

13. AGRICULTURAL LAND

Introduction

- 13.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of agricultural land. The purpose of this chapter is to identify the land quality of the Site and to assess what the effect of the Development would be in terms of the loss of high grade 'best and most versatile' (BMV) agricultural land.
- 13.2 The assessment is supported by an Agricultural Land Classification (ALC) survey and this chapter should be read in conjunction with the ALC Report provided at Appendix 13.1.
- 13.3 This chapter has been prepared by ADAS. ADAS has been undertaking soil surveys since its former role as the advisory and research arm of the Ministry of Agriculture Fisheries and Food (MAFF) in 1946. ADAS was involved in the development of the ALC system, which included ADAS's regional surveyors testing the 1988 revised methodology before it was published. The ALC survey has been undertaken by an ADAS Senior Soil Scientist with over 40 years' experience of undertaking ALC surveys and producing soil management plans and restoration proposals.

Policy Context

Soil Strategy

- 13.4 Although there remains no specific legislation for the protection of soil and agricultural land in the UK, in September 2009, the Government published *Safeguarding our Soils: A Strategy for England*⁴. This strategy calls for effective protection of soil during construction and development. It seeks to ensure that planning decisions take sufficient account of soil quality and states that:

'The presence of best and most versatile agricultural land is a material consideration in planning decisions, but has to be taken into account alongside other sustainability considerations including: biodiversity, the quality and character of the landscape, accessibility to infrastructure, workforce and markets and maintaining viable communities.'

- 13.5 The concept of best and most versatile (BMV) land is carried through to local policy and is a key factor in the agricultural assessment methodology.
- 13.6 The Soil Strategy also makes reference to the *Construction Code of Practice for the*

*Sustainable Use of Soils on Construction Sites*ⁱⁱ as a means to improve the use and management of soils during all stages of construction.

White Paper on the Natural Environment

- 13.7 The White Paper on the natural environment *The Natural Choice: securing the value of nature*ⁱⁱⁱ also recognises the importance of fertile soils as a natural resource and reiterates the need to protect BMV land through the planning system.

National Planning Policy Framework^{iv}

- 13.8 The general planning policy framework is laid out in *The National Planning Policy Framework* (NPPF), which sets out the Government's planning policies for England and how these are expected to be applied.
- 13.9 NPPF Paragraph 170 states that the planning system should contribute to and enhance the natural and local environment and includes three bullet points that are relevant to this assessment:
- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
 - 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; and
 - preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.
- 13.10 The NPPF goes on to state in footnote 53 that '*Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality*'.
- 13.11 Annex 2 of the NPPF identifies the BMV as land in ALC Grades 1, 2 and 3a. Current estimates are that BMV land comprises just over 40% of agricultural land in England. '*Grades 1 and 2 together form about 21% of all farmland in England; Subgrade 3a also covers about 21%*' (TIN049, 2012^v).

Planning Practice Guidance^{vi}

13.12 Paragraphs 025 and 026 of the Planning Practice Guidance accompanying the NPPF are relevant to soils and agricultural land.

13.13 Paragraph 025: Should planning take account of soil?

'The National Planning Policy Framework states that the planning system should protect and enhance valued soils and prevent the adverse effects of unacceptable levels of pollution. This is because soil is an essential finite resource that provides important 'ecosystem services', for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. As part of the Government's 'Safeguarding our Soils' strategy, Defra has published a code of practice on the sustainable use of soils on construction sites, which may be helpful in development design and setting planning conditions'.

13.14 Paragraph 026: How can planning take account of the quality of agricultural land?

'The National Planning Policy Framework expects local planning authorities to take into account the economic and other benefits of the best and most versatile agricultural land. This is particularly important in plan making when decisions are made on which land should be allocated for development. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality. The Agricultural Land Classification provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system'.

Local Planning Policy

The Arun Local Plan 2011-2031

13.15 The *Arun Local Plan 2011-2031*^{vii} refers to Government policy to safeguard BMV land. It notes that much of the district is BMV land and is intensively farmed and recognises that lower quality agricultural land, which is not intensively farmed, may have benefits in terms of carbon storage, support of biodiversity or flood mitigation. Therefore the development of greenfield sites need to consider *'the economic advantages of protecting high quality land, or the environmental advantages of protecting lower quality land or the balance between the two.'*

13.16 The emerging Local Plan also stresses the importance of minimising impacts on soil during the construction stage and the potential to reuse soils in a productive green environment¹.

¹ Areas that provide opportunities for local sustainable food and fuel production at the local level ('edible landscapes'), including allotments, community orchards, community gardens, urban farms, coppicing of local woodlands.

'Policy SO DM1 Soils

Unless designated by this Plan or a Neighbourhood Development Plan, the use of Grades 1, 2 and 3a of the Agricultural Land Classification for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term.

The requirement to protect the best and most versatile land can be outweighed if it is demonstrated through sustainability and options appraisals that:

a. Preservation of land of lower agricultural quality has greater benefits in terms of ecosystem services (for example carbon storage, flood water retention, support of biodiversity);

b. That any site preferred for development is demonstrated to be the best and most sustainable option, including but not limited to the terms of land quality, ecosystem services, infrastructure and proven need; and

c. The proposed development meets the requirements of the countryside policy and/or equine development policy.

Where development is permitted it should, as far as possible, use the lowest grade of land suitable for that development. Development will not be permitted unless:

d. The applicant has submitted sustainability and options appraisals, mitigation measures, and a soil resources plan for the development site;

e. Site appraisal documents submitted by the applicant must demonstrate that consideration has been given to DEFRA's Soil Strategy for England;

f. The productivity of the land is demonstrated using a methodology for assessing gross margins as contained in the Arun Soils and Agricultural Land Assessment Report; and

g. The applicant has submitted a comprehensive soil resources plan for the development site which demonstrates that care will be taken to preserve the soil resource, such that it can be incorporated into a Productive Green Environment following development.

Developments shall also be consistent with all other Local Plan policies.

Sustainability and Options Appraisal

- 13.17 The Site is allocated for development under Policy H SP2c of the Arun Local Plan^{vii} above as well as under the emerging Ford Neighbourhood Development Plan^{viii}. As an allocated site, it has been subject to a Sustainability Appraisal (SA). The Site was initially considered in the *Options for Growth 2009*, albeit as a much larger site. The Site was assessed again in 2013, although the SA was not officially published, and in again in 2014 and 2016. The results of the various iterations of the SA are summarised in *Sustainability Appraisal of the further Main Modifications to the Arun Local Plan (2011-2031)*^{ix}. The SA assessed the strategic residential sites against a number of SA objectives covering social, environmental and economic topics. This included an objective to avoid the loss of BMV land. The 2014 SA concluded that a moderate amount of development would be sustainable at this location. The 2016 SA identified a mixed effect (significant negative effect/uncertain minor positive) with regard to the SA objective on BMV land, as development at the Site would result in the loss of BMV land but would also improve efficiency in land use by reusing elements of previously developed land. The Site was selected as a preferred option.

- 13.18 The Site has also been assessed within the *Ford Neighbourhood Plan 2017 - 2031 Strategic Environmental Assessment*^x (SEA). The SEA acknowledges that some of the neighbourhood planning areas, including Ford, are located on BMV but that some of the soils would remain in areas of open space and landscaping.

Legislative Context

- 13.19 In the UK legislation the main reference to agricultural soil resource is in the Town and Country Planning (Development Management Procedure) (England) Order 2015^{xi} which sets out the statutory consultation procedure for development proposals. Natural England must be consulted where development is not for agricultural purposes and is not in accordance with a development plan and involves:

*'i) the loss of not less than 20 hectares of grades 1, 2 or 3a agricultural land which is for the time being used (or was last used) for agricultural purposes; or
ii) the loss of less than 20 hectares of grade 1, 2 or 3a agricultural land which is for the time being used (or was last used) for agricultural purposes, in circumstances in which the development is likely to lead to a further loss of agricultural land amounting cumulatively to 20 hectares or more.'*

- 13.20 It can therefore be seen that there is no formal, regulatory protection for soil resources in England, but there is a policy aspiration that soils should be protected where possible, particularly higher grade agricultural land, and consultation processes with Natural England are set-out. The main reference point for considering the impact of development proposals on soil resources is local and national planning policy.

Guidance

- 13.21 The Natural England publication *Guide to Assessing Development Proposals on Agricultural Land*^{xii} provides an overview of relevant policies for the protection of agricultural land and an overview of the ALC system. The guidance notes that where no suitable data on land quality exists, a detailed survey may be required to support a planning application.

Assessment Methodology

Scoping

- 13.22 An EIA Scoping Opinion was received in January 2019 from Arun District Council (ADC). Based on the consultation response from Natural England, the EIA Scoping Opinion stated that the agricultural land assessment should take into account:

- The degree to which soils are going to be disturbed/harmed as part of the Development and whether 'best and most versatile' agricultural land is involved;
- If required, an agricultural land classification and soil survey of the land should be undertaken; and
- The Environmental Statement should provide details of how any adverse impacts on soils can be minimised.

Assessment of Agricultural Land Quality

- 13.23 The land was classified using the system outlined in the Ministry of Agriculture Fisheries and Food (MAFF) (now the Department for Environment, Food & Rural Affairs (Defra)) publication *Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*^{xiii}. The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The classification system gives considerable weight to flexibility of cropping, whether actual or potential. The ability of some land to produce consistently high yields of a somewhat narrower range of crops is also taken into account.
- 13.24 The principal physical factors influencing agricultural production are climate, site (including relief) and soil. By assessing these factors, it is possible to assign land into one of five land classification grades, Grade 1 land being the highest quality and Grade 5 the lowest quality land. Grade 3 is sub-divided into Subgrades 3a and 3b, to identify good quality agricultural land from moderate quality land. Definitions of the land classification grades are provided in the ALC report in Appendix 13.1.

Desk Study

- 13.25 Existing ALC data available on the MAGIC website^{xiv} has been reviewed including the Provisional Land Classification maps produced by MAFF and post-1988 survey data produced by Natural England. Reference has also been made to the *Likelihood of Best and Most Versatile (BMV) Agricultural Land - Strategic scale maps*^{xv} and the *Soil and Agricultural Land Assessment Study* produced for ADC^{xvi}.
- 13.26 A desk study of soils and climatic information was undertaken using reference material held by ADAS, followed by detailed fieldwork to study soil and Site limitations.

Field Survey

- 13.27 Fieldwork was carried out in August 2018. Fieldwork was undertaken with a hand held 50mm diameter 'Dutch' auger and/or spade to a depth of up to 1.2m. In addition, soil pits were excavated to determine subsoil characteristics which could not be identified from the auger samples. A total of 88 auger borings and 7 soil pits were examined to determine the classification of the land. Further information is provided in the ALC report in Appendix 13.1.

Assessment of Agricultural Productivity

- 13.28 In accordance with Policy SO DM1 on soils, an assessment of Annual Average Gross Margins (AAGM) was carried out based on the methodology for assessing gross margins contained in the *Soils and Agricultural Land Assessment Study*^{xvi}. Further information on the methodology is provided in Appendix 13.2.

Significance Criteria

- 13.29 National Planning Policy seeks to conserve BMV agricultural land and steer development to areas of lower agricultural quality. However there is no national guidance on the sensitivity of agricultural land or criteria for impact magnitude. The below criteria have therefore been developed with reference to precedence to other projects and with due regard to other guidance and policies.
- 13.30 The actual sensitivity category assigned will vary between different areas of the country depending on how common it is to find BMV land there. The district has a high proportion of BMV land and the Local Plan notes that most of the undeveloped coastal plain is high grade agricultural land. Therefore Grades 1 and 2 land are considered to be of high sensitivity, Subgrade 3a land of medium sensitivity and Subgrade 3b, 4 and 5 as low sensitivity as shown in Table 13.1 below.

Table 13.1: Methodology for Determining Impact Sensitivity

Sensitivity	Examples of receptor
High	Grades 1, 2 (BMV agricultural land)
Moderate	Subgrade 3a (BMV agricultural land)
Low	Subgrade 3b, Grades 4, 5

- 13.31 The magnitude of impact on agricultural land will depend on the amount to be lost due to the Development. There is little current guidance on what area of loss is considered significant. However, 20ha is the threshold adopted in The Town and Country Planning (Development Management Procedure) (England) Order 2015^{xi} for Local Planning Authorities to consult

Natural England before granting planning permission for a non-agricultural development that is not consistent with an adopted local plan, which would involve the loss of Grades 1, 2 or 3a agricultural land. This threshold is taken into consideration in the assessment of the magnitude of impacts as shown in Table 13.2 below. The significance of effect is then determined by considering the magnitude of effect against the sensitivity of the receptor as shown in Table 13.3 below. Effects of moderate level and above are considered to be significant.

Table 13.2: Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for assessing impact
Major	Loss of ≥ 50 ha of agricultural land
Moderate	Loss of $20 - < 50$ ha of agricultural land
Minor	Loss of $5 - < 20$ ha of agricultural land
Negligible	Loss of < 5 ha of agricultural land

Table 13.3: Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Limitations and Assumptions

- 13.32 The fieldwork was carried out in dry and sunny conditions, however the ground was dry and difficult to auger and as a consequence much of the Site has been classified based on the deeper soil information gathered from the soil pits. Areas with historic disturbance have been included in the main grading where the pits did not reveal a significant limitation to land quality but a more detailed survey when the soils are in a wetter condition may locate areas of poorer quality land. Isolated areas of poorer quality disturbed land which are prone to drought could not be mapped separately based on the data collected to date and may occur within the areas hatched purple on the ALC Plan in Appendix 13.1. The ALC assessment has treated the Site in the same light as an undisturbed area, which presents a worst-case assessment.
- 13.33 There is no recognised, detailed guidance on the method for assessing the magnitude or sensitivity of agricultural land quality for the purposes of carrying out EIA. Therefore, the methodology in this assessment has been developed using best practice taken from previously undertaken agricultural impact assessments.

- 13.34 The cumulative assessment is based on desk study of publicly available information. Where there was no supporting agricultural land survey data with the relevant planning application and no post-1988 survey ALC mapping by Natural England available, the ALC grade has been based on Provisional Land Classification Maps. However, the Provisional maps are not accurate for use on small sites and do not classify land into Subgrade 3a and Subgrade 3b, providing mainly a broad indication of agricultural land quality. Where the schemes included a mix of ALC grades but no data available on the exact quantities of each ALC grade, the assessment was based on the most prevalent grade or the most sensitive ALC grade. All land take was assumed to be permanent land take and based primarily on site areas.

Baseline Conditions

- 13.35 The Site is mostly level and the land lies at an altitude of approximately 5m Above Ordnance Datum (AOD). At the time of the survey in 2018, the Site supported arable crops including wheat, peas and oilseed rape, all of which had recently been harvested. Part of the Site, particularly to the north, had been disturbed by the previous use as an airfield and industrial units were located on and around the runways in the centre of the Site. Historic photographs show more extensive runways, parking areas, roads and buildings which are now within the area of farmland.

Geology

- 13.36 The geology map^{xvii} shows the Site to be underlain by a grouping of chalk deposits including the Nodular, Seaford, Newhaven and Culver Chalk Formations. Overlying the solid geology are superficial deposits of River Terrace material and Aeolian silts.

Soils

- 13.37 The resulting soils are mapped on the soil maps^{xviii} of the area as Hamble 2 Association, which has been confirmed on site through the fieldwork. Hamble 2 Association typically includes well drained silty soils.
- 13.38 The topsoils are typically silt loam to medium silty clay loam overlying medium silty clay loam subsoils. The topsoils are not calcareous. The heavier soils show signs of impeded drainage in the form of gley colours and mottling in the deeper subsoil but most are well drained. They can be affected by groundwater, but with drainage fall into Wetness Class² 1 (WC 1) and WC

² Wetness Class is a measure of the duration of waterlogging at specified depths in the soil profile, ranging from WC 1 which is freely drained to WC 6 which is very poorly drained.

2 (i.e. well to moderately well drained). The natural soils contain few stones but in areas of historic disturbance the soils surveyed at the Site were often more stony and contained blocks of concrete and brick or clinker fragments.

Agricultural Land Classification

- 13.39 Provisional Land Classification maps produced by the MAFF show the Site as an area of Grade 1 land, which is excellent quality agricultural land. The Provisional Maps give an indication of land quality on larger sites but should not be relied on for site specific assessment of land quality. Natural England's Predictive BMV Land Assessment also classifies the area as having high likelihood of BMV land (>60% area BMV).
- 13.40 The southern and eastern parts of the Site have been subject to post-1988 ALC surveys. This has classified the surveyed land as mostly Grade 2 land (very good quality agricultural land), with a smaller area of Subgrade 3a land (good quality agricultural land) and Subgrade 3b land (moderate quality agricultural land) to the south of the Site.
- 13.41 The detailed fieldwork undertaken for this study has confirmed the presence of the grades identified by the post-1988 ALC survey. The detailed fieldwork has mapped the land quality on the Site as 77.1% Grade 2 and 8.9% Subgrade 3a, due to the limitations imposed on crop growth by soil wetness and workability or by disturbance which has increased the stone content or sealed the ground below a restored topsoil. Potentially disturbed areas are mainly included in the area mapped as Grade 2 as there was insufficient evidence to down grade the land, due to the dry field conditions at the time of the survey. Although no land was graded as Grade 1, Subgrade 3b or Grade 4, isolated profiles occur which could fall into these grades.
- 13.42 The distribution of ALC grades from the detailed fieldwork is shown in Figure 13.1 and summarised below in Table 13.4. Further information on the grading of the land quality of the Site is provided in Appendix 13.1.

Table 13.4: ALC Measurement

ALC Grade	Total Area (ha)	Agricultural Land Area (ha)	% of Total Area
Grade 1 (excellent quality)	-	-	
Grade 2 (very good quality)	66.78	66.78	77.1
Subgrade 3a (good quality)	7.69	7.69	8.9
Subgrade 3b (moderate quality)	-	-	-
Grade 4 (poor quality)	-	-	-
Grade 5 (very poor quality)	-	-	-
Other land	12.16	-	14.0
Total	86.63	74.47	100.0

Future Baseline

- 13.43 The ALC grading considers the long-term potential of the land so land quality is unlikely to alter significantly over time.

Likely Significant Effects

Construction Phase

The construction phase of the Development would result in the loss of agricultural land, which would therefore be lost throughout the operational phase of the Development. Construction works could also result in damage to retained soils and soil reuse.

Soil Resource

- 13.44 In terms of soil resource, the construction of the Development would involve soil stripping, temporary stockpiling and reuse of soil. Use of heavy plant and vehicles and handling and storage could result in compaction of soils. These activities could result in damage to soil structure and soil organism activity if these activities are not managed carefully, which could impact on the reuse of soils and their ecosystem function.

Quantity of Agricultural Land Take

- 13.45 The Development would result in the loss of approximately 74.47ha of BMV agricultural land, comprising 66.78ha of Grade 2 and 7.69ha of Subgrade 3a agricultural land.
- 13.46 Not all of this land would be built on, some of the land would comprise gardens, landscaping, recreational and public open space so would theoretically be available for agriculture in the future. The Development includes for up to 5.52ha of buffer planting, 0.98ha of allotments, 8.25ha of amenity green space, 1.84ha of natural and semi-natural green spaces, 4.33ha of parks and gardens, 2.8ha of flood attenuation and 3.23ha of formal sports area. Although the soils in these areas would still retain some of their ecosystem services, as none of the land would be retained for commercial agriculture, it is all considered as lost agricultural land for the purpose of this assessment. As the land is unlikely to be returned to agricultural use in the foreseeable future, the loss of agricultural land is considered to be a direct and permanent impact.

Loss of Agricultural Productivity

- 13.47 Based on 66.78ha of Grade 2 and 7.69ha of Subgrade 3a agricultural land, the agricultural productivity of the Site is estimated to be approximately £53,853 per annum using figures taken from the *Soil and Agricultural Land Assessment Study*^{xvi} (see Appendix 13.2 for further information). The Development would therefore result in the loss of approximately £53,853 of agricultural productivity per annum. However, gross margins vary each year and based on the application of gross margins in 2019 for the main cereal crops of Wheat, Winter Barley, Spring Barley and Oats, the loss of productivity at the Site is estimated to be approximately £57,431 per annum.

Significance of the Loss of Agricultural Land

- 13.48 The significance of the loss of agricultural land is considered below in Table 13.5 in relation to the ALC grade and the amount of land to be lost.

Table 13.5: Loss of Agricultural Land

Receptor	Sensitivity	Amount of Agricultural Land Lost	Magnitude	Significance
Grade 2	High	66.78	Major	Major adverse
Grade 3a	Moderate	7.69	Minor	Minor adverse

- 13.49 National and local policy seeks to conserve BMV agricultural land and steer development to brownfield or areas of lower agricultural quality. The Development would result in the loss of 74.47ha of BMV, comprising mainly Grade 2 agricultural land of high sensitivity, which is considered to be of major magnitude and major adverse significance. Significant effects are therefore predicted due to the loss of high-quality agricultural land.
- 13.50 However, the loss of agricultural land needs to be considered in the context of the district. As noted in the Local Plan^{vii} and the ADC soils assessment^{xvi}, the district has a high proportion of BMV land in comparison to the national average. Excluding the Site, the SA^{ix} assigned significant negative effects for the loss of BMV land to eight of the eleven strategic residential sites assessed in the SA, which illustrates the limited availability of land of lower agricultural quality within the district. Although the loss of BMV land at the Site was taken into account in the SA, the Site was still considered to be a preferred site for development when other factors are taken into account, as evidenced by it being an allocated site through both the Local Plan and emerging Neighbourhood Plan. In addition, the Site has been in non-agricultural use in the past and subject to historical disturbance. In areas of historic disturbance, the soils were often more stony and contained blocks of concrete and brick or

clinker fragments.

Operational Phase

- 13.51 As the agricultural land take occurs during the construction phase, no additional impacts are predicted during the operational phase.

Mitigation Measures

Construction Phase

- 13.52 It is not possible to mitigate the loss of agricultural land apart from reducing the scale of the Development or locating the Development in areas of poorer quality agricultural land. Reducing the scale of the Development would have implications for the requirement to meet the housing need, particularly as the Site is allocated in the Local Plan. As the district has a high proportion of BMV land, there are limited areas of poorer quality agricultural land available for development.
- 13.53 Although the land would be permanently lost to agriculture, the excavated soils can be preserved for use in the allotments and gardens of the new houses to provide a greater depth of soil or to landscape other parts of the Development. In line with recommendations in the Arun Local Plan, any surplus soils could be exported off site for use on sites where soils are in short supply, or for a Productive Green Environment within the district's Green Infrastructure Network, with appropriate planning permission and permits.
- 13.54 As recommended by the Government Soil Strategyⁱ, soils would be managed during the construction phase to reduce damage. Soils would be managed in accordance with a Soil Resource Plan, based on the guidance provided in Defra's *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites*ⁱⁱ. The Soil Resource Plan provides a soil handling strategy, taking into account the soil types on Site, which outlines the procedure for soil stripping, stockpiling methods, soil placement and minimising compaction, in order to maintain the quality of soil (see Appendix 13.1). Care should be taken to avoid the unnecessary compaction of soils in areas retained for green space and landscaping.
- 13.55 In addition, up to 0.98ha of the Site would include for a community allotment. This will allow some of the good quality soils to be used on site for a Productive Green Environment, which would provide a local food source and have a community benefit.

Operational Phase

- 13.56 As no additional impacts are predicted during the operational phase, no mitigation is proposed.

Residual Effects

Construction Phase

- 13.57 The proposed mitigation aims to maintain the quality of retained and excavated soils through best practice soil handling methods and techniques. The proposed community allotment allows for some of the good quality soils to be put to productive use, providing for a community benefit. However, as it is not possible to mitigate the loss of agricultural land, the significance of the impact of the Development on the agricultural soil resource remains of major adverse significance.

Operational Phase

- 13.58 There are no additional residual effects during the operational phase.

Cumulative Effects

Construction Phase

- 13.59 A desk study has been carried out of the cumulative agricultural land take due to major schemes within 2km of the Site. The full list of schemes considered within the cumulative assessment and individual land take figures are provided in Appendix 13.3. Information on the cumulative schemes have been obtained from a review of information submitted with the planning application for each scheme. The cumulative agricultural land take is estimated to be approximately 136.66ha as shown in Table 13.6.

Table 13.6: Cumulative Loss of Agricultural Land

ALC Grade	Site Land Take (ha)	Cumulative Sites Land Take (ha)	Total Land Take (ha)	Magnitude	Significance
Grade 1 (high sensitivity)	-	19.70	19.70	Minor	Moderate adverse
Grade 2 (high sensitivity)	66.78	37.39	104.17	Major	Major adverse
Subgrade 3a (moderate sensitivity)	7.69	5.10	12.79	Minor	Minor adverse

Subgrade 3b (low sensitivity)	-	-	-	-	-
Grade 4 (low sensitivity)	-	-	-	-	-
Grade 5 (low sensitivity)	-	-	-	-	-
Total	74.47	62.19	136.66		

- 13.60 The cumulative loss of over 50ha of Grade 2 agricultural land is of major magnitude and major adverse significance. The loss of less than 20ha of Grade 1 agricultural land is of minor magnitude and moderate adverse significance, however it should be noted that the development at Ford Airfield does not result in any loss of Grade 1 land and therefore does not add to the cumulative loss of Grade 1 land. The loss of less than 20ha of Grade 3a land is of minor magnitude and minor adverse significance. Combined, the development of the cumulative schemes would result in approximately 136.66ha of BMV agricultural land being lost, which is primarily due to the prevalence of BMV land within the district. Significant effects are therefore predicted due to the cumulative loss of high-quality agricultural land.
- 13.61 However it should be noted that two of the schemes (Ref: Y/91/17/OUT and Y/92/17/OUT) considered within the cumulative assessment are on land allocated for strategic housing development and the loss of BMV land has been assessed and accepted within the SA^{ix}.

Operational Phase

- 13.62 As the agricultural land take occurs during the construction phase, no additional impacts are predicted during the operational phase.

Summary

- 13.63 An agricultural impact assessment has been undertaken to assess the likely significant effects of the Development on agricultural land. The agricultural impact assessment has been based on an Agricultural Land Classification survey carried out in line with the publication *Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*.
- 13.64 The Agricultural Land Classification survey classed the land as 77.1% Grade 2 land, which is very good quality agricultural land, and 8.9% Subgrade 3a land, which is good quality agricultural land. Grade 2 and Subgrade 3a are considered to be Best and Most Versatile agricultural land, which is protected in national policy. There was however evidence of historic disturbance in some areas, with soils being often more stony and containing blocks of concrete and brick or clinker fragments.

- 13.65 The construction phase of the Development would result in the loss of 74.47ha of Best and Most Versatile agricultural land, comprising 66.78ha of Grade 2 and 7.69ha of Subgrade 3a agricultural land, which would be lost throughout the operational phase of the Development. The loss of Grade 2 agricultural land of high sensitivity, is considered to be of major magnitude and major adverse significance. Significant effects are therefore predicted due to the loss of high-quality agricultural land. However, the loss of agricultural land needs to be considered in the context of the district, which has a high proportion of Best and Most Versatile land, with lower availability of lower quality agricultural land. As an allocated site, within the Arun Local Plan, the Site has been through a Sustainability Appraisal, which has also considered land quality.
- 13.66 While it is not possible to mitigate the loss of agricultural land, the excavated soils can be preserved for use in the gardens of the new residential dwellings to provide a greater depth of soil or to landscape other parts of the Development. Construction activities could damage soil structure, nutrient content and soil organism activity, which could impact on the reuse of soils. As recommended by the Soil Strategy, soils would be managed during the construction phase to reduce damage in accordance with a Soil Resource Plan. In addition, up to 0.98ha of the Site would include for a community allotment. This allows some of the good quality soils to be used on site for a Productive Green Environment, which would provide a local food source and have a community benefit.
- 13.67 The cumulative impact assessment identified that there would be significant cumulative effects due to the loss of Best and Most Versatile agricultural land, which reflects the high proportion of high-quality land within the district.
- 13.68 Table 13.7 contains a summary of the likely significant effects of the Development.

Table 13.7: Table of Significance – Agricultural Land

Potential Effect	Nature of Effect (Permanent/Temporary)	Significance (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)
				I	UK	E	R	C	D	L	
Construction											
Loss of Grade 2 agricultural land	Permanent	Major adverse	Management of soils during construction, inclusion of community allotment						*		Major adverse
Loss of Subgrade 3a agricultural land	Permanent	Minor adverse							*		Minor adverse
Assessment of Completed Development											
No additional land take											
Cumulative Effects											
Construction											
Loss of Grade 1	Permanent	Moderate adverse	-						*		Moderate adverse
Loss of Grade 2	Permanent	Major adverse	-						*		Major adverse
Loss of Grade 3a	Permanent	Minor adverse	-						*		Minor adverse
Operation											
No additional land take											

*** Geographical Level of Importance**

I = International; UK = United Kingdom; E = England; R = Regional; C = County; D = District; L = Local

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