



Gatwick Airport Northern Runway Project

Environmental Statement

Chapter 19: Agricultural Land Use and Recreation

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Table of Contents

19	Agricultural Land Use and Recreation	19-1
19.1.	Introduction	19-1
19.2.	Policy	19-2
19.3.	Consultation and Engagement	19-7
19.4.	Assessment Methodology	19-12
19.5.	Assumptions and Limitations of the Assessment	19-21
19.6.	Baseline Environment	19-22
19.7.	Key Aspects of the Project Parameters	19-31
19.8.	Mitigation and Enhancement Measures Adopted as Part of the Project	19-32
19.9.	Assessment of Effects	19-35
19.10.	Potential Changes to the Assessment as a Result of Climate Change	19-46
19.11.	Cumulative Effects	19-47
19.12.	Inter-Related Effects	19-51
19.13.	Summary	19-52
19.14.	References	19-60
19.15.	Glossary	19-61

Tables

Table 19.2.1:	Summary of NPS Information Relevant to this Chapter	19-3
Table 19.2.2:	Local Planning Policy	19-5
Table 19.3.1:	Summary of Scoping Responses	19-8
Table 19.3.2:	Summary of Consultation in Response to the PEIR (Autumn 2021)	19-10
Table 19.3.3:	Summary of Consultation in Response to the Updated PEI (September 2022)	19-11
Table 19.3.4:	Summary of Consultation and Engagement	19-12
Table 19.4.1:	Issues Considered within the Assessment	19-13
Table 19.4.2:	Issues Scoped Out of the Assessment	19-14
Table 19.4.3:	Sensitivity Criteria for Agricultural Land Use Receptors	19-16
Table 19.4.4:	Sensitivity Criteria for Recreational Receptors	19-17
Table 19.4.5:	Impact Magnitude Criteria Agricultural Land Use	19-18
Table 19.4.6:	Impact Magnitude Criteria for Recreation	19-19
Table 19.4.7:	Assessment Matrix	19-21

Table 19.6.1: Study Area – Soil Associations	19-22
Table 19.6.2: Defra Statistics for Agricultural Land Use 2021	19-24
Table 19.7.1: Maximum Design Scenarios	19-31
Table 19.8.1: Mitigation and Enhancement Measures	19-32
Table 19.11.1: List of Other Developments and Plans Considered within CEA	19-48
Table 19.13.1: Summary of Effects	19-56
Table 19.15.1: Glossary	19-61

Figures

ES Figure 19.6.1: Distribution of Soil Associations
ES Figure 19.6.2: Auger Boring Location and Agricultural Land Classification
ES Figure 19.6.3: Farm holdings Plan
ES Figure 19.6.4: Existing Recreational Facilities
ES Figure 19.6.5: Existing Open Space
ES Figure 19.8.1: The location of the permanent loss and replacement open spaces
ES Figure 19.9.1: Indicative Public Rights of Way and National Cycle Route 21 Temporary Stopping up and Diversion Routes
ES Figure 19.9.2: Indicative Public Rights of Way Permanent Stopping up and Diversion Routes

Appendices

ES Appendix 19.2.1: Summary of Local Planning Policy: Agricultural Land Use and Recreation
ES Appendix 19.3.1: Summary of Stakeholder Scoping Responses
ES Appendix 19.6.1: Published Agricultural Land Classification Data
ES Appendix 19.6.2: Soil Survey Results
ES Appendix 19.6.3 Part A: 2019 Recreational User Survey
ES Appendix 19.6.3 Part B: 2022 Recreational User Survey
ES Appendix 19.8.1: Public Rights of Way Management Strategy

19 Agricultural Land Use and Recreation

19.1. Introduction

- 19.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) concerning the potential effects of the proposal to make best use of Gatwick's existing runways and infrastructure (referred to within this report as 'the Project') on agricultural land use and recreation.
- 19.1.2 Specifically, this chapter considers the potential effects of the Project on agricultural land use and recreational resources, including areas of open space, Public Rights of Way (Public Rights of Way) and other linear recreational routes during its construction and operational periods.
- 19.1.3 Those effects of the Project that may affect the visual and acoustic amenity of recreational resources are assessed in **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1) and **ES Chapter 14: Noise and Vibration** (Doc Ref. 5.1), where appropriate. Socio-economic effects are considered within **ES Chapter 17: Socio-Economics** (Doc Ref. 5.1).
- 19.1.4 In particular, this ES chapter:
- sets out the existing and future environmental baseline conditions, established from desk studies, surveys and consultation to date;
 - presents the potential environmental effects on agricultural land use and recreation arising from the Project, based on the information gathered and the analysis and assessments undertaken to date;
 - identifies any assumptions and limitations encountered in compiling the environmental information; and
 - highlights any necessary monitoring and/or mitigation measures that could prevent, minimise, reduce or offset the possible environmental effects identified during the EIA process.
- 19.1.5 This chapter is accompanied by:
- **ES Figure 19.6.1: Distribution of Soil Associations** (Doc Ref. 5.2);
 - **ES Figure 19.6.2: Auger Boring Location and Agricultural Land Classification** (Doc Ref. 5.2);
 - **ES Figure 19.6.3: Farm holdings Plan** (Doc Ref. 5.2);
 - **ES Figure 19.6.4: Existing Recreational Facilities** (Doc Ref. 5.2);
 - **ES Figure 19.6.5: Existing Open Space** (Doc Ref. 5.2);
 - **ES Figure 19.8.1: The Location of the Permanent Loss and Replacement Open Spaces** (Doc Ref. 5.2);
 - **ES Figure 19.9.1: Indicative Public Rights of Way and National Cycle Route 21 Temporary Stopping up and Diversion Routes** (Doc Ref. 5.2);
 - **ES Figure 19.9.2: Indicative Public Rights of Way Permanent Stopping up and Diversion Routes** (Doc Ref. 5.2);
 - **ES Appendix 19.2.1: Summary of Local Planning Policy: Agricultural Land Use and Recreation** (Doc Ref. 5.3);
 - **ES Appendix 19.3.1: Summary of Stakeholder Scoping Responses** (Doc Ref 5.3);
 - **ES Appendix 19.6.1: Published Agricultural Land Classification Data** (Doc Ref. 5.3);

- **ES Appendix 19.6.2: Soil Survey Results** (Doc Ref. 5.3);
- **ES Appendix 19.6.3 Part A: 2019 Recreational User Survey** (Doc Ref. 5.3);
- **ES Appendix 19.6.3 Part B: 2022 Recreational User Survey** (Doc Ref. 5.3); and
- **ES Appendix 19.8.1: Public Rights of Way Management Strategy** (Doc Ref. 5.3).

19.1.6 The Preliminary Environmental Information Report (PEIR) chapter identified that next steps for this part of the ES assessment would be: *"Following the confirmation of the surface access solutions in relation to the new grade separated junction to serve the North Terminal, the package of mitigation measures to be incorporated into the Project will be developed and informed by ongoing consultation with the relevant local authorities and other stakeholders"*.

19.1.7 The package of mitigation measures that have been developed for this topic are described in Table 19.8.1 below and has included the development of the **ES Appendix 5.3.2: CoCP Annex 4 - Soil Management Strategy** (Doc Ref. 5.3), **ES Appendix 19.8.1: Public Rights of Way Management Strategy** (Doc Ref. 5.3) and proposals for the replacement of open space permanently affected by the Project.

19.2. Policy

19.2.1 This section of the chapter reviews planning policy and other documentation that is relevant to the assessment of agricultural land use and recreation effects of the Project and has been taken into account for the assessment.

Planning Policy Context

National Policy Statements

19.2.2 The Airports National Policy Statement (NPS) (Department for Transport, 2018), although primarily provided in relation to a new runway at Heathrow Airport, remains a relevant consideration for other applications for airport infrastructure in London and the south east of England.

19.2.3 The NPS for National Networks (Department for Transport, 2014) sets out the need for development of road, rail and strategic rail freight interchange projects on the national networks and the policy against which decisions on major road and rail projects will be made¹. This has been taken into account in relation to the highways improvements proposed as part of the Project.

19.2.4 Table 19.2.1 provides a summary of the relevant requirements of these NPSs and how these are addressed within the ES.

¹ The Transport Decarbonisation Plan published by Department for Transport (DfT) on 14 July 2021 announced DfT's intention to review the NPS for National Networks in due course once demand patterns post-pandemic become clearer. It is understood DfT this review is underway, with a previous stated intention to complete such review by Spring 2023. Revised timescales for the completion of the review are not known; however, in the interim and whilst the review is undertaken, DfT has confirmed the NPS for National Networks remains relevant government policy and has full force and effect for the purposes of the Planning Act 2008. The Applicant will continue to monitor the review process and reflect any necessary updates to the application for development consent for the Project as are considered appropriate at the time.

Table 19.2.1: Summary of NPS Information Relevant to this Chapter

Summary of NPS requirement	How and where considered in the ES
Airports NPS	
<p>The applicant should take into account the economic and other benefits of best and most versatile agricultural land, seeking to use areas of poorer quality land in preference to those of a higher quality. The applicant should also seek to minimise impacts on soil quality (paragraph 5.115).</p>	<p>The mitigation/ enhancement measures adopted as part of the Project are described in Section 19.8 of this chapter and the potential impacts are considered in Section 19.9.</p>
<p>Existing open space, sports and recreational buildings and land should not be developed unless the land is no longer needed or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location (paragraph 5.112).</p>	
<p>The applicant can minimise the direct effects on the existing use of the proposed site, or proposed uses near the site, by, <i>inter alia</i>, the protection of soils during construction (paragraph 5.118).</p>	
<p>Where green infrastructure is affected, the applicant should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to National Trails and other Public Rights of Way (paragraph 5.119).</p>	
<p>The applicant is expected to take appropriate mitigation measures to address adverse effects on National Trails, other Public Rights of Way and open access land and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way (paragraph 5.123).</p>	
NPS for National Networks	
<p>Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location. Applicants considering proposals which would involve developing such land should have regard to any local authority's assessment of need for such types of land and buildings (paragraph 5.166).</p>	<p>The mitigation/ enhancement measures adopted as part of the Project are described in Section 19.8 of this chapter and the potential impacts are considered in Section 19.9.</p>
<p>Applicants should take into account the economic and other benefits of the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and seek to use areas of poorer quality land in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil quality taking into account any mitigation measures proposed (paragraph 5.168).</p>	

Summary of NPS requirement	How and where considered in the ES
<p>Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to new coastal access routes, National Trails and other Public Rights of Way (paragraph 5.180).</p>	
<p>The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any planning obligations, for example, to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, any replacement land provided under those sections will need to conform to the requirements of those sections (paragraph 5.181).</p>	
<p>Public Rights of Way, National Trails, and other rights of access to land (eg open access land) are important recreational facilities for walkers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects on these resources and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent (paragraph 5.184). Public Rights of Way can be extinguished under Section 136 of the Act if the Secretary of State is satisfied that an alternative has been or will be provided or is not required (paragraph 5.185).</p>	

National Planning Policy Framework

- 19.2.5 The National Planning Policy Framework (NPPF) (2021) sets out a framework for planning policies and decision making in England and is a material consideration in planning decision making. Policies relevant to this topic are as follows.
- The NPPF highlights the importance of access to high quality open spaces and opportunities for sport and physical activity to the health and well-being of communities (paragraph 98), and states that existing open space, sports and recreational buildings and land should not be built on unless certain criteria are met (paragraph 99).
 - The NPPF also highlights the need for planning policies and decisions to protect and enhance Public Rights of Way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails (paragraph 100).

- In relation to conserving the natural environment, the NPPF states that planning policies and decisions should contribute to and enhance it by, *inter alia*, ‘recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland’ (paragraph 174 (b)). Best and most versatile agricultural land is described as ‘Land in grades 1, 2 and 3a of the Agricultural Land Classification’ (Annex 2 - page 65).

19.2.6 This chapter considers the potential effects of the Project on open spaces, the Public Rights of Way network and areas of the best and most versatile land as identified in Paragraphs 99, 100 and 174 of the NPPF.

19.2.7 The National Planning Practice Guidance (NPPG) (Ministry of Housing, Communities & Local Government, 2019) supports the NPPF and provides guidance across a range of topic areas. The following parts of the NPPG are relevant to this topic.

- Guidance on the natural environment includes the need to take into account the economic and other benefits of the ‘best and most versatile’ agricultural land (2019 paragraph 001).
- Guidance in relation to recreational resources is provided under the headings of ‘Open space, sports and recreation facilities’ and ‘Public Rights of Way and National Trails’, which reiterates that these form an important component of sustainable transport links and should be protected or enhanced (2014 paragraphs 001 & 004).

Local Planning Policy

19.2.8 Gatwick Airport lies within the administrative area of Crawley Borough Council and adjacent to the boundaries of Mole Valley District Council to the north west, Reigate and Banstead Borough Council to the north east and Horsham District Council to the south west. The administrative area of Tandridge District Council is located approximately 1.9 kilometres (km) to the east of Gatwick Airport, while Mid Sussex District Council lies approximately 2 km to the south east. Gatwick Airport is located in the county of West Sussex and immediately adjacent to the bordering county of Surrey.

19.2.9 The relevant local planning policies applicable to agricultural land use and recreation and taken into account for the assessment based on the extent of the study area for this assessment are listed in Table 19.2.2, with further detail provided in **ES Appendix 19.2.1: Summary of Local Planning Policy – Agricultural Land Use and Recreation** (Doc Ref. 5.3).

Table 19.2.2: Local Planning Policy

Administrative Area	Plan	Policy
Adopted Policy		
West Sussex	West Sussex Transport Plan (2022 – 2036) West Sussex Walking and Cycling Strategy (2016-2026)	The Transport Plan includes four objectives that guide the approach to maintaining, managing and investing in transport comprising promoting economic growth, tackling climate

Administrative Area	Plan	Policy
	West Sussex Rights of Way Management Plan (2028-2028)	<p>change, improving accessibility and improving safety, health & security. In relation to improving accessibility the aims include enabling disadvantaged people to access employment opportunities, key services, social networks and goods where they exist; and to work with local interest groups such as access and cycle forums to identify local priorities and assist with infrastructure design and programme delivery.</p> <p>The transport plan builds on the local plans prepared by the Local Planning Authorities (LPAs) and is supported by a series of thematic strategies such as the Walking & Cycling Strategy and Rights of Way Management Plan</p>
Surrey	Surrey Local Transport Plan LTP 4 (July 2022)	<p>The four key policies include</p> <ul style="list-style-type: none"> ▪ active travel and personal mobility prioritising walking and cycling to improve the health of the county; ▪ public and shared transport, working with operators to improve journeys on public and shared transport; ▪ promoting zero emissions Electric Vehicles (EVs) and raising awareness of the benefits of EVs to increase uptake; and ▪ plan, design and improve local neighbourhoods to reduce the number and length of car trips.
Surrey	Rights of Way Improvement Plan for Surrey	Plans for the improvements to the Public Rights of Way network to encourage sustainable transport choices and achieve benefits to health and wellbeing.
Crawley	Crawley 2030: Crawley Borough Local Plan 2015-2030 (2015)	<p>CH11 Rights of Way & Access to the Countryside</p> <p>ENV4 Open Space, Sport & Recreation</p> <p>ENV5 Provision of Open Space & Recreational Facilities</p>

Administrative Area	Plan	Policy
		EC9 Rural Economy
Crawley	Crawley Local Cycling and Walking Infrastructure Plan 2021	Provision of safe and attractive infrastructure for cycling and walking within the Borough.
Reigate and Banstead	Reigate and Banstead Local Plan: Core Strategy (2014, reviewed 2019)	CS2 Valued Landscapes & the Natural Environment
		CS12 Infrastructure Delivery
	Reigate and Banstead Local Plan Development Management Plan 2018-2027 (2019)	OSR1 Urban Open Space
		NHE1 Landscape Protection
		NHE4 Green/ Blue Infrastructure
TAP1 Access, Parking & Servicing		
Reigate and Banstead	Reigate and Banstead Local Cycling and Walking Infrastructure Plan (2022)	Proposals to improve the waling and cycling infrastructure in the Borough.
Emerging Policy		
Crawley	Draft Crawley Borough Local Plan 2021-2037 (2021)	Policy OS1: Open Space, Sport and Recreation
		Policy OS2: Provision of Open Space and Recreational Facilities
		Policy OS3: Rights of Way and Access to the Countryside
		Policy EC13: Rural Economy
		Policy GI1: Green Infrastructure
Policy ST1: Development and Requirements for Sustainable Transport		

19.3. Consultation and Engagement

- 19.3.1 In September 2019, Gatwick Airport Limited (GAL) submitted **ES Appendix 6.2.1: Scoping Report** (Doc Ref. 5.3) to the Planning Inspectorate, which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant effects and, where necessary, to determine suitable mitigation measures for the construction and operational periods of the Project. It also described those topics or sub-topics which are proposed to be scoped out of the EIA process and provided justification as to why the Project would not have the potential to give rise to significant environmental effects in these areas.
- 19.3.2 Following consultation with the statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided **ES Appendix 6.2.2: Scoping Opinion** (Doc Ref. 5.3) on 11 October 2019.
- 19.3.3 Key issues raised in this Scoping Opinion by the Planning Inspectorate, specific to agricultural land use and recreation are listed in Table 19.3.1, together with details of how these issues have been taken into account within the ES. Additional responses from other stakeholders to the

Scoping Report are contained in **ES Appendix 19.3.1: Summary of Stakeholder Scoping Responses – Agricultural Land Use and Recreation** (Doc Ref. 5.3).

Table 19.3.1: Summary of Scoping Responses

Details	How/where taken into account in ES
<p>Potential impacts from the Proposed Development on the nature and character of recreational resources through disturbance during construction and operation is omitted in the Scoping Report and should be assessed in the ES. (Scoping Opinion ID 4.12.1).</p>	<p>The assessment of potential effects on the nature and character of recreational resources within the study area is scoped into the assessment (see Table 19.4.1). The effects on the nature and character of recreational resource arising from disturbance during construction and operation as a result of the Project have been considered in Section 19.9 of this chapter to the ES. A Public Rights of Way Management Strategy is included at ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3).</p>
<p>The ES should provide the date of when the data that has been used to inform the baseline and assessment was last updated to ensure that the information being used is current. (Scoping Opinion ID 4.12.2).</p>	<p>Details of the surveys undertaken, and the resources used to inform the baseline are presented in Section 19.4 of this chapter to the ES.</p>
<p>All information provided as a document or figure within the report or derived from other sources should be made clear through appropriate referencing in the ES. (Scoping Opinion ID 4.12.3).</p>	<p>Data have been provided as technical appendices where required. The source of all data is provided in the form of a reference list in Section 19.15 of this chapter to the ES.</p>
<p>Any agricultural land classification should be supported by guidance and accurate, current data and professional judgement in the ES to determine sensitivity of receptors and the degree to which any land temporarily or permanently affected/lost could be considered significant. (Scoping Opinion ID 4.12.4).</p>	<p>The approach to determining the sensitivity of receptors and effects on any temporarily or permanently affected/lost agricultural land has been based on relevant guidance; accurate, current data; and professional judgement. Details of the methodology used in this ES is provided in Section 19.4 and the assessment of effects in Section 19.9.</p>
<p>The scope of user surveys – which should include peak and shoulder periods – and the ‘characteristics’ of agricultural land and soil structure should be clearly defined in relation to baseline conditions and application of sensitivity of receptors. (Scoping Opinion ID 4.12.5).</p>	<p>User surveys have been completed for National Cycle Route (NCR) 21 through Riverside Garden Park, which is used by both cyclists and walkers. These surveys have been undertaken at appropriate times to ensure that the peak usage is captured. In addition, further user surveys were undertaken in November 2022 to support the development of the highway design proposals. The conclusions from this survey are summarised in Section 19.6 of this chapter to</p>

Details	How/where taken into account in ES
	<p>the ES and full details included at ES Appendix 19.6.3: Recreational User Survey (Doc Ref. 5.3).</p> <p>The characteristics of agricultural land and soil structure have been clearly defined in Section 19.6 of this chapter and have formed the basis of the assessment within the ES.</p>
<p>The Scoping Report does not explicitly define the study area. The ES should clearly define a study area based on the Zone of Influence of the Proposed Development with reference to relevant and up to date guidance. (Scoping Opinion ID 4.12.6).</p>	<p>The study area used to undertake an assessment of effects is presented in Section 19.4 of this chapter to the ES.</p>
<p>Where soil excavated for the Proposed Development is to be stored and / or reused, cross reference should be made to other relevant aspect chapters and the assessment of likely significant effects. (Scoping Opinion ID 4.12.7).</p>	<p>This methodology for the stripping, storage and reinstatement of soils within the Project site is included within ES Appendix 5.3.2: CoCP Annex 4 –Soil Management Strategy (Doc Ref. 5.3).</p>
<p>Statistics for agricultural land use in 2016 appears to have been grouped for Crawley and Mid Sussex and Reigate and Banstead and Epsom and Ewell when DEFRA provide statistics on a local authority basis. The ES should present data in a clear way to allow for accurate assessment of the likely significant effects and to avoid unintended bias in reporting. (Scoping Opinion ID 4.12.8).</p>	<p>The most recent Department for Environment, Food & Rural Affairs (Defra) statistics for 2021 have been included in Section 19.6 of this chapter to the ES and provide a context to the nature of agricultural land use in the vicinity of the Project as explained in Section 19.4. The detailed assessment of the effects of the Project on agricultural land use is based on the identification of the characteristics of the individual farm holdings affected as explained in Section 19.4 of this chapter to the ES.</p>

19.3.4 The PEIR was issued to inform the statutory consultation carried out on the Project in Autumn 2021. It presented the preliminary findings of the EIA process for the Project at that time. The consultation responses specific to the Chapter 18: Agricultural Land Use and Recreation of the PEIR and the way in which they have been taken into account in this chapter to the ES are set out in Table 19.3.2. Further detail about the consultation process for the Project and way the consultation responses have been addressed is provided in the **Consultation Report** (Doc Ref. 6.1).

Table 19.3.2: Summary of Consultation in Response to the PEIR (Autumn 2021)

Consultee	Details	How/Where Taken into Account in ES
Crawley Borough Council; Reigate and Banstead Borough Council	Request for further details on impacts on recreation and proposed diversions of Public Rights of Way during construction.	Details of the impacts on Public Rights of Way are provided in Section 19.9 and ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3).
Reigate and Banstead Borough Council	Effects of temporary land take on farm holdings	Details of the temporary effects of land take on farm holdings are provided in Section 19.9 of this chapter to the ES.
Crawley Borough Council; Reigate and Banstead Borough Council; West Sussex County Council	Opportunities for enhancement of Public Rights of Way network	Details of the proposals for the Public Rights of Way network are provided in Section 19.9 of this chapter to the ES.
Crawley Borough Council; Reigate and Banstead Borough Council	Potential to enhance the quality of NCR 21	Details of proposals for NCR 21 are described in Section 19.8 of this chapter to the ES.
Reigate and Banstead Borough Council	The effects of the Project on soils and the provision of a Soil Management Strategy	A Soil Management Strategy is available at ES Appendix 5.3.2: CoCP Annex 4 –Soil Management Strategy (Doc Ref. 5.3).
Reigate and Banstead Borough Council	Details of areas of Open Spaces affected and proposals for re-provision	Impacts on areas of open space and proposals for the re-provision of this space is provided in Section 19.9 of this chapter to the ES.
West Sussex County Council	Request for Public Rights of Way Management Strategy document	A Public Rights of Way Management Strategy is available at ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3).

Consultee	Details	How/Where Taken into Account in ES
Crawley Borough Council; Reigate and Banstead Borough Council; West Sussex County Council;	Provision of updates on relevant Policy relating to agriculture, soils and recreation	Policy updates are provided in Section 19.2 of this chapter to the ES.

19.3.5 In September 2022 an additional consultation was undertaken to update stakeholders and the local community on ongoing work and refinement to the Project proposals, which included a targeted, statutory consultation on the design changes to the proposed highway improvement changes. As these changes to the Project could lead to new or materially different significant environmental effects compared to those reported in the PEIR, updated Preliminary Environmental Information (PEI) was issued as part of this additional consultation. The consultation responses relating to agricultural land use and recreation and the way in which they have been taken into account in this chapter of the ES are set out in Table 19.3.3. Further detail about the consultation process for the Project and way the consultation responses have been addressed is provided in the separate **Consultation Report** (Doc Ref. 6.1).

Table 19.3.3: Summary of Consultation in Response to the Updated PEI (September 2022)

Consultee	Details	How/Where Taken into Account in ES
West Sussex County Council; Crawley Borough Council; Reigate and Banstead Borough Council	Details of the Public Rights of Way Management Strategy required to address impacts during construction.	Details of the proposals for the Public Rights of Way network are provided in Section 19.8 of this chapter to the ES.
West Sussex County Council	Clarify Public Rights of Way referencing	Public Rights of Way numbering for routes in West Sussex and Surrey is identified in Section 19.6 of this chapter to the ES.
Surrey County Council	Consultation with Sustrans regarding NCR 21	Sustrans provided no comment to the updated PEI provided in September 2022. Sustrans were further approached for comment in October and November 2022, but no response has been received.
Surrey County Council	Proposals for open space at Gatwick Dairy Farm and maintenance of farming access.	The proposals for this area are described in Section 19.8 of this chapter to the ES.

Consultee	Details	How/Where Taken into Account in ES
Crawley Borough Council	Proposals for NCR 21	Details of the proposals for NCR 21 are provided in Section 19.8 of this chapter to the ES.
Horley Town Council	Details of replacement open space and arrangements for long term management of these areas.	The proposals for the replacement open space are described in Section 19.8 of this chapter to the ES.

19.3.6 Outside of the above-described public consultations, GAL also continued to engage with key stakeholders and during such engagement, key issues raised specific to agricultural land use and recreation are listed in Table 19.3.4, together with details of how these issues have been taken into account within the ES.

Table 19.3.4: Summary of Consultation and Engagement

Consultee	Date	Details	How/where taken into account in ES
Land based topic working group with LPAs	20.08.2019	Discussion on the potential effects on land-based resources (including agricultural land use and recreation) arising from the Project and the proposed measures to mitigate these effects.	Mitigation measures relevant to agricultural land use and recreation are set out in Section 19.8 and the assessment of potential effects on agricultural land use and recreational resources during the construction and operational periods of the Project are set out in Section 19.9 of this chapter to the ES.
	03.02.2020		
	29.07.2021		
	14.10.2021		
	10.05.2022		
	09.08.2022		
	26.09.2022		
31.10.2022			

19.4. Assessment Methodology

Relevant Guidance

19.4.1 In addition to meeting the requirements of EIA as set out by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations), the agricultural land use and recreation assessment has taken into account the following guidance documents:

- Design Manual for Roads and Bridges (DMRB) Volume 11, LA109: Geology and Soils (Highways England *et al.*, 2019);
- DMRB Volume 11, LA 104: Environmental Assessment and Monitoring (Highways England *et al.*, Revision 1 2020a);
- DMRB Volume 11, LA112: Population and Human Health (Highways England *et al.*, Revision 1 2020b);

- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009);
- Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land. Ministry of Agriculture, Fisheries and Food (MAFF) (1988);
- Institute of Environmental Management and Assessment (IEMA) IEMA Guide: A New Perspective on Land and Soil in Environmental Impact Assessment (IEMA, 2022);
- Guide to Assessing Development Proposals on Agricultural Land (Natural England, 2021); and
- The Institute of Public Rights of Way (IPROW) Environmental Impact Assessment: Appraising Access (IPROW, 2020).

19.4.2 Although originally developed for the assessment of highways projects, the principles set out within the DMRB LA109, LA 104 and LA112 provide a useful basis for assessment for other major infrastructure projects.

Scope of the Assessment

19.4.3 The scope of this ES has been developed in consultation with relevant statutory and non-statutory consultees as detailed in Table 19.3.1 to Table 19.3.4 and comprises the assessment of potential effects on the following resources during the construction and operational stages of the Project:

- agricultural land quality and soils;
- farm holdings;
- Public Rights of Way;
- NCRs;
- other walking, cycling and horse riding routes; and
- open space.

19.4.4 Taking into account the scoping and consultation, Table 19.4.1 summarises the issues considered as part of this assessment.

Table 19.4.1: Issues Considered within the Assessment

Activity	Potential Effects
Construction Period	
Construction and demolition activities, including construction of upgraded highway junctions	Permanent loss of topsoil/ best and most versatile agricultural land.
	Loss and severance of land from farm holdings (temporary/permanent).
	Loss/reduction of accessible open space (temporary/permanent).
	Effects on the alignment of Public Rights of Way and cycle routes (temporary).
Use of construction compounds and creation of mitigation areas	Loss of best and most versatile agricultural land, loss of topsoil, soil erosion and changes to soil structure (temporary).
	Loss and severance of land from farm holdings (temporary/permanent).
	Loss/reduction of accessible open space (temporary).

Activity	Potential Effects
	Effects on the alignment of Public Rights of Way and cycle routes (temporary).
Operational Period	
Use of airport, including upgraded highway junctions	Permanent loss of topsoil/best and most versatile agricultural land for permanent land take.
	Permanent loss or severance of land from farm holdings.
	Permanent effects to the nature and character of recreational resources.

19.4.5 Effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out is presented in Table 19.4.2.

Table 19.4.2: Issues Scoped Out of the Assessment

Issue	Justification
Effects on common land and allotments	There are no such resources within the study area or proximate to it that are likely to be affected by the Project and therefore no impact pathway has been identified. The Planning Inspectorate make no comment in the ES Appendix 6.2.2: Scoping Opinion (Doc Ref. 5.3) in relation to the intent to scope this out. Reigate and Banstead Borough Council confirm that in relation to this borough it is appropriate to scope out the assessment of these effects.

Study Area

- 19.4.6 The DMRB LA109: Geology and Soils (Highways England *et al.*, 2019) and LA112: Population and Human Health (Highways Agency *et al.*, 2020b) provide broad guidance regarding a study area for the assessment of effects, referencing the extent and characteristics of a project and the communities/wards affected in LA112 and the construction footprint/project boundary (including compounds and temporary land take) in LA109.
- 19.4.7 The study area for effects on recreation has taken into account the need to establish local travel patterns by rights of way/recreational users and to identify resources, such as land used by the community, that have the potential to be lost. Therefore, the recreation study area includes the Project site boundary, with account taken of any resources that lie immediately adjacent to the site or link to it, together with any areas that may be required to mitigate for any temporary or permanent effects arising from the Project.
- 19.4.8 The agricultural assessment has been based on the agricultural land located within the Project site boundary together with the wider agricultural land holding associated with any land affected by the Project.

Methodology for Baseline Studies

Desk Study

- 19.4.9 A desk study was undertaken in 2021 in relation to soils, Agricultural Land Classification (ALC) and farm holdings. Information was collated from the following information sources:
- published soil survey and British Geological Survey (BGS) information;
 - MAFF published 1 inch to 1 mile Provisional ALC Sheet;
 - Defra detailed ALC and soil survey work carried out in the study area;
 - site-specific climatic information taken from the agroclimatic datasets produced by the Meteorological Office for the MAFF ALC Guidelines (MAFF, 1988);
 - Ordnance Survey maps at 1:25,000 scale to identify topographic characteristics of the study area;
 - Government farming statistical data produced by Defra for relevant LPAs to provide comparative information on agricultural land use within the study area; and
 - land registry information for the land parcels within the Project site boundary.
- 19.4.10 A desk study to identify recreational resources within the study area was undertaken in 2019 and updated in 2021, using the following information sources:
- Public Rights of Way from Surrey County Council's and West Sussex County Council's Interactive Definitive Maps;
 - National Cycle Network routes provided on Sustrans website;
 - walking, horse riding and cycling routes from Reigate and Banstead Borough Council website, Crawley Borough Council website, Surrey County Council website, West Sussex Council website and Gatwick Greenspace Partnership;
 - areas of open space from Reigate and Banstead Borough Council and Crawley Borough Council websites and Horley Town Council;
 - Multi-Agency Geographic Information for the Countryside (MAGIC) website; and
 - Ordnance Survey maps at 1:25,000 scale.

Site-Specific Surveys

- 19.4.11 In addition to the desk study information on agricultural land use and soils, the assessment has been informed by site visits, information from liaison with local landowners and detailed ALC survey work in agricultural areas that would be potentially temporarily or permanently affected by the Project. This survey work was undertaken in September 2019 and May 2022 using a 1.2 metre Dutch hand auger to examine soil profiles at approximately 100 metre (m) intervals across the survey areas. The results of this survey work are contained in **ES Appendix 19.6.2: Soil Survey Results** (Doc Ref. 5.3). In addition, soil profile observations have been made alongside the archaeological trenching works that have been undertaken as part of the preparation of this ES (see **ES Chapter 7: Historic Environment** (Doc Ref. 5.1)). These observations were made in all areas of agricultural land where archaeological excavation has taken place.
- 19.4.12 A recreation survey was undertaken along NCR 21, which runs through the north-eastern area of Riverside Garden Park adjacent to the Gatwick Stream, on three occasions between May and August 2019 to ascertain the nature of the use of this area of open space. The conclusions from this survey are summarised in Section 19.6 and full details included at **ES Appendix 19.6.3 Part A: Recreational User Survey** (Doc Ref. 5.3). It is considered that baseline conditions will not

have changed significantly during this time and therefore survey results are still valid. In addition, a further series of user surveys were undertaken in November 2022 at locations within the Public Rights of Way network, in connection with the development of the highways design proposals. The results of these surveys are provided at **ES Appendix 19.6.3 Part B: Recreational User Survey** (Doc Ref. 5.3).

Assessment Criteria and Assignment of Significance

- 19.4.13 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts. The terms used to define magnitude and sensitivity are based on and have been adapted from those used in DMRB Volume 11, LA 104: Environmental Assessment and Monitoring (Highways England *et al.*, Revision 1 2020a), which is described in further detail in **ES Chapter 6: Approach to Environmental Assessment** (Doc Ref. 5.1).

Receptor Sensitivity/Value

- 19.4.14 The criteria for defining sensitivity/value for agricultural land use and recreational receptors are outlined in Table 19.4.3 and Table 19.4.4.

Table 19.4.3: Sensitivity Criteria for Agricultural Land Use Receptors

Sensitivity	Definition Used for Agricultural Land Use Receptors
Very high	Grade 1 and 2 agricultural land. Farm holdings: <ul style="list-style-type: none"> areas of land in which the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (daily).
High	Grade 3a agricultural land. Farm holdings: <ul style="list-style-type: none"> areas of land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (weekly).
Medium	Grade 3b agricultural land. Farm holdings: <ul style="list-style-type: none"> areas of land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly).
Low	Grades 4 or 5 agricultural land. Farm holdings: <ul style="list-style-type: none"> areas of land which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less frequent).

Sensitivity	Definition Used for Agricultural Land Use Receptors
Negligible	<p>Previously developed land with little potential to return to agriculture.</p> <p>Farm holdings:</p> <ul style="list-style-type: none"> areas of land which are infrequently used on a non-commercial basis.

Table 19.4.4: Sensitivity Criteria for Recreational Receptors

Sensitivity	Definition Used for Recreational Receptors
Very high	<p>Community land and assets where there is a combination of the following:</p> <ul style="list-style-type: none"> complete severance between communities and their land/assets, with little/no accessibility provision; alternatives are only available outside the local planning authority area; the level of use is very frequent (daily); and the land and assets are used by the majority ($\geq 50\%$) of the community. <p>Walkers, cyclists, horse riders:</p> <ul style="list-style-type: none"> national trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient route. Little/no potential for substitution; routes regularly used by vulnerable travelers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small changes in the baseline due to potentially different needs; and rights of way crossing roads at grade with $>16,000$ vehicles per day.
High	<p>Community land and assets where there is a combination of the following:</p> <ul style="list-style-type: none"> there is substantial severance between communities and their land/assets, with limited accessibility provision; alternative facilities are only available in the wider local planning authority area; the level of use is frequent (weekly); and the land and assets are used by the majority ($\geq 50\%$) of the community. <p>Walkers, cyclists, horse riders:</p> <ul style="list-style-type: none"> regional trails and routes likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution; and rights of way crossing roads at grade with $>8,000 - 16,000$ vehicles per day.
Medium	<p>Community land and assets where there is a combination of the following:</p> <ul style="list-style-type: none"> there is severance between communities and their land/assets, but with existing accessibility provision; limited alternative facilities are available at a local level within the adjacent communities; the level of use is reasonably frequent (monthly); and the land and assets are used by the majority ($\geq 50\%$) of the community. <p>Walkers, cyclists, horse riders:</p> <ul style="list-style-type: none"> Public Rights of Way and other routes close to communities which are used for recreational purposes, but for which alternative routes can be taken. These routes are

Sensitivity	Definition Used for Recreational Receptors
	likely to link to a wider network of routes to provide options for longer recreational journeys, and/or <ul style="list-style-type: none"> rights of way crossing roads at grade with >4,000 – 8,000 vehicles per day.
Low	Community land and assets where there is a combination of the following: <ul style="list-style-type: none"> limited existing severance between communities and their land/assets, with existing full Disability Discrimination Act compliant accessibility provision; alternative facilities are available at a local level within the wider community; the level of use is infrequent (monthly or less frequent); and the land and assets are used by the minority (<=50%) of the community. Walkers, cyclists, horse riders: <ul style="list-style-type: none"> routes which have fallen into disuse through past severance or which are scarcely used because they do not currently offer a meaningful route for utility/recreational purposes; and/or rights of way crossing roads at grade with <4,000 vehicles per day.
Negligible	Community land and assets where there is a combination of the following: <ul style="list-style-type: none"> no or limited severance or accessibility issues; alternative facilities are available within the same community; the level of use is very infrequent (a few occasions yearly); and the land and assets are used by the minority (<=50%) of the community. Walkers, cyclists, horse riders: <ul style="list-style-type: none"> N/A.

Magnitude of Impact

19.4.15 The criteria for defining magnitude for agricultural land use and recreational receptors are outlined in Table 19.4.5 and Table 19.4.6 below.

Table 19.4.5: Impact Magnitude Criteria Agricultural Land Use

Magnitude	Definition Used for Agricultural Land Use
High	Soils: <ul style="list-style-type: none"> Physical removal or permanent sealing of more than 20 hectares of agricultural land. Farm holdings: <ul style="list-style-type: none"> loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements eg direct acquisition and demolition of buildings and direct development of land to accommodate highway assets; and/or introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision.
Medium	Soils: <ul style="list-style-type: none"> physical removal or permanent sealing on 1 – 20 hectares of agricultural land; or permanent loss/reduction of one or more soil function(s) and restriction to current or approved future use. Farm holdings:

Magnitude	Definition Used for Agricultural Land Use
	<ul style="list-style-type: none"> partial loss of/damage to key characteristics, features or elements eg partial removal or substantial amendment to access or acquisition of land compromising the viability of agricultural holdings; and/or introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision.
Low	<p>Soils:</p> <ul style="list-style-type: none"> temporary loss/reduction of one or more soil function(s) and restriction to current or approved future use. <p>Farm holdings:</p> <ul style="list-style-type: none"> a discernable change in attributes, quality or vulnerability, or alteration to one (maybe more) key characteristics, features or elements eg amendment to access or acquisition of land resulting in changes to the operating conditions that do not compromise overall viability of agricultural holdings; and/or introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision.
Negligible	<p>Soils:</p> <ul style="list-style-type: none"> no discernable loss/reduction in soil function(s) that restrict current or approved future use. <p>Farm holdings:</p> <ul style="list-style-type: none"> very minor loss or detrimental alteration to one or more characteristics, features or elements eg acquisition of non-operational land or buildings not directly affecting the viability of agricultural holdings; and/or very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.
No change	<p>Soils:</p> <ul style="list-style-type: none"> no loss/reduction of soil function(s) that restrict current or approved future use. <p>Farm holdings:</p> <ul style="list-style-type: none"> no loss or alteration of characteristics, features, or elements or accessibility; no observable impact in either direction.

Table 19.4.6: Impact Magnitude Criteria for Recreation

Magnitude	Definition Used for Recreation
High	<p>Community land and assets:</p> <ul style="list-style-type: none"> loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements eg direct acquisition and demolition of buildings and direct development of land to accommodate highway assets; and/or introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision. <p>Walkers, cyclists, horse riders:</p> <ul style="list-style-type: none"> >500m increase (adverse) or decrease (beneficial) in journey length.
Medium	<p>Community land and assets:</p> <ul style="list-style-type: none"> partial loss of/damage to key characteristics, features or elements eg partial removal or substantial amendment to access or acquisition of land compromising the viability of community assets; and/or

Magnitude	Definition Used for Recreation
	<ul style="list-style-type: none"> introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision. Walkers, cyclists, horse riders: <ul style="list-style-type: none"> >250m-500m increase (adverse) or decrease (beneficial) in journey length.
Low	Community land and assets: <ul style="list-style-type: none"> a discernable change in attributes, quality or vulnerability, or alteration to one (maybe more) key characteristics, features or elements eg amendment to access or acquisition of land resulting in changes to the operating conditions that do not compromise overall viability of community assets; and/or introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision. Walkers, cyclists, horse riders: <ul style="list-style-type: none"> >50m-250m increase (adverse) or decrease (beneficial) in journey length.
Negligible	Community land and assets: <ul style="list-style-type: none"> very minor loss or detrimental alteration to one or more characteristics, features or elements eg acquisition of non-operational land or buildings not directly affecting the viability of community assets; and/or very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision. Walkers, cyclists, horse riders: <ul style="list-style-type: none"> <50m increase (adverse) or decrease (beneficial) in journey length.
No change	Community land & assets and walkers, cyclists, horse riders: <ul style="list-style-type: none"> no loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.

Significance of Effect

- 19.4.16 The significance of the effect upon agricultural land use and recreation has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact from Table 19.4.3, Table 19.4.4, Table 19.4.5 and Table 19.4.6 above. The method employed for this assessment is presented in Table 19.4.7. Where a range of significance levels is presented, the assessment for each effect is based upon expert judgement.
- 19.4.17 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.
- 19.4.18 As stated in **ES Chapter 6: Approach to Environmental Assessment** (Doc Ref. 5.1) With respect to the duration of temporary impacts, the following has been used as a guide within this assessment:
- Short term: A period of months, up to one year;
 - Medium term: A period of more than one year, up to five years; and
 - Long term: A period of greater than five years.
- 19.4.19 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations. Effects of moderate significance or

above are identified as having the potential to be significant, but professional judgement has been used to determine where this is the case.

Table 19.4.7: Assessment Matrix

Sensitivity	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
Very High	No change	Minor	Moderate or Major	Major or Substantial	Substantial

19.4.20 A description of the significance levels is provided in the bullets below:

- **Substantial:** only adverse effects are normally assigned this level of significance. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
- **Major:** these beneficial or adverse effects are considered to be very important considerations.
- **Moderate:** these beneficial or adverse effects may be important factors. The cumulative effects of such factors may lead to an increase in the overall adverse effect on a particular resource or receptor.
- **Minor:** these beneficial or adverse effects may be raised as local factors. They are unlikely to be critical factors but may be important in enhancing the subsequent design of the Project.
- **Negligible:** no effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

19.5. Assumptions and Limitations of the Assessment

19.5.1 It has not been possible to include a small area of land to the south of the M23 spur road within the ALC survey area at this time as initial access arrangements to the land were later withdrawn by the landowner, as identified on **ES Figure 19.6.2b** (Doc Ref. 5.2). However, extensive detailed survey work has been undertaken on adjoining areas of the same soil type and the availability of existing survey data enables an assessment to be made of the likely effects of the Project on agricultural land quality. On this basis, no assumptions and limitations have therefore been identified in the preparation of this chapter to the ES with regard to agricultural land use or recreation that would prevent an assessment of the potential effects being made.

19.6. Baseline Environment

Current Baseline Conditions

Agricultural Land Quality and Soils – Desk Study Information

Geology

- 19.6.1 Geological information is provided by the BGS Internet Portal and on published geological maps. The 1:50,000 BGS sheet covering the area around Gatwick (Sheet 302 Horsham) identifies that the local bedrock is the Weald Clay. This is a stiff, grey mudstone weathering to a brownish grey clay at the surface. There are bands of clay ironstone within it, but these produce the same kinds of soils as the main mass of mudstone.
- 19.6.2 Of more consequence in affecting the nature of the soils is the presence or absence of superficial drift. This includes patches of river terrace deposits. Published information on the soils (see below) indicates that much of the Weald Clay in the area is covered by superficial drift, which is too thin to be shown as a separate feature on the geological maps. This is possibly derived, at least in part, from the river terrace materials.
- 19.6.3 The geological map (Sheet 302 Horsham) also identifies an area of river alluvium along the course of the River Mole and its tributaries.
- 19.6.4 At the extreme south east of the map are the underlying deposits of the Upper Tunbridge Wells Sand, which forms part of the higher ground (the High Weald) to the south and east of Crawley.

Soils

- 19.6.5 There is no detailed soil map for the area and so the only published source of information is Sheet 6 (South East England) of the 1:250,000 scale National Soil Map. **ES Figure 19.6.1** (Doc Ref. 5.2) provides an extract from the published National Soil Map. It shows geographic groupings of soils called Soil Associations within the study area, usually related to specific parent materials. Within each Soil Association there are likely to be a number of more tightly defined soil types known as Soil Series.
- 19.6.6 **ES Figure 19.6.1** (Doc Ref. 5.2) shows a close correlation with the geology around the existing airport, though with simplification for reasons of scale. There can be a considerable range in the kinds of soils within a particular Soil Association, usually because of local variations in the character and thickness of the superficial drifts, including some not shown on the geological map because they are too thin.
- 19.6.7 The relationship between geology and soils is shown in Table 19.6.1 below:

Table 19.6.1: Study Area – Soil Associations

Geology	Soil Association Code	Soil Association Name	Brief Description
Weald Clay (with thin superficial drift)	711e and 711i	WICKHAM 1 and WICKHAM 5	Poorly drained clayey soils with slightly more loamy surface horizons and patches

Geology	Soil Association Code	Soil Association Name	Brief Description
and patches of thicker drift)			of more sandy but poorly drained soils on river terrace deposits
Weald Clay (with little or no superficial drift)	712b	DENCHWORTH	Poorly drained clayey soils
River Terrace Deposits	841d	SHABBINGTON	Poorly drained sandy soils
Alluvium	813d	FLADBURY 3	Poorly drained clayey soils
Upper Tunbridge Wells Sand	572i	CURTISDEN	Poorly and imperfectly drained silty and fine sandy soils

Agricultural Land Classification

- 19.6.8 The Provisional ALC 1:63,360 scale map for the area, Sheet 170 (London SW), and accompanying report indicate the soils on the Weald Clay, Tunbridge Wells Sand and the various superficial deposits in the area to be graded either undifferentiated subgrade 3 or grade 4 quality land.
- 19.6.9 The accompanying report identifies that soils developed on the Weald Clay in grade 3 (ie those now shown as the Wickham and Denchworth Associations) are regarded as 'low in the grade' with the more clayey ones relegated to grade 4, a grading also applied to the soils on clayey alluvium. This information indicates that the soils from the Wickham association, which covers the majority of the agricultural land within Project site, would be expected to be classified as lower quality grade 3 or 4 land and would not therefore comprise the best and most versatile agricultural land.
- 19.6.10 Since the Provisional Map was published there has been a comprehensive revision to the ALC system and the application of this requires detailed, site-specific information to determine the ALC grade accurately. A number of areas around Crawley, Gatwick and Horsham have been subject to more detailed examination by Defra using the revised ALC system and the results of these surveys (taken from the MAGIC website) are identified in **ES Figure 19.6.2b** (Doc Ref 5.2).
- 19.6.11 These surveys are useful in this area as they include surveys on most of the Soil Associations described above. Virtually all of the agricultural land surveyed in detail has been found to be of lower quality subgrade 3b. This pattern confirms the more subjective assessments made for the Provisional Map of the 1970s and identifies that the land in the vicinity of the existing airport is predominantly of lower quality and does not comprise the best and most versatile agricultural land.

Agricultural Land Quality and Soils - Site Survey

- 19.6.12 Survey work has been undertaken for this Project in the following areas:
- areas affected by elements of the Project where soils and agricultural land would be permanently lost; and

- construction areas where soils would be temporarily disturbed during the construction period.

- 19.6.13 There are additional land parcels identified as potential areas for environmental mitigation that also comprise agricultural land. However, these have not been included within the detailed ALC survey, as the soil resources within these areas would remain *in situ* to facilitate the implementation of the environmental mitigation measures and the quality of the land within these areas would be retained.
- 19.6.14 The results of the detailed survey work, including Defra ALC detailed surveys, are shown on **ES Figure 19.6.2a** (Doc Ref. 5.2) and **ES Figure 19.6.2b** (Doc Ref. 5.2). The areas of surveyed land have been found to comprise entirely lower quality Subgrade 3b agricultural land. This is entirely consistent with the findings of the detailed survey work previously carried out by Defra on land to the north of the South Terminal roundabout, also shown on **ES Figure 19.6.2b** (Doc Ref. 5.2).
- 19.6.15 The survey work to the north west of the airport shown on **ES Figure 19.6.2a** (Doc Ref. 5.2) within the Museum Field area identified soils typical of the Denchworth soil association (as shown on **ES Figure 19.6.1** (Doc Ref. 5.2)). Profiles typically comprise heavy clay loam topsoils overlying slowly permeable and mottled clay subsoils at a depth of 20 to 25 centimetres (cm).
- 19.6.16 The survey work to the north of Longbridge roundabout also shown on **ES Figure 19.6.2a** (Doc Ref. 5.2), carried out in May 2022 alongside the archaeological trenching works, identified that on the higher land to the west of the area profiles are typical of the Wickham Soil Association. These profiles comprise a dark brown/dark grey brown medium to heavy clay loam topsoil overlying a thin mottled heavy clay loam upper subsoil horizon and a slowly permeable mottled clay horizon at depth of 30 to 40 cm. As the land falls towards the north east towards the River Mole within this area, profiles comprise shallower and greyish heavy clay loam topsoils overlying a slowly permeable clay subsoil at shallow depth.
- 19.6.17 The land surveyed within the ownership of Gatwick to the east of the railway and the west of Balcombe Road as shown on **ES Figure 19.6.2b** (Doc Ref. 5.2) identified soils typical of the Wickham Soil Association. Profiles typically comprise a dark brown medium to heavy clay loam topsoil overlying a thin mottled heavy clay loam upper subsoil horizon and a slowly permeable mottled clay horizon at depth of 30 to 40 cm.

Farm Holdings – Desk Study Information

- 19.6.18 Defra farming statistical data produced for relevant LPAs from the June 2021 dataset (Defra, 2022) provide information on the distribution of agricultural land use within the areas likely to be affected by the Project. Table 19.6.2 provides a comparison of local authority agricultural land use with the distribution of agricultural land use in England as a whole.

Table 19.6.2: Defra Statistics for Agricultural Land Use 2021

Geographic Area	Cereals and Arable Cropping (hectares)	%	Fruit and Vegetables (hectares)	%	Grassland (hectares)	%
England	2,691,749	38	119,104	2	4,313,954	60
Crawley	0	0	0	0	287	100

Geographic Area	Cereals and Arable Cropping (hectares)	%	Fruit and Vegetables (hectares)	%	Grassland (hectares)	%
Horsham	4,156	18	126	<1	19,101	81
Mole Valley	2,712	29	111	1	6,540	70
Tandridge	1,983	22	18	<1	6,836	77
Reigate and Banstead	936	29	0	0	2,319	71

19.6.19 The statistical data produced by Defra indicate that within the local authorities where agricultural land is affected by the Project it is predominantly used for grassland-based livestock agriculture. There is a much higher percentage of this type of land use in these administrative areas than that identified within England as a whole.

Farm Holdings – Project Information

19.6.20 The distribution of farm holdings that may be affected by the Project based on site visits and liaison with individual landowners is identified on **ES Figure 19.6.3a** and **ES Figure 19.6.3b** (Doc Ref. 5.2).

19.6.21 Holding 1 comprises land to the north and south of the M23 spur between the M23 Junction and the south terminal roundabout. The land to the north likely to be affected by the Project is either non-agricultural land or comprises an area of land that has been recently restored following the M23 Smart motorway works. To the south, the land is used for hay and/or horse grazing. The landowner does not farm the land and the land is let for hay or horse grazing on the basis of short term agreements.

19.6.22 The strip of land identified as Holding 2 forms part of the holding that includes the commercial property immediately to the north of it. The area is accessed by a track that runs from Balcombe Road to the southern area affected.

19.6.23 Holding 3 is predominantly grassland and is used for hay and/or regular horse grazing and is used in conjunction with a livery yard to the north of the area. There has also been a small “Pick Your Own” potato business operating close to the farm building complex at Bayhorne Farm. The land is owned by Surrey County Council and let out on a short term basis. The area forms part of the proposed Horley Business Park site, which is designated in planning policy but for which, as of yet, no planning application has been submitted.

19.6.24 Holding 4a forms part of the Gatwick land holding. This area is grazed intermittently by a local livestock farmer on the basis of a short term agreement.

19.6.25 Holding 4b comprises an area of land recently purchased by Gatwick Airport. The grassland area is cut regularly but is not used for any agricultural purpose.

19.6.26 Holding 5 is also owned by Surrey County Council and forms part of a larger block of land that comprises approximately 100 acres (40 hectares). The land is farmed by a tenant as part of a livestock based enterprise. The part of the land within the Project Site Boundary based at Dairy Farm is grassland, cut for hay.

19.6.27 Holding 6 comprises land that forms part of a land holding based at Brook Farm. The holding comprises areas of land to the south and north of the Horley Road. These areas comprise a total of approximately 50 acres (20 hectares) of land. The buildings and land within the holding support a number of different enterprises including some commercial units based at the farm, a clay pigeon shoot, and grassland cut for hay or let for grazing.

Recreation

Public Rights of Way

19.6.28 The following Public Rights of Way lie within the Project site boundary in West Sussex as shown on **ES Figure 19.6.4** (Doc Ref. 5.2).

- To the north of the airport, the Sussex Border Path, a long distance walk, runs generally from west to east along the alignment of public footpaths 347Sy (east of Horley Road); 346Sy (south of Charlwood Road and Povey Cross Road); and 346_2Sy and 355_1Sy (south of the A23).
- Public footpath 355Sy runs east-west across the railway line on a footbridge from its junction with 360Sy to its junction with the A23.
- Public footpath 358Sy runs south-westwards from the B2036 to its junction with public footpath 359Sy.
- Public footpath 359Sy runs westwards from the B2036 and then southwards adjacent to the existing car parking areas to its junction with Radford Road.
- Public footpath 360Sy runs south from Airport Way to the east of the railway line and through the existing car parking areas to its junction with 359Sy/361Sy.
- Public footpath 360_1Sy runs generally south west and south from its junction with public footpath 359Sy to its junction with Radford Road.
- Public footpath 361Sy runs to the south of the existing car parking areas between public footpaths 359Sy and 360Sy.
- To the west of M23 Junction 9, public footpath 367Sy runs to the south of the M23 spur and then turns south outside the Project site boundary to meet Fernhill Road.

19.6.29 The following Public Rights of Way lie within the Project site boundary in Surrey as shown on **ES Figure 19.6.4** (Doc Ref. 5.2).

- To the north of the M23 spur road, the Sussex Border Path runs along the alignment of Burstow Footpath 368, Horley Footpath 368 and Horley Footpath 367 up to the B2036.
- West of the B2036, the Sussex Border Path runs along the alignment of Horley Footpath 362a to the north of the Project site boundary and then crosses over the railway line and south along Horley Footpath 355a to the county boundary.
- To the east of the railway line, Horley Footpath 360 runs southwards to the county boundary to the north of Airport Way.
- To the north east of the Longbridge Roundabout in Horley, footpath 574 runs northwards along the boundary of the Project site between the A23 and Church Road.

National Cycle Routes

19.6.30 National Cycle Route 21 (NCR 21) runs south from Greenwich out of London through Lewisham (the Waterlink Way) to Crawley, and then via East Grinstead and Eridge to Heathfield and Eastbourne. From Crawley it runs northwards between the A23 London Road and the railway line as a traffic free route to the east of the main airport campus. It then follows the alignment of the

Gatwick Stream, crossing Airport Way to the north of the airport via a subway which exits in Riverside Park in Horley. NCR 21 continues to follow the Gatwick Stream within the northern area of Riverside Garden Park, becoming an on-road route between Riverside and Crescent Way (see **ES Figure 19.6.4** (Doc Ref. 5.2)).

19.6.31 NCR 21 provides an important non-vehicular route between Horley, Crawley and Gatwick Airport for use by cyclists and walkers. The West Sussex cycle journey planner shows NCR 21 crossing a local cycle route near to Horley railway station, which runs to the east over Balcombe Road and the M23 and to the west over Brighton Road and Reigate Road. It is also crossed by the Sussex Border Path, a long distance walk, just north of the South Terminal.

19.6.32 Recreation surveys were carried out on three days between May and August 2019 to provide an indication of the quantity and characteristics of the usage of NCR 21 and the wider Riverside Garden Park on a weekday, a weekend day and on a weekend bank holiday day. It is considered that baseline conditions will not have changed significantly between 2019 and 2023 and therefore survey results are still valid. The results of these surveys are described in **ES Appendix 19.6.3 Part A: 2019 Recreational User Survey** (Doc Ref 5.3) and concluded the following:

- NCR 21 and the wider Riverside Garden Park are well used by pedestrians and cyclists on all days of the week.
- It was observed on all survey days that the car park within Riverside Garden Park is also well used, with pedestrians observed accessing the western area of Riverside Garden Park away from NCR 21. This use was not recorded as part of the surveys.
- The users comprised those who use NCR 21 to get to and from their place of work, either on foot or by cycle and local residents who use the route and the wider Riverside Garden Park as a recreational resource.
- During the week it was observed that Riverside Garden Park is also used as a resource for airport workers during lunch breaks.
- The surveys identified a number of pedestrians who use Riverside Garden Park as a resource either between flights at the airport or as a means of accessing local accommodation between connecting flights where these require an overnight stay.

19.6.33 Further user counts were undertaken in November 2022 to assist in the development of the highway design proposals and included two-way user flow data within Riverside Garden Park as shown in Annex A to **ES Appendix 19.6.3 Part B: Recreational User Survey** (Doc Ref 5.3). This data further supports the conclusions of the 2019 surveys in **ES Appendix 19.6.3 Part A: Recreational User Survey** (Doc Ref 5.3), in terms of the quantity and type of recreational use within Riverside Garden Park.

19.6.34 Both the level of use and range of activities recorded on each of the survey days at this location and the characteristics of the users are likely to reflect those that may be expected during similar times of the week throughout the year and under similar dry and warm weather conditions.

Walking, Cycling and Horse Riding Routes

19.6.35 The main promoted walking route close to Gatwick Airport is the Sussex Border Path (see **ES Figure 19.6.4** (Doc Ref. 5.2)). This route in total extends to approximately 240 km (150 miles) around the inland boundary of the county of Sussex, from Thorney Island, near Emsworth to Rye in East Sussex. It has been waymarked by Sussex Ramblers, who provide descriptions of each part of the route on their website.

- 19.6.36 Around Gatwick Airport, the Sussex Border Path runs along the alignment of existing public footpaths in Surrey and West Sussex. From the M23 it runs to the north of the M23 spur road along Surrey public footpaths 367 and 368, and then follows public footpath 362a before crossing the railway line and joining public footpath 355a to the west of Riverside Garden Park and running south to the county boundary to the north of Airport Way. In West Sussex it crosses Airport Way in a subway along the alignment of public footpath 355_1Sy and then follows public footpath 346_2Sy for approximately 2.45 km around the northern perimeter of the airport to the south of the A23 and Povey Cross Road. It continues to run between the airport and Charlwood Road and Horley Road along public footpaths 346Sy and 347Sy, which follow the approximate alignment of the River Mole. The Sussex Border Path then crosses Horley Road into Surrey and runs westwards along public footpath 344 towards Charlwood.
- 19.6.37 The Millennium Trail is a 28 km long distance path from Banstead Downs to Horley and was created by Reigate and Banstead Borough Council to mark the new century. In the vicinity of Gatwick Airport, the Millennium Trail largely follows the same route as the Sussex Border Path and finishes in Riverside Garden Park (see **ES Figure 19.6.4** (Doc Ref. 5.2)). In 2016, Reigate and Banstead Borough Council published a guided and self-guided walks programme, which included events in Riverside Garden Park, but this does not appear to have been published since.
- 19.6.38 The Gatwick Greenspace Partnership holds events, including walking events covering the area between Horsham, Crawley, Horley, Reigate and Dorking. The Project is supported by all local authorities and GAL and is managed by the Sussex Wildlife Trust.

Open Space

- 19.6.39 Riverside Garden Park in Horley is designated as urban open space of high value by Reigate and Banstead Borough Council in their Urban Open Space Assessment and Review (Reigate and Banstead Borough Council, 2018) and forms part of the Riverside Green Chain. It is located on the south western edge of Horley between areas of residential development to the north east and the A23 and Gatwick Airport to the south west (see **ES Figure 19.6.5** (Doc Ref. 5.2)). It is owned by Reigate and Banstead Borough Council, who are responsible for the day to day management of Riverside Garden Park.
- 19.6.40 The park, which covers an area of approximately 10 hectares, was originally part of Horley Common. The history of the site is described on the Horley Town Council website which explains that:
- 'Later it was enclosed and farmed, before a racecourse was developed on neighbouring land. In the 1930s, the racecourse land was incorporated in the new Gatwick Aerodrome. Since then the site boundaries have been fixed by the expansion of Horley and Gatwick Airport. The adjacent residential development took place in the 1950-60s'.*
- 19.6.41 Today, Riverside Garden Park comprises open space bounded to the north by the Gatwick Stream and features areas of woodland and a man-made lake. Despite the proximity of the A23 and the airport, these features are largely screened from view by embankments and tree planting. Horley Town Council describes Riverside Garden Park as being a favourite local dog walking venue, with fishing popular along the Gatwick Stream and around the lake. In addition, cyclists use NCR 21 to get to and from Gatwick Airport.

- 19.6.42 Riverside Garden Park narrows to the north west as it follows the River Mole to the A23. On the northern side of the A23 at this location, other areas of open space lie within the Project site boundary. These areas, which lie to the east of the River Mole, comprise Church Meadows (St Bartholomew's Church and the former Horley Anderson Centre and Playing Fields) and are also designated as urban open space of high overall value by Reigate and Banstead Council in the Urban Open Space Assessment and Review (Reigate and Banstead Borough Council, 2018) (see **ES Figure 19.6.5** (Doc Ref. 5.2)). They are also part of the Riverside Green Chain, a Reigate and Banstead Borough Council commitment to safeguard the riverine environment around Horley and provide opportunities for both formal and informal recreation.

Future Baseline Conditions

Initial Construction Period: 2024-2029 and First Full Year of Opening: 2029

Agricultural Land Use

- 19.6.43 There are unlikely to be any significant changes to the agricultural land use baseline described in this chapter during the period up to 2029 as a result of future improvements within Gatwick Airport itself, in relation to current planning policy or known trends in agriculture and land use. Similarly, it is not anticipated that agricultural land uses resources within the study area will be specifically vulnerable to the effects of climate change during this period.

Recreation

- 19.6.44 There are unlikely to be any significant changes to the recreational baseline described in this chapter during the period up to 2029 as a result of future improvements within the airport itself or arising from current planning policy (which includes measures to protect and enhance recreational resources, including in relation to new development, to around 2030). Similarly, it is not anticipated that recreational resources within the study area will be specifically vulnerable to the effects of climate change during this period.

Interim Assessment Year: 2030-2032

Agricultural Land Use

- 19.6.45 There are unlikely to be any significant changes to the agricultural land use baseline described in this chapter during the period up to 2032 as a result of future improvements within Gatwick Airport itself, in relation to current planning policy or known trends in agriculture and land use. Similarly, it is not anticipated that agricultural land uses resources within the study area will be specifically vulnerable to the effects of climate change during this period.

Recreation

- 19.6.46 There are unlikely to be significant changes to the recreational baseline described in this chapter during the period up to 2032 as a result of future improvements within the Gatwick Airport itself, or in relation to current planning policy. However, by this date it is expected that the trend towards warmer, drier summers may result in an extension to the summer season for outdoor activities, so it is likely that more people will take part in outdoor recreation. These drier conditions may lead to some depletion of existing vegetation and soil erosion which might affect local recreational resources. In such cases, it has been assumed that appropriate measures would be established by the relevant authorities/bodies to manage these changes, and these would be incorporated into emerging local planning policy from around 2030.

Design Year: 2033-2038**Agricultural Land Use**

- 19.6.47 There are unlikely to be significant changes to the agricultural land use baseline described in this chapter during the period up to 2038 as a result of future improvements within Gatwick Airport itself, in relation to current planning policy or known trends in agriculture and land use.
- 19.6.48 A report prepared for Defra and the Welsh Government 2014, based on research undertaken by Cranfield University and ADAS (Keay *et al.*, 2014) considers the impact of climate change on the capability of land for agriculture.
- 19.6.49 In terms of the quality of agricultural land and the proportions on best and most versatile land, the findings of the report *'suggest that the greatest impact on the proportion of BMV [Best and Most Versatile] in England and Wales will take place after 2030'*.
- 19.6.50 For sites which are affected by soil wetness, the report concluded that the quality of the land would be *'Largely unaffected over most of England and Wales mainly because, even though the start and end dates of field capacity are likely to change, the duration remained constant'*.
- 19.6.51 Where droughtiness is the main limitation, the retention of high quality land would be likely to become more dependent on the use of irrigation to maintain productivity and versatility in agricultural land use.
- 19.6.52 Overall the report concludes that *'the findings of this project do not undermine the current use of the ALC system within land use planning'*. In this case therefore, where soil wetness is the main limiting factor, the quality of the land would, based on this recent research, be unlikely to be significantly affected by climate change.

Recreation

- 19.6.53 There are unlikely to be significant changes to the recreational baseline described in this chapter during the period up to 2038 as a result of future improvements within the Gatwick Airport itself, or in relation to future planning policy. However, the trend towards warmer, drier summers is predicted to continue resulting in an extension to the summer season for outdoor activities, with the potential for greater participation in outdoor recreation. These continuing drier conditions may lead to some depletion of existing vegetation and soil erosion which might affect local recreational resources. In such cases, it has been assumed that appropriate measures would be established by the relevant authorities/bodies to manage these changes, and these would be incorporated into emerging local planning policy.

2047: Long Term Forecast Year**Agricultural Land Use**

- 19.6.54 There are unlikely to be significant changes to the agricultural land use baseline described in this chapter during the period up to 2047 as a result of future improvements within the airport itself. Potential changes in the nature of soils and agricultural land quality are as described for 2038 above.

Recreation

19.6.55 There are unlikely to be significant changes to the recreational baseline described in this chapter during the period up to 2047 as a result of future improvements within the airport itself. Potential changes in the use of recreational resources and future associated management considerations are as described for 2038 above.

19.7. Key Aspects of the Project Parameters

19.7.1 The assessment has been based on the description within **ES Chapter 5: Project Description** (Doc Ref. 5.1).

19.7.2 Table 19.7.1 below identifies the maximum design scenarios relevant to this assessment. Where options exist, the maximum design scenario selected is the one having the potential to result in the greatest adverse effect on an identified receptor or receptor group. Effects of greater adverse significance are not predicted to arise should any other option identified in **ES Chapter 5: Project Description** (Doc Ref. 5.1) be taken forward.

Table 19.7.1: Maximum Design Scenarios

Potential Impact	Maximum Design Scenario	Justification
Initial Construction Period: 2024-2029 (ie up to first opening of northern runway)		
Area within Project site boundary	735 hectares	This is the maximum area affected by land take or direct construction activity. Within this area, effects on agricultural land and Public Rights of Way have been considered, although in reality much of this area consists of the existing operational airport and therefore, most impacts would arise in the areas outside the existing operational airport.
Permanent land take from farm holdings	21.1 hectares	Area of existing agricultural land to be required on a permanent basis.
Temporary land take from agricultural land	12.1 hectares	Area of existing agricultural land to be required on a temporary basis.
Permanent Loss of open space in Riverside Garden Park and Church Meadows	North and South Terminal roundabout improvements and Longbridge Roundabout improvements. Approximately 1.16 hectares.	These works would represent the maximum land take and area of disruption, which may require widening of the highway or roundabout into the adjacent areas of open space.
Temporary Loss of open space in Riverside Garden Park and Church Meadows	North and South Terminal roundabout improvements and Longbridge Roundabout improvements. Approximately 0.84 hectares.	Area of open space to be required on a temporary basis.

Potential Impact	Maximum Design Scenario	Justification
Disruption to existing Public Rights of Way and other linear recreational routes	South Terminal Roundabout, North Terminal Roundabout and Longbridge Roundabout improvements.	These works would represent the maximum land take and area of disruption, which may produce temporary/permanent effects on the alignment of Public Rights of Way and other linear recreational routes.
2028-2032		
Permanent Loss of open space in Riverside Garden Park and Church Meadows.	North and South Terminal roundabout improvements and Longbridge Roundabout improvements. Approximately 1.16 hectares.	These works would represent the maximum land take and area of disruption, which may require widening of the highway or roundabout into adjacent areas of open space.
Temporary Loss of open space in Riverside Garden Park and Church Meadows	North and South Terminal roundabout improvements and Longbridge Roundabout improvements. Approximately 0.84 hectares.	Area of open space to be required on a temporary basis.
2033-2038 (up to construction of final elements)		
Restoration of temporary land take from agricultural land	2.6 hectares	Restoration of areas of agricultural land temporarily required for highway improvement works.
Design Year: 2038 (ie operational)		
Parameters assumed would be as above. .		
Long Term Forecast Year: 2047		
Parameters assumed would be as above.		

19.8. Mitigation and Enhancement Measures Adopted as Part of the Project

19.8.1 A number of measures have been designed into the Project to reduce the potential for impacts on agricultural land use and recreation. These are listed in Table 19.8.1. The measures relating to construction are also set out in **ES Appendix 5.3.2: Code of Construction Practice** (Doc Ref. 5.3), which is secured as a Schedule 2 requirement of the **Draft Development Consent Order** (Doc Ref. 2.1).

Table 19.8.1: Mitigation and Enhancement Measures

Measures Adopted as Part of the Project	Reason	How secured
Mitigation		

Measures Adopted as Part of the Project	Reason	How secured
<p>A Soil Management Strategy to ensure the conservation of soil resources; avoidance of damage to soil structures; maintenance of soil drainage; and the reinstatement, where required, of soil profiles as near as possible to their former condition.</p>	<p>To maintain the quality of agricultural land temporarily affected by disturbance during the construction period.</p>	<p>ES Appendix 5.3.2: CoCP Annex 4 – Soil Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).</p>
<p>Implementation of measures to reduce, as far as possible, the effects of construction activities on farm holdings. Where appropriate, these would include the maintenance of farm access locations; provision of appropriate fencing; maintenance of water supplies; co-ordination of timing of construction works to facilitate farming operations; and measures to address the potential risks of the spread of animal and plant diseases.</p>	<p>To maintain the operation of farming enterprises during the construction period.</p>	<p>ES Appendix 5.3.2: CoCP Annex 4 – Soil Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).</p>
<p>Provision of replacement open space to mitigate for the permanent loss of land designated as open space which it has been necessary to acquire and use to facilitate the delivery of the Project.</p>	<p>Where land used by the community, including open space, is taken for a road scheme it will generally be necessary to provide exchange land which must not be smaller in area and must be equally advantageous to the users of the land required by the road. The location of the open space that would be permanently lost in Riverside Garden Park and Church Meadows and the proposed replacement areas are shown on ES Figure 19.8.1 (Doc Ref 5.2).</p>	<p>ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).</p>
<p>Permanent stopping up and diversion to a section of the Sussex Border Path (346_2sy) to the south of the A23 arising from the new North Terminal junction works.</p>	<p>To maintain public access along the Sussex Border Path during operation.</p>	<p>ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in</p>

Measures Adopted as Part of the Project	Reason	How secured
Permanent stopping up and diversion of section of footpath 367Sy to the south of the M23 spur	To maintain public access along this route.	the Draft DCO (Doc Ref. 2.1).
Provision of a shared pedestrian and cyclist ramp between the footway on the northern side of the A23 near the Longbridge Roundabout into Riverside Garden Park.	To provide a public benefit through the provision of an additional route into Riverside Garden Park.	ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).
Provision of an additional pedestrian route linking Riverside Garden Park into the replacement open space in Car Park B, linking with the Sussex Border Path to the north of the A23.	To provide a public benefit through the provision of an additional pedestrian route through Riverside Garden Park to link to the Sussex Border Path.	
Management measures to safely maintain public access along the public footpaths around the perimeter of Pentagon Field during construction of the new car parking area.	These footpaths form part of, and link to, other routes within the Public Rights of Way network and should remain open for use during construction.	ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).
Temporary diversions and management measures to safely maintain access along the Public Rights of Way including the Sussex Border Path and NCR 21 during construction activities associated with South and North Terminal Roundabout improvements.	NCR 21 is a national long-distance cycle route, and the Sussex Border Path is a long distance promoted route. Access should be maintained to these routes during construction.	
A Public Rights of Way Management Strategy to identify measures to avoid severance and safely maintain public access along footpaths and NCR 21.	To provide a planned approach to the management and operation of the Project which would reduce disruption to Public Rights of Way and NCR users, as far as possible.	
Monitoring		
The Soil Management Strategy (see mitigation measures above) would include the provision of suitably qualified person to monitor the quality of the soil stripping storage and restoration operations.	To maintain the quality of agricultural land temporarily affected by disturbance during the construction period.	ES Appendix 5.3.2: CoCP Annex 4 – Soil Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in

Measures Adopted as Part of the Project	Reason	How secured
		the Draft DCO (Doc Ref. 2.1).
The Public Rights of Way Management Strategy includes monitoring of the Public Rights of Way and NCR 21 works during the construction period.	To reduce disruption to Public Rights of Way and NCR users, as far as possible.	ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).
Enhancement		
Provision of new recreational routes around the proposed flood compensation area to the east of Museum Field to enhance local public access opportunities.	To provide a circular route opportunity to benefit to local communities for health and well-being.	ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).
Consideration of improvements to NCR 21 to the south of the Airport.	To provide the opportunity for public benefit in the use of NCR 21.	ES Appendix 19.8.1: Public Rights of Way Management Strategy (Doc Ref. 5.3) as a Schedule 2 requirement in the Draft DCO (Doc Ref. 2.1).

19.9. Assessment of Effects

Initial Construction Period: 2024-2029

Agricultural Land Use

Agricultural Land Quality

- 19.9.1 During this period of the Project there would be temporary agricultural land take associated with the start of construction of the South Terminal roundabout improvements that would affect land to the north of the existing South Terminal roundabout, together with the placement of spoil material on Pentagon Field. Detailed survey work carried out by Defra to the area to the north of South Terminal roundabout and GAL in Pentagon field has identified that these areas comprise entirely lower quality Subgrade 3b land (**ES Figure 19.6.2** (Doc Ref. 5.2)).

- 19.9.2 Within these areas, there would be a temporary loss of approximately 12.1 hectares of lower quality Subgrade 3b land. Taking into account the amount of land affected and its quality, the loss is assessed as a medium term temporary magnitude of impact on a receptor of medium sensitivity. The significance of this temporary loss of agricultural land quality is therefore assessed to be of medium term temporary **moderate adverse** significance. In this instance, this is not considered to be significant in terms of the EIA Regulations, as no best and most versatile land resource (Grades 1, 2 or 3a land) is affected.
- 19.9.3 It is assumed that the permanent loss of soils and agricultural land quality would take place during this period and that there would be permanent land take of approximately 10.1 hectares during this period. Whilst in the landscape and ecological management areas there would be a change in land use, soils would remain in situ and the quality of these would remain unaffected. The permanent loss of agricultural land quality would therefore be primarily associated with, the ground lowering (to create a flood compensation area) within Museum Field, land required for the South Terminal roundabout and Longbridge Roundabout improvements (and associated drainage works. The detailed ALC survey of these areas has shown them to comprise entirely lower quality Subgrade 3b land. No soil stripping is proposed within the area of Holding 6 as shown in **ES Figure 19.6.3** (Doc Ref. 5.2) where landscape and ecological mitigation would be located.
- 19.9.4 The loss of this land is assessed as a medium permanent magnitude of impact on a receptor of medium sensitivity. The significance of this permanent loss of agricultural land quality is therefore assessed to be of **moderate adverse** significance. This is not considered to be significant in terms of the EIA Regulations, as no best and most versatile land resource (Grades 1, 2 or 3a land) is affected.
- Farm Holdings**
- 19.9.5 As shown in **ES Figure 19.6.3** (Doc Ref. 5.2), there is potential for temporary disruption to Holding 3, which would be affected by construction requirements associated with the South Terminal roundabout improvements. This would affect an area of approximately 2.3 hectares.
- 19.9.6 The owner of this holding does not operate a farming enterprise and the land is let on a short term arrangement as grazing land for horse grazing and hay making. The temporary loss of this area of land would reduce the area of land available to the holding during construction, affecting the land available to the livery business and for hay making, but would not cause severance from the remainder of the land holding as the land is located on the southern edge of the holding. Farm buildings and the main access into the holding would be unaffected.
- 19.9.7 A strip of approximately 0.3 hectares of land within Holding 1 to the south of the M23 would also be temporarily affected by construction requirements for the South Terminal roundabout improvement works. This land is used for hay production and/or horse grazing.
- 19.9.8 The temporary loss of land due to potential construction requirements is assessed to have a low magnitude of impact on areas of medium sensitivity grassland use. The temporary effect of the loss of these areas is therefore assessed to be of medium term temporary **minor adverse** significance. This is not considered to be significant in terms of the EIA Regulations.
- 19.9.9 In addition, there would be temporary loss of land from Holding 4a within the Gatwick estate, which is currently let out on a short term basis for cattle grazing. This use would be reinstated following the placement and restoration of spoil within this area.

- 19.9.10 Permanent loss of agricultural land would also occur during this period. This would include the following land holdings (shown on **ES Figure 19.6.3a** and **ES Figure 19.6.3b** (Doc Ref. 5.2)).
- Holding 1: A strip of land to the north of the M23 spur, which comprises a non-agricultural area, would be permanently affected (approximately 0.5ha) along with a strip of grassland to the south of the M23 spur comprising approximately 0.7 ha. This land is used for hay production and/or horse grazing.
 - Holding 2: A strip of non-agricultural scrub to the north of the M23 spur (approximately 0.3 ha), which is not used for agricultural production, would be permanently affected.
 - Holding 3: An area of approximately 1.9 hectares of land associated with the South Terminal roundabout improvements. This land at Bayhorne Farm is currently let by the landowner for horse grazing and/or hay making.
 - Holding 4b: an area of approximately 6.6 ha recently purchased by Gatwick Airport Ltd, which is not currently being used for agricultural production.
 - Holding 5: Approximately 0.9 hectares of land is required for junction improvement and environmental mitigation works associated with the road junction works at Longbridge roundabout. This area of represents a total of less than 3% of the holding tenanted from the landowner and measures would be implemented to ensure that the remaining farm holding is separated from the proposed open space provision associated with the highways works.
 - Land within Holding 6. This area of approximately 10.2 hectares of land forms part of the Brook Farm holding. The Project could affect the current clay pigeon shooting location and areas of grass keep that are let to local farmers.
- 19.9.11 The permanent loss of land from these holdings would have limited impact on the operation of Holdings 1, 3, 5 and 6. There would be no effect on agricultural holdings associated with the loss of land from holdings 2 or 4.
- 19.9.12 The permanent loss of the strip of land to the south of the M23 spur from Holding 1 would not affect the continued use of the remaining areas of the holding for short term grazing and hay making. The permanent loss of a strip of approximately 1.9 hectares from Holding 3 to the north of South Terminal roundabout includes a field used for hay cropping located immediately to the west of Balcombe Road and the southern part of the field to the east of the railway line. Whilst this area is contained at the southern edge of the holding and therefore no areas of the holding would be severed, the loss of this area would reduce the land available for the operation of the livery business situated here, including an increased requirement to buy in feed to supplement the loss of hay cropping in the eastern field. No farm access points, or buildings would be affected.
- 19.9.13 The loss of approximately 0.9 hectares from Holding 5, for highway improvements and environmental mitigation works would affect an area within a single field of a larger tenanted landowner but the current livestock-based operation would not be jeopardised by this limited loss of land and there would be no severance of land from the remaining area of the holding.
- 19.9.14 The land within Holding 6 is partially used for a clay pigeon shoot operation with other areas let out to local farmers or used for hay cropping. The current landowner would retain the farm buildings, the farmhouse, a strip of land immediately adjacent to the Brook Farm buildings and land to the north of Charlwood Road, where the agricultural land can continue to be let to local farmers or used for hay cropping. On this basis an agreement between GAL and the landowner to purchase this land has been signed.

- 19.9.15 It is assessed that these effects would overall have a low permanent magnitude of impact on enterprises of a medium sensitivity.
- 19.9.16 The overall significance of effect arising from the permanent loss of land from these holdings is therefore assessed to be of **minor adverse** significance. This is not considered to be significant in terms of the EIA Regulations.

Recreation

- 19.9.17 This section describes the effects arising from the following construction activities during this part of the construction sequence:
- The works during 2029 associated with highways improvements along the M23 Spur and South Terminal Roundabout;
 - The works during 2029 associated with highways improvements at North Terminal Roundabout;
 - The works during 2029 associated with highways improvements at Longbridge Roundabout;
 - Spoil deposition on Pentagon Field; and
 - The provision of flood compensation in Museum Field and the wider area of environmental mitigation at Brook Farm.

Public Rights of Way and NCR 21.

- 19.9.18 The early construction period of the highways works associated with the M23 Spur and South Terminal roundabout works would require the temporary diversion for a number of Public Rights of Way. The locations of these diversions are shown on **ES Figure 19.9.1a to 19.9.1e** (Doc Ref. 5.2).
- 19.9.19 The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closure of NCR 21 through the underpass between Riverside Garden Park to the north and Gatwick Airport to the south during these works. The duration of these works would be for approximately 12 weeks.
- 19.9.20 It is proposed that a diversion of NCR 21 would be provided during the temporary closure of the route and the indicative diversion route is shown on **ES Figure 19.9.1a** (Doc Ref. 5.2). From south to north, the diversion would run from the junction with the Sussex Border Path (West Sussex section 355_1Sy) to the south of Airport Way and head north along the route of the Sussex Border path (Surrey section 355a) to the pedestrian bridge over the railway. From here, cyclists would head west towards The Crescent and then proceed north west along The Crescent to re-join NCR 21 close to the entrance to Riverside Garden Park.
- 19.9.21 The diversion route would require works within Gatwick Airport to widen the existing route of the Sussex Border Path along this section of public footpath 355a, which lies adjacent to the eastern side of the current car park B both to the north and south of the railway. It would require cyclists to dismount their bikes for the short section of the footpath between the pedestrian bridge over the railway and The Crescent (approximately 75 m) where the route is directly adjacent to residential properties.
- 19.9.22 In this case, there are limited options for the temporary substitution of the route of NCR 21 and it would be less convenient than the current route through Riverside Garden Park as cyclists would need to dismount for a short distance. The proposed diversion identified in the Public Rights of

Way Management Strategy (**ES Appendix 19.8.1: Public Rights of Way Management Strategy** (Doc Ref. 5.3)) would increase the length of the route by between 250 m and 500 m for a period of approximately 12 weeks but it would maintain a route away from major highways using residential roads and the existing Public Rights of Way network and efforts would be made to limit the disruption of users as far as possible.

- 19.9.23 The effect of the temporary closures and diversion of NCR 21 would therefore have a medium magnitude of impact on a receptor of high sensitivity as a national route with limited potential for substitution. The effect of the construction on this section of the NCR 21 is therefore assessed to be of temporary short term **moderate adverse significance** which is significant in EIA terms.
- 19.9.24 The construction of the Network Rail bridge widening works and installation of bridge beams would require the closure of W Sussex footpath 355_1Sy and Surrey footpath 355a for a period of approximately 3 weeks. The proposed diversion route is identified on **ES Figure 19.9.1d** (Doc Ref. 5.2) and would follow, from south to north, NCR 21 through Riverside Garden Park to meet the Millennium Way that proceeds south west along the crescent towards the junction with the Sussex Border Path at Surrey footpath 362a.
- 19.9.25 Temporary closure of West Sussex 355_1Sy/Surrey 355a would not take place at the same time as the temporary closure of NCR 21 to ensure that the connectivity of both NCR 21 and the Sussex Border Path can be maintained during the construction period.
- 19.9.26 The construction of the M23 spur eastbound carriageway would require the temporary closure and diversion of the Sussex Border Path (Surrey section) footpath 367 along the located to the east of Balcombe Road. The duration of these works would be approximately 8 weeks and the proposed diversion, shown on **ES Figure 19.9.1c** (Doc Ref. 5.2) would run northwards along the east side of Balcombe Road before turning eastwards along Haroldsea Drive to join the existing Public Rights of Way network.
- 19.9.27 The Sussex Border Path is a long-distance route and therefore many users walk considerable distances when using it. However, the diversion route would require users to walk an additional distance of more than 500 m.
- 19.9.28 The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closure of public footpath 360/360Sy to the east of the railway during these works. These works would require two closure periods, a duration of approximately 27 weeks for the construction of the abutment and a further 3 weeks for the beam installation. During this period, pedestrians would be diverted either (south to north) via public footpath West Sussex 355Sy and public footpaths 355_1Sy and 355a (Sussex Border Path), to re-join the route at the junction with public footpath 362a at the pedestrian bridge over the railway, as shown on **ES Figure 19.9.1d** (Doc Ref. 5.2).
- 19.9.29 However, if the Sussex Border Path is also closed (on section 355a); users would be diverted via public footpath 355Sy to join NCR 21 through Riverside Garden Park and then eastwards onto the Millennium Path, which heads south east along Crescent Way and The Crescent in the Horley Gardens Estate, to re-join the route at the junction with public footpath 362a.
- 19.9.30 The works associated with the provision of the A23 Northbound third land and London Road bridge replacement would also require the temporary diversion of the West Sussex Border Path section 346_2sy around the south side of Car Park Y as shown in **ES Figure 19.9.1e** (Doc Ref.

5.2). This diversion could be for a period of up to 3 years during the construction period of the highway works.

- 19.9.31 There is also the potential for the disruption to public footpath (359Sy) that runs along the boundary of the Pentagon Field during the construction activities associated with the placement of spoil and subsequent restoration of this area to grazing use. From Balcombe Road, the public footpath runs along an existing surfaced track and would be separated from the construction site by an existing hedgerow. It also runs through existing woodland planting along part of its route alongside the existing South Terminal car parks. Where the route is more open and to mitigate against any disruption to the use of this public footpath, it is proposed that the route would continue to be maintained along its existing alignment outside the perimeter fencing of the construction site for the safety of pedestrians.
- 19.9.32 For the assessment of the effects of the Project on Public Rights of Way the sensitivity of the promoted Sussex Border Path is assessed as medium, as it is a promoted route approximately circumnavigating the county, used for recreational purposes with links to the wider network of routes. The sensitivity of the other Public Rights of Way is also assessed as medium. The temporary magnitude of the impact on Public Rights of Way of during this construction period is assessed to be high due to the significant change in length of diversion routes for sections of the Sussex Border Path and potentially users of footpaths West Sussex 355_1sy, Surrey 355a, West Sussex 360Sy and Surrey 360 where these users may need to follow NCR 21 and the Millennium Path to reconnect to the Public Rights of Way network. The overall temporary significance on Public Rights of Way associated during this part of the construction sequence is therefore assessed to be of temporary medium term **moderate adverse significance** which is significant in EIA terms.
- 19.9.33 There would be a permanent diversion of West Sussex footpath 367Sy to the east of Balcombe Road as shown on **ES Figure 19.9.2b** (Doc Ref. 5.2) associated with works to the M23 spur on the southern side of the M23. This would be diverted just to the south of its current location alongside the toe of the newly constructed embankment.
- 19.9.34 The works associated with the provision of the A23 Northbound third lane and London Road bridge replacement would include the permanent diversion of a section of the West Sussex Border Path section 346_2Sy to the north of Car Park Y, although the diverted route would remain close to its current alignment, as shown on **ES Figure 19.9.2a** (Doc Ref. 5.2).
- 19.9.35 A permanent closure of the footpath 346_2Sy eastwards from North Terminal Roundabout is also proposed as shown on **ES Figure 19.9.2a** (Doc Ref. 5.2). This route would remain as the promoted route of the Sussex Border Path as part of the active travel improvements for both pedestrians and cyclists within Gatwick Airport.
- 19.9.36 In addition, for users of the Sussex Border Path, an alternative lit segregated cyclist and pedestrian route would be available if preferred, located between the bridge over the River Mole located south of the Travelodge Hotel and North Terminal Roundabout. The project also includes the provision of an additional shared pedestrian and cyclist ramp within Riverside Garden Park from the A23 footway near to the Longbridge Roundabout would provide an alternative link to the Sussex Border Path from the residential areas of Horley, which would be to the benefit of the local and wider community.

19.9.37 It is also proposed to implement public access improvements during this period for the benefit of local communities for health and well-being within the Project site boundary through the provision of a new circular recreational route around the flood compensation area to the east of Museum Field, with a link to the current permissive pedestrian route along the western bank of the River Mole, which connects to the existing alignment of the Sussex Border Path. The location of this route is shown as part of the design concept provided in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3).

19.9.38 The magnitude of the impact on the alignment of the Sussex Border Path and the provision of additional access through the provision of new circular route around the flood compensation area and additional access into Riverside Garden Park in the maximum design scenario is assessed to be low beneficial. Based on the medium sensitivity of the Sussex Border Path and taking these factors into account, the effect on the Sussex Border Path and public access is assessed to be of **permanent minor beneficial** significance. This is not considered to be significant in terms of the EIA Regulations.

Open Space

19.9.39 The works on the north side of the A23 London Road commencing towards the end of this period would affect the southern fringe of Riverside Garden Park. There would be temporary effects associated with the construction activities along the southern edge of Riverside Garden Park affecting a strip of land of approximately 0.47 hectares and a permanent loss of approximately 1.01 hectares of open space along the southern boundary of Riverside Garden Park. This area of permanent loss of open space has been calculated on a precautionary basis as it includes land currently within the highway embankment where there would be a loss of mature vegetation adjacent to and along the existing highway. The area of land affected within Riverside Garden Park, not including land within the highways boundaries, comprises a smaller area of approximately 0.34ha. A small area of land would also be affected to the north of the confluence of the River Mole and Gatwick Stream and is located to the south of the A23 Brighton Road. This area is separated from the main area of Riverside Garden Park by the River Mole and cannot be accessed from the main area of Riverside Garden Park. This area can only be accessed by using a pedestrian gate located next to the A23 Brighton Road and negotiating a steep earth bank to reach an area of wooded land adjacent to the River Mole. Within this area, approximately 0.01 hectares would be temporarily affected by construction activities and there would be a permanent loss of approximately 0.02 hectares alongside the A23 Brighton Road.

19.9.40 In total, within these areas of Riverside Garden Park, approximately 0.48 hectares of land would be temporarily affected during construction and 1.03 hectares of open space permanently affected by the Project. Together, these changes would reduce the overall area of open space and change the amenity of the southern area of Riverside Garden Park alongside the A23 London Road as a result of changes to the visual and acoustic environments (see **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1) and **ES Chapter 14: Noise and Vibration** (Doc Ref. 5.1)).

19.9.41 To mitigate for the permanent impacts on these affected areas the following measures have been incorporated into the Project design:

- Creation of new areas of open space totalling an area of approximately 1.43 hectares with the current areas of Car Park B to the north and south of the A23. These areas would

comprise approximately 120 % of the area of land permanently lost within Riverside Garden Park.

- Provision of a shared pedestrian and cycle ramp from the northern side of the A23 located to the south of the River Mole crossing point into Riverside Garden Park.
- Provision of an additional pedestrian route linking Riverside Garden Park to Car Park B and to the Sussex Border Path (Surrey section 355a) located to the west of the railway line north of the A23.

- 19.9.42 The location of the replacement open space is shown on **ES Figure 19.8.1** (Doc Ref. 5.2) and a concept design for the provision of landscaping and access through these areas is provided in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3). The landscaping for the replacement open space at Car Park B, although established as soon as possible during the construction of the highway improvements, would naturally take some time to mature.
- 19.9.43 The sensitivity of the designated open space within Riverside Garden Park is assessed as medium, as they are both well used resources by the surrounding communities and visitors.
- 19.9.44 The magnitude of the impact on Riverside Garden Park arising during construction is assessed to be medium. The permanent losses of land would not adversely affect the overall integrity of this resource and would be mitigated by the provision of new areas of open space which would serve the local community, although there would be a change to the amenity of the southern area of Riverside Garden Park, predominantly as a result of changes to the visual environment both during construction and in operation until new highway planting matures as described in **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1).
- 19.9.45 Taking these factors into account, the effect on Riverside Garden Park during construction, including the establishment of landscape planting over time within the southern edge of the Riverside Garden Park and the replacement open space areas in Car Park B, is assessed to be of **long term temporary moderate adverse** significance. This is considered to be significant in terms of the EIA Regulations.
- 19.9.46 Works to the Longbridge Roundabout are anticipated to commence in 2029. These would temporarily affect land within an area of 0.36 hectares along the southern and western edges of Church Meadows, east of the River Mole and to the north of the A23. The construction works within this area would predominantly be located along the southern edge of Church Meadows, associated with the highway works. Along the western edge of Church Meadows, construction works would be associated with the construction of a new pedestrian bridge to connect the area of Church Meadows to the replacement open space proposed to the west of the River Mole, but a long corridor along the length of the River Mole has been included in the Project to provide flexibility in identifying the most appropriate location for the pedestrian bridge to be located during detailed design.
- 19.9.47 The works to the roundabout would permanently impact an approximate area of 0.13 hectares on the southern part of the open space at Church Meadows.
- 19.9.48 To mitigate for these permanent impacts a replacement area of open space would be provided immediately to the west of the River Mole, linked to the existing Church Meadows by a new pedestrian bridge over the River Mole, with a further access provided in the south western corner of the area, accessed from the shared use pedestrian and cycle route that has recently been

constructed in this location. This would provide an area of approximately 0.52 hectares of new open space, significantly larger (400%) than the 0.13 hectares area permanently affected within Church Meadows. The area for the replacement open space currently comprises grassland, as does the existing area of Church Meadows, although the replacement land is currently used to support a livestock- based farming enterprise. The grassland use of the replacement land would enable the early establishment of a usable and attractive space, similar to the existing area of Church Meadows. The location of this replacement open space is shown on **ES Figure 19.8.1** (Doc Ref. 5.2) and the draft concept design proposals for this area are included in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3).

- 19.9.49 The sensitivity of the designated open space within Church Meadows is assessed as medium, as it is a well-used resource by the surrounding communities and visitors.
- 19.9.50 During construction, the magnitude of the impact on the areas of open space at Church Meadows is assessed to be medium. The loss of land during construction would not adversely affect the integrity of this resource. Taking these factors into account, the effect on Church Meadows during construction is assessed to be of **medium term temporary moderate adverse** significance. This is considered to be significant in terms of the EIA Regulations.

Further Mitigation and Future Monitoring

- 19.9.51 No further mitigation or measures with regard to agricultural land use or recreational receptors are proposed. The monitoring of the establishment of the landscaping proposals within the replacement areas of open space would be undertaken in accordance with **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3).

2030 - 2032

Agricultural Land Use

Agricultural Land Quality

- 19.9.52 The assessment of effects for the temporary and permanent loss of land would be the same as for the 2024-2029 initial construction period.

Farm Holdings

- 19.9.53 The assessment of effects for the temporary and permanent loss of land would be the same as for the 2024-2029 initial construction period.

Recreation

Public Rights of Way and NCR 21.

- 19.9.54 The temporary diversions are likely to be completed in the early part of the highways works sequencing, but on a precautionary basis it is assessed that there could continue to be potential disruption to the Public Rights of Way network and NCR 21 during the initial part of this period in the same way as 2029. Therefore, the assessment of effects remains as described for 2029 ie short (NCR 21) to medium term (Public Rights of Way) **temporary moderate adverse significance** which is significant in EIA terms.
- 19.9.55 The operational permanent benefits of the Project on public access are as described for 2029.

Open Space

- 19.9.56 Temporary construction effects on Riverside Garden Park and Church Meadows would be as assessed for 2029, ie of **long term temporary moderate adverse significance** for Riverside Garden Park and **medium term temporary moderate adverse significance** for Church Meadows, both being significant in EIA terms.
- 19.9.1 The permanent loss of approximately 0.13 hectares of land in Church Meadows would not adversely affect the integrity of this resource and would, as described above, be mitigated by the provision of approximately 0.52 hectares of replacement open space, which would be significantly larger (400 %) than the area of Church Meadows permanently lost. As above, the site is well-suited for use as replacement open space and the implementation of planting proposals in accordance with the principles set out in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3) would further enhance the quality of the replacement open space as the landscaping develops.
- 19.9.2 This area of replacement open space is assessed to provide a significant increase in accessible open space available in this location, of a similar quality to that currently found in Church Meadows. This is assessed to provide a low beneficial magnitude of impact to a resource of medium sensitivity. Based on these factors, the permanent operational effect on Church Meadows is therefore assessed to be of **permanent minor beneficial significance**, which is not significant in EIA terms.

Further Mitigation and Future Monitoring

- 19.9.3 No further mitigation or monitoring measures with regard to recreational or agricultural land use receptors are proposed.

2033 - 2038

Agricultural Land Use

- 19.9.4 During this period, it is anticipated that the temporary areas of agricultural land required in connection with the provision of the new grade-separated junctions as part of the highway improvement works and the area of land within Pentagon Field would be restored. This would be as the works on the South Terminal roundabout improvements together with the North Terminal roundabout improvements and Longbridge Roundabout improvements are completed, together with the deposition of spoil on Pentagon Field. The implementation of best practice techniques, provided in **ES Appendix 5.3.2: CoCP Annex 4 – Soil Management Strategy** (Doc Ref. 5.3) would enable these temporary areas to be restored to their former agricultural use as part of holdings 1, 3 and 4a. Therefore, there would be **no change** (compared to the baseline situation) in either the agricultural land quality or farming potential of these restored areas following completion of the restoration period.

Recreation

Public Rights of Way and NCR 21.

- 19.9.5 It is anticipated that the South and North Terminal junction improvements and the works to the Longbridge Roundabout would all be completed by 2032 and therefore there would be no additional effects on Public Rights of Way and NCR 21 arising from the construction works during this period.

Open Space

- 19.9.6 There would be no additional effects on open space at Church Meadows arising from the construction works at Longbridge Roundabout during this period as the replacement open space to the west of Church Meadow would be accessible on the completion of the construction works.
- 19.9.7 The landscape planting would be maturing within Car Park B and along the southern edge of the existing Riverside Garden Park in accordance with the **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3) and therefore the long term temporary moderate adverse effects on Riverside Garden Park are no longer assessed to be present by 2038.
- 19.9.8 The permanent effects of the Project on Riverside Garden Park are assessed following the establishment of the landscape planting during this part of the construction sequence.
- 19.9.9 The area of the permanent replacement open space within Car Park B north and south (1.43 hectares) comprises a significantly greater area of land than is permanently lost on the southern edge of Riverside Garden Park together with the separate small area of land immediately to the south of the A23 Brighton Road (1.03 hectares).
- 19.9.10 The areas of replacement open space would be accessible to users of the current Riverside Garden Park, albeit the areas do not directly adjoin the existing area of Riverside Garden Park but are the closest available areas of land to the south of the existing park. Access from the existing park to the replacement areas could be gained via the new pedestrian route that would be provided linking the existing area of Riverside Garden Park to the northern side of Car Park B, or alternatively pedestrians could access the replacement open spaces from the Sussex Border Path that runs north to south along the eastern edge of Car Park B. Cyclists would be able to access the southern part of the replacement land from NCR 21 which runs close to the western edge of the land, immediately to the west of the Gatwick Stream.
- 19.9.11 The replacement open spaces within the areas of Car Park B would be usable spaces available to the public. This compares favourably to the current situation as regards the permanently affected part of Riverside Garden Park, where approximately 65% of this land falls within the highways boundary and contains highways ditches and wooded embankments together with an isolated piece of land that can only be accessed via a steep bank from the A23 Brighton Road. Although there are locations visible along the southern edge of Riverside Garden Park where access has been gained either into or out of Riverside Garden Park via the highway's embankment, these areas do not comprise easily accessible or usable space for members of the public.
- 19.9.12 The quality of the replacement open spaces within the areas of Car Park B would include areas of woodland planting, similar to the nature of the wooded southern edge of Riverside Garden Park that would be permanently lost but would also include additional elements that reflect the nature and quality of the wider area of Riverside Garden Park, including scrub and ground cover planting and open grassed areas for recreational use.
- 19.9.13 The replacement open space within Car Park B would therefore provide a considerably larger area of land than the area of Riverside Garden Park permanently affected and following the development of the landscaping over time, would provide areas of open space that would be similar in nature to the central areas of Riverside Garden Park and more accessible and usable

than much of the area of highways planting permanently lost along the southern fringe of the existing Riverside Garden Park.

- 19.9.14 The permanent effects on Riverside Garden Park, following the reintegration of temporary land into Riverside Garden Park and the implementation of the mitigation measures above are assessed to be of **permanent negligible adverse significance**, based on a negligible magnitude of impact on the resource and a medium sensitivity of the receptor, which is not significant in EIA terms.

Further Mitigation and Future Monitoring

- 19.9.15 No further mitigation or monitoring measures with regard to recreational or agricultural land use receptors are proposed.

Design Year: 2038

Agricultural Land Use

- 19.9.16 No additional effects on agricultural land use resources are anticipated as a result of the operation of the Project in the Design Year 2038 and the permanent effects remain as assessed for 2032.

Recreation

- 19.9.17 No additional effects on recreational resources are anticipated as a result of the operation of the Project in the Design Year 2038 and the permanent effects remain as assessed for 2033-2038.

Long Term Forecast Year: 2047

Agricultural Land Use

- 19.9.18 No additional effects on agricultural land use resources are anticipated as a result of the operation of the Project in the Design Year 2047 and the permanent effects remain as assessed for 2032.

Recreation

- 19.9.19 No additional effects on recreational resources are anticipated as a result of the operation of the Project in the Design Year 2047 and the permanent effects remain as assessed for 2033-2038.

19.10. Potential Changes to the Assessment as a Result of Climate Change

- 19.10.1 As set out in the Future Baseline section (Section 19.6) above for agricultural land use, in this location where soil wetness is the dominant factor affecting the quality of the land in predominantly clayey soils, conditions are unlikely to be significantly affected by climate change. Therefore, the assessment of effects set out above is unlikely to be affected by climate change.
- 19.10.2 As set out in the Future Baseline section (Section 19.6) above, there are unlikely to be significant changes to the recreational baseline described in this chapter during the period up to 2047 as a result of climatic changes. The trend towards warmer, drier summers may result in greater participation in outdoor recreation, however this is not anticipated to result in any changes to the assessment of effects on recreational resources set out in this chapter.

19.11. Cumulative Effects

Zone of Influence

- 19.11.1 The Zone of Influence (Zol) for agricultural land use and recreation has been identified based on the spatial extent of likely effects. For this topic, the Zol equates to the study area for the assessment of effects on these resources as described in Section 19.4 above, together with any resources that link to them (eg other lengths of the Sussex Border Path not directly affected by the Project).

Screening of Other Developments and Plans

- 19.11.2 The Cumulative Effect Assessment (CEA) (see **ES Chapter 20: Cumulative Effects and Inter-relationships** (Doc Ref. 5.1)) takes into account the impact associated with the Project together with other developments and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise undertaken as part of the 'CEA short list' of developments (see **ES Appendix 20.4.1: Cumulative Effects Assessment Long and Short List** (Doc Ref. 5.2)). Each development on the CEA long list has been considered on a case by case basis for scoping in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.
- 19.11.3 In undertaking the CEA for the Project, it is important to bear in mind that the likelihood of other developments and plans being constructed varies depending on how far along the planning process they are. For example, relevant developments and plans that are already under construction are likely to contribute to a cumulative impact with the Project (providing impact or spatial pathways exist), whereas developments and plans not yet approved or not yet submitted are less certain to contribute to such an impact, as some may not achieve approval or may not ultimately be built due to other factors. For this reason, all relevant development and plans considered cumulatively alongside the Project have been allocated into 'Tiers', reflecting their current stage within the planning and development process. Appropriate weight is therefore given to each Tier in the decision-making process when considering the potential cumulative impact associated with the Project (eg it may be considered that greater weight can be placed on the Tier 1 assessment relative to Tier 2). Further details of the screening process for the inclusion of other developments and plans in the short list and a description of the Tiers is provided in **ES Chapter 20: Cumulative Effects and Inter-relationships** (Doc Ref. 5.1).
- 19.11.4 The specific developments scoped into the CEA for agricultural land use and recreation and the Tiers into which they have been allocated, are outlined in Table 19.11.1. Full details of each of the developments is provided in **ES Appendix 20.4.1: Cumulative Effects Assessment Long and Short List** (Doc Ref. 5.2).

Table 19.11.1: List of Other Developments and Plans Considered within CEA

Description of Development/Plan	Planning Phase	Distance from the Project (km)	Date of Construction (if applicable)	Overlap with the Project?
Tier 1				
Waverley District Council Mineral Extraction: WA/2017/1466	Not known	14.0	Not yet known	No
Sevenoaks District Council Residential:20/02988/OUT	Not known	17.0	Not yet known	No
Crawley North East Residential: CR/2017/0128/ARM	Phase 4b	1.6	Not yet known	No
Crawley North East Residential: CR2015/0718/ARM	Phase 2b	1.6	2019-2027	No
Crawley North East Residential: CR 2016/0858/ARM	Phase 3	1.6	2019-2022	No
Crawley North East Residential: CR 2016/0083/ARM	Phase 2c	2.1	2019-2022	No
Crawley North East: CR 2016/0780/ARM	Not known	2.2	2017-2022	No
Crawley CR/2018/0894/OUT	Not known	1.3	2020 – 2022	No
Mid Sussex District Council mixed development: 13/04127/OUTES	Not known	2.7	2016-2022	No
Horsham District Council residential development: DC/17/2481	Not known	6.3	2019-2022	No
Horsham District Council mixed use strategic allocation: DC/16/1677	Not known	9.8	2020 - 2031	No
Horsham District Council Kilwood Vale residential development DC/10/1612/OUT	Later phases	5.3	2017 onwards	No
Reigate and Banstead District Borough Council Solar Farm Development 22/02783/F	Not Known	3.9	Not yet known	No
Tier 2				
Horsham District Council EIA/20/004 West of Ifield	Not known	1.5	Not yet known	No
Tier 3				
Forge Wood Land at Steers Lane and Land to the south east of Heathy Farm, Balcombe Road	Not yet known	1.6	Not yet known	Not yet known

Description of Development/Plan	Planning Phase	Distance from the Project (km)	Date of Construction (if applicable)	Overlap with the Project?
Horley Business Park: Policy HOR9 of the adopted Reigate & Banstead Development Management Plan 2018-2027	Not yet known	0.4	Not yet known	Not yet known
Crawley Borough Council – Land east of Balcombe Road – “Gatwick Green”	Not yet known	2.5	Not yet Known	No
Tandridge District Council Local Plan:2033 Draft Policy HSGO1 Land at Plough Road and Redehall Road, Smallfield	Not yet known	3.6	Not yet known	No
Tandridge District Council Local Plan:2033 Draft Policy HSGO3 Land at Plough Road, Smallfield	Not yet known	4.0	Not yet known	No
Future Mole Valley Draft Local Plan Regulation 19 consultation draft: Site Allocation DS 41,42,43,44 at Hookwood.	Not yet known	0.5	Not yet known	No
Mid Sussex District Council SA 19 housing allocation south of Crawley Down, Felbridge	Not yet known	8	Not yet known	No
Mid Sussex District Council SA 20 housing allocation Imberhome Lane, East Grinstead	Not yet known	8.4	Not yet known	No
Mid Sussex District Council DP 10 allocation east of Pease Pottage	Not yet known	7.3	Not yet known	No
Mid Sussex District Council DPSC 3 land at Crabbet Park	Not yet known	4.6	Not yet known	No
Mid Sussex District Council DPH 13 Land to west of Turners Hill Road, Crawley Down	Not yet known	7.1	Not yet known	No

Cumulative Effects Assessment

19.11.5 A description of the significance of cumulative effects upon agricultural land use and recreational receptors arising from each identified impact is given below.

Initial Construction Period: 2024-2029

Agricultural Land Use

19.11.6 The Tier 1 sites to the North East of Crawley have been previously surveyed in detail by Defra and the results of the survey work (see **ES Appendix 19.6.2: Soil Survey Results** (Doc Ref. 5.3)) identify that the land comprises predominantly lower quality Subgrade 3b land, similar to the

areas of land affected by this Project. The Tier 1 sites within Horsham District have been subject to ALC survey that have shown the areas to comprise predominantly Subgrade 3b land with areas of Grade 4 land and small pockets of Subgrade 3a land. The proposed solar farm site in Reigate and Banstead District has also been subject to ALC survey by ADAS and has been classified as Subgrade 3b.

- 19.11.7 The Tier 2 residential site in Horsham District comprises approximately 100 hectares of agricultural land which has also been classified by Defra to comprise Subgrade 3b land, whilst the Tier 1 sites in Mid-Sussex comprised a mixture of mainly Subgrade 3b with areas of Subgrade 3a land.
- 19.11.8 The Tier 3 sites at Horley Business Park and Forge Wood, have also been subject to detailed Defra survey (see **ES Appendix 19.6.1: Published Agricultural Land Classification Data** (Doc Ref. 5.3)) and comprise Subgrade 3b land. There is no ALC survey data for the remaining Tier 3 sites. The provisional ALC mapping shows the proposed housing allocations at Smallfield to comprise lower quality Grade 4 land, whilst the remaining sites are shown to comprise Grade 3 land.
- 19.11.9 The quality of the land affected by this Project comprises lower quality Subgrade 3b land and therefore would not contribute to any cumulative loss of the best and most versatile Grades 1, 2 or Subgrade 3a land. Therefore, the Project is not anticipated to contribute to any significant cumulative effect.
- 19.11.10 In terms of effects on farm holdings the proposed development of the Horley Business Park (Tier 3) would affect land within the same farm holding (farm holding 3) as the area of land affected by the proposed south terminal works within Bayhorne Farm. Whereas the Project would only permanently affect an area of approximately 1.9 hectares of land on the southern edge of the holding, the proposed business park would remove this tenanted holding in its entirety. The potential cumulative impact on this particular holding would therefore be as a result of the implementation of the business park, rather than as a result of the limited impact of the Project around the south terminal roundabout junction.
- 19.11.11 Whilst the other developments would affect areas of agricultural grassland and limited areas of arable cropping to support mixed farming enterprises, it is not considered that these losses together with those limited areas of grassland affected by the Project would affect agricultural productivity in the local area. Therefore, no significant cumulative effects are considered likely.

Recreation

- 19.11.12 The proposed development of the Horley Business Park, located on land to the west of Balcombe Road, is set out in Policy HOR9 'Horley Strategic Business Park' of the adopted Reigate and Banstead Development Management Plan 2018-2027. Under this policy the site is allocated for a strategic business park of predominantly offices; a complementary range of commercial, retail and leisure facilities to serve and facilitate the main business use of the site; and at least five hectares of new high quality open space, including parkland and outdoor sports facilities. Currently there are no details in terms of the timing of this development.
- 19.11.13 Based upon the implementation of Policy HOR 9 as described above, the Horley Business Park development design would take into account the following considerations:

- the retention or re-routing of public footpath 362a (Sussex Border Path) across the site to maintain a pedestrian link from Balcombe Road to the footbridge across the railway;
- upgrading and extension of pedestrian/cycle routes from the Business Park to Horley town centre and Gatwick Airport station; and
- provision and delivery of the open space area.

19.11.14 Taking these policy requirements into account it is not anticipated that there would be any significant cumulative effects on the Sussex Border Path.

2030-2047

19.11.15 No additional cumulative effects, other than those set out above, have been identified.

19.12. Inter-Related Effects

- 19.12.1 The assessment of effects on recreational resources set out in this chapter does not include any effects on the amenity of those resources as a result of changes to the visual and acoustic environments at either the construction or operation stages of the Project. These are assessed, where relevant, in **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1) and **ES Chapter 14: Noise and Vibration** (Doc Ref. 5.1).
- 19.12.2 **ES Chapter 14: Noise and Vibration** (Doc Ref. 5.1) considers the potential effects of the Project on users of Riverside Garden Park and concludes that there would be no significant noise effects on these users arising from the Project.
- 19.12.3 **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1), considers the effects of the Project on visual amenity for users of the Riverside Garden Park and Church Meadows open space and also users of the affected Public Rights of Way network.
- 19.12.4 Between 2024 and 2029 no significant effects on visual amenity for users of open space and Public Rights of Way are identified.
- 19.12.5 Between 2030 – 2032, the **ES Chapter 8: Landscape, Townscape and Visual Resources** (Doc Ref. 5.1) identifies that users of open space at Riverside Garden Park and Church Meadows would gain open, near views of construction activities for surface access improvements including temporary road bridges over the River Mole, the footpath ramp at Riverside Garden Park and contractors compound at Longbridge. This would result in localised **major adverse** effects in the medium term which would be significant and more generally **moderate to negligible adverse** effects, in the medium term, which would not be significant.
- 19.12.6 Following the completion of the highway improvement works no further significant effects on visual amenity for users of open space and Public Rights of Way between 2033 and 2038.
- 19.12.7 Further details of inter-related effects are provided in **ES Chapter 20: Cumulative Effects and Inter-relationships** (Doc Ref. 5.1).

19.13. Summary

Agricultural Land Use

Initial Construction Period 2024-2029

- 19.13.1 During this period of the Project there would be temporary agricultural land take associated with the start of construction period for the improvements to the South terminal roundabout together with the placement of spoil material on Pentagon Field.
- 19.13.2 Within this area there would be a temporary loss of approximately 12.1 hectares of lower quality Subgrade 3b land. The significance of this medium term temporary loss of this low quality agricultural land is assessed to be **moderate adverse** which is not considered in this case to be significant as it does not comprise any of the best and most versatile Grades 1, 2 or Subgrade 3a land.
- 19.13.3 Also associated with these temporary works at South Terminal roundabout, there would also be temporary disruption to a single holding which is let on a short term arrangement for horse grazing and hay production. The medium term temporary effect of the loss of this land from a single holding is assessed to be **minor adverse** significance.
- 19.13.4 During this period there would be permanent land take of approximately 10.1 hectares of agricultural land during this period associated with the provision of the flood compensation area in Museum Field and land required in connection with South Terminal and Longbridge Roundabout highways improvements. The detailed ALC survey of these areas has shown them to comprise entirely lower quality Subgrade 3b land. The significance of this permanent loss of agricultural land quality is therefore assessed to be **moderate adverse**. Taking into account the amount and quality of the land affected, this is not considered in this case to be a significant loss as it does not comprise any of the best and most versatile Grades 1, 2 or Subgrade 3a agricultural land.
- 19.13.5 There would also be permanent loss of agricultural land from five land holdings in addition to the land within the Gatwick estate during this stage. These losses would have effects on three holdings where land is being used for agricultural production, but these enterprises would still be able to continue to operate.
- 19.13.6 The overall significance of effect arising from the permanent loss of these areas of agricultural grassland from these holdings is therefore assessed to be of **minor adverse** significance.

2030-2032

- 19.13.7 During this period, there would no additional effects on agricultural land and farm holdings beyond those identified for the 2024 - 2029 period.

2033-2038

- 19.13.8 The implementation of best practice techniques, provided in **ES Appendix 5.3.2: CoCP Annex 4 – Soil Management Strategy** (Doc Ref. 5.3) would enable temporary areas to be restored to their former agricultural use. Therefore, there would be **no change** (compared to the baseline situation) in either the agricultural land quality or farming potential of these restored areas following completion of the restoration period.

Design Year:- 2038

- 19.13.9 No additional effects on agricultural land use resources are anticipated as a result of the operation of the Project in the Design Year 2038.

Recreation**Initial Construction Period 2024-2029**

- 19.13.10 During the initial construction period (2024-2029), there is the potential for disruption to access along the NCR 21, Sussex Border Path, and other Public Rights of Way as a result of the commencement of the South and North Terminal roundabout highways works with temporary diversions required. Based on this, the temporary effect on Public Rights of Way during this part of the construction sequence is assessed to be of temporary medium term **moderate adverse significance**, which is significant in EIA terms.
- 19.13.11 There is also the potential for the disruption to the existing public footpath that runs along the boundary of the Pentagon Field during the construction activities associated with the placement of spoil and restoration of the area. It is proposed that this route is maintained along its existing alignment outside the perimeter fencing on the construction site for the safety of pedestrians.
- 19.13.12 It is proposed to permanently divert West Sussex public footpath 367Sy along the section that currently runs to the south of the M23 Spur. In addition, a permanent on-airport diversion for an affected section of the Sussex Border Path to the south of the A23 London Road which would be replaced close to its existing alignment.
- 19.13.13 There would be provision of new circular recreational route around the flood compensation area to the east of Museum Field, with a link to the current permissive pedestrian route along the western bank of the River Mole which connects to the existing alignment of the Sussex Border Path, providing provide public access improvement and health and wellbeing benefits for the public generally.
- 19.13.14 In addition, the provision of an additional shared pedestrian and cyclist ramp into Riverside Garden Park from the A23 footway near to the Longbridge Roundabout would provide an alternative link to the Sussex Border Path from the residential areas of Horley, which would be to the benefit of the local and wider community.
- 19.13.15 Taking all these factors into account, the overall effect on recreational routes and facilities during operation is assessed to be of permanent **minor beneficial** significance.
- 19.13.16 The highways improvement works to the North Terminal Roundabout and Longbridge Roundabout commencing towards the end of this period would encroach into the southern fringe of Riverside Garden Park, together with a small, isolated parcel of land to the south of the A23 Brighton Road and also the southern and western fringe of Church Meadows. This would result in temporary disruption during the construction period to these areas and it is assessed that the effect on Riverside Garden Park would be of long term temporary **moderate adverse significance** and on Church Meadows of medium term temporary **moderate adverse significance** which would both be significant in EIA terms.

2030-2032

- 19.13.17 There would be permanent loss of approximately 1.03 hectare of open space within Riverside Garden Park associated with the highway improvement works to North Terminal Roundabout.
- 19.13.18 To mitigate for these impacts the following measures have been incorporated into the Project design.
- Creation of new areas of open space in current areas of Gatwick Car Park B totalling approximately 1.43 hectares, approximately 0.40 ha greater than the 1.03 ha area of Riverside Garden Park permanently affected by the Project.
 - Provision of a shared pedestrian and cycle ramp from the northern side of the A23 located to the south of the River Mole crossing point into Riverside Garden Park.
 - Provision of an additional pedestrian route linking Riverside Garden Park to the replacement area of open space (Car Park B) and linking to the Sussex Border Path to the north of the A23.
- 19.13.19 These measures would be implemented during the construction of the highway works. However, the landscape planting within Car Park B and the southern part of Riverside Garden Park would be newly established at this stage and it is therefore assessed that the long term temporary **moderate adverse significance** of effect on the areas of open space in Riverside Garden Park would continue during this period. This is considered significant in terms of the EIA regulations.
- 19.13.20 Works to the Longbridge Roundabout would lead to the permanent loss of approximately 0.13 ha of open space in Church Meadows. To mitigate this impact, a new area of open space would be provided immediately to the west of the River Mole, linked to the existing Church Meadows by the provision of a pedestrian bridge over the River Mole constructed during this period. This would provide an area of approximately 0.52ha of replacement open space, approximately 0.39 ha larger than the approximately 0.13 ha area affected within Church Meadows. The current grassland use of the open space replacement land would enable the early establishment of a usable and attractive space to be provided, similar to the existing area of Church Meadows.
- 19.13.21 Taking this mitigation into account, the permanent operational effect on Church Meadows is assessed to be of **permanent minor beneficial significance**.

2033-2038

- 19.13.22 There would be no additional effects on open space at Church Meadow arising from the construction works at Longbridge Roundabout during this period as the replacement open space to the west of Church Meadow would be accessible on the completion of the construction works.
- 19.13.23 The landscape planting would be maturing within Car Park B and along the southern edge of the existing Riverside Garden and therefore the long term temporary moderate adverse effects on Riverside Garden Park are no longer assessed to be present by 2038.
- 19.13.24 The permanent effects of the Project on Riverside Garden Park are assessed following the establishment of the landscape planting during this part of the construction sequence.
- 19.13.25 The replacement open space within Car Park B would provide a considerably larger area of land (0.40 ha) than the 1.03 ha area of Riverside Garden Park permanently affected and following the development of the landscaping over time, would provide areas of open space that would be

similar in nature to the central areas of Riverside Garden Park and more accessible and usable than much of the area of highways planting permanently lost along the southern fringe of the existing Riverside Garden Park.

- 19.13.26 The permanent effects on Riverside Garden Park, following the reintegration of temporary land into Riverside Garden Park and the implementation of the mitigation measures above are assessed to be of **permanent negligible adverse significance**, based on a negligible magnitude of impact on the resource and a medium sensitivity of the receptor which is not significant in EIA terms.

Design Year: 2038

- 19.13.27 No additional effects on recreational resources are anticipated as a result of the operation of the Project in Design Year: 2038.

2047

Long Term Forecast Year: 2047

- 19.13.28 No additional effects on recreational resources are anticipated as a result of the operation of the Project in Long Term Forecast Year: 2047.

Table 19.13.1: Summary of Effects

Receptor	Receptor Sensitivity	Description of Impact	Short / medium / long term / permanent	Magnitude of Impact	Significance of Effect	Significant / not significant	Notes
Construction Period 2024-2029							
Agricultural Land Quality	Medium	Loss of agricultural land required permanently for Project	Permanent	Medium	Moderate Adverse	Not Significant	Not considered to be significant, as no best and most versatile land resource (Grades 1, 2 or 3a land) is affected.
Agricultural Land Quality	Medium	Loss of agricultural land required temporarily for Project	Medium term temporary	Medium	Moderate Adverse	Not Significant	Not considered to be significant in terms of the EIA Regulations, as no best and most versatile land resource (Grades 1, 2 or 3a land) is affected.
Farm Holdings	Medium	Loss of land from farm holdings required permanently for Project	Permanent	Low	Minor Adverse	Not Significant	

Receptor	Receptor Sensitivity	Description of Impact	Short / medium / long term / permanent	Magnitude of Impact	Significance of Effect	Significant / not significant	Notes
Farm Holdings	Medium	Loss of land from farm holdings required temporarily for Project	Medium term temporary	Low	Minor Adverse	Not Significant	
Public Rights of Way & Sussex Border Path	Medium	Temporary diversion or disruption	Medium term temporary	High	Moderate Adverse	Significant	
NCR 21	High	Temporary diversion or disruption	Short term temporary	Medium	Moderate Adverse	Significant	
Provision of new route (Museum Field and Brook Farm)	Medium	Permanent provision	Permanent	Low	Minor Beneficial	Not Significant	
Open Space Riverside Garden Park	Medium	Temporary disruption to southern fringe of Riverside Garden Park	Long term temporary	Medium	Moderate Adverse	Significant	
Open Space Church Meadows	Medium	Temporary disruption to southern and western fringes of Church Meadows	Medium term temporary	Medium	Moderate Adverse	Significant	
2030-2032							
Agricultural Land Quality	No additional effects						

Receptor	Receptor Sensitivity	Description of Impact	Short / medium / long term / permanent	Magnitude of Impact	Significance of Effect	Significant / not significant	Notes
Farm Holdings	No additional effects						
Public Rights of Way & Sussex Border Path	Medium	Temporary diversion or disruption	Medium term temporary	Medium	Moderate Adverse	Significant	
NCR 21	High	Temporary diversion or disruption	Short term temporary	Medium	Moderate Adverse	Significant	
Open Space Riverside Garden Park	Medium	Temporary disruption to southern edge of Riverside Garden Park	Long term temporary	Medium	Moderate Adverse	Significant	
Open Space Church Meadows	Medium	Temporary disruption to southern and western fringes of Church Meadows	Medium term temporary	Medium	Moderate Adverse	Significant	
Open Space Church Meadows	Medium	Loss of approximately 0.13ha of open space and provision of 0.52ha of replacement land	Permanent	Low	Minor Beneficial	Not Significant	
2033-2038							
Agricultural land quality	Medium	Restoration of land temporarily affected by use as compounds	Permanent	No change	No change	Not significant	No change compared to baseline conditions (ie reversal of
Farm Holdings	Medium			No change	No change	Not significant	

Receptor	Receptor Sensitivity	Description of Impact	Short / medium / long term / permanent	Magnitude of Impact	Significance of Effect	Significant / not significant	Notes
							previous temporary adverse effect)
Public Rights of Way & Sussex Border Path	No additional effects						
NCR 21	No additional effects						
Open Space Riverside Garden Park	Medium	Loss of approximately 1.03 hectares of open space and provision of 1.43 hectares replacement land	Permanent	Negligible	Negligible	Not Significant	
Open Space Church Meadows	No additional effects						
Design Year: 2038							
No additional effects							
Long Term Forecast Year: 2047							
No additional effects							

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19.15. Glossary

Table 19.15.1: Glossary

Term	Description
ALC	Agricultural Land Classification
BGS	British Geological Survey
BMV	Best and Most Versatile
CEA	Cumulative Effects Assessment
Defra	Department for Environment, Food & Rural Affairs
DMRB	Design Manual for Roads and Bridges

Term	Description
EIA	Environmental Impact Assessment
ES	Environmental Statement
EVs	Electric Vehicle
GAL	Gatwick Airport Limited
MAFF	Ministry of Agriculture, Fisheries and Food
MAGIC	Multi-Agency Geographic Information for the Countryside
NCR	National Cycle Route
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
ZoI	Zone of Influence