



# **ENVIRONMENTAL STATEMENT: 6.1 CHAPTER 14: POPULATION AND HUMAN HEALTH**

**DECARBONISATION**

**Cory Decarbonisation Project**

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## 14. POPULATION, HEALTH AND LAND USE

### 14.1. INTRODUCTION

14.1.1 This chapter reports the assessment of the likely significant effects of the Proposed Scheme on population, health and land use during construction and operation and describes:

- relevant policy, legislation and guidance;
- consultation undertaken to date;
- the methodology for assessment (including surveys);
- potential effects of the construction phase; and
- potential effects of the operation phase.

### 14.2. POLICY, LEGISLATION AND GUIDANCE

14.2.1 The policy, legislation, and guidance relevant to the assessment of population, health and land use for the Proposed Scheme is detailed in **Table 14-1**.

**Table 14-1: Population, Health and Land Use Summary of Key Policy, Legislation, and Guidance**

Policy, Legislation or Guidance	Description
<b>Policy</b>	
<b>Overarching National Policy Statement (NPS) for Energy EN-1 2024<sup>1</sup></b>	<p>This Overarching National Policy Statement for Energy (EN-1) is part of a suite of NPSs designated by the Secretary of State of DESNZ in January 2024. Paragraph 4.3.4 states “As described in the relevant sections of this NPS and in the technology specific NPSs, where the proposed project has an effect on humans, the ES should assess these effects for each element of the project, identifying any potential adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate”.</p> <p>Paragraph 5.11.1 states “An energy infrastructure project will have a direct effect on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including green and blue infrastructure”.</p>

Policy, Legislation or Guidance	Description
	<p>Paragraph 5.11.6 states <i>“The government’s policy is to ensure there is adequate provision of high-quality open space and sports and recreation facilities to meet the needs of local communities. Connecting people with open spaces, sports and recreational facilities all help to underpin people’s quality of life and have a vital role to play in promoting healthy living”</i>.</p> <p>Paragraph 5.11.7 states <i>“Green and blue infrastructure can also enable developments to provide positive environmental, social, health and economic benefits. Green infrastructure includes green space such as parks and woodlands but also other environmental features such as street trees, hedgerows and green walls and roofs. It also includes blue infrastructure such as canals, rivers, streams, ponds lakes and their borders. Well designed and managed green and blue infrastructure provides multiple benefits at a range of scales. It can contribute to biodiversity recovery, sequester carbon, absorb surface water, cleanse pollutants, absorb noise and reduce high temperatures”</i>.</p> <p>Paragraph 5.11.8 states <i>“The ES should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors. For developments on previously developed land, the applicant should ensure that they have considered the risk posed by land contamination and how it is proposed to address this”</i>.</p> <p>Paragraph 5.11.9 states <i>“Applicants will need to consult the local community on their proposals to build on existing open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green and blue infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal”</i>.</p>

Policy, Legislation or Guidance	Description
	<p>Paragraph 5.11.10 states that <i>“Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements”</i>.</p>
<p><b>National Planning Policy Framework (NPPF) 2023<sup>2</sup></b></p>	<p>The NPPF sets out the Government’s planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.</p> <p>Paragraph 96 states that <i>“Planning policies and decisions should aim to achieve healthy, inclusive and safe places [...] which</i></p> <ul style="list-style-type: none"> <li><i>a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages [...]</i></li> <li><i>c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling”</i>.</li> </ul> <p>Paragraph 97 states <i>“To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should:</i></p> <ul style="list-style-type: none"> <li><i>a) plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments;</i></li> <li><i>b) take into account and support the delivery of local strategies to improve health, social and cultural well-being for all sections of the community;</i></li> <li><i>c) guard against the unnecessary loss of valued facilities and services, particularly where this would reduce the community’s ability to meet its day-to-day needs;</i></li> </ul>

Policy, Legislation or Guidance	Description
	<p><i>d) ensure that established shops, facilities and services are able to develop and modernise, and are retained for the benefit of the community; and</i></p> <p><i>e) ensure an integrated approach to considering the location of housing, economic uses and community facilities and services”.</i></p>
<b>The London Plan 2021<sup>3</sup></b>	<p>The Spatial Development Strategy for Greater London sets out a framework for how London will develop over the next 20-25 years and the Mayor’s vision for Good Growth. Policies relevant to the population, health and land use assessment are:</p> <ul style="list-style-type: none"> <li>• GG1: Building Strong and Inclusive Communities;</li> <li>• GG3: Creating a Healthy City;</li> <li>• D1: London’s Form, Character and capacity for Growth;</li> <li>• D14: Noise;</li> <li>• SI1: Improving Air Quality;</li> <li>• T2: Healthy Streets; and</li> <li>• T4: Assessing and Mitigating Transport Impacts (which covers the walking and cycling network).</li> </ul>
<b>The Bexley Local Plan 2023<sup>4</sup></b>	<p>The Local Plan, adopted on 26 April 2023, positively plans for sustainable development across the Borough. It is essential to the delivery of the Council’s other key plans and strategies, including the Bexley Plan, the Growth Strategy, and the Connected Communities Strategy. Relevant policies to the population, human health and land use assessment include:</p> <ul style="list-style-type: none"> <li>• DP15: Providing and Protecting Social and Community Infrastructure;</li> <li>• DP17: Publicly Accessible Open Space;</li> <li>• SP7: Social and community services and facilities;</li> <li>• SP8: Green Infrastructure including designated green space;</li> <li>• SP9: Protecting and enhancing biodiversity and geological assets;</li> <li>• DP15: Social and Community Infrastructure; and</li> <li>• DP16: Health impact assessments.</li> </ul>



Policy, Legislation or Guidance	Description
<b>London Environment Strategy 2018<sup>5</sup></b>	The London Environment Strategy contains the aim to improve “ <i>air, noise pollution, threats to our green spaces, and the adverse effects of climate change</i> ” these all pose as risks to the health and wellbeing of residents in London. As set out in the Strategy, the state of London’s environment affects everyone who lives in and visits the city – it helps Londoners to stay healthy, allows businesses to thrive and keeps London functioning from day to day.
<b>Bexley Open Space Strategy 2008<sup>6</sup></b>	The Bexley Open Space Strategy sets a framework for the future planning and management of open spaces, outdoor sport and recreation facilities by encouraging various service areas to effectively plan for the future delivery and implementation of improvements.
<b>Bexley Growth Strategy 2017<sup>7</sup></b>	The Bexley Growth Strategy sets out the coordinated effort across organisations to maximise the benefits of growth for the Borough’s current and future residents and businesses. It details how the Council, working with a range of partners, proposes to positively manage housing and economic growth and its associated supporting infrastructure in the Borough into the future. The Strategy covers a 30 year period to 2050.
<b>Bexley Connected Communities 2019 – 2023<sup>8</sup></b>	Bexley’s Connected Communities strategy sets out how the Council will work with local people who want to take positive action to support the people and places that they care about. It outlines the Borough’s plans for supporting and investing in community development up to 2023.
<b>Bexley Joint Local Health and Wellbeing Strategy 2023 - 2028<sup>9</sup></b>	The Joint Local Health and Wellbeing Strategy (JSNA) aims to works towards improving health and wellbeing not only by making sure local health and care services meet the needs of Bexley residents when they need them, but also by addressing wider determinants of health and wellbeing such as housing, education, and economic and environmental factors. This is to reduce the need, where possible, for residents to require the support of services in the first place.



Policy, Legislation or Guidance	Description
<b>South East Inshore Marine Plan 2021<sup>10</sup></b>	<p>The South East Inshore Marine Plan area stretches from Felixstowe in Suffolk to west of Dover in Kent and incorporates the River Thames. The South East Inshore Marine Plan will help to enhance and protect the marine environment and achieve sustainable economic growth while respecting local communities both within and adjacent to the marine plan area.</p> <p>Relevant policies to the population, human health and land use assessment include:</p> <ul style="list-style-type: none"> <li>• SE-CO-1: Co-existence;</li> <li>• SE-PS-1: Ports, Harbours and Shipping;</li> <li>• SE-ACC-1: Access;</li> <li>• SE-TR-1: Tourism and Recreation; and</li> <li>• SE-SOC-1: Social Benefits.</li> </ul>
<b>Legislation</b>	
<b>Environment Act 2021<sup>11</sup></b>	<p>The Environment Act 2021 makes provision about targets, plans and policies for improving the natural environment. Part 1 (Environmental Targets) Regulation 1 (1) states: <i>“The Secretary of State may by regulations set long-term targets in respect of any matter which relates to— (a) the natural environment, or (b) people’s enjoyment of the natural environment”</i>.</p> <p>Under the published environment targets, the government is required to:</p> <ul style="list-style-type: none"> <li>• halt the decline in species populations by 2030, and then increase populations by at least 10% to exceed current levels by 2042;</li> <li>• restore precious water bodies to their natural state by reducing harmful pollution from sewers and improving water usage in households;</li> <li>• deliver net zero ambitions and boost nature recovery by increasing tree and woodland cover to 16.5% of total land area in England by 2050;</li> <li>• cut exposure to PM2.5; and</li> <li>• restore 70% of designated features in the UK’s Marine Protected Areas to a favourable condition by 2042, with the rest in a recovering condition.</li> </ul>

Policy, Legislation or Guidance	Description
<b>Countryside and Rights of Way (CROW) Act 2000<sup>12</sup></b>	The CROW Act makes provision for and aims to protect public access to the countryside. The Act extends the right of public access to the countryside, including to woodlands, the Green Belt, waters and grasslands; and for connected purposes.
<b>Equality Act 2010<sup>13</sup></b>	<p>The Act legally protects people from discrimination in the workplace and in wider society. It aims to protect the following characteristics from discrimination:</p> <ul style="list-style-type: none"> <li>• Age;</li> <li>• Disability;</li> <li>• Gender reassignment;</li> <li>• Marriage and civil partnership;</li> <li>• Pregnancy and maternity;</li> <li>• Race;</li> <li>• Religion or belief;</li> <li>• Sex; and</li> <li>• Sexual orientation.</li> </ul>
<b>Localism Act 2011<sup>14</sup></b>	<p>The Localism Act gives rights and powers to both communities and individuals, making it easier for them to get things done and achieve their ambitions for the place where they live.</p> <p>The Act introduces a Community Right to Bid (Assets of Community Value) which aims to ensure that buildings and amenities can be kept in public use and remain an integral part of community life. A building or piece of land will be deemed to have community value only if:</p> <ul style="list-style-type: none"> <li>• The use of the land or building currently, or in the recent past, furthers the social well-being or cultural, recreational or sporting interests of the local community.</li> <li>• This use (as described above) of the building will continue to further the social well-being or interests of the local community.</li> <li>• The use of the building or land must not be deemed 'ancillary', i.e., of secondary purpose. This means that the use of the land or building to further social well-being or interests of the community must be its primary use.</li> </ul>

Policy, Legislation or Guidance	Description
<b>Guidance</b>	
<b>IEMA 2022 Guidance 'Determining Significance for Human Health in Environmental Impact Assessment'</b> <sup>15</sup>	This guidance covers the consideration of health as a topic in EIA. It presents a framework that supports a proportionate approach that can apply to all scales of EIA. The guidance provides health, sensitivity and health magnitude tables. It also sets out how to provide an evidence-based narrative to explain why the change is or is not significant for public health. The guidance also outlines that a population health approach should be taken when determining significance. It also notes that the potential for health inequalities needs articulating in 'significance conclusions' to determine if any specific mitigation should be put in place or monitoring is required.
<b>Planning Practice Guidance – Open Space, Sports and Recreation Facilities, Public Rights of Way (PRoW) and Local Green Space 2014</b> <sup>16</sup>	This sets out guidance on how new planning proposals should consider potential impacts on open space, sports and recreation facilities and PRoW.
<b>Planning Practice Guidance – Healthy and Safe Communities 2014</b> <sup>17</sup>	This sets out guidance on how new planning proposals should promote health, wellbeing and safety.
<b>Design Manual for Roads and Bridges (DMRB) guidance Volume 11, Section 3, Part 6, LA112 Population and Human Health</b> <sup>18</sup>	This document provides a framework for assessing, mitigating and reporting the effects of motorway and all-purpose trunk road projects on population and human health. It introduces significance criteria that aid t and proportionate assessment to support the reporting of significant effects of population and human health. Although this guidance is not directly applicable to the nature of the Proposed Scheme, it still provides a good basis for determining sensitivity and magnitude of effects.

Policy, Legislation or Guidance	Description
<b>UK Health Security Agency (formally Public Health England) Health and Environmental Impact Assessment: A Briefing for Public Health Teams in England, 2017<sup>19</sup></b>	This briefing note aims to raise awareness amongst Directors of Public Health (DsPH) and their public health teams about EIA. It identifies when and how public health teams can contribute to the EIA process. This note is part of Public Health England's work to describe and demonstrate effective, practical local action on a range of wider determinants of health.

### 14.3. CONSULTATION AND ENGAGEMENT

- 14.3.1 **Table 14-2** provides a summary of the consultation and engagement undertaken in support of the preparation of this assessment.
- 14.3.2 **Table 14-3** provides a summary of comments provided as part of the statutory consultation process and an appropriate response.
- 14.3.3 **Appendix 4-2: Scoping Opinion Responses (Volume 3)** provides a summary of the Planning Inspectorate and consultee comments on the EIA Scoping Opinion<sup>20</sup> and the Applicant's responses.

**Table 14-2: Consultation and Engagement Summary Table in relation to Population, Health and Land Use**

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
<b>19<sup>th</sup> July 2023, Email</b>	LBB	<p>Discussion of the usage and condition of PRoW, Metropolitan Open Land (MOL) and Urban Open Space.</p> <p>LBB had limited information of the current usage and condition of PRoW and therefore, PRoW usage and conditions surveys will be undertaken to better inform the population, health and land use assessment to be presented in the ES. LBB has been consulted with regarding the proposed PRoW survey locations.</p> <p>Further information on the area of MOL and links to the Council's Green Infrastructure Study was provided.</p>
<b>10<sup>th</sup> August 2023, Email</b>	UK Health Security Agency (UKHSA)	<p>Discussion on the proposed methodology for the assessment of human health, mental health and wellbeing.</p> <p>UKHSA agreed the scope and methodology for the human health, mental health and wellbeing assessment. However, it is noted that the community's understanding or perception of risk should extend beyond the use of amine-based solvents to hydrogen production, storage and transportation. However, as described in <b>Chapter 1: Introduction (Volume 1)</b> the Hydrogen Project is no longer included in the scope of the Proposed Scheme and as such this extension has not been included.</p> <p>The UKHSA noted that guidance on a suitable approach to the mental health assessment has been provided within their response to the Scoping Report, which has been used to inform this assessment.</p>
<b>22<sup>nd</sup> August 2023, Email</b>	Thames Water Peabody LBB	<p>Discussions with the various landowners on the proposed approach and locations of monitoring points for the PRoW usage survey. The approach and locations were agreed by all parties.</p>

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
26 <sup>th</sup> October 2023, Email	Thames Water	Discussion on the use of the East Paddock and Stable Paddock (that forms part of the Crossness LNR) by horse graziers. The East Paddock and Stable Paddock land parcels are shown in <b>Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)</b> . Details of the facilities, use of land and the frequency of use were provided and have been used to inform the assessment presented in this chapter.
28 <sup>th</sup> November 2023, Meeting	Peabody	Discussion on the use of Norman Road Field by horse graziers. Norman Road Field is shown in <b>Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)</b> . Details of the facilities, use of land and the frequency of use were provided and have been used to inform the assessment presented in this chapter.

**Table 14-3: Summary of the Statutory Consultation Comments in relation to Population Health and Land Use**

Statutory Consultee Comment	Response
<b>Peabody Trust and Tilfen Land Limited</b>	
<i>“Norman Road Fields is let on grazing licences, to members of the local community. It is important that the graziers are consulted and considered by the Project. Peabody is concerned to ensure that the future of this use is maintained. This should be addressed in the Environmental Statement.”</i>	The effects on graziers of both Norman Road Field and Crossness LNR have been included as part of the Population, Health and Land Use assessment. See <b>Section 14.4</b> and <b>Section 14.8</b> for further details.

## 14.4. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

- 14.4.1 The population, health and land use assessment of the Proposed Scheme has been undertaken in line with the legislation, policy and guidance described in **Section 14.2**.

### POTENTIAL SIGNIFICANT EFFECTS

- 14.4.2 The following potential significant effects across the construction and operation phases of the Proposed Scheme have been considered in this assessment:

- Construction Phase:
  - effects on terrestrial businesses;
  - effects on businesses reliant upon access to the River Thames;
  - effects on walkers and cyclists;
  - effects on terrestrial recreation;
  - effects on recreational users of the River Thames;
  - effects on human health; and
  - effects on mental health and wellbeing.
- Operation Phase:
  - effects on businesses reliant upon access to the River Thames;
  - effects on walkers and cyclists;
  - effects on terrestrial recreation;
  - effects on recreational users of the River Thames;
  - effects on human health; and
  - effects on mental health and wellbeing.

### MATTERS SCOPED OUT

- 14.4.3 The following effects are considered unlikely to be significant and therefore have not been considered further in this assessment:
- operational effects on terrestrial businesses;
  - construction and operational effects on community land and assets; and
  - construction and operational effects on private property and housing.
- 14.4.4 As set out in the Scoping Opinion<sup>20</sup> the Planning Inspectorate agrees that these effects would not likely be significant and, therefore, do not need to be considered further.



- 14.4.5 Hazard prevention and emergency planning in relation to PRow, Norman Road and adjacent industrial premises has been considered in **Section 2.6 of Chapter 2: Site and Proposed Scheme Description (Volume 1)**. In order to ensure that risks to users of PRow, Norman Road and adjacent industrial premises remain safe with new processes and storage in place as a result of the Proposed Scheme, the design has ensured that storage volumes and clearance spaces have been sufficiently set to keep risks As Low As Reasonably Practicable for this stage of design, including through the limits of deviation on the **Works Plans (Document Reference 2.3)**. The approach to the consideration of major accidents and disasters for the Proposed Scheme is described in **Chapter 20: Major Accidents and Disasters (Volume 1)**.

## **BASELINE DATA COLLECTION**

- 14.4.6 The assessment of population, health and land use is predominantly a qualitative assessment and has been informed by desk-based study and consultation with relevant authorities and stakeholders.
- 14.4.7 In addition to this, a survey of the usage and condition of the PRow and usage of open land within the Study Area was undertaken to inform this Environmental Statement (ES). The findings of this survey are presented in **Appendix 14-1: Public Rights of Way and Open Land Surveys Report (Volume 3)**.
- 14.4.8 The population, health and land use assessment has also been reliant upon site visits and surveys undertaken for other technical chapters. These include **Chapter 5: Air Quality (Volume 1)**, **Chapter 6: Noise and Vibration (Volume 1)**, **Chapter 7: Terrestrial Biodiversity (Volume 1)**, **Chapter 8: Marine Biodiversity (Volume 1)**, **Chapter 10: Townscape and Visual Impact (Volume 1)**, **Chapter 15: Socio-economics (Volume 1)**, **Chapter 18: Landside Transport (Volume 1)** and **Chapter 19: Marine Navigation (Volume 1)**.

## **ASSESSMENT METHODOLOGY**

- 14.4.9 The assessment methodology for each of the elements scoped in has been outlined below. The assessment approach is qualitative and follows the best practice guidance set out in **Table 14-1**.
- 14.4.10 The assessment presented within this chapter considers potential impacts from the construction and operation of the Proposed Scheme alongside Riverside 1 and Riverside 2.

### **Land Use and Accessibility**

#### **Effects on Terrestrial Businesses (Construction Phase)**

- 14.4.11 The assessment has identified the location of businesses and considers the impacts on businesses in terms of accessibility restrictions/severance. The assessment has also considered the potential loss and/or relocation of businesses.

### **Effects on Businesses Reliant Upon Access to the River Thames (Construction and Operation Phases)**

- 14.4.12 The assessment has identified the location of those businesses that rely upon access to the River Thames and their access requirements. The effects have been set out in terms of accessibility restrictions/severance.

### **Effects on Walkers and Cyclists (Construction and Operation Phases)**

- 14.4.13 The assessment has identified likely routes taken by walkers and cyclists. The frequency of use for these routes was determined by PRow usage and condition surveys, publicly accessible datasets and in consultation with LBB. The findings of the surveys are presented in **Appendix 14-1: Public Rights of Way and Public Open Land Surveys Report (Volume 3)**.
- 14.4.14 The assessment has set out the effects on walking and cycling routes according to accessibility restrictions/severance resulting in changes to journey length, perceived fear and intimidation as changes to amenity, and changes to the overall experience of recreational users.
- 14.4.15 For the purpose of the assessment, amenity is considered to be a combination of air quality and noise levels and visual amenity as experienced by users of walker and cyclist routes. It should be noted that visual amenity assessed in **Chapter 10: Townscape and Visual (Volume 1)** differs to amenity considered within this assessment. For the purpose of the assessment within this chapter, amenity focuses on the experience of the user and changes to the quality of a resource.

### **Effects on Terrestrial Recreation (Construction and Operation Phases)**

- 14.4.16 The assessment has identified the location and typical level of use of terrestrial recreational assets. The effects have been set out in terms of accessibility restrictions/severance, changes to amenity and changes to the overall experience of recreational users. For the purpose of the assessment, amenity is considered to be a combination of air quality and noise levels and visual amenity as experienced by users of walker and cyclist routes. The assessment primarily focuses on the Accessible Open Land as defined in **Paragraph 2.1.10 of Chapter 2: Site and Proposed Scheme Description (Volume 1)** and shown on **Figure 14-1: Accessible and Non-Accessible Open Land (Volume 2)** and **Figure 14-2: Accessible and Non-Accessible Open Land (Volume 2)**.
- 14.4.17 The East Paddock and Stable Paddock (that lie within the Crossness LNR and are owned by Thames Water) and Norman Road Field (owned by Peabody) are used by separate graziers under a licence from the respective land owner. The East and Stable Paddock land parcels are not accessible by the public, and some areas of the Norman Road Field are fenced, meaning these areas are Non-Accessible Open Land. Therefore, Non-Accessible Open Land is considered as recreational assets for the graziers only.

- 14.4.18 Engagement and consultation with relevant landowners and users has been undertaken to better understand how these land parcels are used (as set out in **Table 14-2**).

#### **Effects on Recreational Users of the River Thames (Construction and Operation Phases)**

- 14.4.19 The assessment has identified the location and typical level of use of the River Thames for recreational activities. The assessment has also considered the effects of the Proposed Scheme on recreational assets that rely upon accessing the River Thames. The effects have been set out in terms of accessibility restrictions/severance and changes to the overall experience of recreational users.

### **Human Health**

#### **Effects on Human Health (Construction and Operation Phases)**

- 14.4.20 There is potential for the Proposed Scheme to affect human health, with those health determinants likely to be affected by the Proposed Scheme including: air quality; noise; loss in visual amenity; opportunities for physical activity and recreation; flood risk; hazards and disasters; and employment opportunities.
- 14.4.21 Specific human health effects have been assessed and detailed within **Chapter 5: Air Quality (Volume 1)**, **Chapter 6: Noise and Vibration (Volume 1)**, **Chapter 10: Townscape and Visual (Volume 1)**, **Chapter 11: Water Environment and Flood Risk (Volume 1)**, **Chapter 15: Socio-economics (Volume 1)**, **Chapter 18: Landside Transport (Volume 1)** and **Chapter 20: Major Accidents and Disasters (Volume 1)**. The outcomes of these individual assessments have been considered to determine the overall impact on human health.

### **Mental Health and Wellbeing**

#### **Effects on Mental Health and Wellbeing (Construction and Operation Phases)**

- 14.4.22 For mental health and wellbeing, a qualitative assessment has been undertaken which identifies the effects during the construction and operation of the Proposed Scheme. The assessment has been informed by other aspects of the population, health and land use assessment (for example loss of recreational assets) as well as other technical chapters (such as **Chapter 5: Air Quality (Volume 1)**, **Chapter 6: Noise and Vibration (Volume 1)** and **Chapter 20: Major Accidents and Disasters (Volume 1)**).

## **SIGNIFICANCE CRITERIA**

### **Land Use and Accessibility**

- 14.4.23 The sensitivity criteria and magnitude of impact has been assigned according to **Table 14-4** and **Table 14-5** for all aspects of the assessment except for human health, mental health and wellbeing which is detailed in **Table 14-6** and **Table 14-7**.

**Table 14-4: Land Use and Accessibility Sensitivity Criteria**

<b>Sensitivity</b>	<b>Criteria</b>
<b>High</b>	<ul style="list-style-type: none"> <li>Existing employment sites and land allocated for employment (e.g. strategic employment sites) covering &gt;1 – 5ha.</li> <li>Commercial or industrial buildings or land/waterways key to the operation of a business.</li> <li>PRoW frequently used (daily) by walkers and cyclists for commuting, recreational and leisure purposes (e.g. National Trails) and by vulnerable travellers (e.g. elderly, school children and people with disabilities).</li> <li>Terrestrial and marine recreational activities/facilities (including informal/formal green and open land and users of the River Thames) that are of national or international status and/or high visitor numbers.</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>Existing employment sites and land allocated for employment (e.g. strategic employment sites) covering &lt;1ha.</li> <li>Commercial or industrial land/waterways not key to the commercial function of a business, for example car parking space, access and storage space.</li> <li>PRoW moderately used by walkers and cyclists for commuting, recreational and leisure purposes (e.g. regional trails).</li> <li>Terrestrial and marine recreational activities/facilities (including informal/formal green and open land and users of the River Thames) that are of regional status and or medium visitor numbers.</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>Proposed Scheme on unallocated sites within the Local Plan providing employment with planning permission/in the planning process.</li> <li>Terrestrial and marine recreational activities/facilities (including informal/formal green and open land and users of the River Thames) that are of local status and/or low visitor numbers.</li> <li>PRoW and other routes close to communities that are used mainly for recreational purposes (for example dog walking), but for which alternative routes can be taken.</li> </ul>

Sensitivity	Criteria
<b>Negligible</b>	<ul style="list-style-type: none"> <li>• No or limited severance or accessibility issues for businesses.</li> <li>• Areas of land or waterways which are infrequently used on a non-commercial basis.</li> <li>• PRow not/infrequently used by walkers and cyclists for recreational purposes.</li> <li>• Terrestrial and marine recreational activities/facilities (including informal green space and users of the River Thames) that have very low visitor numbers.</li> </ul>

**Table 14-5: Land Use and Accessibility Magnitude of Impact Criteria**

Magnitude of Impact	Criteria
<b>High</b>	<ul style="list-style-type: none"> <li>• Businesses and recreation (terrestrial and marine):             <ul style="list-style-type: none"> <li>– Loss of resource and/or quality and integrity of resource; severe damage to key characteristics and amenity, features or elements, e.g. direct acquisition and demolition of buildings and direct development of land to accommodate the Proposed Scheme.</li> <li>– Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision.</li> </ul> </li> <li>• Walkers and cyclists:             <ul style="list-style-type: none"> <li>– Permanent loss/severance of an existing recreational or commuting route/resource used by walkers and cyclists.</li> <li>– Large scale reduction (adverse) or improvement (beneficial) to amenity value and/or perceived fear and intimidation for users of the walker and cyclist route.</li> </ul> </li> </ul>

Magnitude of Impact	Criteria
<b>Medium</b>	<ul style="list-style-type: none"> <li>● Businesses and recreation (terrestrial and marine):               <ul style="list-style-type: none"> <li>– Partial loss of/damage to key characteristics and amenity, features or elements, e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of businesses, recreation asset.</li> <li>– Introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision.</li> </ul> </li> <li>● Walkers and cyclists:               <ul style="list-style-type: none"> <li>– Disruption of a recreational or commuting route/resource used by walkers and cyclists with significant increase/decrease in journey length/time.</li> <li>– Partial loss or noticeable reduction (adverse) or partial or noticeable improvement (beneficial) in amenity value and/or perceived fear and intimidation for users of the walker and cyclist route.</li> </ul> </li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>● Businesses and recreation (terrestrial and marine):               <ul style="list-style-type: none"> <li>– A discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics and amenity, features or elements, e.g. amendment to access or acquisition of land/waterway resulting in changes to operating conditions that do not compromise overall viability of businesses or recreation asset.</li> <li>– Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision.</li> </ul> </li> <li>● Walkers and cyclists:               <ul style="list-style-type: none"> <li>– Alteration of a recreational or commuting route/resource used by walkers and cyclists but with no significant increase in journey length/time.</li> <li>– Slight loss or reduction (adverse) or slight improvement (beneficial) in amenity value and/or perceived fear and intimidation for users of the walker and cyclist route.</li> </ul> </li> </ul>

Magnitude of Impact	Criteria
<b>Negligible</b>	<ul style="list-style-type: none"> <li>Businesses and recreation (terrestrial and marine):               <ul style="list-style-type: none"> <li>Very minor loss or detrimental alteration to one or more characteristics and amenity, features or elements, e.g. acquisition of non-operational land or waterways/buildings not directly affecting the viability of businesses, recreation asset.</li> <li>Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.</li> </ul> </li> <li>Walkers and cyclists:               <ul style="list-style-type: none"> <li>Very minor change to recreational or commuting route/resource used by walkers and cyclists.</li> <li>Very minor change in amenity value and/or perceived fear and intimidation for users of the walker and cyclist route.</li> </ul> </li> </ul>

- 14.4.24 The overall significance of effects has been determined based on the matrix shown in **Chapter 4: EIA Methodology (Volume 1)**. Effects that are classified as Moderate or above are considered to be significant. Only Moderate and Major effects are significant in EIA terms.

### Human Health, Mental Health and Wellbeing

- 14.4.25 The sensitivity criteria and magnitude of change criteria for human health, mental health and wellbeing is set out in **Table 14-6** and **Table 14-7** below.
- 14.4.26 The reporting of significance for human health, mental health and wellbeing differs from that outlined above. This approach follows criteria set out in the IEMA 2022 Guidance on 'Determining Significance for Human Health in Environmental Impact Assessment'<sup>15</sup>.

**Table 14-6: Human Health, Mental Health and Wellbeing Sensitivity**

Sensitivity	Criteria
<b>High</b>	<i>"high levels of deprivation (including pockets of deprivation); reliance on resources shared (between the population and the project); existing wide inequalities between the most and least healthy; a community whose outlook is predominantly anxiety or concern; people who are prevented from undertaking daily activities; dependants; people with very poor health status; and/or people with a very low capacity to adapt".</i>



Sensitivity	Criteria
<b>Medium</b>	<i>“moderate levels of deprivation; few alternatives to shared resources; existing widening inequalities between the most and least healthy; a community whose outlook is predominantly uncertainty with some concern; people who are highly limited from undertaking daily activities; people providing or requiring a lot of care; people with poor health status; and/or people with a limited capacity to adapt”.</i>
<b>Low</b>	<i>“low levels of deprivation; many alternatives to shared resources; existing narrowing inequalities between the most and least healthy; a community whose outlook is predominantly ambivalence with some concern; people who are slightly limited from undertaking daily activities; people providing or requiring some care; people with fair health status; and/or people with a high capacity to adapt”.</i>
<b>Very Low</b>	<i>“very low levels of deprivation; no shared resources; existing narrow inequalities between the most and least healthy; a community whose outlook is predominantly support with some concern; people who are not limited from undertaking daily activities; people who are independent (not a carer or dependant); people with good health status; and/or people with a very high capacity to adapt”.</i>

**Table 14-7: Human Health, Mental Health and Wellbeing Magnitude of Impact**

Magnitude	Criteria
<b>High</b>	High exposure or scale; long term duration; continuous frequency; severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/ injury outcomes; majority of population affected; permanent change; substantial service quality implications.
<b>Medium</b>	Low exposure or medium scale; medium term duration; frequent events; severity predominantly related to moderate changes in morbidity or major change in quality-of-life; large minority of population affected; gradual reversal; small service quality implications.
<b>Low</b>	Very low exposure or small scale; short term duration; occasional events; severity predominantly related to minor change in morbidity or moderate change in quality-of-life; small minority of population affected; rapid reversal; slight service quality implications.
<b>Negligible</b>	Negligible exposure or scale; very short term duration; one-off frequency; severity predominantly relates to a minor change in quality-of-life; very few people affected; immediate reversal once activity complete; no service quality implication.

- 14.4.27 **Table 14-8** below outlines the significance matrix that has been used for assessing human health, mental health and wellbeing. Only Moderate and Major effects are significant in EIA terms.

**Table 14-8: Human Health, Mental Health and Wellbeing Sensitivity**

Magnitude	Sensitivity				
		High	Medium	Low	Very Low
	High	Major	Major/ Moderate	Moderate/ Minor	Minor/ Negligible
	Medium	Major/ Moderate	Moderate	Minor	Minor/ Negligible
	Low	Moderate/ Minor	Minor	Minor	Negligible
	Negligible	Minor/ Negligible	Minor/ Negligible	Negligible	Negligible

## 14.5. STUDY AREA

- 14.5.1 The Study Area for population, health and land use is detailed below for each element of the assessment. It should be noted that 'population' does not have its own specific Study Area, as this chapter assesses the potential impacts on the population through effects associated with land use, accessibility, recreation and human health.
- 14.5.2 The Study Areas have been defined using the Design Manual for Roads and Bridges (DMRB) guidance Volume 11, Section 3, Part 6, LA112 Population and Human Health<sup>18</sup>, where appropriate.
- 14.5.3 The relevant Study Areas outlined below are shown on **Figure 14-3: Population, Health and Land Use Study Areas (Volume 2)**.

## LAND USE AND ACCESSIBILITY

### Terrestrial Businesses

- 14.5.4 Those businesses within 100m of the Site Boundary, or those which have a direct means of access within the Site.

### Businesses Reliant Upon access to the River Thames

- 14.5.5 The stretch of River Thames within the Site as well as any area that extends beyond the Site Boundary where changes to navigation and surface water features could affect business operations (see **Chapter 11: Water Environment and Flood Risk (Volume 1)** for further details).

### Walkers And Cyclists

- 14.5.6 PRoW and routes used by walkers and cyclists located within the Site and within 500m of the Site Boundary.

### Terrestrial Recreation

- 14.5.7 Recreational facilities located within 500m of the Site Boundary, or those which have a direct means of access within the Site.

### Recreational Users of the River Thames

- 14.5.8 The stretch of River Thames within the Site as well as any area that extends beyond the Site Boundary where changes to navigation and surface water features could affect recreational users or access to the riverside (see **Chapter 11: Water Environment and Flood Risk (Volume 1)** for further details).

## **HUMAN HEALTH, MENTAL HEALTH AND WELLBEING**

- 14.5.9 For the human health, mental health and wellbeing assessments, the Study Area has been determined by the extent and characteristics of the Proposed Scheme, and the communities directly and indirectly affected by it. The smallest jurisdiction boundaries for the Proposed Scheme are Lower Layer Super Output Areas (LSOA) which lie within or adjacent to the Site Boundary.
- 14.5.10 These LSOA form the basis of the Study Area for health because they are the communities that are most likely to experience direct and/or the greatest impacts.
- 14.5.11 The relevant geographical area profiles are as follows:
- **National:** England.
  - **Regional:** Greater London.
  - **Borough:** LBB.
  - **Wards:** Belvedere, Erith, Thamesmead East, Northumberland Heath, and Lesnes Abbey.
  - **LSOA:** Bexley 001A, Bexley 003B, Bexley 004D, and Bexley 002E.
- 14.5.12 The potential health impacts are likely to be direct and/or greatest in the communities surrounding the Site. While the Proposed Scheme has the potential to impact on the population outside of the area directly affected, these effects will be less than those felt by the local community.

## SENSITIVE RECEPTORS

14.5.13 The sensitive receptors for each of the topics scoped into the population, health and land use assessment are outlined below. It should be noted that there is an overlap with those sensitive receptors identified in both **Chapter 5: Air Quality (Volume 1)** and **Chapter 6: Noise and Vibration (Volume 1)**, however their level of sensitivity may differ due to differences in assessment methodology. The sensitive receptors detailed below have been identified within the relevant Study Areas using publicly available online data sources.

14.5.14 The identified sensitive receptors are as follows:

- Munster Joinery UK Limited;
- Iron Mountain Records Storage Facility (data and record management);
- Asda Belvedere Distribution Centre;
- Travelodge London Belvedere;
- The Morgan (pub and restaurant);
- Lidl Warehouse/Belvedere Regional Distribution Centre;
- Tap'in 3PL Ltd (warehousing and logistics);
- Snap Fitness (gym);
- Starbucks Coffee Drive Thru;
- HS Carlsteel Engineering Ltd;
- Freshasia Foods Ltd;
- Intersped Logistics;
- Howdens Joinery;
- Ctr Group (recycling);
- Crossness Sewage Treatment Works;
- Ford Dagenham (car factory);
- England Coast Path;
- NCN1;
- FP1 (footpath);
- FP2;
- FP3;
- FP4;
- FP242;
- Recreational users of the River Thames;
- Erith Rowing Club;
- Erith Yacht Club;
- Thamesmead fishing mark;
- Erith Pier fishing mark;

- Graziers – licensees of Crossness LNR land (including East Paddock and Stable Paddock) and licensees of Norman Road Field; and
- Users of the Accessible Open Land.

## 14.6. BASELINE CONDITIONS AND FUTURE BASELINE

### BASELINE

14.6.1 The key sources of information used for the baseline review for population, health and land use are:

- Fingertips Public Health Data<sup>21</sup>;
- English Indices of Multiple Deprivation<sup>22</sup>;
- LBB Joint Strategic Needs Assessment<sup>23</sup>;
- LBB Green Infrastructure Study<sup>24</sup>;
- London Datastore, London Area Profiles<sup>25</sup>;
- Official Census and Labour Market Statistics (NOMIS)<sup>26</sup>;
- MMO Marine Activity Data<sup>27</sup>; and
- any relevant websites for recreational groups, facilities and activities.

14.6.2 A short summary of the baseline conditions is presented below. Recreational activities can be an attraction for tourists and, therefore, the England Coast Path, NCN1, FP1, FP2, FP3, FP4 and FP242, recreational activities along the River Thames and terrestrial recreation (such as Crossness LNR) are also considered to be tourism receptors. Other receptors are not considered to be tourist receptors.

### Population

14.6.3 The Proposed Scheme is located within LBB. According to NOMIS data, the total population of the Borough in 2021 was 246,500. **Table 14-9** below shows the population breakdown within LBB in 2021.

**Table 14-9: Population breakdown of the LBB, Greater London and England<sup>26</sup>**

Age Group (years)	LBB (%)	Greater London (%)	England (%)
Under 16	20.5	19.3	18.6
16-24	10	11.1	10.6
25-64	52.9	57.8	52.4
65-84	14.2	10.3	16
85+	2.4	1.6	2.4

14.6.4 As shown in **Table 14-9**, the working age population for LBB is lower than the Greater London average and the same as the national average, with 62.9% of residents aged between 16-64, compared to 68.9% in Greater London and 63% in England.

- 14.6.5 According to data from London Area Profiles (2018)<sup>25</sup>, the population in the LBB is slightly younger than the national average, with 16.4% of the population aged over 65, compared to 18.2% in England. It is higher than the Greater London average of 11.7%<sup>25</sup>.
- 14.6.6 Of the 317 local authorities in England, Bexley is ranked 190<sup>th</sup> in terms of overall deprivation, where a rank of one is the most deprived and a rank of 317 is the least deprived<sup>22</sup>. There are some smaller pockets of deprivation within the Borough and the Proposed Scheme is located in the top 30% of most deprived neighbourhoods nationally in terms of overall deprivation<sup>22</sup>.
- 14.6.7 The proportion of people aged between 16-64 in Bexley with no academic qualifications is higher than the national (6.6%) and regional (5.5%) averages at 7.4%<sup>26</sup>. Those people achieving degree level qualifications (NVQ4 and above) in Bexley (42.4%) is somewhat lower than the regional average (59.0%), but similar to the national average (43.6%)<sup>26</sup>. Overall, this suggests a slightly lower skilled workforce within the LBB compared with the Greater London region.

### **Graziers**

- 14.6.8 Both the East Paddock and Stable Paddock (that form part of the Crossness LNR and are owned by Thames Water) are located within the Site and are grazed by horses under a licence to a grazier<sup>a</sup>. A grazing licence agreement permits the tenant grazier to graze up to 12 horses within the Crossness LNR. The grazing licence is renewed every two years; however, generations of the same family have grazed this land for numerous years.
- 14.6.9 There is a separate grazier with licence for the Norman Road Field<sup>b</sup>. Horses are kept on the land all year round (generally between 5-10, but no more than 20 horses for any extended period of time) and they are kept for recreational uses including carriage driving, eventing and breeding. These horses are entirely separate to the horses on the Crossness LNR and are confined to Norman Road Field by fencing.
- 14.6.10 As part of the PRow and Open Land surveys (further detail is provided in the Walkers and Cyclists section below and **Appendix 14-1: Public Rights of Way and Open Land Surveys Report (Volume 3)**) cameras monitored movements across the Thames Water Access Road (part of FP2) and observed an average footfall of 43.5 pedestrians a week. It is assumed that some of this footfall comprises of those tending to their horses as it is connected to the East Paddock and Stable Paddock (part of the Crossness LNR).

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<sup>a</sup> This information was obtained from consultation with the Crossness Local Nature Reserve Manager.

<sup>b</sup> This information was obtained from consultation with the graziers.

## **Businesses**

### **Terrestrial**

- 14.6.11 Opportunity Areas are identified in the London Plan<sup>3</sup> as significant locations with development opportunities to accommodate new homes, jobs and infrastructure of all types. They are linked to existing or potential improvements to public transport and typically have capacity for at least 5,000 new jobs or 2,500 new homes, or a combination of the two.
- 14.6.12 The Proposed Scheme is located within the Bexley Riverside Opportunity Area<sup>4</sup>. This area has been identified in the London Plan<sup>28</sup> since 2004 with the potential provision for 6,000 new homes and 19,000 new jobs by 2041.
- 14.6.13 The detailed boundary of the Opportunity Area has not been defined at the time of writing. However, it is considered likely to fall within the Study Area as detailed in the London Plan 2021<sup>3</sup> (paragraph 2.1.55), where the Bexley Riverside Opportunity Area would stretch along the south side of the Thames and include the area of Belvedere. The Bexley Growth Strategy<sup>7</sup> shows that part of the Opportunity Area in Belvedere is located within the Site.
- 14.6.14 Immediately south of the Site Boundary is the Thamesmead and Abbey Wood Opportunity Area, the boundary of which has been defined. This area has the potential for 8,000 new homes and 4,000 new jobs by 2041<sup>3</sup>.
- 14.6.15 There are number of terrestrial businesses that rely upon access to the River Thames for the transportation of materials and goods, some of which require the use of jetties, such as the Thames Water Jetty (Thames Water), Ford Dagenham Terminal (Ford Motor Company) and Thunderer Jetty (multiple businesses). See **Figure 19-1: Marine Navigation Study Area with Key Navigational Features (Volume 2)** for further details.
- 14.6.16 The Proposed Scheme is located within the Belvedere Industrial Area, a designated Strategic Industrial Location (SIL) by both the London Plan<sup>3</sup> and the Bexley Local Plan<sup>5</sup>. Hailey Road Industrial Estate, also a designated SIL, is located approximately 60m south of the Site Boundary. The London Plan (policy E5) states these sites are important locations that should be *“managed proactively [...] to sustain them as London’s largest concentrations of industrial, logistics and related capacity for uses that support the functioning of London’s economy”*<sup>3</sup>.
- 14.6.17 The Belvedere Industrial Area hosts businesses predominantly associated with manufacturing and logistics. Larger units include Iron Mountain Records Storage Facility, Asda Belvedere Distribution Centre, Amazon UK DBR1 and Lidl Warehouse/Belvedere Regional Distribution Centre.



14.6.18 Businesses located within the Site are Riverside 1, Riverside 2 (at the time of writing, Riverside 2 is under construction, due to be operational by 2026), and Munster Joinery UK Limited. Munster Joinery is located on the western side of Norman Road, the main access to the Proposed Scheme, as shown in **Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)** and **Figure 14-4: Terrestrial Businesses (Volume 2)**. Further information on the business operations at Munster Joinery is provided in **Section 15.6 of Chapter 15: Socio-economics (Volume 1)**.

14.6.19 There are 12 other businesses located within the Study Area (100m from the Site Boundary):

- Iron Mountain Records Storage Facility – adjacent (east);
- Asda Belvedere Distribution Centre – adjacent (east);
- Lidl Warehouse/Belvedere Regional Distribution Centre – adjacent (southeast);
- Ctr Group – approximately 70m south;
- Howdens Joinery – approximately 70m south;
- Tap'in 3PL Ltd – approximately 95m south;
- The Morgan Pub and Restaurant – approximately 20m south;
- Travelodge London Belvedere – approximately 30m south;
- Snap Fitness – approximately 70m east;
- HS Carlsteel Engineering Ltd – approximately 95m south;
- Starbucks Coffee Drive Thru – approximately 90m southeast;
- Freshasia Foods Ltd. – approximately 100m south; and
- Intersped Logistics (UK) Limited – approximately 90m south.

14.6.20 **Figure 14-4: Terrestrial Businesses (Volume 2)** sets out the location of these businesses within the Study Area.

### **Marine**

14.6.21 There are two jetties located within the Site: Belvedere Power Station Jetty (disused); and Middleton Jetty, operated by Cory as a core element of Riverside 1 and which will also be used for Riverside 2. Further upstream (approximately 450m), the Thames Water Jetty serves as an operational base for the vessels Thames Bubbler and Thames Vitality that are used to inject oxygen into the River Thames<sup>29</sup>. Further details about these jetties can be found in **Chapter 19: Marine Navigation (Volume 1)**.

14.6.22 Sightseeing and pleasure boat tours use the River Thames. The closest points of the boat routes are distant from the Site Boundary, at approximately 2.5km west and 11.5km southwest respectively. It is understood that neither of the boat routes use the section of the River Thames within the Site.

14.6.23 The Ford Dagenham factory lies approximately 350m north of the Site Boundary on the northern bank of the River Thames. Vessels using the dedicated roll on–roll off berth regularly enter the Site when manoeuvring.

### Walkers and Cyclists (as well as tourism)

- 14.6.24 Approximately 960m of the England Coast Path (FP3/NCN1) intersects the Site, as it follows the banks of the River Thames. This path is classed as a National Trail and extends from Woolwich in the west to Grain in Kent in the east.
- 14.6.25 The England Coast Path (FP3/NCN1) also provides a link to the Thames Path creating a continuous 'Source to Sea' National Trail along the length of the River Thames from the Cotswolds to the North Sea. The entire 'Source to Sea' trail is 374 km following the south bank of the River Thames in London. Both routes are of national significance<sup>30</sup>.
- 14.6.26 In addition, there are four PRoW located within the Site: FP1; FP2; FP3; and FP4. There is one further PRoW within the wider area: FP242, located immediately adjacent to the Site Boundary (south) connecting directly to the England Coast Path (FP3/NCN1) and Crabtree Manorway North<sup>31</sup>.
- 14.6.27 **Figure 14-1: Accessible and Non-Accessible Open Land (Volume 2) and Figure 14-2: Accessible and Non-Accessible Open Land Satellite Imagery (Volume 2)** presents the location of these PRoW. To support the assessment, PRoW usage and conditions surveys have been undertaken. These surveys did not cover all PRoW within the Study Area, focussing on those that are adjacent to or cross the Site Boundary at nine monitoring locations, across two separate weeks. The monitoring locations are shown in **Figure 14-5: Public Rights of Way and Open Land Survey Monitoring Points (Volume 2)**. The findings of these surveys are presented in **Appendix 14-1: Public Rights of Way and Open Land Surveys Report (Volume 3)**.
- 14.6.28 The routes were predominantly used by pedestrians rather than cyclists; the exception to this was Location 1 (England Coast Path (FP3/NCN1)) which saw more than double the number of cyclists than pedestrians. This location had the highest number of users, which was considerably higher than other routes.
- 14.6.29 The frequency of usage of the other surveyed routes are deemed to be low in comparison. These PRoW appeared to be used mainly for recreational purposes, for which alternative routes could be taken.
- 14.6.30 For the majority of locations, usage was higher during the summer holidays in August than during term time in September. The usage of England Coast Path (FP3/NCN1) was the only route which saw a higher level of usage during term time, indicative that the route is used by commuters as well as for recreation.
- 14.6.31 Footage showed that users of FP2 are more likely to deviate off this route than any other of the routes surveyed. Those deviating were primarily dog walkers making use of the open land within Norman Road Field and Crossness LNR.

## Recreation and Tourism

### Terrestrial

- 14.6.32 The Bexley Green Infrastructure Study<sup>24</sup> classifies the open land including the Crossness LNR and Norman Road Field as ‘higher quality/higher value’, however it is recognised there are some areas with restricted access. The Study sets out that ‘higher quality/higher value’ sites are considered to be the best open spaces within the Borough, offering the greatest value and quality for the surrounding communities.
- 14.6.33 The Crossness LNR and Norman Road Field are also designated within the Bexley Local Plan<sup>4</sup> as part of the Erith Marshes SINC. The Crossness LNR and SINC are designated not only for their significance for wildlife, but also for their value to people. Access to nature can have health and wellbeing benefits by allowing people to connect with nature.
- 14.6.34 Crossness LNR comprises some 25ha of land, comprising publicly accessible, Members only and restricted access areas. The East Paddock and Stable Paddock (forming part of the Crossness LNR) are gated and not publicly accessible (and have therefore been classed as Non-Accessible Open Land). Membership as a Friend of Crossness Nature Reserve provides access to the ‘Protected Area’ including the bird hide, to volunteering activities and to special events such as pond dipping, bat walks, butterfly walks, birdsong walks and wildflower walks<sup>32</sup>. This area is located beyond the western extent of the Site Boundary. The Crossness LNR is crossed by the Thames Water Access Road and PRoW FP2 and FP4, leading to the Thames Path and Erith Marshes (South) respectively. Views across much of the Crossness LNR, including access restricted areas that are fenced for birds, are available from these PRoW.
- 14.6.35 The Southeast London Green Chain extends through the Site. It *“forms part of a virtually continuous arc of public and private open spaces, largely in recreational use, which extends through the London boroughs of Bexley, Bromley, Lewisham and Royal Greenwich”*<sup>35</sup>.
- 14.6.36 The Crossness LNR and Norman Road Field also lie within the Metropolitan Open Land (MOL) designation, described as ‘strategic open land within the urban area’<sup>3</sup>. MOL within the East Paddock and Stable Paddock is not currently accessible to the public. The MOL designation in and of itself is considered within the **Planning Statement (Document Reference 5.2)** and is not considered further within this chapter.
- 14.6.37 Surveys have been undertaken , alongside baseline visits to the Site and the existing of fencing and water bodies, to understand the usage and condition of these areas of open land. This is ultimately to determine what can be considered to be Accessible Open Land (and thus public open space for Planning Act 2008 purposes, and what can be considered to be the recreational asset for the purposes of this assessment) and Non-Accessible Open Land (which is not used by the public, and is therefore not

public open space for Planning Act 2008 purposes, nor, in general, the recreational asset for the purposes of this assessment (except for the graziers)) as detailed in **Appendix 14-1: Public Rights of Way and Public Open Land Surveys Report (Volume 3)**. Therefore, the assessment has considered Accessible Open Land and Non-Accessible Open Land in relation to the graziers only.

- 14.6.38 There is an area of Urban Open Space (Belvedere Ditches and Dykes) located on Norman Road, at the eastern edge of the Site. Urban Open Spaces are defined in the Bexley Local Plan<sup>4</sup> (specifically Policy SP8) as land use designations that *“by virtue of its openness, is important to health and wellbeing, and visual amenity, through its contribution to the wider landscape and/or in providing attractive breaks in the built-up area”*. Although, this narrow area of land breaks up the urban landscape within Belvedere, as it is predominantly a ditch, it doesn't provide any recreational value and it cannot be accessed.
- 14.6.39 **Figure 14-1: Accessible and Non-Accessible Open Land (Volume 2) and Figure 14-2: Accessible and Non-Accessible Open Land Satellite Imagery (Volume 2)** shows the designations described above.

### **Marine**

- 14.6.40 Erith Rowing Club is the nearest recreational club that relies upon access to the River Thames, located approximately 2.6km downstream from the Proposed Scheme. Approximately 1.5km southeast is the Erith River Wharf Visitor Mooring with space for two vessels. The Erith Yacht Club is located approximately 4km downstream and uses the River Thames (including the area within the Site) for sailing events. It is also understood that the Greenwich Yacht Club uses this stretch of the River Thames for sailing events.
- 14.6.41 The River Thames also provides angling opportunities. There are fishing marks at Thamesmead (approximately 2.5km west of the Site Boundary) and Erith Pier (approximately 3.2km southeast of the Site Boundary) and it is possible to fish directly from the river wall, including areas which fall within the Site.
- 14.6.42 According to MMO Marine Activity Data<sup>27</sup> models for recreational activity, there are medium to medium high levels of personal watercraft use, sailing and motorboat use and low levels of angling along the River Thames within the Study Area.

### **Human Health, Mental Health and Wellbeing**

- 14.6.43 Life expectancy within Bexley is 79.0 years for males and 83.2 years for females, similar to figures in Greater London (78.8 years for males and 83.4 years for females) and broadly in line with figures in England (78.7 years for males and 82.8 years for females)<sup>33</sup>.

- 14.6.44 The health of people in LBB varies in comparison with the England average. The Public Health England local authority profile for LBB<sup>33</sup> indicates that certain health indicators, such as ‘diabetes diagnosis’, ‘smoking prevalence in adults (18+)’ and the ‘percentage of adults (18+) classed as overweight or obese’ are similar to the national average. However, ‘under 75 mortality from all causes’ and the ‘percentage of children in low income families’ indicators are both significantly better than the national average.
- 14.6.45 General health within LBB is similar to both Greater London and England, with 48.7% of residents in very good health, 34.3% in good health, 12.3% in fair health, 3.6% in bad health, and 1.1% in very bad health<sup>26</sup>.
- 14.6.46 Of the residents within the Borough, 14.6% are disabled, of which 6.6% have their day-to-day activities limited a lot. An additional 5.9% of residents have a long term physical or mental health condition but are not disabled nor are day-to-day activities limited<sup>26</sup>.
- 14.6.47 Poor levels of physical activity are seen within LBB, with only 63.7% of adults completing the recommended activity levels. This is lower than the Greater London and England averages (66.8% and 67.3% respectively)<sup>34</sup>.
- 14.6.48 There are lower rates of common mental health disorders within LBB compared to Greater London and England averages. It is estimated that 16% of the population aged 16 and over within the Borough have common mental health disorders. This is lower than the Greater London average of 19.3% and slightly lower than the England average of 16.9%. Similarly, the prevalence of common mental health disorders in those aged over 65 years in LBB is 9.6%, which is lower than the Greater London average of 11.3% and slightly lower than the England average of 10.2%<sup>33</sup>.
- 14.6.49 The percentage of people with high anxiety in the LBB is 20.2%, which is lower than the Greater London value of 23.8% and the England value of 22.6%<sup>33</sup>.
- 14.6.50 In LBB, 13.4% of residents report low happiness<sup>c</sup>, compared to just 8.7% in Greater London and 8.4% in England. The self-reported scores for low level of self-worth and low satisfaction are also higher in LBB than Greater London and England. In LBB, 4.4% of residents report having a low sense of self-worth, compared to 3.4% in Greater London and 4% in England. Similarly, 6.1% of LBB residents report low satisfaction, compared to 4.6% in Greater London and 5% in England<sup>33</sup>.
- 14.6.51 The suicide rate in LBB is 7.2 per 100,000 residents. This is lower than the England average of 10.4 per 100,000<sup>35</sup>.

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<sup>c</sup> Estimates of personal well-being from the Annual Population Survey Well-being dataset. Data shows life satisfaction, how worthwhile people feel, whether people were happy yesterday, and how anxious people were yesterday.

- 14.6.52 Evidence shows that people are happier when they are in green or blue spaces<sup>d,36</sup>. 32% of the LBB surface area has green space. This is 1% higher than the Greater London average. However, within the LBB, 40% of households have deficient access to nature<sup>23,34</sup>.
- 14.6.53 According to Age UK, generally there are medium, high, and very high risk of loneliness across LBB<sup>37</sup> for those aged 65+. Within the Belvedere, Erith, Thamesmead East and Lesnes Abbey wards these levels are also medium, high and very high. The LSOA of Bexley 002E is at very high risk of loneliness for those aged 65+, while Bexley 003B and Bexley 004D are at medium risk of loneliness, and Bexley 001A is at high risk of loneliness.

## FUTURE BASELINE

- 14.6.54 Existing commercial business within the Site would remain at their current locations should the Proposed Scheme not proceed. These include Riverside 1, including Middleton Jetty, and Munster Joinery UK Limited. Riverside 2 would also be operational in the future baseline.
- 14.6.55 The population in Bexley is anticipated to grow by 3.9% over the next 10 years (2023-2033)<sup>25</sup>. It is also anticipated that the age distribution and structure will also change over time, with a particular increase in the over 65s. This growth is likely to put strain on existing services and require additional housing, facilities, services and infrastructure to accommodate the growth.
- 14.6.56 Despite the population growth and changes in demographic, these changes are unlikely to change the assessment outcome.

## 14.7. EMBEDDED DESIGN, MITIGATION AND ENHANCEMENT MEASURES

- 14.7.1 This section sets out the embedded design, mitigation and enhancement measures which are relevant to the population, health and land use assessment. The **Design Principles and Design Code (Document Reference 5.7)** are commitments which will govern the design of the Proposed Scheme during the detailed design stage. The **Design Principles and Design Code (Document Reference 5.7)** are considered to be embedded mitigation for the purposes of the assessment presented in this chapter.

## CONSTRUCTION PHASE

- The full CoCP will provide that, with the exception of Munster Joinery, access to adjacent terrestrial businesses will be maintained throughout the construction

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<sup>d</sup> Blue spaces comprise all the areas dominated by surface water bodies or watercourses, whilst green space includes onshore areas set apart for recreational or aesthetic purposes in an otherwise urban environment such as parks, gardens, woodlands etc. In terms of health and wellbeing, access to these spaces can have significant effect on physical and mental health and wellbeing.



phase, this includes the access to Asda Belvedere Distribution Centre, Lidl Regional Distribution Centre and Iron Mountain Record Storage Facility. Signage to advertise that businesses are open and operating as normal to be provided.

- Access to the River Thames for recreational users will be maintained throughout the construction phase, in accordance with the measures set out in the **Outline CoCP (Document Reference 7.4)**.
- The full CoCP will provide (or report on the same if this has already happened at the time that the full CoCP is sought to be approved) that engagement must take place with the graziers who currently graze horses within the Site Boundary to seek to agree an approach to any temporary or permanent relocations required, and to the management of the return to site of horses once construction of the Proposed Scheme is complete.
- The full CoCP will provide that works will be screened to minimise adverse effects on the amenity value and enjoyment of the Accessible Open Land.
- The design will ensure that routes used by walkers and cyclists (including PRow, long distance walking routes and NCN routes) will, where practicable, remain open and accessible to users during construction. Where this is not practicable (such as FP2), suitable temporary diversions will be identified.
- Wherever practicable the England Coast Path (FP3/NCN1) will remain open. During specific construction activities for the Proposed Jetty limited closures of the England Coast Path (FP3/NCN1/FP4) may be required, the Contractor(s) will manage closures in the following priority order:
  - using a banksman to provide safe escorted access across the construction area, keeping waiting times to less than: 10 minutes during peak times; and 30 minutes during off-peak times;
  - nighttime closures, between 23:00 and 05:00 (non-peak times: 23:00 - 05:00 and peak times 07:00 - 19:00) when the England Coast Path (FP3/NCN1/FP4) is infrequently used; and
  - in occasional situations, where the above options are not practicable, a signed diversion route will be provided. The diversion route will be of a hard surface and will be suitable for all users.
- Proposed temporary diversion routes will be set out in the full CoCP.
- The full CoCP will also provide that clear signage and directions for any alternative routes and appropriate alternative diversions would be provided and diversions clearly publicised to maintain access.
- The full CoCP will provide that some areas of the Accessible Open Land may need to be closed to the public in phases during the construction phase, but that these closures would seek to be minimised both in terms of the amount of space closed off and how long in time it is closed off. The full CoCP would set out proposals for how such closures will be notified to the public and the Friends of Crossness Local Nature Reserve.
- The full CoCP will also provide details of any measures that will be undertaken to ensure that impacts to pedestrians and cyclists are minimised (and that they are



kept safe) during the creation of any accesses from Norman Road to the Carbon Capture Facility and during any oversailing of the highway during construction.

- The Applicant will reach an agreement with the grazier on an appropriate temporary location arrangement for the horses during the construction phase, as required.
- Mitigation measures from **Chapter 5: Air Quality (Volume 1); Chapter 6: Noise and Vibration (Volume 1); Chapter 10: Townscape and Visual (Volume 1), Chapter 11: Water Environment and Flood Risk (Volume 1); Chapter 15: Socio-economics (Volume 1); Chapter 18: Landside Transport (Volume 1); and Chapter 20: Major Accidents and Disasters (Volume 1)** are relevant to population, health and land use and will be incorporated into the **Outline CoCP (Document Reference 7.4)**.

## OPERATION PHASE

- Based on a preliminary operational capacity assessment, up to five marine vessels will call at the Proposed Jetty each week to collect and transport LCO<sub>2</sub> to meet the annual throughput.
- The Proposed Scheme is expected to be operational 24 hours per day and 365 days per year. The Proposed Scheme will operate concurrently with Riverside 1 and Riverside 2 (once operational).
- Procedures for the maintenance of the Mitigation and Enhancement Area are set out in the **Outline LaBARDS (Document Reference 7.9)**.
- The Proposed Scheme will generate a small number of vehicle movements during the operation phase, as stated in **Chapter 2: Site and Proposed Scheme Description (Volume 1)**.
- The **Outline EPRP (Document Reference 7.11)** sets out the outline contingency plans in the event that an emergency event occurs onsite (including within the River Thames).
- The start and end points of permanent PRoW diversions are shown on the **Access and Rights of Way Plans (Document Reference 2.4)**.
- The **Outline LaBARDS (Document Reference 7.9)** sets out proposals for improvements of the PRoW, the Mitigation and Enhancement Area and outside of the Site Boundary (the latter to be delivered via a Section 106 Agreement with LBB).
- Mitigation measures from **Chapter 5: Air Quality (Volume 1); Chapter 6: Noise and Vibration (Volume 1); Chapter 10: Townscape and Visual (Volume 1), Chapter 11: Water Environment and Flood Risk (Volume 1); Chapter 15: Socio-economics (Volume 1); Chapter 18: Landside Transport (Volume 1); and Chapter 20: Major Accidents and Disasters (Volume 1)** are relevant to population, health and land use. Details of these measures and how they will be secured are set out in the relevant chapters.

## 14.8. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

- 14.8.1 This section details the assessment of impacts and effects for the Proposed Scheme during both the construction and operation phases, considering the embedded design, mitigation and enhancement measures detailed in **Section 14.7**.
- 14.8.2 The choice between demolition or retention of the Belvedere Power Station Jetty (disused) is unlikely to change the outcomes of the assessment of impacts and effects reported within this chapter. However, should the Belvedere Power Station Jetty (disused) be retained (with modifications), the quantity of construction activities and associated vehicle movements would be reduced, therefore reducing the potential adverse effects on human health (from air quality and noise) as well as disturbance to businesses and recreational assets. Therefore, a worst case scenario of Belvedere Power Station Jetty (disused) demolition has been assessed within this chapter.

### SENSITIVE RECEPTORS

- 14.8.3 **Table 14-10** below outlines the sensitive receptors that have been assessed. The sensitivity of these have been determined using the sensitivity criteria set out in **Table 14-5**.

**Table 14-10: Sensitive Receptors**

Topic	Sensitive Receptors
<b>Terrestrial Businesses</b>	<ul style="list-style-type: none"> <li>• Munster Joinery (high)</li> <li>• Iron Mountain (high)</li> <li>• Asda Belvedere Distribution Centre (high)</li> <li>• Travelodge London Belvedere (medium)</li> <li>• The Morgan (medium)</li> <li>• Lidl Belvedere Regional Distribution Centre (high)</li> <li>• Tap'in 3PL Ltd (medium)</li> <li>• Howden's (medium)</li> <li>• Ctr Group (medium)</li> <li>• Snap Fitness (medium)</li> <li>• Starbuck Coffee Drive Thru (medium)</li> <li>• HS Carlsteel Engineering Ltd (medium)</li> <li>• Freshasia Foods Ltd. (medium)</li> <li>• Intersped Logistics (medium)</li> </ul>
<b>Business that rely upon access to the River Thames</b>	<ul style="list-style-type: none"> <li>• Crossness Sewage Treatment Works (high)</li> <li>• Ford Dagenham (high)</li> </ul>
<b>Walkers and Cyclists</b>	<ul style="list-style-type: none"> <li>• England Coast Path (high)</li> <li>• NCN1 (high)</li> </ul>

Topic	Sensitive Receptors
	<ul style="list-style-type: none"> <li>FP1 (low)</li> <li>FP2 (low)</li> <li>FP3 (medium)</li> <li>FP4 (medium)</li> <li>FP242 (low)</li> </ul>
<b>Terrestrial Recreation</b>	<ul style="list-style-type: none"> <li>Users of Accessible Open Land (medium)</li> <li>Land used by graziers (low)</li> </ul>
<b>Recreational users of the River Thames</b>	<ul style="list-style-type: none"> <li>Recreational users of the River Thames (medium)</li> <li>Recreational facilities:               <ul style="list-style-type: none"> <li>Erith Rowing Club (medium)</li> <li>Erith Yacht Club (medium)</li> <li>Thamesmead fishing mark (low)</li> <li>Erith Pier fishing mark (low)</li> </ul> </li> </ul>
<b>Human Health, Mental Health and Wellbeing</b>	<p>For human health the local population is deemed to be the sensitive receptor, rather than individuals. This is in line with IEMA's Guidance on 'Determining Significance for Human Health in Environmental Impact Assessment'<sup>e</sup>.</p> <p>The overall sensitivity is considered to be medium. This is because the overall health of the local population around the Proposed Scheme is deemed to generally be in line with the national average, albeit that there are some areas of deprivation.</p>

## CONSTRUCTION PHASE

14.8.4 As set out in **Chapter 2: Site and Proposed Scheme Description (Volume 1)**, two options for the construction programme are being considered as part of ongoing design development. The estimated construction phase is approximately 60 months (five years) for Option 1 (two-phase construction) and approximately 42 months (three and a half years) for Option 2 (single-phase construction). For the purposes of this assessment, only Option 1 has been considered as this presents the worst case scenario for population, health and land use, due to the longer construction phase and potentially prolonged period of disruption.

<sup>e</sup> The guidance states that "EIA analysis at the level of individuals would likely mean that all determinants of health conclusions, positive or negative, would be significant on all projects because of the effects to some particularly sensitive individuals. This would be contrary to supporting decision-makers in identifying the material issues. Assessment of EIA significance at the level of individuals is not proportionate."

- 14.8.5 As set out in **Chapter 2: Site and Proposed Scheme Description (Volume 1)**, two options for the design of the Carbon Capture Facility are being considered. One option is for individual lines to be connected to the exhaust stacks for Riverside 1 and Riverside 2, with two individual Stack(s) for the Carbon Capture Facility. A second option is for the two lines from Riverside 1 and Riverside 2 to be combined into a single Stack at the Carbon Capture Facility. The assessment presented in this chapter is based on two Stack(s), as overall this is considered to be the worst case scenario.

### **Effects on Terrestrial Businesses**

- 14.8.6 As set out in **Chapter 2: Site and Proposed Scheme Description (Volume 1)**, the Munster Joinery (premises, which is located within the Site Boundary, would be demolished, with the site used first as a Temporary Construction Compound for the landside elements of the Proposed Scheme and then developed as part of the Carbon Capture Facility. The Applicant has sought to reach an agreement with Munster Joinery UK Limited on a relocation site; albeit this has not been reached at the time of writing. Therefore, the loss of operations at Munster Joinery, has been considered within the assessment as a worst case scenario and as a long term permanent construction effect.
- 14.8.7 For the assessment of effects on terrestrial businesses, the sensitivity of Munster Joinery UK Limited, located within the Site boundary, is high. The magnitude of change is also high as the distribution facility would be lost as a worst case scenario. Therefore, there is likely to be a direct, permanent, long term, **Major Adverse (Significant)** effect on Munster Joinery UK Limited.
- 14.8.8 There is potential for those businesses located within the 100m Study Area (as detailed in **Table 14-11** below) to be adversely affected by increased construction traffic movements on Yarnton Way, Eastern Way (southern end – immediately north of A2016) and Norman Road. As reported in **Chapter 18: Landside Transport (Volume 1)**, it is anticipated that as a worst case scenario for peak daily construction traffic (two-way) there will be a 40.9% increase in traffic on Norman Way (southern end – immediately north of A2016), a 0.3% increase in traffic on Eastern Way and an increase of 0.4% increase in traffic on Yarnton Way.
- 14.8.9 However, these businesses are located within an existing industrial area where movements of light and heavy goods vehicles are common. Munster Joinery and Riverside 1 are the only operational businesses located directly off Norman Road. As set out in **Paragraph 14.8.4**, Munster Joinery is intended to be demolished as part of the Proposed Scheme and consequently would not require access during construction of the Proposed Scheme. Two businesses (Asda Belvedere Distribution Centre and Iron Mountain Record Storage Facility) are located along a side road off Norman Road. The Proposed Jetty Temporary Construction Compound will also be accessible from this side road. As set out in the **Framework CTMP (Document Reference 7.7)**, the Travel Plan Coordinator would be responsible for ensuring

coordination with adjacent developments and businesses to minimise traffic disruption. With these measures in place, the magnitude of change is considered to be low.

- 14.8.10 The effects on the remaining terrestrial businesses within the Study Area are recorded in **Table 14-11** below. As defined in **Table 14-5**, the sensitivity of these businesses is deemed to be either high or medium depending upon their size: high >1ha in size, medium <1ha in size.

**Table 14-11: Construction Effects on Terrestrial Businesses**

<b>Receptor</b>	<b>Direct/ Indirect</b>	<b>Permanence/ Duration</b>	<b>Sensitivity</b>	<b>Magnitude</b>	<b>Significance of Effects</b>
<b>Iron Mountain Records Storage Facility</b>	Indirect	Temporary, short term	High	Low	<b>Moderate Adverse (Significant)</b>
<b>Asda Belvedere Distribution Centre</b>	Indirect	Temporary, short term	High	Low	<b>Moderate Adverse (Significant)</b>
<b>Travelodge London Belvedere</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>Snap Fitness</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>The Morgan</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>Starbucks Coffee Drive Thru</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>Lidl Belvedere Regional Distribution Centre</b>	Indirect	Temporary, short term	High	Low	<b>Moderate Adverse (Significant)</b>
<b>Tap'in 3PL Ltd</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>HS Carlsteel Engineering Ltd</b>	Indirect	Temporary, short term	Medium	Low	<b>Minor Adverse (Not Significant)</b>

Receptor	Direct/ Indirect	Permanence/ Duration	Sensitivity	Magnitude	Significance of Effects
Freshasia Foods Ltd.	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)
Intersped Logistics (UK) Limited	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)
Howdens	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)
Ctr Group	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)



### **Effects on Businesses Reliant upon Access to the River Thames**

- 14.8.11 Both Ford Dagenham and Thames Water (Crossness Sewage Treatment Works) require access to their purpose-built jetties as part of their operations; notwithstanding that the Thames Water Jetty is used less frequently (approximately once a week, see **Chapter 19: Marine Navigation (Volume 1)**). Access to these terminals has the potential to be affected by increased vessel movements associated with the construction of the Proposed Jetty.
- 14.8.12 Works on the Proposed Jetty and the movements of barges delivering materials and components to the construction site is not anticipated to go beyond the authorised channel as there is sufficient navigable width to conduct arrival/departure manoeuvres. Therefore, access to the Ford Dagenham Terminal will remain unaffected, with disruption (due to increased vessel movements) limited. Although located in the same (southern) authorised channel as the Proposed Scheme, the infrequent use of the Thames Water Jetty and embedded mitigation means the Thames Water Jetty would remain largely unaffected. In addition, the Proposed Jetty will not impact upon the existing operations at the Middleton Jetty. Therefore, the construction of the Proposed Scheme is not anticipated to affect the viability of either business. Further details are provided in **Chapter 19: Marine Navigation (Volume 1)**.
- 14.8.13 For the assessment of effects on those businesses that rely upon access to the River Thames, the sensitivity of both Ford Dagenham and Crossness Sewage Treatment Works is high. Access for vessels will be maintained throughout the construction phase and disruption from vessel movements would be limited; the magnitude of change is consequently negligible. Therefore, there is likely to be a direct, temporary, short term, **Negligible (Not Significant)** effect for both Ford Dagenham and Crossness Sewage Treatment Works.

### **Effects on Walkers and Cyclists**

- 14.8.14 Walkers and cyclists using routes within the Site and 500m Study Area have the potential to be adversely affected by the construction of the Proposed Scheme through temporary or permanent PRow closures and diversions as well as potential loss in amenity from increases in noise and air pollution, and changes in views. Users of walking and cycling provision adjacent to roads could also experience fear and intimidation from construction traffic. These effects are anticipated to be temporary and short term, and as stated in **Chapter 18: Landside Transport (Volume 1)** there will unlikely be any change in level of fear and intimidation already experienced.
- 14.8.15 FP2 is located within the Site and would need to be permanently diverted as a result of the construction activities and for the operational requirements of the Carbon Capture Facility. The diversion routes would be localised and agreed with LBB.

- 14.8.16 The construction of the Access Trestle will cross over, in the air space, England Coast Path (FP3/NCN1) which may cause disruption for approximately six months, whilst the Proposed Jetty is constructed. Wherever practicable the England Coast Path (FP3/NCN1) and FP4 will remain open. During specific construction activities for the Proposed Jetty limited closures of the England Coast Path (FP3/NCN1) and FP4 may be required, the Contractor(s) will manage closures in the following priority order:
- Using a banksman to provide safe escorted access across the construction area, keeping waiting times to less than: 10 minutes during peak times; and 30 minutes during off-peak times;
  - Nighttime closures, between 11:00 and 05:00 (non-peak times: 23:00 - 05:00 and peak times 07:00 - 19:00) when the England Coast Path (FP3/NCN1) is infrequently used; and
  - In occasional situations, where the above options are not practicable, a signed diversion route will be provided. The diversion route will be of a hard surface and will be suitable for all users.
- 14.8.17 Construction sequencing will be such that FP4 is not closed during periods in which it is required to facilitate a diversion for the England Coast Path (FP3/NCN1).
- 14.8.18 If required, a diversion would result in an increase in journey length and, if required, the use of Norman Road may also lead to increases in fear and intimidation for users as this road will see an increase in construction traffic, including HGV.
- 14.8.19 FP4 is located within the Site and provides a link between the England Coast Path (FP3/NCN1) and Norman Road. During construction, a number of Above Ground LCO<sub>2</sub> Pipelines are likely to be installed along the eastern side of the Site Boundary, to connect the Carbon Capture Facility to the Proposed Jetty. It is expected that this PRow would be disrupted for shorter periods (i.e. less than a day) throughout the construction phase, whilst specific activities are undertaken – namely lifting heavy objects. Due to the ad hoc nature and limited duration of closures, no diversion will be provided. The frequency of use of this route is not known, but as a worst case scenario it is assumed that it has a moderate level of usage by walkers and cyclists for commuting, due to its connection to the England Coast Path (FP3/NCN1).
- 14.8.20 The construction of the Proposed Scheme will lead to changes in amenity experienced by users of these walker and cyclist routes. For example, the construction works could lead to increased noise levels, dust generation and changes to views from walker and cyclist routes. The assessment has therefore considered the assessment findings of **Chapter 5: Air Quality (Volume 1)**, **Chapter 6: Noise and Vibration (Volume 1)** and **Chapter 10: Townscape and Visual (Volume 1)** to determine the overall change in the walkers and cyclists' experience of the route. The effects on each of the PRow has been recorded in **Table 14-12** below. This identifies significant adverse effects for the England Coast Path (FP3/NCN1), FP2, and FP4.

**Table 14-12: Construction Effects on Walking and Cycling Routes**

Receptor	Direct/ Indirect	Permeance /Duration	Sensitivity	Magnitude	Significance of Effects
England Coast Path	Direct	Temporary, short term	High	Medium	<b>Moderate Adverse (Significant)</b>
NCN1	Direct	Temporary, short term	High	Medium	<b>Moderate Adverse (Significant)</b>
FP1	Indirect	Temporary, short term	Low	Medium	<b>Minor Adverse (Not Significant)</b>
FP2	Direct	Temporary, short term	Low	Medium	<b>Moderate Adverse (Significant)</b>
FP3	Direct	Temporary, short term	Medium	Medium	<b>Moderate Adverse (Significant)</b>
FP4	Direct	Temporary, short term	Medium	Medium	<b>Moderate Adverse (Significant)</b>
FP242	Indirect	Temporary, short term	Low	Low	<b>Minor Adverse (Not Significant)</b>

### **Effects on Terrestrial Recreation**

- 14.8.21 The East and Stable Paddocks (which are gated, not publicly accessible and classed as Non-Accessible Open Land) will be required for construction and operation of the Carbon Capture Facility whilst the remaining Accessible Open Land and Non-Accessible Open Land within the Site Boundary will form of the Mitigation and Enhancement Area.
- 14.8.22 Consequently, East and Stable Paddock, would be permanently lost as this land is required for the construction of the Proposed Scheme. It is anticipated that the construction works would be phased with some temporary restrictions to the Accessible Open Land meaning that some (but not all) parts of it may be closed off during the construction phase. These temporary restrictions would cease upon completion of construction.

- 14.8.23 The temporary closure of the Accessible Open Land during the construction phase has been considered during the construction phase assessment. The proposals for the operational Mitigation and Enhancement Area have been assessed as part of the operation phase assessment.
- 14.8.24 During construction, there is potential for disruption to access, loss of amenity and temporary changes to the Accessible Open Land. As identified within **Chapter 7: Terrestrial Biodiversity (Volume 1)**, the location of development closer to the bird watching areas of the Crossness LNR that would remain undeveloped and open during construction will give a backdrop of industrial machinery. This may deter some bird populations and reduce overall levels of tranquillity and enjoyment of the site.
- 14.8.25 It is understood that users of the Crossness LNR use Norman Road for parking, on an informal basis. The public highway is located within the Site and will provide access to the Proposed Scheme. Increased construction traffic and HGV movements could restrict parking along Norman Road, which could limit access for users (particularly those with reduced mobility) of the Accessible Open Land. In addition, FP2 provides access to this area and would be diverted as detailed in **Paragraph 14.8.15**. Although, it would be a very localised diversion.
- 14.8.26 With regards to the sensitivity of the Accessible Open Land, the sensitivity is considered to be medium as it provides a regionally important area for recreation and tourism. The magnitude of change for the Accessible Open Land will be medium. This is due to the partial and temporary loss of the resource, changes in amenity (which may inhibit bird watchers) as well as potential reduced access to the area. Therefore, there is likely to be an overall direct, temporary, short term, **Moderate Adverse (Significant)** effect on users of the Accessible Open Land.
- 14.8.27 In addition, the East Paddock and Stable Paddock (that forms part of the Crossness LNR) as well as Norman Road Field (all located within the Site) are leased under grazing rights to two separate grazier families. Access to the paddocks is obtained via the Thames Water Access Road, whilst access to the Norman Road Field is gained via entrance at the southern end of Norman Road.
- 14.8.28 Both the East Paddock and Stable Paddock (used by one family) would be permanently lost to the Proposed Scheme; this resource would no longer be available for use by the grazier. Norman Road Field (used by the other family) is included within the Site Boundary as part of the Mitigation and Enhancement Area. It would not be built upon and consequently would not be permanently lost; it would remain available for use by the grazier when the Proposed Scheme is operational.

- 14.8.29 During construction, the horses may need to be relocated either within the Site, with safety and security measures in place, or outside the Site Boundary. The Applicant will reach an agreement with the grazier on an appropriate temporary location arrangement for the horses during the construction phase, as required. As the recreational receptor is used by a small proportion of the population, the sensitivity is low. The magnitude of change is considered to be medium, as the horses would need to be relocated and this is likely to cause disruption. A relocation site has not been agreed at the time of writing. Therefore, there is likely to be a direct, permanent, long term, **Minor Adverse (Not Significant)** effect on land used by graziers.

### **Effects on Recreational Users of the Thames**

- 14.8.30 Vessel movements on the River Thames are likely to increase during the construction of the Proposed Scheme from barges delivering materials and components to the construction site of the Proposed Jetty. The number of vessel movements will depend on the construction activities being undertaken at that point in time. However, it is estimated that on average two barges per working day will be required; this includes delivery of materials and removal of the dredging arisings.
- 14.8.31 As identified within **Chapter 19: Marine Navigation (Volume 1)** and **Appendix 19-1: Preliminary Navigational Risk Assessment (Volume 3)**, the construction of the Proposed Jetty and increased movements on the River Thames is likely to increase the potential risk of collision, contact and grounding of vessels.
- 14.8.32 Therefore, recreational users of the River Thames including anglers, sailors, rowers and those using motorboats and personal watercraft, have the potential to be adversely affected by increased vessel movements as well as an increase in the potential risk of collision, contact and grounding. In addition, users may also experience increased levels of fear and intimidation from increased vessel movements and construction works within the River Thames, which could deter some users.
- 14.8.33 There are requirements on the River Thames for larger vessels (including those that will likely be required during construction) to make use of the authorised channel allowing separation from smaller vessels, such as recreational traffic, which would ordinarily navigate outside of the navigational channel.
- 14.8.34 **Appendix 19-1: Preliminary Navigational Risk Assessment (Volume 3)** states that vessels most commonly frequenting Halfway Reach (an area located within the authorised channel closest to the Site) are river trading non-passenger vessels, such as tugs and barges travelling to the various local wharfs and jetties, as well as commercial shipping transiting to and from central London. There is very limited recreational vessel activity within Halfway Reach.

- 14.8.35 For the assessment of effects on informal recreational users of the River Thames, the sensitivity of users is medium, due to the levels of current recreational activity. The magnitude of change is low. Therefore, there is likely to be an indirect, temporary, short term, **Minor Adverse (Not Significant)** effect on recreational users of the River Thames.
- 14.8.36 **Chapter 8: Marine Biodiversity (Volume 1)** does not assess effects on recreational fishing; however, it states that there is likely to be a direct, permanent, long term (presence of Proposed Jetty), and indirect, short term, temporary (dredging/construction activities) **Negligible (Not Significant)** effect on fish species of commercial value. Species are deemed to be of primarily low conservation value, but high commercial value. Consequently, the magnitude of change is considered to be low.
- 14.8.37 As set out in the EIA Scoping Report<sup>38</sup>, the construction of the Proposed Scheme would not significantly decrease the enjoyment of recreational activities along and within the river due to the industrial location of the Proposed Scheme.
- 14.8.38 Informal angling activity is relatively low in the Study Area, meaning the sensitivity is low. The magnitude of impacts for anglers would be low, as set out in **Chapter 8: Marine Biodiversity (Volume 1)**. Therefore, there is likely to be an indirect, temporary, long term, **Minor Adverse (Not Significant)** effect on anglers of the River Thames.
- 14.8.39 As well as the above users, there are informal marine recreational receptors that use the River Thames and that may also potentially be affected by increased movements on the river. Users of these facilities may be deterred from undertaking recreational activities and user numbers may be temporarily decreased during construction of the Proposed Scheme. However, these changes are not likely to affect the overall viability of the recreational assets and therefore the magnitude of change is determined to be low. The Erith Yacht Club and Erith Rowing Club have been consulted as part of **Appendix 19-1: Preliminary Navigation Risk Assessment (Volume 3)**. The purpose of the consultation was to define hazards and appropriate risk control measures to reduce risk associated with the Proposed Jetty and marine operation. The effects on these receptors have been detailed in **Table 14-13** below.

**Table 14-13: Construction Effects on Marine Recreational Receptors**

Receptor	Direct/ Indirect	Permeance/ Duration	Sensitivity	Magnitude	Significance of Effects
Erith Rowing Club	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)
Erith Yacht Club	Indirect	Temporary, short term	Medium	Low	Minor Adverse (Not Significant)
Thamesmead fishing mark	Indirect	Temporary, long term	Low	Low	Minor Adverse (Not Significant)
Erith Pier fishing mark	Indirect	Temporary, long term	Low	Low	Minor Adverse (Not Significant)



## Effects on Human Health, Mental Health and Wellbeing

### Human Health

- 14.8.40 The likely significant effects for human health associated with the construction phase are set out in **Table 14-14** below, which have been informed by other chapters of the ES. The effects set out in **Table 14-14** consider the embedded mitigation for each technical topic, as detailed in the relevant technical chapters. The effects noted in **Table 14-14** do not consider the implementation of any additional mitigation identified in each of the technical chapters, and consequently would be further mitigated as set out in each of the relevant chapters.

**Table 14-14: Human Health Considerations Construction**

Technical Topic/Chapter	Details
<b>Chapter 5: Air Quality (Volume 1)</b>	<p>During construction, there is the potential to generate dust and adversely affect human receptors, which could result in potential effects on human health as well as indirect impacts from a loss of amenity.</p> <p>A loss of amenity may deter some users of the Accessible Open Land, inhibiting their ability to undertake physical activity.</p> <p>Temporary worsening of air quality may adversely affect the health of the population, particularly those more vulnerable groups (such as the elderly, very young and those with underlying health conditions such as asthma).</p> <p>However, with embedded mitigation in place impacts on human receptors have been assessed as not significant.</p>
<b>Chapter 6: Noise and Vibration (Volume 1)</b>	<p>Noise generated during construction has the potential to adversely affect human receptors, which includes residential properties and businesses (specifically employees). However, embedded mitigation measures will be implemented to limit impacts.</p> <p>Noise effects will be most significant during the daytime on Clydesdale Way and users of the Travelodge London Belvedere during construction of the Carbon Capture Facility.</p> <p>This could result in potential short term, temporary, indirect adverse effects on human health.</p>

Technical Topic/Chapter	Details
<b>Chapter 10: Townscape and Visual (Volume 1)</b>	<p>The construction activities associated with the Proposed Scheme will likely have both direct and indirect impacts on the setting and visual amenity of the users of areas Accessible Open Land. Users are likely to experience temporary changes due to the introduction of construction activities such as plant, machinery, cranes, and temporary lighting into views. However, embedded mitigation measures will be implemented to limit impacts.</p> <p>Users of PRow are also likely to experience long sequential views of the construction activities including tall features such as machinery and cranes.</p> <p>Changes in townscape character and visual amenity may deter some users of PRow and the Accessible Open Land, inhibiting their ability to undertake physical activity.</p>
<b>Chapter 11: Water Environment and Flood Risk (Volume 1)</b>	<p>Construction of the Proposed Scheme has the potential to increase the risk of flooding of residential properties and areas used by the public for physical activity (e.g. PRow). However, embedded mitigation measures will be implemented to limit impacts of the Proposed Scheme.</p> <p>If a flood event did occur it could deter the public from undertaking physical activity. In addition, if a flood event were to occur, this could have physical and mental health impacts. For example, due to a loss of utilities (gas, water and electricity), loss of personal possessions and potential financial losses as a consequence can be significant stressors which can adversely affect both physical and mental health.</p>
<b>Chapter 15: Socio-economics (Volume 1)</b>	<p>The construction of the Proposed Scheme is estimated to generate 1,166.4 jobs on average per annum during the construction phase, with 874.8 jobs per annum being generated within Greater London and 291.6 jobs outside of Greater London.</p> <p>Employment improves health and wellbeing not only from an economic standpoint but also in terms of quality of life. This could therefore result in potential short term, indirect, temporary, beneficial effects on human health.</p>
<b>Chapter 18: Landside Transport (Volume 1)</b>	<p>There is potential for some users of PRow to experience fear and intimidation during construction, due to the presence of construction traffic. The additional vehicles</p>

Technical Topic/Chapter	Details
	(both light and heavy goods vehicles) may also decrease levels of safety and increase the potential number of accidents for users. However, embedded mitigation measures will be implemented to limit impacts.

- 14.8.41 When considering the outcomes of the assessments in relation to human health, the overall sensitivity of the population is considered to be medium. The magnitude of change is low as there will be a minor change in quality-of-life of residents and users of businesses, PRow, users of the Accessible Open Land and a small proportion of the local population will be affected. Therefore, there is likely to be an indirect, temporary, short term, **Minor Adverse (Not Significant)** effect on human health.

### **Mental Health and Wellbeing**

- 14.8.42 There is potential for adverse effects on mental health and wellbeing during the construction phase, associated with perception and uncertainty. This includes potential concerns, uncertainty and negative perceptions about the potential adverse impacts resulting from the construction of the Proposed Scheme.
- 14.8.43 Public concern is likely to be highest during the planning and construction stages, when there is most uncertainty about the potential impacts of the Proposed Scheme. This has potential to give rise to feelings such as stress and anxiety which may be associated with the following:
- potential future increase in noise pollution;
  - potential health effects of air pollution;
  - loss of and disturbance to recreational facilities, which may inhibit some peoples' abilities to undertake exercise;
  - perceived risk of use of amine-based solvents; and
  - potential public safety issues associated with pollution events, industrial accidents and flooding.
- 14.8.44 For the assessment of effects on mental health and wellbeing, the sensitivity of the local population is medium. The magnitude of change is low as the change in quality-of-life is likely to affect only residents and users of PRow, Accessible Open Land, with a small proportion of the local population affected. Embedded mitigation measures will also secure that the change in quality-of-life will be minimal. Therefore, there is likely to be an indirect, temporary, medium term, **Minor Adverse (Not Significant)** effect on mental health and wellbeing.

### **OPERATION PHASE**

- 14.8.45 The likely significant effects for population, health and land use associated with the operation phase are set out below.

### **Effects on Businesses that Rely upon Access to the River Thames**

- 14.8.46 Once the Proposed Scheme is operational, it is anticipated that for the export of LCO<sub>2</sub> there will be up to five scheduled export vessel calls per week for the smallest LCO<sub>2</sub> vessels, as well as up to ten tug arrivals and departures from the rear of the structure.
- 14.8.47 Given the number of vessel movements on the River Thames associated with the operation of the Proposed Scheme, the impacts on the operation and viability of Ford Dagenham and Crossness Sewage Treatment Works would be limited.
- 14.8.48 For the assessment of effects on those businesses that rely upon access to the River Thames, the sensitivity of both Ford Dagenham and Crossness Sewage Treatment Works is high. The magnitude of change is negligible. Therefore, there is likely to be a direct, permanent, long term, **Negligible (Not Significant)** effect for both Ford Dagenham and Crossness Sewage Treatment Works.

### **Effects on Walkers and Cyclists**

- 14.8.49 It is anticipated that once operational, the route of the majority of PRoW within the Study Area will remain largely unaffected by the Proposed Scheme and all temporary construction diversions would be removed, although FP2 would have been permanently diverted (this would be a very localised diversion).
- 14.8.50 There may be some long term permanent reductions in amenity due to changes in visual amenity and operational noise. **Chapter 6: Noise and Vibration (Volume 1)** states operational noise is likely to have a **Negligible (Not Significant)** effect during the daytime. **Chapter 10: Townscape and Visual (Volume 1)** provides further details on the changes to visual amenity on PRoW resulting from the Proposed Scheme.
- 14.8.51 The **Design Approach Document (Document Reference 5.6)** and **Outline LaBARDS (Document Reference 7.9)** set out plans to improve and enhance signage and surfacing of all PRoW within the Site Boundary, removing overgrown vegetation as well as reviewing the removal of some obstacles such as gates. Raised walkways are also intended to be provided so that the Accessible Open Land within the Mitigation and Enhancement Area remains accessible during wet periods. This is likely to result in beneficial effects for users of the ProW.
- 14.8.52 In addition, new PRoW, permissive path(s) and waymarked active route is proposed within the Norman Road Field land parcel and Crossness LNR, providing better access across this area and to Erith Marshes (South).
- 14.8.53 The effects on each of the PRoW has been recorded in **Table 14-15** below, where both the adverse and beneficial effects of the Proposed Scheme outlined above, have been considered. The impacts of the Proposed Scheme on the England Cost Path and NCN1 are negligible given the likely impacts on users' when considering the total length of the long distance routes.

**Table 14-15: Operation Phase Effects on Walking and Cycling Routes**

<b>Receptor</b>	<b>Direct/ Indirect</b>	<b>Permeance/ Duration</b>	<b>Sensitivity</b>	<b>Magnitude</b>	<b>Significance of Effects</b>
<b>England Coast Path</b>	Indirect	Permanent, long term	High	Negligible	<b>Negligible (Not Significant)</b>
<b>NCN1</b>	Indirect	Permanent, long term	High	Negligible	<b>Negligible (Not Significant)</b>
<b>FP1</b>	Indirect	Permanent, long term	Low	Low	<b>Minor Adverse (Not Significant)</b>
<b>PRoW, Permissive path(s) and way marked active route(s)</b>	Direct	Permanent, long term	Low	Low	<b>Minor Beneficial (Not Significant)</b>
<b>FP2</b>	Indirect	Permanent, long term	Low	Low	<b>Minor Adverse (Not Significant)</b>
<b>FP3</b>	Indirect	Permanent, long term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>FP4</b>	Indirect	Permanent, long term	Medium	Low	<b>Minor Adverse (Not Significant)</b>
<b>FP242</b>	Indirect	Permanent, long term	Low	Negligible	<b>Negligible (Not Significant)</b>

## **Effects on Terrestrial Recreation**

- 14.8.54 The Proposed Scheme utilises part of the Accessible Open Land for built development, with a larger area included within the Site Boundary as the Mitigation and Enhancement Area.
- 14.8.55 The Mitigation and Enhancement Area is being designed to deliver improvements such as user/visitor information facilities and amenity (including the potential for an outside classroom) re-wetting of the soils through alterations to the ditch network, tree planting and pond/wetland creation. This land also provides opportunity for improved access (all weather access routes, gateways, bridges and boardwalks). Further information is provided in the **Outline LaBARDS (Document Reference 7.9)** and **Design Approach Document (Document Reference 5.6)**.
- 14.8.56 Whilst the development of the East Paddock and Stable Paddock will be a permanent loss (as assessed in the **paragraphs 14.8.21 to 14.8.27**), the remainder of the Accessible Open Land will be open land again during the operation phase of the Proposed Scheme.
- 14.8.57 The potential degradation of ditches and other water bodies in terrestrial parts of the Site through shading could affect foraging resources used by wintering birds and operation phase lighting could prevent birds from using habitat within the Site for nesting and foraging which may affect breeding birds.
- 14.8.58 These could have implications on the public's use and enjoyment of the Accessible Open Land, particularly for bird watchers. However, as set out in **Chapter 7: Terrestrial Biodiversity (Volume 1)**, the ecological impact on the habitats used by these bird populations is considered to be negligible. The improvements being designed for the Mitigation and Enhancement Area will also present opportunities for further habitat creation.
- 14.8.59 **Chapter 10: Townscape and Visual (Volume 1)** concludes that proposed planting will establish over time and to a small extent help integrate the Proposed Scheme into the landscape and screen views. However, there are still likely to be some permanent, long term, adverse effects on the visual amenity.
- 14.8.60 Despite the changes in amenity, the enhancements being designed for the Mitigation and Enhancement Area will deliver opportunities to provide enhancements within the Accessible Open Land.
- 14.8.61 For the assessment of effects on terrestrial recreation, the sensitivity the Accessible Open Land is medium. The magnitude of change is low taking into consideration changes to amenity as well as the proposed improvements as part of the Mitigation and Enhancement Area. Therefore, there is likely to be an overall direct, permanent, long term, **Minor Adverse (Not Significant)** effect on the Accessible Open Land .

- 14.8.62 The East Paddock and Stable Paddock (that forms part of the Crossness LNR) and Norman Road Field (all located within the Site) have been leased under grazing rights to two separate graziers. Both the East Paddock and Stable Paddock would be permanently lost to the Proposed Scheme, this resource would no longer be available for use by the graziers. However, the graziers would still have access to the remaining fields they currently access within the Crossness LNR. Norman Road Field is included within the Site for mitigation purposes and not built development. It consequently would not be permanently lost and will be available to the grazier during the operation phase.
- 14.8.63 The Thames Water Access Road is currently used by Thames Water's grazier to gain access to the Crossness LNR and the Stable Paddock. This route may need to be diverted; with any replacement access road designed to be suitable for its current type and level of usage. Appropriate access will also be provided for the Norman Road Field land grazier.
- 14.8.64 Once operational, the graziers will be able to utilise the Mitigation and Enhancement Area, which will include reprovisioning of the existing stable block.
- 14.8.65 As the recreational asset is used by a small proportion of the population the sensitivity is low. The magnitude of change is considered to be negligible for the Norman Road field graziers and medium for the East Paddock and Stable Paddock graziers. Therefore, there is likely to be a direct, permanent, long term, **Negligible (Not Significant)** to **Minor Adverse (Not Significant)** effect on grazing land used by graziers.

### **Effects on Recreational Users of the Thames**

- 14.8.66 Once the Proposed Scheme is operational, it is anticipated that for the export of LCO<sub>2</sub> there will be up to five scheduled export vessel calls per week for the smallest LCO<sub>2</sub> vessels, as well as up to ten tug arrivals and departures from the rear of the structure.
- 14.8.67 Given that this section of the River Thames is already heavily used by large vessels and the operation of the Proposed Scheme would not substantially increase levels of marine traffic, effects on recreational users and recreational facilities located on the River Thames are likely to be limited.
- 14.8.68 **Chapter 8: Marine Biodiversity (Volume 1)** does not assess effects on recreational fishing. However, it does conclude that there is likely to be an indirect, permanent, long term (intermittent) **Negligible (Not Significant)** effect on fish species of commercial value. Species are deemed to be of primarily low conservation value, but high commercial value. It should be noted that the magnitude of change is currently considered to be a low.



- 14.8.69 For the assessment of effects on recreational users of the River Thames, the sensitivity of users is medium. The magnitude of change is negligible given the low numbers of vessel movements required. Therefore, there is likely to be an indirect, permanent, long term, **Negligible (Not Significant)** effect on recreational users of the Thames.
- 14.8.70 Informal angling is relatively low in the Study Area, meaning the sensitivity is low. The magnitude of impacts for anglers would be low, because there would be a limited impact on the fish population however, as set out in **Chapter 8: Marine Biodiversity (Volume 1)** there may still be some disturbance to some species from operational dredging. Therefore, there is likely to be an indirect, temporary, long term, **Minor Adverse (not significant)** effect on anglers of the River Thames.
- 14.8.71 The effects on these marine recreational receptors/facilities have been detailed in **Table 14-16** below.

**Table 14-16: Operational Effects on Marine Recreational Receptors**

Receptor	Direct/ Indirect	Permeance/ Duration	Sensitivity	Magnitude	Significance of Effects
Erith Rowing Club	Indirect	Permanent, long term	Medium	Negligible	<b>Negligible (Not Significant)</b>
Erith Yacht Club	Indirect	Permanent, long term	Medium	Negligible	<b>Negligible (Not Significant)</b>
Thamesmead fishing mark	Indirect	Permanent, long term	Low	Low	<b>Minor Adverse (Not Significant)</b>
Erith Pier fishing mark	Indirect	Permanent, long term	Low	Low	<b>Minor Adverse (Not Significant)</b>

## Effects on Human Health, Mental Health and Wellbeing

### Human Health

- 14.8.72 The likely significant effects for human health associated with the operation phase are set out in **Table 14-17** below, which have been informed by other chapters of this Environmental Statement (ES). The effects set out in **Table 14-17** consider the embedded mitigation for each technical topic, as detailed in the relevant technical chapters. The effects in **Table 14-17** do not consider any additional mitigation identified in each of technical chapters and consequently would be further mitigated as set out in each of the relevant technical chapters.

**Table 14-17: Human Health Considerations Operation**

Technical Topic/ Chapter	Details
<b>Chapter 5: Air Quality (Volume 1)</b>	<p>The operation of the Proposed Scheme will introduce emissions of new pollutants. However, embedded mitigation measures will be implemented to limit impacts. Worsening of air quality could adversely affect the health of the local population, particularly those more vulnerable groups (such as the elderly, very young and those with underlying health conditions such as asthma).</p> <p>However, effects on human health are considered to be <b>Negligible (Not Significant)</b> for all pollutants and emissions except SO<sub>2</sub>, nitrosamines, nitramines and aldehydes for which effects are <b>Slight Adverse (Not Significant)</b>.</p>
<b>Chapter 6: Noise and Vibration (Volume 1)</b>	<p>Noise generated during the operation phase has the potential to adversely affect sensitive receptors which includes residential properties and businesses (more specifically employees).</p> <p>The initial estimate of impact indicates a Minor Adverse effect on Clydesdale Way during both daytime and nighttime and a negligible daytime effect and Moderate Adverse nighttime effect on the Travelodge.</p> <p>Given the characteristics of the sound, being industrial in nature, are similar to the existing soundscape which is dominated by industrial/commercial noise and road traffic noise, there are unlikely to be long term effects on the health of guests and/or workers.</p>
<b>Chapter 10: Townscape and Visual (Volume 1)</b>	<p>The operation phase of the Proposed Scheme will likely have some direct and indirect impacts on the setting and visual amenity of the users of the Accessible Open Land. However, embedded mitigation measures will be implemented to limit impacts.</p> <p>The experience of users of PRoW in close proximity to the Site, are likely to be adversely impacted by the introduction of the new built form.</p> <p>However, views of the PRoW and Accessible Open Land would be experienced in the context of the industrial nature of the townscape with several other developments of a similar nature and scale, including Riverside 1 and Riverside 2.</p>

Technical Topic/ Chapter	Details
<b>Chapter 15: Socio-economics (Volume 1)</b>	The Proposed Scheme will lead to the loss of jobs at Munster Joinery UK Limited as well as generate long term jobs associated with the operation and maintenance of the Proposed Scheme.
<b>Chapter 11: Water Environment and Flood Risk (Volume 1)</b>	<p>There is a residual risk that in the operation phase, the platform on which the Proposed Scheme is located could result in a marginal increase in residual flood risk, should a breach occur in the flood defences. However, embedded mitigation measures will be implemented to limit impacts.</p> <p>If a flood event were to occur, it could affect residential properties and areas used by the public for physical activity (e.g. PRoW) and could deter the public from undertaking physical activity.</p> <p>Loss of utilities (gas, water and electricity), loss of personal possessions and potential financial losses can also be significant stressors that can adversely affect both physical and mental health.</p> <p>This risk is however considered to be <b>Slight Adverse (Not Significant)</b> so the overall risk to human health is considered to be low.</p>
<b>Chapter 20: Major Accidents and Disasters (Volume 1)</b>	<p>Once operational, there is a potential risk for a large scale temporary release of CO<sub>2</sub> resulting from a loss of containment event involving a pipeline, storage tank, connection to the marine vessel and/or marine vessel. However, mitigation measures will be implemented to limit impacts.</p> <p>The reasonable worst consequence if the such an event did occur, would be CO<sub>2</sub> toxicity and fogging hazard, which could affect neighbouring properties and/or those people in the immediate area including users of PRoW, Accessible Open Land as well as marine users.</p> <p>However, with mitigation in place it is considered that the identified potential events would all be managed to be as low as reasonably practicable.</p>

- 14.8.73 When considering the outcomes of the assessments in relation to human health, the overall sensitivity of the population is considered to be medium. The magnitude of change is low, as there would be a minor change in quality-of-life of residents and users of businesses, ProW and Accessible Open Land and a small proportion of the local population will be affected. Therefore, there is likely to be an indirect, permanent, long term, **Minor Adverse (Not Significant)** effect on human health.

#### **Mental Health and Wellbeing**

- 14.8.74 There is potential for adverse effects on mental health and wellbeing during the operation phase, associated with perception and uncertainty. This includes potential concerns, uncertainty and negative perceptions about the potential adverse impacts resulting from the operation of the Proposed Scheme. This has potential to give rise to feelings such as stress and anxiety which may be associated with the following:
- potential health effects of air pollution;
  - perceived risk of use of amine-based solvents; and
  - potential public safety issues associated with pollution events, industrial accidents and flooding.
- 14.8.75 For the assessment of effects on mental health and wellbeing, the sensitivity of the local population is medium. The magnitude of change is low as there would be a minor change in quality-of-life of residents and users of businesses, ProW, users of the Accessible Open Land and a small proportion of the local population will be affected. Embedded mitigation measures will ensure the change in quality-of-life will be minimal, and once operational it is likely that public concerns and anxiety may be reduced. Therefore, there is likely to be an indirect, permanent, long term, **Minor Adverse (Not Significant)** effect on mental health and wellbeing.

### **14.9. ADDITIONAL DESIGN, MITIGATION AND ENHANCEMENT MEASURES**

- 14.9.1 This section sets out the additional mitigation and compensation measures which are relevant for population, health and land use.

#### **CONSTRUCTION PHASE**

- The public will be informed of the nature, timing and duration of particular construction activities and the duration of the construction works by newsletters/other publications or advertisements.
- The appointed Contractor(s) will prepare a Community Engagement Plan (to be secured as part of the **Outline CoCP (Document Reference 7.4)**) for the construction phase of the Proposed Scheme. The Plan will provide the overall approach to community engagement and a detailed guide to the enquiries and complaints procedure.
- Ongoing engagement with the local community and businesses (including Munster Joinery UK Limited, Friends of Crossness Nature Reserve, Sustrans, local walking

and cycling groups, local recreational groups, Asda Belvedere Distribution Centre and Iron Mountain Record Storage Facility) through that Plan would provide information which may help to reduce uncertainty and stress relating to the potential effects of the Proposed Scheme.

- Engagement with the graziers will continue to be sought and undertaken.
- Clear signage and instructions if banksmen are in operation and clear directions for any alternative routes and appropriate alternative diversions would be provided. Measures such as banksmen and diversions would be clearly publicised.
- Signage to advertise that businesses are open and operating as normal to be provided.

## OPERATION PHASE

- Ongoing engagement with local communities and other stakeholders would provide information which may help to reduce uncertainty and stress relating to the potential effects of the Proposed Scheme. Once operational the Proposed Scheme could consider some of the following enhancement measures:
  - inclusion of a bike hub that includes safe storage and bike tools;
  - improvements to ProW (including surfaces and widths) to ensure they are accessible for all user groups;
  - inclusion of/updates to existing street furniture including benches, bins and signage; and
  - new information boards detailing the Proposed Scheme and other points of interest.

### 14.10. MONITORING

- 14.10.1 There are no proposed monitoring arrangements for population, human health and land use. The performance of PRoW improvements and the Mitigation and Enhancement Area will be monitored pursuant to the **Outline LaBARDS (Document Reference 7.9)**.

## 14.11. RESIDUAL EFFECTS

14.11.1 **Table 14-18** below summarises the residual effects associated with the Proposed Scheme.

**Table 14-18: Population, Health and Land Use Summary of Residual Effects**

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
<b>Construction Phase</b>				
<b>Effects on Terrestrial Businesses</b>	Munster Joinery UK Limited	<b>Major Adverse (Significant)</b>	The Applicant has sought to reach an agreement with Munster Joinery UK Limited on a relocation site. However, an agreement between the Applicant and Munster Joinery UK Limited has not been reached at the time of writing.	<b>Major Adverse (Significant)</b>
	Iron Mountain Records Storage Facility	<b>Moderate Adverse (Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Minor Adverse (Not Significant)</b>
	Asda Belvedere Distribution Centre	<b>Moderate Adverse (Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Minor Adverse (Not Significant)</b>
	Travelodge London Belvedere	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
	Snap Fitness	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	The Morgan	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	Starbucks Coffee Drive Thru	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	Lidl Belvedere Regional Distribution Centre	<b>Moderate Adverse (Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Minor adverse (Not Significant)</b>
	Tap'in 3PL Ltd	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	HS Carlsteel Engineering Ltd	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>



Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
	Freshasia Foods Ltd.	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	Intersped Logistics (UK) Limited	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	Howdens Joinery	<b>Minor Adverse (Not Significant)</b>	Further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
	Ctr Group	<b>Minor Adverse (Not Significant)</b>	further engagement with local business. Signage to advertise that businesses are open and operating as normal.	<b>Negligible (Not Significant)</b>
<b>Effects on Businesses that rely upon access to the River Thames</b>	Ford Dagenham	<b>Negligible (Not Significant)</b>	Further engagement with local business. Development of a Passage Plan	<b>Negligible (Not Significant)</b>
	Thames Water – Crossness Water Treatment Works	<b>Negligible (Not Significant)</b>	Further engagement with local business. Development of a Passage Plan	<b>Negligible (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
<b>Effects on Walkers and Cyclists</b>	England Coast Path	<b>Moderate Adverse (Significant)</b>	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	<b>Moderate Adverse (Significant)</b>
	NCN1	<b>Moderate Adverse (Significant)</b>	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	<b>Moderate Adverse (Significant)</b>
	FP1	<b>Minor Adverse (Not Significant)</b>	Engagement with users.	<b>Minor Adverse (Not Significant)</b>
	FP2	<b>Moderate Adverse (Significant)</b>	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	<b>Moderate Adverse (Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
	FP3	<b>Moderate Adverse (Significant)</b>	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banks men and diversions to be clearly publicised.	<b>Moderate Adverse (Significant)</b>
	FP4	<b>Moderate Adverse (Significant)</b>	Engagement with users. Clear signage and instructions on measures in place (e.g. banksmen). Measures such as banksmen and diversions to be clearly publicised.	<b>Moderate Adverse (Significant)</b>
	FP242	<b>Minor Adverse (Not Significant)</b>	Engagement with users.	<b>Minor Adverse (Not Significant)</b>
<b>Effects on Terrestrial Recreation</b>	Accessible Open Land	<b>Moderate Adverse (Significant)</b>	Further engagement with users.	<b>Moderate Adverse (Significant)</b>
	Land used by graziers	<b>Minor Adverse (Not significant)</b>	Further engagement with users.	<b>Minor Adverse (Not significant)</b>
	Recreational users	<b>Minor Adverse (Not Significant)</b>	Further engagement with users.	<b>Negligible (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
<b>Effects on Recreational Users of the Thames</b>	Erith Rowing Club	<b>Minor Adverse (Not Significant)</b>	Further engagement with users.	<b>Negligible (Not Significant)</b>
	Erith Yacht Club	<b>Minor Adverse (Not Significant)</b>	Further engagement with users.	<b>Negligible (Not Significant)</b>
	Thamesmead fishing mark	<b>Minor Adverse (Not Significant)</b>	Further engagement with users.	<b>Negligible (Not Significant)</b>
	Erith Pier fishing mark	<b>Minor Adverse (Not Significant)</b>	Further engagement with users.	<b>Negligible (Not Significant)</b>
<b>Effects on Human Health</b>	Local Population	<b>Minor Adverse (Not Significant)</b>	Further engagement with the local community. Additional mitigation set out in the relevant topic chapters.	<b>Negligible (Not Significant)</b>
<b>Effects on Mental health and wellbeing</b>	Local Population	<b>Minor Adverse (Not Significant)</b>	Further engagement with the local community. Additional mitigation set out in the relevant topic chapters.	<b>Negligible (Not Significant)</b>
<b>Operation Phase</b>				
	Ford Dagenham	<b>Negligible (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
<b>Effects on Businesses that rely upon access to the River Thames</b>	Thames Water – Crossness Water Treatment Works	<b>Negligible (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
<b>Effects on Walkers and Cyclists</b>	England Coast Path	<b>Negligible (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRow to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Negligible (Not Significant)</b>
	NCN1	<b>Negligible (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRow to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Negligible (Not Significant)</b>
	FP1	<b>Minor Adverse (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRow to ensure they are accessible for all user groups.	<b>Minor Adverse (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
			Inclusion of/updates to existing street furniture including benches, bins and signage.	
	PRoWs, permissive paths and way marked active routes	<b>Minor Beneficial (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRoW to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Minor Beneficial (Not Significant)</b>
	FP2	<b>Minor Adverse (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRoW to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Minor Adverse (Not Significant)</b>
	FP3	<b>Minor Adverse (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRoW to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Minor Adverse (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
	FP4	<b>Minor Adverse (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRow to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Minor Adverse (Not Significant)</b>
	FP242	<b>Negligible (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Improvements to PRow to ensure they are accessible for all user groups. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Negligible (Not Significant)</b>
<b>Effects on Terrestrial Recreation</b>	Accessible Open Land	<b>Minor Adverse (Not Significant)</b>	New information boards detailing the Proposed Scheme and other points of interest. Inclusion of/updates to existing street furniture including benches, bins and signage.	<b>Negligible (Not Significant)</b>
	Land used by graziers	<b>Negligible to Minor Adverse (Not Significant)</b>	No additional measures	<b>Negligible to Minor Adverse (Not Significant)</b>



Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
<b>Effects on Recreational Users of the Thames</b>	Recreational users	<b>Negligible (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
	Erith Rowing Club	<b>Negligible (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
	Erith Yacht Club	<b>Negligible (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
	Thamesmead fishing mark	<b>Minor Adverse (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
	Erith Pier fishing mark	<b>Minor Adverse (Not Significant)</b>	No additional measures	<b>Negligible (Not Significant)</b>
<b>Effects on Human Health</b>	Local Population	<b>Minor Adverse (Not Significant)</b>	Further engagement with the local community through project information boards surrounding the site and updates on operational activities and planned maintenance via the Applicant's website. Additional mitigation set out in the relevant topic chapters.	<b>Negligible (Not Significant)</b>
<b>Effects on Mental health and wellbeing</b>	Local Population	<b>Minor Adverse (Not Significant)</b>	Further engagement with the local community through project information boards surrounding the site and updates on operational activities and planned maintenance via the Applicant's website.	<b>Negligible (Not Significant)</b>

Description of the Effect	Sensitive Receptor	Significance of Effect with Embedded Mitigation	Additional Design, Mitigation, Enhancement Measure	Residual effect
			Additional mitigation set out in the relevant topic chapters.	

## 14.12. LIMITATIONS AND ASSUMPTIONS

- 14.12.1 This section outlines the limitations, uncertainties, and assumptions made in undertaking the population, health and land use assessment reported in this chapter:
- This chapter has relied, in part, on data provided by third parties (e.g. OS Mapping, Local Authorities, NOMIS) which are the most up-to-date, available at the time of writing. No significant changes or limitations in these datasets have been identified that would affect the robustness of the assessment.

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