst the westernmost extent of the DCO Order Limits overlaps with two small sections of Darenth Wood.

Landscape Character

National Character Areas

- 11.39 At a national level the Project Site lies in a transitional zone between Natural England's (NE) National Character Areas (NCA). The Swanscombe peninsula area of the Kent Project Site and Tilbury Dock part of the Essex Project Site are located within NCA 81² 'Greater Thames Estuary'. The southern parts of the Kent Project Site, including the existing quarries, land around Ebbsfleet International and the A2(T) road corridor, are located in NCA 113³ 'North Kent Plain'. Just north of the northern bank of the River Thames and the Essex Project Site lies NCA 111⁴, the 'Northern Thames Basin', whilst to the south of the Kent Project Site lies NCA 119⁵, 'North Downs', which is broadly associated with the higher wooded ground of the Kent Downs AONB.
- 11.40 In terms of NCA descriptions and their key characteristics, whilst it may be considered that some are of relevance to the Project Site and nearby context, generally they provide too broad an analysis, covering large geographic areas, particularly as the Project Site lies in what could be considered a transitional area between four NCAs.
- 11.41 It is considered that the description of landscape character undertaken at the sub-regional level is more relevant in establishing the landscape resource baseline. Accordingly, while the above NCAs have been used to inform the baseline, they have not been carried forward to the detailed assessment of effects, with the focus instead being on county and borough landscape character areas. The following subsections identify the county and borough published landscape character areas within the near vicinity of the Project Site, whilst a more detailed narrative is included in the LVIA (Appendix 11.1). Figure 11.3 illustrates the location of Landscape Character Areas (LCAs) in relation to the Project Site. It should be noted that where borough level information is not present, the next best available data is used, i.e. county level.

Kent Landscape Character Assessment (2004)

- 11.42 A review of the Kent Landscape Character Assessment (KLCA) finds that the Kent Project Site is located in four Landscape Character Areas (LCAs). The northern parts of the Kent Project Site (Swanscombe Peninsula) lie within the 'Western Thames Marshes' LCA, whilst the majority of the southern portions of the Kent Project Site are in the 'Dartford and Gravesend Fringes' LCA, with sections of the A2(T) road within the DCO boundary partially

² NCA Profile: 81 Greater Thames Estuary (Natural England, 2013)
<http://publications.naturalengland.org.uk/publication/4531632073605120>

³ NCA Profile: 113 North Kent Plain (Natural England, 2012)
<http://publications.naturalengland.org.uk/publication/2900242>

⁴ NCA Profile: 111 Northern Thames Basin (Natural England, 2013)
<http://publications.naturalengland.org.uk/publication/4721112340496384>

⁵ NCA Profile: 119 Northern Downs (Natural England, 2013)
<http://publications.naturalengland.org.uk/publication/7036466>

lying within the 'Darenth Downs' LCA and 'Southfleet Arable Lands' LCA.

Gravesham Landscape Character Assessment (2009)

- 11.43 The Gravesham Landscape Character Assessment (GLCA) finds that the Kent Project Site overlaps with two LCAs. The eastern part of the Kent Project Site on Swanscombe Peninsula is in the Botany Marshes LCA, whilst a small section of the A2(T) at the south-eastern extent of the Kent Project Site is located in the 'Southern Gravesend Fringes' LCA. Within the 2km detailed study area is also the 'Istead Arable Farmland' LCA which comes to within 80 metres of the southern boundary of the Kent Project Site.

Gravesham Townscape Appraisal (2008)

- 11.44 According to the Gravesham Townscape Appraisal (GTA), the Kent Project Site is partially within the 'Industrial Hinterland' Townscape Character Area (TCA). Elsewhere, the Kent Project Site also abuts the 'Northfleet' TCA and 'Modern Suburbs' TCA.

Thurrock Landscape Capacity Study (2005)

- 11.45 With regard to the Thurrock Landscape Capacity Study (TLCS), the Essex Project Site is determined as falling within the 'Tilbury and Docks Urban Area' LCA and 'Tilbury Marshes' LCA.

Thames Strategy East (2008)

- 11.46 A review of the Thames Strategy East (TSE) locates the Kent Project Site in the Reach Character Areas (RCA), the 'Long Reach and Fiddler's Reach' RCA and the 'Northfleet Hope' RCA. The Essex Project Site similarly falls within two RCAs, namely the 'Northfleet Hope' RCA and 'Gravesend Reach' RCA.

Landscape Character of the Project Site Itself

- 11.47 Whilst the above published assessments provide a helpful contextual appreciation of the wider landscape, none provide a sufficiently site-specific assessment to allow a full assessment to be made of the effects of the Proposed Development on the landscape. In particular, published assessments do not include more localised influences on the landscape, such as the effect of traffic or existing development on tranquillity and visual character. Similarly, the differing scales at which the relevant studies were undertaken and their age since publication (all over 10 years ago), results in some inconsistencies where character studies overlap or have changed considerably since publication.
- 11.48 Thus, an appropriately detailed assessment of the Project Site itself and its immediate surroundings has been undertaken and this is described below.
- 11.49 Site visits have taken place in 2015 and 2020 in good to excellent weather conditions. The visits were complemented by a review of aerial photography, mapping and field

assessments from publicly accessible locations (e.g. from local roads and PRow).

11.50 Appendix 11.1 identifies the variation in landscape across the Project Site and its immediate context. Due to the lack of local published landscape character assessments at the sub-county level (namely Dartford Borough) to assist with the LVIA, the LVIA baseline (Appendix 11.1) has identified 16 Local Landscape Character Areas (LLCAs). These LLCAs have been based upon review of published national and county level landscape character assessments, site visits and desk study exercises. The boundaries of these LLCAs are in reality, gradual and not fixed, and have been illustrated in line form on plan to provide an understanding of the broad changes in settlement and landscape local to the Project Site.

11.51 The LLCAs covering or bounding the Kent Project Site include:

- Marshland LLCA;
- Chalk Pits LLCA;
- Ingress Park LLCA;
- Northfleet Industrial LLCA;
- Northfleet LLCA;
- Swanscombe LLCA;
- International LLCA;
- Springhead LLCA;
- Ebbsfleet LLCA;
- Bluewater LLCA;
- Darenth Downs LLCA;
- Swanscombe Heritage Park LLCA;
- Southfleet and Istead Arable Lands LLCA;
- Gravesend Southern Fringe LLCA; and
- Wombwell Park LLCA.

11.52 One LLCA, 'Tilbury Docks', was defined as covering the Essex Project Site and it's

immediate context.

- 11.53 Taking the above LLCAs into account, the Project Site and its surroundings varies considerably in character and cannot be ascribed an overarching character, value or sensitivity. The below paragraphs provide a brief narrative summary of the Kent and Essex Project Sites, informed by the character area study and site visits.

Kent Project Site

- 11.54 The majority of the Kent Project Site on the Swanscombe Peninsula comprises a large area of open land in a low-lying riverside landscape beside the River Thames, between the Queen Elizabeth II Bridge and Gravesend.
- 11.55 The Peninsula has a long industrial history relating to the manufacture of cement and the majority of the area is a brownfield site comprising previously developed land, some of which contains contaminated landfill. Other parts of the Kent Project Site on the Swanscombe Peninsula that are characteristic of industrial uses include the existing Manor Way, Northfleet and Kent Kraft industrial estates. Figure 11.4 provides an overview of how the landscape of the Swanscombe Peninsula has changed between 1960 to today.
- 11.56 The Swanscombe Peninsula is predominantly a medium to large scale landscape with a generally open, low-lying and windswept character, retaining extensive areas of marshland including Black Duck Marsh, Botany Marsh and Broadness Marsh. Broadness Marsh at the northern tip of the Peninsula was historically a saltmarsh, but now has a raised terrain as a result of Cement Kiln Dust (CKD) tipping and the deposition of river dredging. A number of drains, filtration systems, aeration lagoons and other features are also present across the Peninsular, whilst Broadness and Botany Marshes are bordered in part by industrial uses.
- 11.57 As such, the landscape fabric across the Swanscombe Peninsula is extremely varied and includes extensive areas of marsh and grassland, semi-mature woodland and scrub, grassed embankments which act as flood defences, and some industrial premises, with public access limited to a small number of public footpaths including Saxon Way, which runs along the western flood embankment. Much of the Peninsula has re-vegetated naturally former industrial areas and spoil heaps, but areas of bare ground remain.
- 11.58 The Peninsula has an irregular topography because of historical CKD tipping activities and the deposition of dredging from the River Thames. Notably, two raised areas of tipped material rise to over 12-13 metres above ordnance datum (AOD).
- 11.59 In terms of vertical elements, the skyline is dominated by overhead power lines and pylons in many views that cross the Peninsula on a south-east to north-westerly alignment, and include a 190 m tall 'super pylon' that lifts the transmission lines over the Thames to a similar tower on the northern bank. These lattice towers are the UK's tallest electricity pylons (and the third largest in Europe) and are prominent local landmarks.

- 11.60 Another notable feature on the Kent Project Site and the Swanscombe Peninsula is the HS1 railway, which crosses the Peninsula on a south-east to north-westerly alignment. The southern section of the railway is in cutting and the remainder is in a tunnel. A pumping station that serves to lower ground water adjacent to the tunnel is located to the north-east of the tunnel portal.
- 11.61 Considering the Peninsular/River Thames interface of the Kent Project Site, the banks of the Peninsula feature, occasional jetties and inlets, some of which are used for the mooring and landing of boats. An inlet at the northern end of the Peninsula, known as Broadness Creek, has a number of boat sheds varying in character and maintenance. A small number of public footpaths cross the Kent Project Site.
- 11.62 The Kent Project Site does not contain any international or national wildlife designations. Part of the Ebbsfleet Marshes Local Wildlife Site (LWS TQ 619738), which includes wet woodland and reed beds, is located in the Ebbsfleet Valley section of the Kent Project Site.
- 11.63 The Ebbsfleet Valley part of the Kent Project Site, south of the Swanscombe Peninsula, is an area that has been subject to major change in the last few centuries, primarily through industrial development and quarrying activities that have shaped its character and identity. The unusual landform comprises a number of 'chalk spines', left over from former quarrying and the land-fill uses, with the distinctive steep and high rising chalk cliffs, an indication of the scale of past quarrying operations.
- 11.64 This includes Bamber Pit located just south of the North Kent Line railway and west of Stanhope Road, Swanscombe, and is predominantly covered in mature vegetation, with a waterbody located at the bottom. North of the North Kent mainline railway and south of London/Galley Hill Road are the 'Sports Ground' Chalk Pit and 'Craylands' Chalk Pit which are separated by a chalk spine (High Street). The chalk pits are generally well vegetated along the cliff edges, with varying colonisation by vegetation on the pit floors.
- 11.65 Major infrastructure such as the A2(T), A2260, HS1 and the North Kent Line Railway cut across the valley landscape, providing visual and audible disruption. HS1 passes through Ebbsfleet International Station within the Kent Project Site and includes a number of extensive areas of hard-surfaced car parks, roads, landscaping and security fencing.

Essex Project Site

- 11.66 The Essex Project Site was found to be generally consistent with the character described in the 'Tilbury and Docks Urban Area' LCA of the Thurrock Landscape Character Assessment. The area is a low-lying and level landscape, similar to that of the Kent Project Site which is not surprising given the Thameside location. Large commercial warehouses, cranes and dockland buildings front onto the Thames and are located throughout the area which dominate the skyline throughout the nearby area. Where the area has not been developed for warehouses or dockside uses, it is mostly hard-surfaced used for the storage of vehicles, containers or bulk materials.

- 11.67 Located nearby along the Thames bank, at the southern edge of the port, stand four wind turbines. As such the character appears entirely industrial and man-made from ground up to the skyline.
- 11.68 The Essex Project Site also includes the Tilbury Ferry Terminal, London International Cruise Terminal and floating landing stage (all Grade II* listed), along with an extensive area of level hard-surfaced land approximately 11.75 hectares (ha) in area, currently used for vehicle storage.
- 11.69 The Essex Project Site is bounded by railways on its northern and western sides and a drainage channel to the east. Road access is gained from Fort Road at the south-eastern corner. To the south lies Tilbury Railport, a large logistics shed with railway sidings operated by Maritime Transport Limited.

Visual Amenity

- 11.70 Using landform data in a Geographical Information System (GIS), an initial ZTV has been prepared. The ZTV is generated using landform height data only and does not take into account other landscape features that might limit the extent of theoretical visibility, such as vegetation and buildings. The ZTV is based on:
- The Project Site in its current form (Figure 11.5); and
 - The Project Site with the Proposed Development, based upon the max above Ordnance Datum (AOD) heights of the design of the Proposed Development (Figure 11.6):
 - Gate 1 area: 40-100m;
 - Gate 2 area: 35-60m;
 - Plaza area: 19m;
 - Hotel: 49-128m;
 - Terminal Areas: 12-27m;
 - Car Parks: 34-38m;
 - Back of House areas: 25-50m;
 - Staff Accommodation: 32-46m;
 - Visitors Centre: 41-46m;
 - e-Sports and Conferention Centre: 40-44m; and

- Hotel and Market: 47m.

- 11.71 The current ZTVs illustrate the theoretical visibility based on a 5m digital terrain model (DTM) topographical data (OS Terrain 5), assuming excellent visibility with no atmospheric attenuation. In reality, other components of the landscape such as built form and vegetation will introduce screening effects which, coupled with the atmospheric conditions, will reduce this visibility in some instances. The ZTVs will be reviewed as the Proposed Development is refined further.
- 11.72 The visual influence of the Project Site in its current form is limited given the extent of varying topography and built form in the local vicinity. It is expected that the visual influence of the Project Site will increase with development. The visual assessment process will determine the extent of the increase in visual influence as well as the magnitude of any visual effects that arise.
- 11.73 Open views of the Project Site are largely limited to those from roads and PRoW as they pass through the Project Site, although roadside vegetation provides some interruption and the speed and nature of travel limit the availability of views. Open views of the Project Site will also be available from river traffic travelling up and down the Thames towards the edges of the Kent and Essex Project Sites. In the wider landscape there will be opportunities for partial views of the Proposed Development from roads, PRoW, residential properties and places of work. Other sources of visual receptor include passengers on trains travelling on the HS1 route and North Kent Line Route, which both pass through the Kent Project Site.
- 11.74 Figures 11.5 and 11.6 include 50 representative viewpoints that have been identified in the ZTV for the Project Site in its current form to be agreed through ongoing consultation. These viewpoints are at locations where there are likely to be sensitive visual receptors, including receptors in designated landscapes such as Kent Downs AONB and those on PRoW and at residential properties. These viewpoints will form the basis of the visual assessment, the significance of any effect being assessed in terms of the magnitude of change in the view and the sensitivity of the visual receptor. The location of these views is set out in the Table 11.4. However, in keeping with good practice, the proposed viewpoints, photomontage and night-time viewpoints locations for assessment will be agreed with Dartford Borough Council, Gravesham Borough Council, Thurrock Borough Council and Kent County Council and reviewed as the project continues to progress to submission.

Table 11.4: Proposed viewpoint locations

Viewpoint number	Viewpoint location	Borough	Receptors
1	Footpath DS1 Swanscombe Peninsula	Dartford	Recreational users;
2	Footpath DS1, Black Duck Marsh	Dartford	Recreational users;

Viewpoint number	Viewpoint location	Borough	Receptors
3	Footpath DS1 and NU1, Green Manor Way	Dartford/ Gravesham	Recreational users;
4	Footpath DS2, Swanscombe Peninsula	Dartford	Recreational users;
5	Galley Hill Way/ Pilgrim's Road	Dartford	Road users; Recreational users; Residents;
6	St Peter and St Paul Church Swanscombe	Dartford	Recreational users; Residents;
7	Leonard Avenue	Dartford	Residents;
8	Rear of Leonard Avenue	Dartford	Recreational users; Residents;
9	Swanscombe Heritage Park	Dartford	Recreational users;
10	Knockhall Road	Dartford	Road users; Residents;
11	Ingress Abbey	Dartford	Residents;
12	Greenhithe Riverfront, Sara Crescent	Dartford	Residents;
13	A44260 looking south	Dartford	Road users;
14	A2260 looking north	Dartford	Road users;
15	Bakers Hole SSSI and Scheduled Monument near Ebbsfleet International	Dartford	Road users; Railway users;
16	Ebbsfleet International Car Park	Dartford	Road users;
17	Rosherville Quays, Gravesend Riverfront	Gravesham	Recreational users;
18	North Kent Avenue	Gravesham	Residents;
19	Northfleet Lighthouse/Bevan's War Memorial	Gravesham	Recreational users; Employees;
20	Opposite Rosherville Primary School	Gravesham	Road users; Residents; Students;
21	Stonebridge Road B2175	Gravesham	Road users; Residents;
22	Footpath NU1 Botany Marshes near Britannia Refined Metals Ltd	Gravesham	Recreational users; Employees;
23	Footpath NU1, Botany Marshes near CEMEX	Gravesham	Recreational users; Employees;
24	Thames Path Promoted Route near Charles Park	Dartford	Recreational users; Employees;
25	High House, Production Park, Purfleet	Thurrock	Employees; Recreational users;

Viewpoint number	Viewpoint location	Borough	Receptors
26	Footpath 170 south of Proctor and Gamble	Thurrock	Recreational users;
27	Footpath 141 Stone Ness	Thurrock	Recreational users;
28	Opposite Devonshire Place, Devonshire Road	Thurrock	Road users; Residents;
29	Timber Court and Coal Court	Thurrock	Residents;
30	The Promenade, Grays	Thurrock	Recreational users; Residents;
31	Grays Beach Riverside Park	Thurrock	Recreational users;
32	Footpath 186, Tilbury and Grays	Thurrock	Recreational users;
33	Chadwell Bypass	Thurrock	Road users; Residents;
34	St. Mary's Church, Chadwell St. Mary	Thurrock	Residents;
35	Coalhouse Fort	Thurrock	Recreational users; Visitors of local attraction;
36	Footpath 68, West Tilbury	Thurrock	Recreational users;
37	Byway 98, Tilbury Fort	Thurrock	Recreational users; Visitors of local attraction;
38	Footpath 146, Tilbury	Thurrock	Recreational users;
39	London International Cruise Terminal	Thurrock	Recreational users; Commuters; International Cruise Ship passengers; Visitors of local attraction;
40	Railway Street, Northfleet	Gravesham	Residents;
41	Footpath NS177, Cobham, Kent Downs AONB	Gravesham	Recreational users;
42	A227 Wrotham Road	Gravesham	Road users; Recreational users;
43	New Barn Road, Scadbury Manor	Dartford	Road users;
44	Footpath DR126, Park Corner Road, Northend	Dartford	Recreational users; Employees;
45	Restricted Byway DR129	Dartford	Recreational users; Road users;
46	Candy Dene	Dartford	Residents;
47	Hall Road Bridge, B262	Dartford/ Gravesham	Road users;
48	A2260, Ebbsfleet International	Dartford	Road users;
49	Windmill Hill Park	Gravesham	Recreational users;

Viewpoint number	Viewpoint location	Borough	Receptors
50	Gravesend to Tilbury Ferry	Gravesham /Thurrock	Commuters; International Cruise Ship passengers

Arboricultural Baseline

- 11.75 BS5837:2012 Trees in Relation to Design, Demolition and Construction compliant survey of the trees within the DCO boundary has been undertaken. The survey was undertaken by an appropriately qualified Arboriculturist in June and July 2020, and the survey recorded a total of 93 individual trees, 93 groups of trees and 13 Woodland areas, totalling 199 items. Of these 199 items, 2 have been categorised as A, of high quality, 131 have been categorised as B, of moderate quality, and 60 have been categorised as C, of low quality. In addition, 6 items have been categorised as U and are considered unsuitable for retention irrespective of development.
- 11.76 Preliminary Arboricultural Impact Assessment findings for the individual trees, groups of trees and hedgerows surveyed are included as Technical Appendix 11.2.

Future Baseline

- 11.77 It is anticipated that, in the absence of development, the Essex Project Site would continue to operate as an International Cruise Terminal and associated car park and storage areas, whilst the Kent Project Site would either continue as an area of previous industrial uses, existing commercial units and marshland or be redeveloped at least in part for other uses. Depending on the management regime, the landscape structure may change particularly with regard to the Swanscombe Peninsula area of the Kent Project Site with continued recolonisation of vegetation leading to increased scrub and trees and continued water quality and water management issues.
- 11.78 Such variations are unlikely to be significant and would be considered as standard fluctuations. It is near-certain that the existing baseline described above would therefore not appreciably change

POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSALS

Potential Effects

- 11.79 The potential effects of the Essex and Kent Project Sites are assessed together below, with specific reference made to each site where effects are directly relevant.

During Construction

- 11.80 The landscape and visual assessment commenced in 2015 with further assessment work

undertaken in 2020 and has examined the current landscape and visual baseline conditions within the Project Site and evaluated the broader context, including landscape, landscape related designations and other environmental considerations as illustrated in Figures 11.1 and 11.2.

11.81 The assessment process involves an iterative analysis of the likely landscape and visual effects of the evolving development proposals. Where likely significant adverse effects cannot be avoided through design, additional mitigation measures will be considered.

11.82 As a consequence of the wholesale change in land use, construction activities will result in adverse landscape and visual effects on the fabric and character of the landscape, and on visual amenity, within the local area. Whilst construction activities introduce direct and indirect disturbance to both the fabric of the landscape and the surrounding area, which can be perceived by people living, working or travelling through it, these effects are temporary in nature and can be partially mitigated.

11.83 Generic construction methods and timescales are estimated in chapter five but full details cannot be defined at this stage. The main elements of the construction operations, considered to be of importance to the landscape and visual assessment, are described below:

- Construction-related Traffic. This includes vehicle movements associated with the import of building materials, machinery and labour using local roads;
- Noise and Vibration effects (chapter 15) have the potential to affect landscape character, visual effects from existing (potentially diverted) rights of way and other routes, and residential amenity; and
- Construction Activities. Subject to the preferences of individual contractors, it is expected that generic methods will be employed in the implementation of the scheme. The use of large cranes and construction platforms (rising above the height of the proposed buildings) will be necessary.

11.84 The main potential likely significant landscape and visual effects of the Proposed Development associated with construction activities are anticipated to include:

- Security set-up activities;
- Removal of trees/scrub vegetation associated with site clearance and construction works throughout the Project Site;
- Ground treatment and CKD remediation activities as well as soil investigation work and treatment;
- Land re-profiling and re-grading;

- Tunnel construction through chalk spines and vehicular haulage route construction;
- Laydown, storage compound and welfare area construction;
- Establishment of batching plant on-site;
- Identification, relocation and re-provision of utility infrastructure, including potential diversion of some existing drainage features and new drainage works;
- Haulage and movements of construction vehicles both on and off site, including on the river;
- Construction of transport infrastructure elements, events spaces, attractions, hotels, parking structures, other buildings and hard landscaped areas; and
- Enhancements to the existing wharf on the River Thames to facilitate access by boat for the delivery of construction materials.

11.85 Landscape and visual amenity effects resulting from the construction stages are considered to be consistently adverse, as there are few, if any, aspects of the process which could be considered positive in terms of promoted landscape strategies or in visual terms.

11.86 Whilst on the whole, construction will appear as adverse, there will be some improvement in appearance for some elements, such as through CKD remediation and the general 'clearing up' of past uses on the Swanscombe Peninsula, including removal of dilapidated urban form such as fences and derelict buildings.

11.87 These effects will, however, be temporary and consistent with the phased nature of development (see Chapter 3). The effects of the construction phase of the Proposed Development on landscape character and visual amenity respectively are summarised below. Effects on PRoW, other recreational routes, public highways and residential areas are also described below with reference to the assessed representative viewpoints. Detailed effects will be described and assessed against each landscape character area, site feature and representative viewpoints within the full ES.

Landscape Character

Landscape Fabric and Features of the Project Site itself

11.88 There a number of Habitats/Flora which make up the landscape fabric and features of the Project Site which are summarised in Table 11.5 below:

Table 11.5: Summary of the Distribution of Habitats within the Project Site

Habitat/Flora	Distribution within the Project Site
Rare plants	Populations of 13 nationally scarce species were found on Swanscombe Peninsula in the Kent Project Site 2016. Eight were refound in 2020.
Broad-leaved semi-natural woodland	Mainly in the South along the A2(T) corridor, some along the eastern boundary.
Broad-leaved plantation woodland	Many areas throughout the Project Site.
Scrub	Many areas throughout the Project Site.
Tall ruderal	Small extent in station quarter south.
Arable	Small areas in A2(T) corridor.
Improved grassland	Small area in A2(T) corridor.
Poor semi-improved grassland	Botany marsh east, Broadness grasslands and former landfill.
Semi-improved neutral and calcareous grassland	Neutral grassland in Broadness Grassland area and to the west of Black Duck Marsh, calcareous grassland in Craylands Pit, Black Duck Marsh and north of Tiltman Avenue.
Coastal/Floodplain Grazing Marsh	Botany Marsh West.
Open mosaic on previously developed land	Bamber Pit and along main access track (including tunnel storage area).
Amenity grassland and shrub	Small area concentrated around Northfleet and road- and trackside verges.
Marshy grassland	Small area in station quarter south.
Waterbodies (ponds, standing water and ditches)	Scattered throughout the Project Site, ditches forming two main networks at Black Duck and Botany Marshes.
Swamp (reedbed)	Black duck Marsh and CTRL Wetland form extensive reedbed, smaller areas exist within Botany Marsh East and along ditch network.
Bare ground	Mostly around Manor Way industrial Estate.
Hardstanding and buildings	Mostly around Manor Way industrial Estate, station quarter and the Essex Project Site.
River Ebbsfleet	Along the eastern boundary of the Kent Project Site.

11.89 As a result of construction there will be some direct loss of scrub habitat, including disturbance and degradation of habitat through deposition of materials.

- 11.90 There will be a direct loss of poor-semi improved grassland, semi-improved neutral calcareous grassland, open mosaic on previously developed land and populations of nationally scarce plants, as well as likely physical disturbance to some areas which will be undeveloped through movements of machinery and workers, whilst there will also be degradation through the deposition and storage of construction materials.
- 11.91 As a result of the construction stage, there will be a direct loss of pond and ditch network habitat as well as physical disturbance, particularly on the Kent Project Site. The proposals are also likely to result in changes to the hydrological regime, particularly with regard to the Kent Project Site. Elsewhere on the Kent Project Site will be a direct loss, physical disturbance and changes to the hydrological regime of reedbeds.
- 11.92 The River Ebbsfleet will be retained on its existing course, but will experience some changes to the hydrological regime.
- 11.93 During construction and demolition, trees to be retained would be protected in accordance with those measures outlined in Appendix 11.2). As a result, whilst trees and hedgerows would be lost as a result of the Proposed Development, no additional tree stock would be lost due to construction or demolition practices.

Project Site Local Landscape Character

- 11.94 Invariably, a mixed-use development on a scale such as the Proposed Development across the Project Site will result in the unavoidable (at least partial) removal of landscape features at a level which materially alters the character of the receiving environment.
- 11.95 With regard to the Kent Project Site, there will be a high magnitude of change and major/moderate significant temporary effect upon the Marshland LLCA which makes up the majority of the Swanscombe Peninsula area. That being said, those areas of ecological value such as Botany Marsh East, Black Duck Marsh and Broadness Salt Marsh will be protected from construction and future development, such that the most valuable assets of the LLCA are retained.
- 11.96 With regard to the other LLCAs covering or within the Kent Project Site's immediate context, whilst there will be changes (some of which are of high magnitude) as a result of construction, none of the effects upon these LLCAs are considered to be significant.
- 11.97 Within the Essex Project Site, it is expected there will be low change, and negligible effect to the character of the Tilbury Docks LLCA during the construction stage.

Landscape Character Areas

- 11.98 With regard to published landscape character, the construction effects predicted upon those areas which cover or lie in close proximity to the Project Site are detailed in Table 11.6 below.

Table 11.6: Potential Construction Effects on Published Landscape Character

	Sensitivity	Effect
Kent Landscape Character Areas		
Western Thames Marshes LCA	Medium	Minor Not Significant
Dartford and Gravesend Fringes LCA	Medium	Minor/Negligible Not Significant
Darenth Downs LCA	Medium	Minor/Negligible Not Significant
Southfleet Arable Lands LCA	Medium	Minor/Negligible Not Significant
Gravesham Landscape Character Areas		
Botany Marshes LCA	High	Moderate Significant
Southern Gravesend Fringes LCA	Low	Negligible Not Significant
Istead Arable Farmland LCA	Medium	Minor/Negligible Not Significant
Gravesham Townscape Appraisal		
Industrial Hinterland TCA	Very Low	Negligible Not Significant
Northfleet TCA	Low	Negligible Not Significant
Modern Suburbs TCA	Low	Negligible Not Significant
Thurrock Landscape Character Areas		
Tilbury and Docks Urban Area LCA	Very Low	Negligible Not Significant
Tilbury Marshes LCA	High	Moderate/Minor Not Significant
Thames East Strategy Character Areas		
Long Reach and Fiddler's Reach RCA	Low	Minor/Negligible Not Significant
Northfleet Hope Reach RCA	Low	Minor/Negligible Not Significant
Gravesend Reach RCA	Low	Minor/Negligible Not Significant

Visual Amenity

- 11.99 Locations of representative receptor photoviewpoints are illustrated on Figures 11.5 and 11.6. The photoviewpoints themselves are provided as Figure 11.7. Receptor sensitivity is described in Table 11.7 with the sensitivity of visual receptors varying according to

category, context of the view and susceptibility to change. Of the 50 photoviewpoints in total, 25 are considered to experience significant effects, whilst the rest would not be significant.

Table 11.7: Potential Construction Effects on Visual Receptor Groups

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
Residences and Settlements			
5, 7	Swanscombe	High	Major to Major/Moderate Significant
2, 11	Ingress Park	High	Major to Major/Moderate Significant
12	Greenhithe	High	Major Significant
18	Gravesham	High	Major/Moderate Significant
17, 20, 40	Northfleet	High	Major/Moderate to Moderate Significant
29, 30, 31	Grays	High	Major Significant
46	Castle Hill	High	Major/Moderate Significant
Public Rights of Way, National Cycle Routes and Open Access Land			
1, 2, 3	Footpath DS1	Medium	Major/Moderate Significant
4	Footpath DS2	Medium	Major/Moderate Significant
5	Footpath DS31	Medium	Major/Moderate Significant
22, 23	Footpath NU1	Medium	Major/Moderate Significant
36	Footpath 68	High	Moderate/Minor Not Significant
27	Footpath 141	Medium	Major/Moderate Significant
26, 29	Footpath 170	Medium	Major/Moderate Significant
31	Footpath 177	Medium	Major/Moderate Significant
32	Footpath 186	Medium	Minor

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
			Not Significant
41	Footpath NS177	Very High	Moderate/Minor Not Significant
36	Byway 98	Medium	Moderate/Minor Not Significant
44	Restricted Byway DR126	High	Moderate/Minor Not Significant
2, 13, 14, 17, 48	NCR 1	Medium	Major/Moderate Significant to Moderate/Minor Not Significant
EDP 29, 30, 31, 37, 39	NCR 13	Medium	Major/Moderate Significant to Moderate/Minor Not Significant
9	Swanscombe Heritage Park	High	Major/Moderate Significant
29, 30, 31	Grays Riverside Park and water's edge public spaces	Medium	Major/Moderate Significant
35	Coalhouse Fort	High	Minor Not Significant
37	Tilbury Fort	Medium	Major/Moderate Significant
Public Highways			
5	Galley Hill Road	Low	Moderate Significant
10	Knockhall Road	Low	Minor/Negligible Not Significant
28	Devonshire Road	Low	Moderate Not Significant
43	New Barn Road	Low	Negligible Not Significant
44	Park Corner Road	Low	Minor/Negligible Not Significant
15, 16	Ebbfleet International	Very Low	Moderate/Minor Not Significant
21	Stonebridge Road/B2175	Low	Moderate/Minor Not Significant
47	Hall Road Bridge/B262	Very Low	Minor Not Significant
33	Chadwell Bypass	Low	Minor/Negligible Not Significant

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
42	A227	Low	Negligible Not Significant
13, 14	A2260	Low	Moderate Significant
47	A2	Very Low	Minor Not Significant
Railways			
-	London to Southend mainline	Very Low	Negligible Not Significant
-	North Kent railway line	Very Low	Negligible Not Significant
-	HS1	Very Low	Negligible Not Significant
Users of the Thames (recreational traffic, haulage, ferries and cruise ships)			
50	Gravesend to Tilbury Ferry	Very Low	Minor Not Significant

Residences and Settlements

- 11.100 The Project Site's immediate and near context is largely surrounded by a prevalence of urban form, comprising a mosaic of dwellings to extensive industrial units. Residential receptors are usually considered of 'very high' sensitivity, however, it is acknowledged that the prevalence of urban form largely de-sensitises the area and leads to a reduced susceptibility to change to development. As such this also reduces the sensitivity of residential receptors.
- 11.101 There would potentially be significant effects from areas of Swanscombe (represented by Photoviewpoints EDP 5 and 7), dwellings along the waterfront and western edge of Kent Project Site at Ingress Park (represented by Photoviewpoints EDP 2 and 11), riverside properties Greenhithe (represented by Photoviewpoint EDP 12), some dwellings on elevated ground at Gravesham (represented by Photoviewpoint EDP 18), dwellings near the waterfront and on elevated ground at Northfleet (Photoviewpoints EDP 17, 20 and 40), waterfront dwellings at Grays on the northern bank of the Thames opposite the Kent Project Site (represented by Photoviewpoints EDP 29, 30 and 31) and Castle Hill (Photoviewpoint EDP 46).
- 11.102 However, it is important to note that the effects would only be apparent for certain parts of certain properties where views of construction will be available with some dwellings having no visibility of the Project Site at all. The worst of the effects during construction (i.e. the movement and activity of construction vehicles and operations) would be short term in duration, reversible and local. These effects would be short-term on the basis that in any one location the construction would be apparent for a limited time, before construction moved to another part of the Project Site.

Public Rights of Way, National Cycle Routes and Open Access Land

- 11.103 As illustrated on Figure 11.1, a small number of PRoW traverse the Project Site and the broad study area. Figures 11.5 and 11.6 illustrate the locations of the Photoviewpoints. Photoviewpoints EDP 1, 2, 3, 4, 5, 19, 22, 23, 24, 26, 27, 31, 32, 36, 37, 38, 41, 42, 43, 44 and 45 illustrate views from sections of PRoW.
- 11.104 Footpath DS1 (Photoviewpoints EDP 1, 2 and 3), Footpath DS2 (Photoviewpoint EDP 4), Footpath DS31 (Photoviewpoint EDP 5), Footpath NU1 (Photoviewpoints EDP 22 and 23), Footpath 170 (Photoviewpoints EDP 26 and 29), Footpath 141 (Photoviewpoint EDP 27), Footpath 177 (Photoviewpoint EDP 31), Byway 98 (Photoviewpoint EDP 36) would experience potential significant effects during the construction period.
- 11.105 In terms of Open Access Land and areas of Public Open Space (POS), there would be potential significant effects from Swanscombe Heritage Park (Photoviewpoint EDP 9) and the public spaces along the northern bank of the Thames (Photoviewpoints EDP 29, 30 and 31).
- 11.106 With regard to National Cycle Routes (NCRs), potential significant effects are likely from sections of NCR 1 which passes east-west through the study area and through parts of the Kent Project Site (representative views illustrated by Photoviewpoints EDP 2, 13, 14, 17 and 48). There would also be potentially significant effects along sections of NCR 13 which passes east-west through the study area on the northern bank of the Thames, passing through the Essex Project Site (representative views illustrated by Photoviewpoints EDP 29, 30, 31, 37 and 39).
- 11.107 As illustrated on 'Proposed Public Rights of Way Diversions' plan (Figure 11.8), the vast majority of routes within the study area and within or adjacent to the Project Site will remain unaffected in terms of their defined route. However, some routes within the Swanscombe Peninsula are likely to be diverted, upgraded and enhanced, including provision of boardwalk jetties, viewing platforms and boardwalks.

Public Highways

- 11.108 Those local road network receptors that have the greatest potential to be affected by the Proposed Development are set out in Appendix 11.1.
- 11.109 A summary of effects is provided below.
- 11.110 The assessment has shown that during the construction phase there would be potential (worst case) moderate (significant) level adverse effects on the local road network. These routes include Galley Hill Road (Photoviewpoint EDP 5), the A2260 (Photoviewpoints EDP 13 14 and 48) which pass east west through the Kent Project Site and Devonshire Road (Photoviewpoint EDP 28) located on elevated ground to the north. The changes would see a revision from their baseline views to one characterised by extensive construction activities and operations in very close range, except for

Devonshire Road which has elevated funnelled views towards the Kent Project Site from distance. Effects would be adverse in nature, short term and local. Whilst most effects will be short term, there may be instances where access points will be used throughout the construction period.

- 11.111 However, with regard to these effects, it should be noted that the level of effect will diminish with distance on these routes and level of intervening screening element such as vegetation, built form and topography. Views to the Project Site will be limited to infrequent, glimpsed, oblique views. Effects at this level are not surprising; any major development of this scale would yield such an outcome and this is not a reflection on the quality of the scheme masterplan, but of the process that requires an assumption to be made that most people would see the visual and sensory change as adverse.

Railways

- 11.112 No potential significant effects are predicted upon the railway network passing through or within proximity to the Project Site, primarily due to the containment of the routes through deep cuttings within the landscape and mature vegetation and built form which serves to screen views.

Users of the Thames (recreational traffic, haulage, ferries and cruise ships)

- 11.113 With regard to users of the Thames, there may be significant effects experienced by vessels travelling directly past the Swanscombe Peninsula where the most substantial quantum of construction works would be apparently visible. Photoviewpoint EDP 50 illustrates views from the Gravesend to Tilbury Ferry, of which effects of minor and not significant are predicted as a result of the construction of the Proposed Development at the Project Site.

During Operation

Post Completion Stage Effects on the Landscape Resource

- 11.114 The following is an assessment of the post-completion (i.e. at Year one, before the full effects of mitigation measures are realised) on the landscape resource; visual effects are considered separately, below. This section describes the anticipated effects of the Proposed Development during its operational lifetime and assesses the significance of those effects in landscape and visual amenity terms. Detailed effects will be described and assessed against each landscape character area, site feature and each of the representative viewpoints within the full ES.
- 11.115 In practical terms, the 'operational lifetime' of the Proposed Development is measured in decades, as it would result in a permanent change to the character of the Project Site. Given that the Proposed Development includes landscape proposals, which would in any event take time to mature, and that all new development can seem 'raw' until it has

‘settled’ into its landscape context, the assessment of operational effects for specific areas and views would consider the effects at two distinct points in time:

- At the completion of the Proposed Development (referred to here as Year one); and
- 15 years after completion of the Proposed Development (such that mitigation planting may have matured and/or materials weathered). This is set out at paragraph 11.159 onwards, taking into account the implementation of all mitigation measures.

11.116 It is often the case that initial (Year one) effects would be more considerable than those at Year 15 due to the limited initial effect of the landscape proposals incorporated into the Proposed Development during the design process.

Landscape Character

Landscape Fabric and Features of the Project Site itself

11.117 In addition to the effects on the Landscape Fabric and Features likely at construction, upon completion there are considered to be a number of additional effects aside from direct loss of fabric, replaced with built form.

11.118 There is likely to be increased recreational disturbance to areas of scrub, poor semi-improved grassland, semi-improved neutral and calcareous grassland and areas of reedbeds across the Project Site.

11.119 However, there will be re-routing and screening of existing PRoW to avoid sensitive areas, and creation of new bird hides at key observation locations to reduce visual impact. There will also be maintenance of defined routes through retained habitats, installation of educational boards, delivered through an Ecological Management Plan (EMP).

11.120 With regard to the River Ebbsfleet, there will be provision of new landscape planting to screen the habitat from the road delivered through a soft landscape strategy.

11.121 In terms of the onsite Arboricultural resource, the implementation of the proposed development with access arrangements would result in the loss of 0ha of category A items, of high quality, 13.08ha of category B items, of moderate quality and 64.45ha of category C items of low quality.

11.122 The survey identified a total of 2.24ha of U category items, the condition of which was considered to be impaired to such an extent that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years and these items are therefore not included in the calculations above.

11.123 In preparing its plans, the Applicant has endeavoured to ensure that as many trees, groups of trees and hedgerows as possible are retained. The loss calculated in the preceding paragraph represents the worst-case scenario for tree, tree group and

hedgerow loss, and takes a precautionary approach in this respect.

Project Site Local Landscape Character

11.124 Invariably, a mixed-use development on a scale such as the Proposed Development across the Project Site will result in the partial removal of landscape features at a level which materially alters the character of the receiving environment.

11.125 With regard to the Kent Project Site, there will be a high magnitude of change and major/moderate significant permanent effect upon the Marshland LLCA which makes up the majority of the Swanscombe Peninsula area. That being said, those areas of ecological value such as Botany Marshes, Black Duck Marsh and Broadness Salt Marsh are to be protected from construction and future development, such that the most valuable assets of the LLCA are retained.

11.126 With regard to the other LLCAs covering or within the Kent Project Site's immediate context, whilst there will be changes (some of which are of high magnitude) following completion, none of the effects upon these LLCAs are considered to be significant.

11.127 Within the Essex Project Site, it is expected there will be very low change, and an effect of negligible to the character of the Tilbury Docks LLCA at completion stage.

Landscape Character Areas

11.128 With regard to the broader, published landscape character areas, the effects upon Year 1 of completion upon those areas which cover or lie in close proximity to the Project Site are detailed in Table 11.8 below.

Table 11.8: Potential Effects on Published Landscape Character at Year 1 of Completion.

	Sensitivity	Effect
Kent Landscape Character Areas		
Western Thames Marshes LCA	Medium	Minor Not Significant
Dartford and Gravesend Fringes LCA	Medium	Minor/Negligible Not Significant
Darenth Downs LCA	Medium	Minor/Negligible Not Significant
Southfleet Arable Lands LCA	Medium	Minor/Negligible Not Significant
Gravesham Landscape Character Areas		
Botany Marshes LCA	High	Moderate Significant
Southern Gravesend Fringes LCA	Low	Negligible

	Sensitivity	Effect
		Not Significant
Istead Arable Farmland LCA	Medium	Minor/Negligible Not Significant
Gravesham Townscape Appraisal		
Industrial Hinterland TCA	Very Low	Negligible Not Significant
Northfleet TCA	Low	Negligible Not Significant
Modern Suburbs TCA	Low	Negligible Not Significant
Thurrock Landscape Character Areas		
Tilbury and Docks Urban Area LCA	Very Low	Negligible Not Significant
Tilbury Marshes LCA	High	Moderate/Minor Not Significant
Thames East Strategy Character Areas		
Long Reach and Fiddler's Reach RCA	Low	Minor/Negligible Not Significant
Northfleet Hope Reach RCA	Low	Minor/Negligible Not Significant
Gravesend Reach RCA	Low	Minor/Negligible Not Significant

Visual Amenity

11.129 Locations of representative receptor photoviewpoints are illustrated on Figures 11.5 and 11.6. The photoviewpoints themselves are provided as Figure 11.7. Receptor sensitivity is described in Table 11.9 with the sensitivity of visual receptors varying according to category, context of the view and susceptibility to change. The potential effects at Year 1 of completion predicted for each receptor is included in Table 11.9 below.

Table 11.9: Potential Effects at Year 1 of Completion on Visual Receptor Groups.

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
Residences and Settlements			
5, 7	Swanscombe	High	Major to Major/Moderate Significant
2, 11	Ingress Park	High	Major to Major/Moderate Significant
12	Greenhithe	High	Major Significant
18	Gravesham	High	Major/Moderate

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
			Significant
17, 20, 40	Northfleet	High	Major/Moderate to Moderate Significant
29, 30, 31	Grays	High	Major Significant
46	Castle Hill	High	Moderate Significant
Public Rights of Way, National Cycle Routes and Open Access Land			
1, 2, 3	Footpath DS1	Medium	Major/Moderate Significant
4	Footpath DS2	Medium	Major/Moderate Significant
5	Footpath DS31	Medium	Major/Moderate Significant
22, 23	Footpath NU1	Medium	Major/Moderate Significant
36	Footpath 68	High	Moderate/Minor Not Significant
27	Footpath 141	Medium	Major/Moderate Significant
26, 29	Footpath 170	Medium	Major/Moderate Significant
31	Footpath 177	Medium	Major/Moderate Significant
32	Footpath 186	Medium	Minor Not Significant
41	Footpath NS177	Very High	Moderate/Minor Not Significant
36	Byway 98	Medium	Moderate/Minor Not Significant
44	Restricted Byway DR126	High	Moderate/Minor Not Significant
2, 13, 14, 17, 48	NCR 1	Medium	Major/Moderate Significant to Moderate/Minor Not Significant
EDP 29, 30, 31, 37, 39	NCR 13	Medium	Major/Moderate Significant to Moderate/Minor Not Significant
9	Swanscombe Heritage Park	High	Major/Moderate Significant

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
29, 30, 31	Grays Riverside Park and water's edge public spaces	Medium	Major/Moderate Significant
35	Coalhouse Fort	High	Minor Not Significant
37	Tilbury Fort	Medium	Major/Moderate Significant
Public Highways			
5	Galley Hill Road	Low	Moderate Significant
10	Knockhall Road	Low	Minor/Negligible Not Significant
28	Devonshire Road	Low	Moderate/Minor Not Significant
43	New Barn Road	Low	Negligible Not Significant
44	Park Corner Road	Low	Minor/Negligible Not Significant
15, 16	Ebbsfleet International	Very Low	Moderate/Minor Not Significant
21	Stonebridge Road/B2175	Low	Moderate/Minor Not Significant
47	Hall Road Bridge/B262	Very Low	Minor Not Significant
33	Chadwell Bypass	Low	Minor/Negligible Not Significant
42	A227	Low	Negligible Not Significant
13, 14	A2260	Low	Moderate/Minor Not Significant
47	A2	Very Low	Minor Not Significant
Railways			
-	London to Southend mainline	Very Low	Negligible Not Significant
-	North Kent railway line	Very Low	Negligible Not Significant
-	HS1	Very Low	Negligible Not Significant
Users of the Thames (recreational traffic, haulage, ferries and cruise ships)			
50	Gravesend to Tilbury Ferry	Very Low	Minor Not Significant

Residences and Settlements

- 11.130 A summary of the effects on the residential amenity of residential areas during Year one of completion is set out below.
- 11.131 The assessment shows that there would potentially be significant effects from areas of Swanscombe (represented by Photoviewpoints EDP 5 and 7), dwellings along the waterfront and western edge of Kent Project Site at Ingress Park (represented by Photoviewpoints EDP 2 and 11), riverside properties Greenhithe (represented by Photoviewpoint EDP 12), some dwellings on elevated ground at Gravesham (represented by Photoviewpoint EDP 18), dwellings near the waterfront and on elevated ground at Northfleet (Photoviewpoints EDP 17, 20 and 40) and waterfront dwellings at Grays on the northern bank of the Thames opposite the Kent Project Site (represented by Photoviewpoints EDP 29, 30 and 31)
- 11.132 However, it is important to note that this effect would only be apparent for certain parts of certain properties, and not as a wholesale effect across the groups. Castle Hill (represented by Photoviewpoint EDP 46) would see a reduction in effect from major/moderate at construction to moderate at Year 1 of completion.

Public Rights of Way and Open Access Land

- 11.133 As illustrated on Figure 11.1, a small number of PRoW traverse the Project Site and the broad study area. Figures 11.5 and 11.6 illustrate the locations of the Photoviewpoints. Photoviewpoints EDP 1, 2, 3, 4, 5, 19, 22, 23, 24, 26, 27, 31, 32, 36, 37, 38, 41, 42, 43, 44 and 45 illustrate views from sections of PRoW.
- 11.134 Footpath DS1 (Photoviewpoints EDP 1, 2 and 3), Footpath DS2 (Photoviewpoint EDP 4), Footpath DS31 (Photoviewpoint EDP 5), Footpath NU1 (Photoviewpoints EDP 22 and 23), Footpath 170 (Photoviewpoints EDP 26 and 29), Footpath 141 (Photoviewpoint EDP 27), Footpath 177 (Photoviewpoint EDP 31), Byway 98 (Photoviewpoint EDP 36) would experience potential significant effects during Year one of completion that would be adverse and permanent.
- 11.135 In terms of Open Access Land and areas of Public Open Space (POS), there would be potential significant effects from Swanscombe Heritage Park (Photoviewpoint EDP 9) and the public spaces along the northern bank of the Thames (Photoviewpoints EDP 29, 30 and 31) that would be adverse and permanent in nature.
- 11.136 With regard to National Cycle Routes (NCRs), potential significant effects are likely to remain upon sections of NCR 1 which passes east-west through the study area and through parts of the Kent Project Site, however, from the A2260 (represented by Photoviewpoints 13, 14 and 48) there is expected to be a reduction from a moderate significant effect to moderate/minor which is not significant. There would also be potentially significant effects along sections of NCR 13 which passes east-west through the study area on the northern bank of the Thames, passing through the Essex Project Site (representative views illustrated by Photoviewpoints EDP 29, 30, 31, 37 and 39) that

would be adverse and permanent in nature.

- 11.137 Effects on other routes vary more considerably, due primarily to local topography and the effect of intervening vegetation and built form, which screens, or partly screens many views. Effects are likely between major to moderate level (all high to medium sensitivity with magnitude of change varying between very high to high), with these effects significant, adverse and permanent. Many parts of these routes will experience much lower (not significant) effects, with those assessed presenting the worst case.

Public Highways

- 11.138 The assessment has shown that during the Year 1 of completion there would be potential (worst case) moderate (significant) level adverse effects on the local road network. These routes include Galley Hill Road (Photoviewpoint EDP 5) whilst effects on the A2260 (Photoviewpoints EDP 13 14 and 48) which pass east-west through the Kent Project Site would reduce to moderate/minor and not significant, which would be adverse and permanent. The changes would see a revision from their baseline views to one characterised by a recently completed entertainment resort and associated operations in very close range. Effects would be adverse in nature and permanent in nature.
- 11.139 However, with regard to these effects, it should be noted that the level of effect will diminish with distance on these routes and level of intervening screening element such as vegetation, built form and topography. Views to the Project Site will be limited to infrequent glimpsed oblique views. Effects at this level are not surprising; any major development of this scale would yield such an outcome and this is not a reflection on the quality of the scheme masterplan, but of the process that require an assumption to be made that most people would see the visual and sensory change as adverse.
- 11.140 For the remaining road network, screening, the existing character of views and the low to very low sensitivity of road receptors plays an important role in limiting effects and as such there would be no significant effects upon those routes.

Railways

- 11.141 No potential significant effects are predicted upon the railway network passing through or within proximity to the Project Site, primarily due to the containment of the routes through deep cuttings within the landscape and mature vegetation and built form which serves to screen views.

Users of the Thames (recreational traffic, haulage, ferries and cruise ships)

- 11.142 With regard to users of the Thames, there may be significant effects experienced by vessels travelling directly past the Swanscombe Peninsula where the most substantial quantum of the London Resort would be apparently visible. Photoviewpoint EDP 50 illustrates views from the Gravesend to Tilbury Ferry, of which effects of minor and not significant are predicted as a result of the completed Proposed Development at the

Project Site.

PROPOSED MITIGATION

Mitigation and Enhancement

- 11.143 The hierarchical approach towards mitigation (prevent, reduce, offset) has been to avoid, where possible, any effects through the overall design of the Proposed Development, the disposition of its elements (prevent) and subsequently through careful siting of the different elements of the Proposed Development and its required infrastructure (reduce).
- 11.144 Inherent mitigation provides a form of preventative mitigation and, as explained in paragraph 11.143 above, is that which has been considered as an integral part of the overall design and locational strategy for the Proposed Development. This mitigation by design is described in Chapter five of this PEIR. It is not an ‘add-on’ measure to ameliorate significant environmental effects, but part of the positive and pro-active approach whereby mitigation has been assessed and considered at all stages of the development of the project to prevent or reduce the occurrence of potentially significant environmental effects.
- 11.145 The landscape and visual mitigation strategy is a key, and fully-integrated, component of the Proposed Development. As illustrated on the parameter plans, the Proposed Development incorporates retained green infrastructure, public open space (both formal and informal) and landscape enhancements.
- 11.146 The Proposed Development has been conceived and designed with reference to published Landscape Character Assessments, as well as site-specific advice regarding landscape and visual matters, thus ensuring mitigation proposed is in line with Local Authority policy guidance.
- 11.147 Those mitigation measures pertinent to landscape and visual (and arboricultural) matters are detailed with reference to the different stages of the Proposed Development below.

Construction

- 11.148 The following measures should be implemented during the construction phase of the Proposed Development:
- The adoption of an approved Construction and Environment Management Plan (CEMP) including mitigation designed to avoid significant ecological effects including those on key landscape features;
 - The adoption of an approved Arboricultural Method Statement (AMS) incorporating best practice guidance set out in British Standard 5837: ‘2012 Trees in Relation to Design, Demolition and Construction’ which will ensure retained trees and other

vegetation is not adversely affected during the construction process. Further guidance pertaining to arboricultural matters is contained within Appendix 11.2 of this chapter;

- The adoption of an approved topsoil and earthworks management plan (Soil Management Plan) including dust control measures (see chapter 18);
- The use of visual screening, such as hoardings for more sensitive visual receptors in proximity to the Application Site, including residential receptors that have the greatest potential to be affected by the Proposed Development, as set out in Appendix 11.1;
- Existing residents that live adjacent to the Project Site (particularly those close to the Kent Project Site and the areas near the Swanscombe Peninsula) would be more sensitive to construction lighting due to the proximity, direction and type of receptor. Mitigation measures for construction lighting are likely to include directional fittings and restricted hours of operation; and
- As illustrated on Figure 11.1, there are a small number of PRow crossing the Kent Project Site. Safe access for pedestrians would need to be maintained whenever practicable throughout the construction phases of development. Access along the PRowS should be protected using Heras fencing or similar. Construction works which create dust should be kept to a minimum within proximity to the PRowS, and dust prevention measures, such as damping, should be undertaken to reduce the impact on users of the PRow network. For reasons of public safety, any informal use of the site for dog walking, etc., should be established, and where evident, would need to be prevented during the construction phase of the development. This would be achieved using protective fencing.

Completed Development

11.149 Mitigation during the operation (post completion) stage comprises embedded (avoidance) mitigation and additional mitigation proposed to reduce the significance of likely effects (reduction mitigation). These different mitigation measures are discussed below with reference to the Proposed Development.

Embedded Mitigation

11.150 Despite the unavoidable loss of some greenfield land on the Swanscombe Peninsula and along the proposed transport corridor from the A2 to the main body of the Kent Project Site (albeit both of which have had past industrial/commercial uses), the current condition and key characteristics of the landscape have been considered throughout the design of the Proposed Development and integrated into the layout where possible, such as the avoidance of Black Duck Marsh, Broadness Salt Marsh and Botany Marsh East. With regard to the Essex Project Site, the proposed developable area is largely existing hardstanding.

11.151 In terms of the arboricultural resource, the masterplanning of the development layout has ensured that trees and hedgerow loss would be minimised through integration of these features into the development areas and the areas of open space. The AIA contained at Technical Appendix 11.2 details the value of the tree stock on site, and makes recommendations for future retention.

Additional Mitigation

11.152 The landscape and visual mitigation strategy is key, a fully integrated, component of the Proposed Development. As illustrated on the parameter plans, the Proposed Development incorporates public open space (both formal and informal) and other landscape enhancements, which include:

- An over-arching Green Infrastructure (GI) Strategy (Figure 11.9) and Landscape and Ecology Initiatives Plan (Figure 11.10) for the Project Site;
- The provision of a retained, albeit somewhat realigned and upgraded on-site PRoW network, offering recreational value, and a community resource (Figure 11.8); and
- The creation of surface water attenuation and detention features incorporated within the areas of open space.

11.153 In addition to these site-wide measures, along the site boundaries and through the development along key existing green links, the landscaping will be managed and reinforced to contain the Proposed Development, providing site security, screening and habitat enhancement, along with aiding the integration of the development into its landscape context when viewed from further afield.

11.154 As part of the wider Green Infrastructure, as illustrated within the Green Infrastructure Strategy (Figure 11.9), public open spaces, both formal and informal, will be designed to provide high-quality and traffic free green space, which satisfies a number of objectives, including:

- Public open space for formal and informal use;
- Provision of an improved on-site PRoW network;
- Green walls and roofs employed on buildings throughout the Proposed Development;
- Contribution to green networks and enhance habitat connectivity; and
- Facilitated sustainable urban drainage (SUDS) and connectivity with the existing blue network.

11.155 In summary, the landscape elements specific to the detailed design of the Proposed Development include enhancements that would provide:

- Visual filtering of the Proposed Development;
- Public and private amenity; and
- Ecological value.

RESIDUAL ENVIRONMENTAL EFFECTS

11.156 The following is an assessment of the residual effects of the Proposed Development following mitigation employed during the construction phase (to reduce the effects of construction activities) and after completion, at Year 15, once embedded mitigation measures have matured and building materials have weathered.

11.157 The Proposed Development has been designed to consider the sensitivity of the landscape and views within and around the Project Site. The 'residual' effects of the Proposed Development are considered to be those that persist once the effects of mitigation – be that strategic planting or the softening of the Proposed Development provided by internal planting and areas of open space – have become established. In planning terms, these are the effects to which most 'weight' should be attached, since they represent the long-term effect on the landscape and visual baseline.

11.158 The residual effects following the implementation of the mitigation strategies will be fully detailed within the ES submission. Only those residual effects that have reduced and/or ameliorated likely significant effects as described above are discussed below; all other effects as stated at Year one would remain the same.

During Construction

11.159 Generally, the landscape and visual effects during the construction phases of the Proposed Development would be difficult to mitigate due to the nature of these operations. However, as described above, the adoption of approved best practice construction methods will aid in reducing the perception of construction activities for those receptors most likely to be affected.

11.160 Notwithstanding the adoption of these measures, and whilst the significance of the effect at some receptors would reduce to a limited degree, at no receptor which would experience a significant unmitigated effect would a reduction as a result of mitigation lead to a non-significant level of effect.

11.161 The critical issue in considering construction effects is their temporary nature, and thus the short time period for which landscape and visual amenities would be affected to a significant degree.

11.162 To summarise, residual significant effects would apply to the following receptors during the construction stage of the Proposed Development:

- The landscape character and fabric within the Kent Project Site itself;
- Residential areas of Swanscombe, Northfleet, Grays, Ingress Park, Greenhithe and Castle Hill;
- A number of PROWs within and in close proximity to the Project Site; and
- At representative Photoviewpoints EDP 1, 2, 3, 4, 5, 7, 9, 11, 12, 13, 14, 17, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 37, 40 and 46.

After Completion at Year 15

Landscape Character

Landscape Fabric and Features of the Project Site itself

11.163 In terms of effects upon the landscape fabric and features of the Project Site itself during Year 15 of operation are considered to be similar to those predicted at Year 1.

11.164 However, most notably, the effects on the vegetative fabric of the Project Site would begin to benefit from maturing trees and other 'green' enhancements (Figure 11.9 and 11.10) such as additional provision of saltmarsh habitat, an improved PROW network (Figure 11.8, creation of reedbeds and enhancement of existing retained ecologically valuable features, culminating in a positive or beneficial change from the condition at Year 1.

Project Site Local Landscape Character

11.165 Following completion, and as mitigation measures have matured circa 15 years from initial completion, the magnitude of change is expected to reduce slightly upon the Marshland LLCA as the Proposed Development becomes assimilated into its context. However, the magnitude of change, although slightly reduced is still expected to be high, meriting a moderate/major significant effect that is permanent and adverse in nature. This is unsurprising given the type of change and the geographic area the Kent Project Site would alter of the Marshland LLCA.

11.166 Whilst areas of the LCA are permanently lost to the proposed development, retained and enhanced areas of ecological value such as Botany Marshes, Black Duck Marsh and Broadness Salt Marsh will have continued to mature and establish. Newly diverted/realigned PROW routes will have matured through parts of the Marshland LCA. In addition, there will be established wildlife hides, boardwalks, information boards and viewing platforms, whilst areas of habitat such as saltmarsh will be have similarly established over this time period.

11.167 As before, there are no significant effects predicted for the Tilbury Docks LLCA 15 years post completion.

Landscape Character Areas

11.168 With regard to broader the published landscape character areas, the potential effects predicted upon those areas which cover or lie in close proximity to the DCO boundary at Year 15 of completion are detailed in Table 11.10 below.

Table 11.10: Potential Effects on Published Landscape Character at Year 15 of Completion.

	Sensitivity	Effect
Kent Landscape Character Areas		
Western Thames Marshes LCA	Medium	Minor Not Significant
Dartford and Gravesend Fringes LCA	Medium	Minor/Negligible Not Significant
Darenth Downs LCA	Medium	Minor/Negligible Not Significant
Southfleet Arable Lands LCA	Medium	Minor/Negligible Not Significant
Gravesham Landscape Character Areas		
Botany Marshes LCA	High	Moderate Significant
Southern Gravesend Fringes LCA	Low	Negligible Not Significant
Istead Arable Farmland LCA	Medium	Minor/Negligible Not Significant
Gravesham Townscape Appraisal		
Industrial Hinterland TCA	Very Low	Negligible Not Significant
Northfleet TCA	Low	Negligible Not Significant
Modern Suburbs TCA	Low	Negligible Not Significant
Thurrock Landscape Character Areas		
Tilbury and Docks Urban Area LCA	Very Low	Negligible Not Significant
Tilbury Marshes LCA	High	Moderate/Minor Not Significant
Thames East Strategy Character Areas		
Long Reach and Fiddler's Reach RCA	Low	Minor/Negligible Not Significant
Northfleet Hope Reach RCA	Low	Minor/Negligible

	Sensitivity	Effect
		Not Significant
Gravesend Reach RCA	Low	Minor/Negligible Not Significant

Visual Amenity

11.169 Locations of representative receptor photoviewpoints are illustrated on Figures 11.5 and 11.6. The photoviewpoints themselves are provided as Figure 11.7. Receptor sensitivity is described in Table 11.9 with the sensitivity of visual receptors varying according to category, context of the view and susceptibility to change. The potential effects at Year 15 of completion predicted for each receptor is included in Table 11.11 below.

Table 11.11: Potential Effects at Year 15 of Completion on Visual Receptor Groups.

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
Residences and Settlements			
5, 7	Swanscombe	High	Major/Moderate to Moderate Significant
2, 11	Ingress Park	High	Major/Moderate to Moderate Significant
12	Greenhithe	High	Major/Moderate Significant
18	Gravesham	High	Moderate Significant
17, 20, 40	Northfleet	High	Moderate Significant to Moderate/Minor Not Significant
29, 30, 31	Grays	High	Major/Moderate Significant
46	Castle Hill	High	Moderate/Minor Not Significant
Public Rights of Way, National Cycle Routes and Open Access Land			
1, 2, 3	Footpath DS1	Medium	Moderate Significant
4	Footpath DS2	Medium	Moderate Significant
5	Footpath DS31	Medium	Moderate Significant
22, 23	Footpath NU1	Medium	Moderate Significant
36	Footpath 68	High	Minor Not Significant
27	Footpath 141	Medium	Moderate

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
			Significant
26, 29	Footpath 170	Medium	Moderate Significant
31	Footpath 177	Medium	Moderate Significant
32	Footpath 186	Medium	Minor Not Significant
41	Footpath NS177	Very High	Moderate/Minor Not Significant
36	Byway 98	Medium	Moderate/Minor Not Significant
44	Restricted Byway DR126	High	Moderate/Minor Not Significant
2, 13, 14, 17, 48	NCR 1	Medium	Major/Moderate Significant to Moderate/Minor Not Significant
EDP 29, 30, 31, 37, 39	NCR 13	Medium	Moderate Significant to Minor Not Significant
9	Swanscombe Heritage Park	High	Moderate Significant
29, 30, 31	Grays Riverside Park and water's edge public spaces	Medium	Moderate Significant
35	Coalhouse Fort	High	Minor Not Significant
37	Tilbury Fort	Medium	Moderate Significant
Public Highways			
5	Galley Hill Road	Low	Moderate/Minor Not Significant
10	Knockhall Road	Low	Negligible Not Significant
28	Devonshire Road	Low	Minor Not Significant
43	New Barn Road	Low	Negligible Not Significant
44	Park Corner Road	Low	Negligible Not Significant
15, 16	Ebbsfleet International	Very Low	Minor Not Significant

Photoviewpoint numbers	Receptor and Location	Sensitivity	Effect
21	Stonebridge Road/B2175	Low	Minor Not Significant
47	Hall Road Bridge/B262	Very Low	Minor/Negligible Not Significant
33	Chadwell Bypass	Low	Negligible Not Significant
42	A227	Low	Negligible Not Significant
13, 14	A2260	Low	Minor Significant
47	A2	Very Low	Minor/Negligible Not Significant
Railways			
-	London to Southend mainline	Very Low	Negligible/None Not Significant
-	North Kent railway line	Very Low	Negligible/None Not Significant
-	HS1	Very Low	Negligible/None Not Significant
Users of the Thames (recreational traffic, haulage, ferries and cruise ships)			
50	Gravesend to Tilbury Ferry	Very Low	Minor/Negligible Not Significant

Residences and Settlements

11.170 Following completion, and as mitigation measures mature, by Year 15 the magnitude of change would marginally reduce for the majority of residential receptors, reflecting the success of the scheme mitigation, and the early establishment of strategic planting throughout the Proposed Development and the overall high quality of the scheme proposed.

11.171 There would be a reduction in the magnitude of change and overall level of previously significant effects upon parts of Swanscombe (represented by Photoviewpoints EDP 5 and 7), however, the effects, whilst reduced, would still remain significant (major/moderate and moderate) and would be adverse and permanent in nature.

11.172 Previously significant effects on the parts of Ingress Park (represented by Photoviewpoints EDP 2 and 11), would similarly reduce but would, however, still remain significant, adverse and permanent (moderate). Waterfront properties at Greenhithe would continue to experience significant adverse permanent effects which will have reduced slightly from those effects at Year one of completion (major/moderate) to moderate.

- 11.173 Dwellings on elevated ground at Gravesham (represented by Photoviewpoint EDP 18) would see a reduction in the level of significant adverse permanent effect from Year 1 (major/moderate) to Year 15 (moderate) but will remain significant.
- 11.174 Residences near the waterfront and on elevated ground at Northfleet (represented by Photoviewpoints EDP 17, 20 and 40) will experience a reduction in the overall level of effect. Photoviewpoint EDP 20 in particular would reduce from moderate at Year 1 to moderate/minor at Year 15 which would be adverse, permanent and not significant. Whilst Photoviewpoints 17 and 40 would experience a reduced level of effect from major/moderate to moderate, both would still be significant by Year 15.
- 11.175 Waterfront dwellings at Grays on the northern bank of the Thames opposite the Kent Project Site (represented by Photoviewpoints EDP 29, 30 and 31) would continue to experience adverse, permanent significant effects by Year 15 that would be major/moderate.
- 11.176 However, it is important to note that this effect would only be apparent for certain parts of certain properties, and not as a wholesale effect across entire residential areas.

Public Rights of Way and Open Access Land

- 11.177 Following completion, and as mitigation measures mature, by Year 15 the magnitude of change would generally reduce for the PRoW network, whilst those within the Project Site itself and within particularly close proximity to the Project Site boundary would remain the same.
- 11.178 Major/moderate effects predicted upon the footpath network of the Swanscombe Peninsula of the Kent Project Site would reduce by Year 15 to Moderate following the maturation of the landscaping and overall weathering and acceptance of the Proposed Development in its context over time. These effects would remain significant adverse permanent in nature, applying to Footpath DS1 (Photoviewpoints EDP 1, 2 and 3), Footpath DS2 (Photoviewpoint EDP 4), Footpath DS31 (Photoviewpoint EDP 5) and Footpath NU1 (Photoviewpoints EDP 22 and 23).
- 11.179 Significant effects predicted at Year 1 from PRoW and Public Open Space (POS) on the northern banks of the Thames would similarly reduce to moderate from major/moderate for Footpath 170 (Photoviewpoints EDP 26 and 29), Footpath 141 (Photoviewpoint EDP 27), Footpath 177 (Photoviewpoint EDP 31) Byway 98 (Photoviewpoint EDP 36) which remain significant, adverse and permanent in nature.
- 11.180 In terms of Open Access Land and areas of POS, there would be potential significant effects from Swanscombe Heritage Park (Photoviewpoint EDP 9) which would reduce from major/moderate at Year 1 to moderate by Year 15, remaining adverse, permanent and significant in nature.
- 11.181 With regard to National Cycle Routes (NCRs), potential significant effects are likely to

remain upon sections of NCR 1 which passes east-west through the study area and through parts of the Kent Project Site. However, from the A2260 (represented by Photoviewpoint 13, 14 and 48) there is expected to be a reduction from a moderate/minor to minor which are both not significant. Photoviewpoint EDP 2 (part of NCR 1) would see a reduction in effect from major/moderate to moderate and remain adverse permanent and significant in nature.

- 11.182 There would continue to be potentially significant effects along sections of NCR 13 which passes east-west through the study area on the northern bank of the Thames, passing through the Essex Project Site (representative views illustrated by Photoviewpoints EDP 29, 30, 31, 37 and 39) from major/moderate to moderate adverse and permanent.
- 11.183 Effects on other routes vary more considerably, due primarily to local topography and the effect of intervening vegetation and built form, which screens, or partly screens many views. Effects are likely at between a major to moderate level (all high to medium sensitivity with magnitude of change varying between very high to high), with these effects significant. Many parts of these routes will experience much lower (not significant) effects, with those assessed presenting the worst case.
- 11.184 Residual effects that have remained at significant level are not surprising. The conversion of any site to a major development site would yield such an outcome and this is not a reflection on the quality of the scheme masterplan, but of the process that requires an assumption to be made that most people would see the visual and sensory change as adverse.
- 11.185 Effects on other routes vary more considerably, due primarily to local topography and the effect of intervening vegetation, which screens, or partly screens many views. Many parts of these routes will experience much lower (not significant) effects, with those assessed presenting the worst case.
- 11.186 In general terms, and in the case of all effects upon all routes, it is true that over the longer term, and as the Proposed Development becomes an accepted part of the view, references to the magnitude of change and levels of effect would be immaterial as the development becomes part of the local context.

Public Highways

- 11.187 The assessment has shown that during the Year 15 of completion there would be a reduction from moderate significant level adverse effects on Galley Hill Road (Photoviewpoint EDP 5) to moderate/minor which is not significant. Similarly, effects would further reduce on the A2260 (Photoviewpoints EDP 13, 14 and 48), which passes east-west through the Kent Project Site, to minor and not significant, which would be adverse and permanent. With regards to Devonshire Road (Photoviewpoint EDP 28), significant effects of moderate at Year one would reduce to moderate/minor which is not significant but remain adverse and permanent in nature.

- 11.188 However, with regard to these effects, it should be noted that the level of effect will diminish with distance on these routes and level of intervening screening element such as vegetation, built form and topography. Views to the Project Site will be limited to infrequent glimpsed oblique views. Effects at this level are not surprising. Any major development of this scale would yield such an outcome and this is not a reflection on the quality of the scheme masterplan, but of the process that requires an assumption to be made that most people would see the visual and sensory change as adverse.
- 11.189 Over the longer term, and as the Proposed Development becomes an accepted part of the view from these roads, references to magnitude of change and levels of effect would become irrelevant in the local context.
- 11.190 For the remaining road network, screening, the existing character of views and the low to very low sensitivity of road receptors plays an important role in limiting effects and as such there would be no significant effects upon those routes.

Railways

- 11.191 No potential significant effects are predicted upon the railway network passing through or within proximity to the Project Site, primarily due to the containment of the routes through deep cuttings within the landscape and mature vegetation and built form which serves to screen views.

Users of the Thames (recreational traffic, haulage, ferries and cruise ships)

- 11.192 With regard to users of the Thames, there may be significant effects experienced by vessels travelling directly past the Swanscombe Peninsula where the most substantial quantum of the London Resort would be apparently visible. Photoviewpoint EDP 50 illustrates views from the Gravesend to Tilbury Ferry, of which effects of minor and not significant are predicted as a result of the completed Proposed Development at the Project Site.

CUMULATIVE AND IN-COMBINATION EFFECTS

- 11.193 Cumulative effects can arise from the intervisibility of operational or proposed developments and/or from the combined effects of individual components of the Proposed Development occurring in different locations or over a period of time. The separate effect of such individual components or developments may not be significant, but together they may create a degree of adverse effect on the landscape resource or visual receptors within their combined visual envelopes. Schemes may have significant effects in their own right, but significant cumulative effects do not automatically arise following the addition of the Proposed Development; the significance is determined by the degree of change that the Proposed Development would introduce into the theoretical cumulative baseline.

- 11.194 Cumulative effects arise in two principal ways, in combination and sequentially. Combined effects occur when: 1) two or more schemes appear simultaneously in the same arc of view without the need for an observer to turn; and 2) in succession, where it is necessary for the observer to turn the head to see the various schemes. Sequential effects occur where the observer has to move from one location to another to be able to see the different developments, and typically arise when the observer is travelling through a landscape.
- 11.195 Those cumulative development sites within the near vicinity of the development, which have the potential to result in cumulative landscape and visual effects, will be assessed against the likely LVIA effects of the Proposed Development to determine whether cumulative effects are likely and if so their significance. This will be fully reported in the ES.

CLIMATE CHANGE

- 11.196 The impact of climate change on the landscape and visual resource is assessed through consideration of a potential future baseline scenario and considers how potential climate change may alter the predicted landscape and visual effects contained within this Chapter. Whilst it is unlikely that completely new direct impacts would arise as a result of climate change based on the current conditions, the geographic spread or scale of potential impacts might be changed when considered against the future baseline conditions.
- 11.197 The changes to temperature and precipitation predicted would be likely, in time, to change the landscape around us, in a number of ways. However, it is unlikely that the subtle changes would lead to wholesale change to the future landscape baseline within the lifetime of the Proposed Development. Changes might include certain tree species or grasslands becoming more dominant/prevalent, but given the urban character of the surrounding landscape, these changes would not have a prominent impact. A further subtle change may occur through an increase in sea level, the high tide at the site, rising slightly over time. This has been accounted for through an increase in the height of flood defence barriers around the peninsula and is not therefore likely to have a noticeable change throughout the life of the Proposed Development. Changes to the landscape effects predicted are therefore considered appropriate.
- 11.198 For visual effects, the future baseline under a climate change scenario would not lead to any greater, or different, effects to those predicted.

SUMMARY AND CONCLUSIONS

- 11.199 The LVIA baseline report (Appendix 11.1) provides a preliminary appraisal of the baseline conditions against which landscape and visual effects can be considered as the design of

the Proposed Development at the Project Site evolves.

- 11.200 In landscape and visual terms, the preliminary impact assessment indicates that the greatest scope for significant permanent effects relates to the construction and early years of the operation phase (Year 1 of completion) of the Proposed Development at the Project Site. This will be subject to further assessment involving more detailed visual studies (supported by photomontage visualisations to provide accurate visual representations of the proposals from key photoviewpoints). The results of this assessment will be presented in the ES which will form part of the application for the Proposed Development.
- 11.201 The Proposed Development is likely to considerably and permanently change the existing landscape of the Swanscombe Peninsula. However, on the basis of the proposed landscape and ecological mitigation strategies, it is considered that the overall residual effects upon the landscape fabric and features of the Swanscombe Peninsula would be beneficial, including retention and enhancement of existing areas of ecological habitats such as marsh, reeds and grassland as well as creation of newer areas.
- 11.202 With regard to the Proposed Development at the Essex Project Site, landscape and visual effects would be extremely localised, particularly after the construction phase when the changes are in progress and more evident. During operation, it is considered that the effects would be minimal at Year 1 and further reduced by Year 15.
- 11.203 The preliminary impact assessment indicates that the Proposed Development along the Access Corridor is likely to reinforce the existing landscape character of Ebbsfleet Valley through which it runs. Parts of the A2(T) Corridor landscape are likely to experience more minor changes due to the A2(T)/B259 junction improvement works. Taking into account the proposed landscape and visual mitigation strategies, it is anticipated that the new road and junction improvement works would be successfully integrated into the landscape without significant adverse effects. The landscape and visual impact of the Access Corridor is likely to be relatively localised.
- 11.204 This preliminary assessment of the potential landscape and visual effects of the construction and operation phases of the Proposed Development, mitigation measures and residual effects are not exhaustive but are considered to provide as comprehensive an overview as possible at this stage in the project process.