

# Southampton to London Pipeline Project

## Volume 6

Environmental Statement (Volume B)  
Chapter 12: Land Use

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## 12 Land Use

### 12.1 Introduction

12.1.1 This chapter considers the potential impacts on land use as a result of the construction and operational phases of the project.

12.1.2 Land use aspects considered in this assessment comprise:

- Residential property including associated buildings such as garages and sheds and residential land such as gardens and parking areas. This also includes areas owned by property developers.
- Community facilities which are commercial or public authority managed facilities for use by the community e.g. schools, hospitals, sports facilities, places of worship and community centres.
- Community land which includes established public recreational resources such as footpaths, playgrounds, parks, woodlands and country parks.
- Commercial property such as utilities, golf courses, equestrian centres and business parks.
- Agricultural land used for the cultivation of crops or rearing livestock to produce food products. Farm woodlands and land used for equestrian grazing is also included in this category.
- Other land use such as unregistered roads and tracks, adopted roads, road verges, agricultural tracks and streams/ditches.
- Development land which includes land allocations through the Local Planning Authority's Local Plans and extant planning applications and permissions.

12.1.3 The principal potential impacts on land use arising from the project are the demolition of any buildings, permanent and temporary land-take, permanent and temporary severance of land, disruption to land management practices, and disruption to land subject to land management agreements.

#### Legislative and Policy Background

12.1.4 Chapter 2 Regulatory and Policy Context sets out the overarching policy relevant to the project including the Overarching National Policy Statement for Energy (EN-1). EN-1 contains the following paragraphs relating to land use which have been considered within this chapter:

- Paragraph 5.10.5 states that '*The ES [Environmental Statement] should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan*'.
- Paragraph 5.10.8 states that '*Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and*



*3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination’.*

- 12.1.5 In addition, Appendix 2.1 Environmental Legislation and Policy includes legislation and national policy relevant to land use. Appendix 2.2 Regional and Local Planning Policy provides a review of local planning policies considered during the preparation of the ES including those relevant to land use.

## **12.2 Approach and Methods**

- 12.2.1 This section describes the methods used to establish the baseline and the approach used to consider and assess the significance of potential effects on land use.
- 12.2.2 There is no pipeline-specific guidance available for assessing and evaluating effects on land use within the context of an Environmental Impact Assessment, therefore the assessment is adapted from guidance presented in the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 6 Land Use (Highways Agency, 2001). DMRB has been used as the premise for the assessment approach as it provides guidance for the assessment of impacts on land use for linear infrastructure projects. The DMRB guidance has been used to develop an approach and methods relevant to assessing the potential and residual impacts of this project.
- 12.2.3 The assessment of effects on land use can cover a wide range of primary uses and, in keeping with DMRB guidance, the following topics have been used for assessing and evaluating effects on land use:
- demolition of private property (residential, commercial, industrial and other) and associated land-take;
  - effects on land used by the community;
  - effects on development land; and
  - effects on agricultural land, including land subject to land management agreements.
- 12.2.4 It should be noted that where roads are within the Order Limits, this has been included in the assessment as Other Land.

### **Scope of Assessment**

- 12.2.5 The scope of the land use assessment has been informed by the Scoping Opinion, provided by the Planning Inspectorate (2018) on behalf of the Secretary of State, following the submission of the Scoping Report (Esso, 2018).
- 12.2.6 Table 12.1 summarises the scope of the assessment for land use. This table includes the references (for example ID 4.6.1) to the relevant paragraph response from the Planning Inspectorate in the Scoping Opinion. The boxes shaded in grey



are the matters that have been scoped out of the assessment following the feedback from the Planning Inspectorate.

- 12.2.7 There are no significant effects expected during the operational phase of the project. Therefore, operation has been scoped out of the assessment as set out in the Scoping Report (Esso, 2018).

**Table 12.1: Matters Scoped In and Out of the Assessment (Grey Shading Indicates Matters Scoped Out Following Feedback from the Planning Inspectorate)**

Receptor	Matter / Potential Effect	Conclusion in the Scoping Report (July 2018)	Comments from the Planning Inspectorate in the Scoping Opinion (September 2018)
Residential property	Demolition of a separate ancillary structure such as a garage or shed	Scoped in	Scoped in
	Temporary loss of gardens and / or parking areas	Scoped in	Scoped in
	Temporary loss of access and boundary features	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the Environmental Statement (ES). Scoped in
Community land and facilities	Demolition of associated facilities	Scoped in	Scoped in
	Temporary loss of community land	Scoped in	Scoped in
	Temporary loss of access and boundary features	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in
Commercial property and land	Demolition of associated facilities	Scoped in	Scoped in
	Temporary loss of community land	Scoped in	Scoped in
	Temporary loss of access and boundary features	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in
Waste	Capacity within waste facilities	Scoped out	(ID 4.6.2) The Inspectorate agrees that there are unlikely to be significant effects and that this matter can be scoped out of the ES. <b>Scoped out</b>
Agricultural land	Demolition of agricultural buildings such as barn or cattle shed	Scoped in	Scoped in
	Temporary loss of agricultural land	Scoped in	Scoped in
	Temporary loss of access and boundary features	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in



Receptor	Matter / Potential Effect	Conclusion in the Scoping Report (July 2018)	Comments from the Planning Inspectorate in the Scoping Opinion (September 2018)
	Disruption to livestock water supply	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in
	Disruption to field drainage system	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in
	Disruption to any land management agreement	Scoped in	Scoped in
	Temporary severance of agricultural fields, limiting land use and access for machinery	Scoped in	Scoped in
Development land	Temporary loss of development land	Scoped in	Scoped in
	Temporary loss of access and boundary features	Scoped out	(ID 4.6.1) In the absence of detailed mitigation measures, the Inspectorate does not agree that this matter can be scoped out of the ES. Scoped in
	Future sterilisation of land allocations	Scoped out	(ID 4.6.3) The Inspectorate agrees that impacts resulting from the future sterilisation of land allocations are unlikely to generate significant environmental effects. <b>Scoped out</b>
All	Effects from pipeline operation	Scoped out	No comment from the Planning Inspectorate <b>Scoped out</b>

### Study Area

- 12.2.8 The study area comprises the land plots intersected by the Order Limits and extending to the known land plot limits of each Person with Interest in Lands (PIL) holding. The potential impacts on land use are not anticipated to extend beyond this.
- 12.2.9 For the purposes of this assessment, the route and Order Limits are broken down into eight separate sections, further details can be found in Chapter 3 Project Description:
- Section A – Boorley Green to Bramdean;
  - Section B – Bramdean to South of Alton;
  - Section C – South of Alton to Crondall;
  - Section D – Crondall to Farnborough;
  - Section E – Farnborough to Bisley and Pirbright Ranges;
  - Section F – Bisley and Pirbright Ranges to M25;
  - Section G – M25 to M3; and



- Section H – M3 to the West London Terminal storage facility.

### **Baseline Conditions**

- 12.2.10 The approach used to establish the baseline conditions has included a desk-based assessment of land use type. This was supported by information obtained on land use collected and collated from the Person with Interest in Land Questionnaire (PILQ) and walkover surveys of the land within the Order Limits.

#### Desk-based Assessment

- 12.2.11 An initial desktop study was undertaken to identify the existing land use and committed development within the study area. The following resources were used:
- Ordnance Survey (OS) mapping;
  - Aerial photography;
  - Jacobs' Geographical Information Systems (GIS) database;
  - Information provided by the project's Land Agent in relation to land ownership and land use type;
  - Online searches for community facilities and commercial property;
  - Environmental Stewardship and Energy Crop Scheme data published by Natural England (2017 and 2018a);
  - Woodland Grant Scheme data published by Forestry Commission (2018);
  - Agricultural Land Classification (ALC) data published by Natural England (2013);
  - Department of Environment, Food and Rural Affairs (Defra) (2018) Agricultural Statistical Data; and
  - Local Planning Authorities' websites for the adopted local plan containing major housing allocations; and website search in December 2018 for current committed development.

#### Engagement Relevant to the Assessment

- 12.2.12 PILQs were issued to every entity identified through land registry for registered titles within the potential corridors. As options were dropped over time, the relevant PILQs were not taken forward or developed. Where returned, these provided land registry information and land use type to inform the baseline information in this chapter.

### **Limitations of Assessment**

- 12.2.13 Some PILQs were not returned or completed fully. In these instances, a desk-based assessment was undertaken using other resources such as walkover surveys where accessible, aerial imagery and online searches to assess the primary land use type and support the assessment. The assessment was completed in January 2019 and the assessment of land use was assessed as accurately and robustly as possible. However, it is possible that the land use may have changed since the PILQs were received or following completion of this assessment in some locations. However, it this is unlikely to affect the overall conclusions of the assessment.





12.2.14 Temporary land-take that would be required during installation is provided for every land plot identified within the Order Limits, as detailed in Appendix 12.1 Land Use Baseline Conditions, and the percentage land-take by land interest is also reported. This calculation is based on the total area of land plots identified as being associated with the land interest affected by the Order Limits. Although the PIL may own additional land (e.g. adjoining land plots not affected by the Order Limits), the percentage lost is limited to the landownership that lies within the Order Limits. Consequently, this follows a precautionary approach as the calculated percentage land-take may be an over-estimation versus the total land held by a single PIL in some cases.

### **Impact Significance**

12.2.15 Impacts reported in this ES are adverse unless otherwise stated and are considered 'likely significant effects' in the context of the EIA Regulations when of moderate significance or above.

12.2.16 As explained in Chapter 6 (Overview of Assessment Process), significance is determined using a three-step process:

- 1) Identify value/sensitivity of a receptor.
- 2) Determine magnitude of potential impact.
- 3) Assign impact significance.

### Value/Sensitivity

12.2.17 Professional judgement has been used to consider the range of sensitivity characteristics found during the baseline data collection process and a sensitivity rating was assigned accordingly. Sensitivity criteria have been developed and refined from that contained in the Scoping Report (Esso, 2018) and are based on the baseline information within the study area. For example, physical structures have been assigned a high sensitivity and the land surrounding these structures, a medium sensitivity. Likewise, agricultural land of the best and most versatile grade has been assigned a high sensitivity and land with moderate agricultural capability assigned a medium sensitivity.

12.2.18 For each land use type, an overall sensitivity is assigned using the criteria outlined in Table 12.2. In some instances, a land use type may include criteria across multiple levels of sensitivity, therefore professional judgement has been used to assign an overall sensitivity for each land use type.

**Table 12.2: Value/Sensitivity Criteria for Land Use (Based on Professional Judgement)**

<b>Sensitivity/ Value</b>	<b>Criteria</b>
High	<ul style="list-style-type: none"> <li>• Residential property (permanent buildings);</li> <li>• Community facilities;</li> <li>• Commercial property;</li> <li>• Best and most versatile agricultural land (Grades 1,2 and 3a) supporting agricultural systems of high intensity; and</li> <li>• Organic Entry Level Stewardship, Higher Level Stewardship Scheme or Higher Tier Countryside Stewardship Scheme land management agreements.</li> </ul>



Sensitivity/ Value	Criteria
Medium	<ul style="list-style-type: none"> <li>Residential land (e.g. garden);</li> <li>Community land that is designated for a specific use (e.g. playgrounds, parks, playing fields);</li> <li>Commercial land;</li> <li>Moderate quality agricultural land (Grade 3b) supporting agricultural systems of moderate intensity; and</li> <li>Entry Level Stewardship or Mid-Tier Countryside Stewardship Scheme land management agreements.</li> </ul>
Low	<ul style="list-style-type: none"> <li>Land owned by residential housing developers;</li> <li>Community land that is undesignated such as an area of recreational land owned by the local planning authority;</li> <li>Land owned/occupied by utility companies; and</li> <li>Low quality agricultural land (Grades 4 and 5) supporting agricultural systems of low intensity.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>Derelict or unoccupied buildings and land.</li> </ul>

### Impact Magnitude

12.2.19 The magnitude was determined based on two aspects:

- duration - the magnitude is likely to be lower where land is temporarily taken out of its existing use than where the land is permanently taken; and
- extent of land-take - the temporary acquisition or permanent loss of land for pipeline installation and operation would have an impact on land use.

12.2.20 Table 12.3 provides the magnitude criteria for land use which have been developed and refined from that contained in the Scoping Report (Esso, 2018) using professional judgement and based on land-take and duration (temporary or permanent) by any land use, by a PIL or by land use type.

**Table 12.3: Impact Magnitude Criteria for Land Use (Based on Professional Judgement)**

Magnitude	Description
Large	<ul style="list-style-type: none"> <li>Demolition of permanent building(s).</li> <li>Permanent land-take of &gt;15%.</li> <li>Permanent loss of boundary features and access.</li> <li>Temporary land-take of &gt;25%.</li> <li>Permanent impact on single or multiple land management agreements.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>Permanent land-take of 5% to 15%.</li> <li>Temporary land-take of 15 to 25%.</li> <li>Temporary disruption of boundary features and access.</li> <li>Temporary impact on multiple land management agreements.</li> </ul>
Small	<ul style="list-style-type: none"> <li>Permanent land-take of &lt;5%.</li> <li>Temporary land-take of 5% to 15%.</li> <li>Temporary disruption of boundary features or access.</li> <li>Temporary impact on a single land management agreement.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>Temporary land-take of &lt;5%.</li> <li>No disruption of boundary features or access.</li> </ul>



Magnitude	Description
	<ul style="list-style-type: none"> <li>No impact on land management agreements.</li> </ul>

Likely Future Business Viability

- 12.2.21 As potential environmental impacts relating to land-take are scoped in for commercial property (including land) and agricultural land, the assessment also includes commentary on the likely future viability of businesses/facilities where they are assessed to be significantly affected by the project.
- 12.2.22 A qualitative assessment of potential temporary impacts on the likely future viability of businesses and therefore, the impact on future land use, was undertaken using the following criteria, developed by using professional judgement:
- No significant impact: the businesses/facilities would be affected by the project, including land-take, which may result in a reduction or restructuring of their activities, but this does not compromise the likely future viability of the businesses/facilities nor the future land use.
  - Significant beneficial impact: the businesses/facilities would likely be able to continue trading and develop as planned. The project may make a beneficial contribution to future development of the businesses/facilities.
  - Significant adverse impact: the businesses/facilities may have to reduce their activities to a point where they become unviable and there is a risk of change in land use, they require to be relocated, or they choose to cease trading due to the project.
- 12.2.23 Qualitative assessment of likely future viability has been based on professional judgement, with any impacts on likely future business viability, and associated change in future land use, assigned to one of the three categories listed in paragraph 12.2.22. It should be noted that this is not an economic assessment of business viability and does not provide more detailed analysis of the scale of impact on likely future business viability.
- 12.2.24 In the event of land-take from residential, commercial or agricultural land, the potential provision for payment of financial compensation for land-take, severance, injurious affection and disturbance would be available. Compensation would be addressed through arrangements with individual landowners and is not considered as part of the environmental assessment.

Impact Significance

- 12.2.25 Baseline information on each land plot within the study area was aggregated to assign each land use type an overall sensitivity. Likewise, the potential impacts on each land plot were aggregated to assign each land use type an overall magnitude.
- 12.2.26 Impact significance was determined taking both these assessments into account, using the significance matrix provided in Figure 6.1 in Chapter 6 Overview of the Assessment Process.

## 12.3 Baseline Conditions

### Residential Property and Land

- 12.3.1 The Order Limits pass through the urban areas of Farnborough, Frimley and Ashford. They also border several settlements including Bishop's Waltham, Alton, Fleet, Lightwater, Addlestone and Chertsey.
- 12.3.2 The study area (Order Limits and the extents of the intersected land plots) includes the curtilage of 120 residential properties, of which most are located within Section E which includes the settlements of Farnborough and Frimley. A travellers' caravan site is also located within the study area located in Section G (Figure 12.1).
- 12.3.3 There also several areas of land owned by property developers within the study area that include amenity land, road and road verges within residential developments. These are predominantly located within the Boorley Green area (Section A), and Sections D to H.

### Community Land and Facilities

- 12.3.4 Community land and facilities are located along the full length of the project, predominantly within Sections D to H. Community land located within the study area (Order Limits and the extents of the intersected land plots) includes formal and informal recreational land such as Suitable Alternative Natural Greenspaces (SANGs), Queen Elizabeth Park, Chobham Common, Fordbridge Park, sports pitches and local equipped areas of play. Several community facilities are also located within the study area such as educational facilities, community centres and places of worship. These are summarised in Table 12.4.

**Table 12.4: Community Land and Facilities in the Study Area per Section**

Community Type	Sections								Total
	A	B	C	D	E	F	G	H	
Recreational land (informal use)	-	1	-	2	10	3	7	3	<b>26</b>
Recreational land (formal use)	-	-	1	5	3	4	1	2	<b>16</b>
Community centre	-	-	-	1	1	-	-	1	<b>3</b>
Educational facility	-	-	-	-	1	2	2	3	<b>8</b>
Place of worship	-	-	-	-	-	-	1	-	<b>1</b>
Prison	-	-	-	-	-	-	-	1	<b>1</b>
<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>15</b>	<b>9</b>	<b>11</b>	<b>10</b>	<b>55</b>

### Commercial Property and Land

- 12.3.5 The majority of commercial properties and land within the study area (Order Limits and the extents of the intersected land plots) are located within Section H. There are a limited number of commercial properties and land in the sections in the southern extents of the project, as this is predominantly agricultural land use. The

Order Limits intersect a range of commercial property and land which mainly comprises:

- utilities (e.g. areas of land owned by utility companies that are used for pumping stations and valves);
- industrial business (e.g. manufacturing businesses);
- commercially run sports grounds/centres (including sports clubs and race tracks); and
- golf courses.

12.3.6 These are summarised in Table 12.5.

**Table 12.5: Commercial Property and Land in the Study Area per Section**

Commercial Type	Sections								Total
	A	B	C	D	E	F	G	H	
Commercial business	-	-	-	-	-	-	2		2
Industrial business	-	1	1	-	1	-	-	3	6
Business/technology/ retail park	-	-	-	2	-	-	-	-	2
Car garage	1	-	-	-	1	-	-	-	2
Fishery	-	-	-	-	1	-	-	-	1
Quarry	-	-	-	-	-	-	-	1	1
Golf course	-	1	-	1	1	1	1	-	5
Livery/equestrian centre	-	-	-	-	-	2	-	-	2
Plant nursery	1	-	-	1	-	2	-	-	4
Utility	4	1	3	-	2	-	2	6	18
Sports ground/centre	-	-	-	1	1	2	3	2	9
Shop/shopping centre	-	-	-	-	1	-	-	-	1
Unoccupied	-	-	-	1	-	-	1	2	4
Rail	-	1	1	-	1	-	1	1	5
Forestry	-	-	-	-	1	-	-	-	1
Commercial development	-	-	-	2	-	-	-	-	2
Construction site	-	-	-	-	-	1	-	-	1
Charity	-	-	-	-	1	-	-	-	1
<b>Total</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>15</b>	<b>67</b>

### Agricultural Land

12.3.7 Available ALC of England and Wales published data (2013) were used to indicate the land grade along the route of the project. This classification system gives an indication of the capability of the land to grow types of crops and grass. Land is classified into five main classes: Grade 1 is excellent quality agricultural land; Grade 2 is very good quality agricultural land; Grade 3 is good to moderate quality agricultural land; Grade 4 is poor quality agricultural land; and Grade 5 is very poor quality agricultural land. Grade 1, Grade 2 and Grade 3a land is referred to as Best

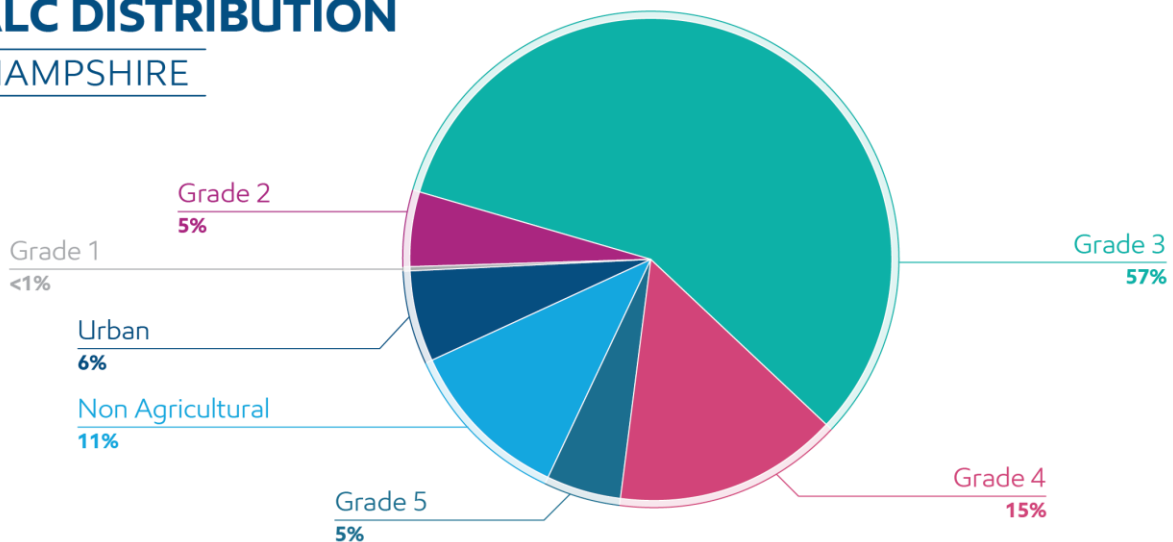
and Most Versatile (BMV) land. Chapter 11 Soils and Geology provides further information and an assessment on the subdivision of Grade 3.

- 12.3.8 Within Sections A, B and C (Boorley Green to Crondall), the majority of the study area is agricultural land, specifically ALC Grade 3 land. BMV land is present near Boorley Green and Chawton.
- 12.3.9 Within Sections D to H the study area is located mainly within urban and non-agricultural land, but does include some agricultural areas.
- 12.3.10 The Order Limits are located almost wholly within Hampshire and Surrey. The predominant grade of land in Hampshire and Surrey is Grade 3. The distribution of ALC within both counties is shown on Illustration 12.1 and Illustration 12.2.

**Illustration 12.1: Hampshire ALC Distribution**

## ALC DISTRIBUTION

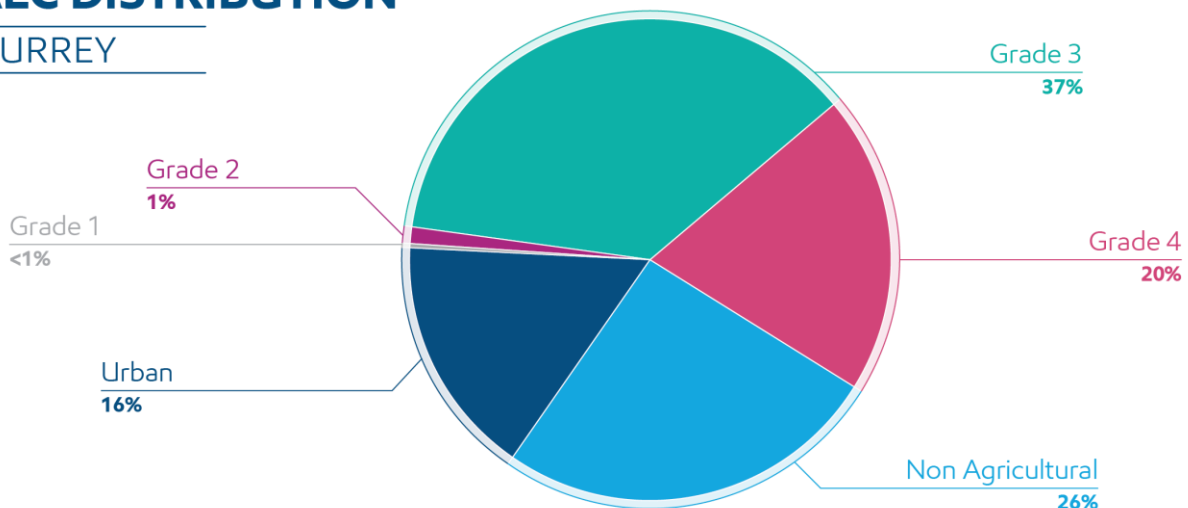
### HAMPSHIRE



**Illustration 12.2: Surrey ALC Distribution**

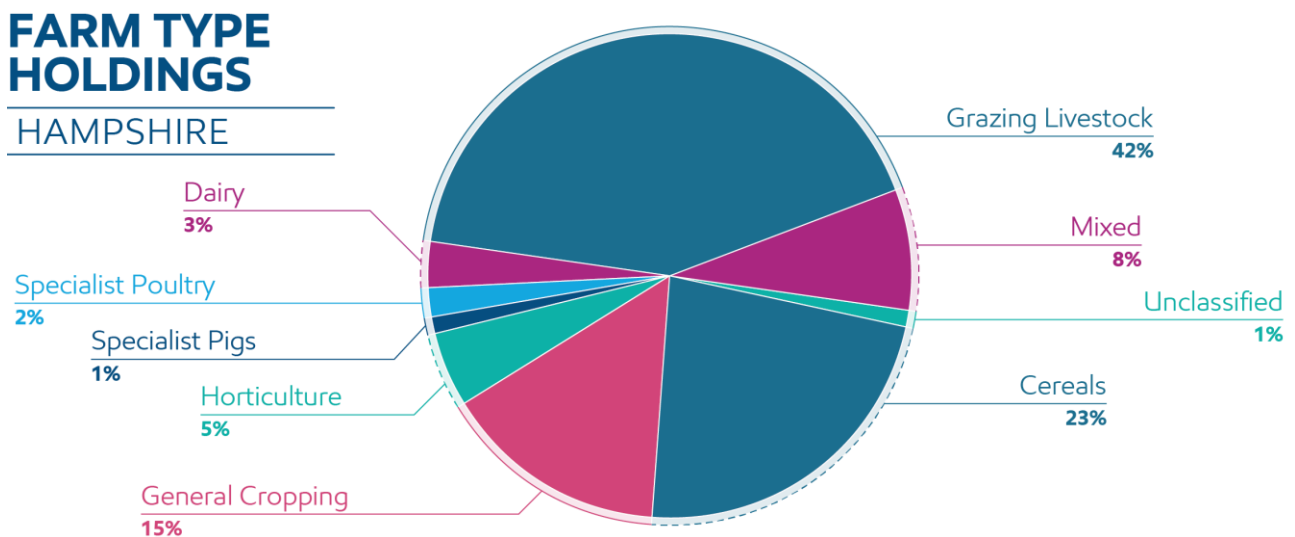
## ALC DISTRIBUTION

### SURREY

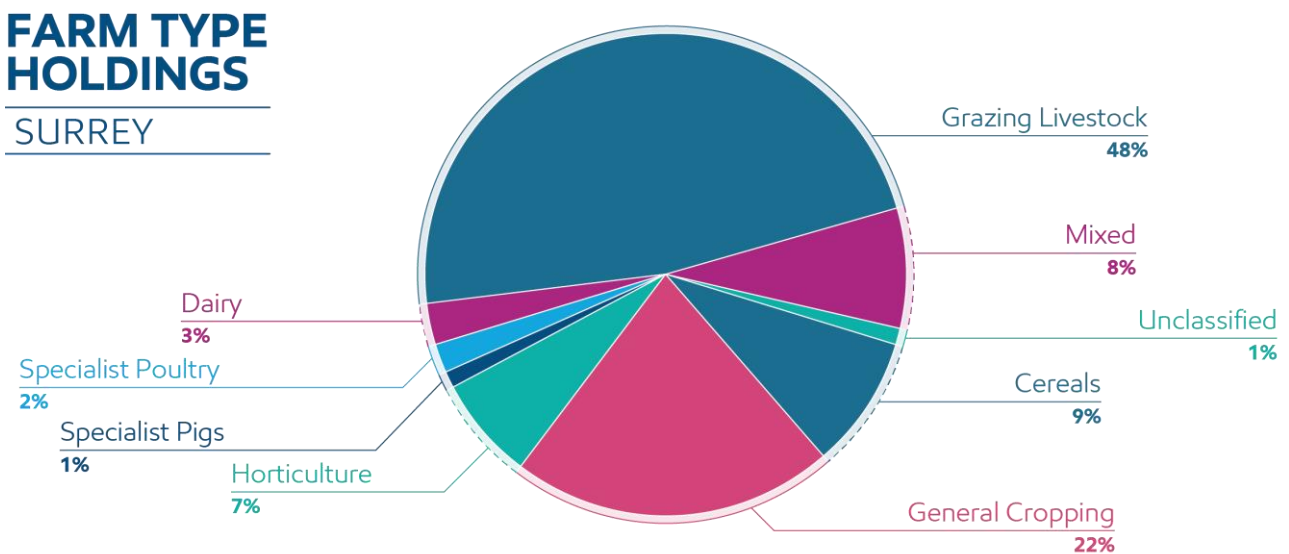


12.3.11 Within both Hampshire and Surrey, the most common farm size is 5-20ha (around a third of farms) out of a total 2,153 holdings in Hampshire and 938 in Surrey. Lowland grazing livestock is the main farm type within both counties, followed by cereals and general cropping. The distribution of all farm types is shown in Illustrations 12.3 and 12.4. Within both counties approximately half of the farms support arable farming systems and half support livestock farming systems. This is reflective of the ALC distribution shown in Illustrations 12.1 and 12.2 with cereals, general cropping and horticulture farms concentrated on predominantly BMV land, and grazing livestock on predominantly non-BMV Grade 3 and Grade 4 land. The predominant ALC grades within Hampshire and Surrey are ALC Grades 3 and 4, which are capable of supporting cereals and lowland grazing livestock.

**Illustration 12.3: Hampshire Farm Type by Number of Holdings**



**Illustration 12.4: Surrey Farm Type by Number of Holdings**



12.3.12 The majority of grazing livestock holdings comprise commercial sheep flocks and cattle herds producing lamb and beef. Both counties also support a large variety of



poultry farm types, mostly egg-laying flock (43%) in Surrey and broilers producing chicken meat (69%) in Hampshire. The most popular arable crops within Surrey and Hampshire include cereals (mainly wheat), oilseed rape and maize.

- 12.3.13 Collectively, 113 agricultural land interests have been identified within the study area. Sections A, B and C have a predominance of arable farm types with interspersed grazing livestock farm types. There is a predominance of grazing livestock farm types in Sections D-H where agricultural land is present.
- 12.3.14 Collectively, 30 agricultural land interests have been identified within the study area as having Common Agricultural Policy (CAP) funded land management agreements administered by Defra and Natural England. These agreements include land managed under the Environmental Stewardship scheme, Countryside Stewardship scheme and Woodland Grant Scheme (Natural England, 2018b). No energy crop schemes have been identified within the study area. Further information is provided in Appendix 12.1 Land Use Baseline Conditions, detailing which holding is subject to a land management agreement and under which scheme.
- 12.3.15 The Entry Level Stewardship and Entry Level plus Higher Level Stewardship schemes (options within the Environmental Stewardship scheme), are the most common land management agreements within the area. They are all within Hampshire, mostly in the South Downs and Hampshire Downs areas.
- 12.3.16 One farm (located near Upper Froyle) has an Organic Entry Level land management scheme (it is also subject to land management agreement under the Higher Level Stewardship scheme).

### **Development Land**

- 12.3.17 Relevant development land was identified using the same methodology outlined in Chapter 15 Cumulative Effects and as shown on Figure 15.1. For the purposes of this assessment, the shortlist of 'other developments' used within the Cumulative Effects Assessment was reviewed and the areas of development land located within the study area were selected.
- 12.3.18 At December 2018 one major development and seven major planning applications are located within the study area (Order Limits and extents of intersected land plots). Further information is provided in Appendix 12.1 Land Use Baseline Conditions, detailing the description of each development.

### **Future Baseline**

- 12.3.19 Whilst there will inevitably be some development taking place within the study area, there are unlikely to be significant changes to the baseline land use across most of the land use types in the future. However, agriculture will likely see its farming subsidy regime change on the UK's proposed exit of the EU. Whilst future land management priorities and support regimes are still being developed, they will likely see the introduction of the Environmental Land Management scheme more targeted at rewarding land managers that protect the environment than the current support regimes. This, when introduced, may increase land subject to environmental land management agreements.





## 12.4 Design Measures

- 12.4.1 All commitments are listed within the Register of Environmental Actions and Commitments (REAC), which is included within Chapter 16 Environmental Management and Mitigation. Commitments include embedded design measures, good practice measures and mitigation required to reduce a significant effect.
- 12.4.2 Chapter 4 Design Evolution provides a summary of the environmental considerations that have influenced the design through this process, with iterative updates and improvements to reach the fixed design submitted for development consent. The embedded design measures have been built into the designs, for example, through the amendment to the Order Limits to avoid a sensitive feature. Examples relevant to this chapter include, how the project has been designed to avoid settlements where practicable, to reduce the risk of disruption to property and land. The project will not require the demolition of any houses. However, the removal of a separate ancillary structure such as a garage or shed may be required for construction.
- 12.4.3 As set out in Chapter 3 Project Description, pre-installation and post installation activities would be phased. Open cut trenching would be used for the majority of the route although trenchless installation would be used to avoid certain obstructions.
- 12.4.4 This chapter contains a number of project commitments to reduce impacts on the environment. These are indicated by a reference number like this (G20). Good practice measures are set out in the REAC and secured through Development Consent Order requirements such as the Code of Construction Practice (CoCP).
- 12.4.5 The good practice measures that are most relevant to land use are listed in Table 12.6. These are applicable to all areas unless stated otherwise. The following assessment is based on these good practice measures being in place.

**Table 12.6: Good Practice Commitments Within the REAC**

Ref	Commitment Description
G11	Runoff across the site would be controlled by the use of a variety of methods including header drains, buffer zones around watercourses, on-site ditches, silt traps and bunding.
G13	Protection of earthworks and soil would be managed by methods such as covering, seeding or using water suppression where appropriate.
G29	Topsoil would be returned to its final location at the earliest suitable time of year.
G44	The project would be run in compliance with all relevant legislation, consents and permits.
G79	Pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period. Vehicle access would be maintained where practicable. This may require signed diversions. The means of access would be communicated to affected parties at least two weeks in advance.
G80	Where field to field access points would require alteration as a result of construction, alternative field access would be provided in consultation with the land owner/occupier. Recessed field access from local roads would be reinstated where agreed with the landowner.
G82	Drainage surveys would be undertaken prior to construction.
G83	Interference of sporting (comprising hunting, shooting and fishing) activities would be kept to a minimum having regards to the need to maintain a safe working environment for both contractors and users of the land and water. This would include, where necessary, temporary cessation of sporting activities.



Ref	Commitment Description
G84	Existing water supplies for livestock would be identified pre-construction. Where supplies would be lost, or access compromised by construction works, temporary alternative supplies would be provided. Water supplies would be re-instated following construction.
G85	<p>Working areas would be appropriately fenced. The choice of fencing would be decided following a risk assessment, relevant to the work location. Specific areas such as compounds may require additional security measures such as lighting, security guards or CCTV.</p> <p>For some locations the fence used may also serve to provide acoustic and visual screening of the work sites and reduce the potential for disturbance of users in the surrounding areas.</p> <p>Provision of additional fencing on a site by site basis may be used to reduce the potential for impacts on wildlife and trees. Fencing would be regularly inspected and maintained and removed as part of the demobilisation unless otherwise specified.</p>
G87	Vegetation clearance, retention, protection and replanting/reinstatement drawings would be produced prior to the construction phase. The contractor(s) would implement these plans including agreed mitigation where practicable.
G88	Where possible, reinstatement of vegetation would generally be using the same or similar species to that removed (subject to restrictions for planting over and around pipeline easements).
G89	Appropriate techniques would be used for the removal, storage and transplantation of any vegetation which is to be reused, relocated or transplanted.
G91	The contractor(s) would retain vegetation where practicable and in accordance with, as a minimum, the vegetation retention drawings.
G93	Hedgerows, fences and walls would be reinstated to a similar style and quality to those that were removed, with landowner agreement.
G94	Land used temporarily would be reinstated to an appropriate condition relevant to its previous use.
G116	An Erosion and Sediment Control Plan would be produced by the contractor(s) prior to the start of the construction phase.
G148	Where identified in the Soil Management Plan, a suitably experienced person (SEP) would be employed to oversee the management of soil during soil stripping, handling, storage and reinstatement.
G150	<p>The contractor(s) would produce a Soil Management Plan. In developing the plan, the contractor would take note of the principles within the guidance "Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Department for Environment, Food and Rural Affairs, 2009)", and "Good Practice Guide for Handling Soils (Ministry of Agriculture, Fisheries and Food, 2000)". The Soil Management Plan would include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• specification of maximum storage periods, angles and heights of soil stockpiles;</li> <li>• reference to published soil types;</li> <li>• specification for where a soils watching brief may be required;</li> <li>• controls on use of construction machinery in areas where soils have not been stripped; and</li> <li>• specification of the role of the Suitably Experienced Person (SEP).</li> </ul>
G151	<p>A methodology would be produced for stripping, handling, storage and replacement of all soils to reduce risks associated with soil degradation. This would include:</p> <ul style="list-style-type: none"> <li>• identification of appropriate plant to strip, reinstate and otherwise handle soils;</li> <li>• methods for compaction and grading of stockpiles;</li> <li>• methods for working in naturally wet soils; and</li> <li>• specification of appropriate decompaction measures to be used during reinstatement.</li> </ul>



Ref	Commitment Description
G154	Where topsoil stripping is required, the normal working practice (where not otherwise specified within a methodology document) would be to strip full depth of topsoil (where present) from: <ul style="list-style-type: none"> <li>• construction compounds and logistics hubs;</li> <li>• access roads;</li> <li>• across the working width; and</li> <li>• any other areas to be trafficked.</li> </ul> The topsoil would be reinstated above the subsoil.
G155	Topsoils and subsoils intended for reinstatement would be temporarily stockpiled as close to where they were stripped from as practicable.
G157	Appropriate techniques would be used when necessary to provide protection for subsoils from compaction and smearing in areas subject to heavy trafficking. The specific protection measures and their required locations would be set out in the appointed contractor's methodology document and agreed between the contractor(s) and overseeing Suitably Experienced Person (SEP) prior to construction commencing.
G158	Stripping and reinstatement of topsoils would only be handled when in a reasonably dry state.
G159	Different soil types and made ground would be stripped and stored separately where applicable.

## 12.5 Potential Impacts (Without Mitigation)

- 12.5.1 This section sets out the potential significant effects of the project on land use. It assumes that the relevant embedded design measures and the good practice measures (set out in Table 12.6) are in place before assessing the effects.
- 12.5.2 As set out in Section 12.2, there are no likely significant effects on land use during operation and this has been scoped out of the assessment and is not discussed further in this chapter.

### Construction

- 12.5.3 Chapter 3 Project Description provides a description of the project including construction method and programme. The proposed construction schedule is presented in Appendix 3.2 with advance works/mobilisation in Autumn 2020 and operation in spring 2023. However, the installation works in any given area would be substantially shorter duration.
- 12.5.4 Where the main method of construction is open cut, the average rate of pipeline laying is assumed to be 450m per week for trench excavation, pipe installation and backfilling of trenches. Prior to this the contractor(s) would fence the site, strip topsoil and undertake any other pre-installation set up. At this rate of work, a 1km stretch of pipeline could be installed and covered in just over two weeks. The fencing, topsoil stripping and drainage would be completed prior to this time and could take up to three to four weeks for a 1km stretch. Works would not necessarily commence directly after topsoil had been stripped. Replacement of topsoil and replanting of vegetation would take place at a seasonally suitable time after the works had been completed.
- 12.5.5 Where a different methodology is assumed, for example trenchless crossings, narrow working or street working, the average rate of pipeline installation would take longer. Further details are provided in Chapter 3 Project Description.



12.5.6 The Order Limits would include an estimated 426.57ha of land subject to temporary land-take. This is broken down by land use in Table 12.7 and shown on Figure 12.1. Appendix 12.1 Land Use Baseline Conditions provides a breakdown of temporary land-take by receptor.

**Table 12.7: Temporary Land-take by Land Use Within the Order Limits**

Land Use	Temporary Land-Take	
	ha	%
Residential property and land	7.77	2
Community land and facilities	76.38	18
Commercial property and land	81.54	19
Agricultural land	248.44	58
Other land	12.44	3
<b>Total</b>	<b>426.57</b>	

12.5.7 Of the above temporary land-take arising from the project, 12.44ha of other land has been identified where the land has not met one of the land use categories. Only land-take values in relation to other land are reported above and magnitude and residual significance is not attributed.

12.5.8 Of the 426.57ha of temporary land-take, 2.57ha (<1%) is allocated as development land. The location of these sites is illustrated on Figure 15.1 (ES Chapter 15 Cumulative Effects).

12.5.9 The potential effects and magnitude are considered in the context of each land use and reported in the relevant sections of this chapter.

Residential Property and Land

12.5.10 The project will not require the demolition of any houses. However, a small number of single storey garages would need to be removed at Stakes Lane to the west of Farnborough Station to facilitate installation of the replacement pipeline. It is also possible that removal of garden sheds/greenhouses may be required.

12.5.11 There are 120 areas of residential land and one caravan travellers' site that intersect the Order Limits.

12.5.12 As the proportion of residential property (permanent buildings) directly affected by the project is proportionately smaller in comparison to the residential land directly affected (amenity woodland, gardens, parking areas and land owned by property developers), an overall medium sensitivity is assigned for residential property and land.

12.5.13 Temporary land-take (totalling approximately 7.77ha) within the Order Limits equates to 7% of the total area of residential property and land identified within the study area. Short-term potential effects arising from this temporary land-take would include temporary disruption to access to residential properties, caravan travellers' site, and land and boundary features during construction of the project. Whilst the land-take equates to 7% of the aggregate area, at a land interest level the proportion of land-take can be much higher as detailed in Appendix 12.1. 58% of land interests



temporarily affected would fall within the negligible to small magnitude criteria (refer to Table 12.3) and 42% in the medium to large magnitude criteria. Whilst the proportion of land-take would be important to the land interest, when considering the magnitude of impact on this land use in EIA terms it is appropriate to consider it at an aggregate level.

- 12.5.14 Due to the requirement for demolition of a small number of garages, the proportion of land-take required and the temporary disruption to residential land use, overall a small magnitude is assigned. The assessment has concluded that there would be no significant potential effects on residential property and land during construction.

#### Community Land and Facilities

- 12.5.15 There are no expected demolitions associated with community land and facilities, however temporary outbuildings would be dismantled and then reinstated or replaced, where required.
- 12.5.16 There are 42 areas of community land and 13 community facilities that are intersected by the Order Limits.
- 12.5.17 Community land, such as informal recreational land which is undesignated, has an overall low sensitivity assigned to it.
- 12.5.18 Temporary land-take (totalling approximately 76.28ha) within the Order Limits equates to 5% of the total area of community land and facilities within the study area. Short-term potential effects arising from this temporary land-take would include disruption to access to community facilities and land and boundary features are likely to be disturbed. In the case of Queen Elizabeth Park and Fordbridge Park Play Area, this would also result in the temporary disruption to play area facilities (refer to Chapter 13 People and Communities). Whilst the land-take equates to 5% of the aggregate area, at a land interest level the proportion of land-take can be much higher as detailed in Appendix 12.1. 58% of land interests temporarily affected would fall within the negligible to small magnitude criteria (refer to Table 12.3) and 42% in the medium to large magnitude criteria. Whilst the proportion of land-take would be important to the land interest, when considering the magnitude of impact on this land use in EIA terms it is appropriate to consider it at this aggregate level. Due to the proportion of land-take and temporary disruption on community land and facilities, overall a small magnitude is assigned. The assessment has concluded that there would be no significant potential effects on residential community land and facilities during construction.
- 12.5.19 Although there are no significant effects on community land at an aggregated level in the EIA, a separate study has been undertaken to understand the potential reinstatement that would be required at specific open space locations, which is included within the Planning Statement (**application document 7.1**).

#### Commercial Property and Land

- 12.5.20 There are no expected demolitions associated with commercial property and land, however temporary outbuildings would be dismantled and then reinstated or replaced, where required.



- 12.5.21 There are 67 areas of commercial land intersected by the Order Limits.
- 12.5.22 The study area includes commercial land such as golf courses and commercial sports grounds. Overall, a medium sensitivity is assigned for this land use.
- 12.5.23 Temporary land-take (totalling approximately 81.54ha) within the Order Limits equates to 6% of the total area of commercial property and land within the study area. Short-term potential effects arising from the temporary land-take would include disruption to access to commercial property; and land and boundary features are likely to be disturbed. Potential and residual impacts on commercial businesses are assessed in Chapter 13 (People and Communities). Whilst the land-take equates to 6% of the aggregate area, at a land interest level the proportion of land-take can be much higher as detailed in Appendix 12.1. 56% of land interests temporarily affected would fall within the negligible to small magnitude criteria (refer to Table 12.3) and 44% in the medium to large magnitude criteria. Whilst the proportion of land-take would be important to the land-interest, when considering the magnitude of impact on this land use in EIA terms it is appropriate to consider it at this aggregate level.
- 12.5.24 Due to the proportion of land-take and temporary disruption to commercial land, a small magnitude is assigned. The assessment has concluded that there would be no significant potential effects on commercial property and land during construction.

#### Agricultural Land

- 12.5.25 There are no expected demolitions associated with agricultural land, however temporary outbuildings would be dismantled and then reinstated or replaced, where required.
- 12.5.26 There are 113 agricultural land interests intersected by the Order Limits. Table 12.8 shows the temporary land-take broken down by ALC grade. The predominant ALC grade within the Order Limits is ALC Grade 3. Proportionately, in comparison to land within Hampshire and Surrey (refer to Figures 12.1 and 12.2), the land-take within the Order Limits affects proportionately more land of ALC Grade 1 and 2. Overall, land within the Order Limits is assigned a medium sensitivity.

**Table 12.8: Temporary Land-take by ALC Grade Within the Order Limits**

Sensitivity Criteria	Temporary land-take by ALC Grade (ha)	Temporary land-take by ALC Grade (%)
ALC Grade 1 and 2: High sensitivity	67.79	27
ALC Grade 3: Medium sensitivity	161.34	65
ALC Grade 4 and 5: Low sensitivity	8.15	3
Non-agricultural: Negligible sensitivity	11.16	5
<b>TOTAL</b>	<b>248.44</b>	<b>100%</b>

- 12.5.27 The temporary land-take of 248.44ha of agricultural land equates to 4% of the study area, this being the land plots intersected by the Order Limits and extending to the known land plot limits. Whilst the land-take equates to 4% of the aggregate area, at a land interest level the proportion of land-take can be much higher as detailed in Appendix 12.1. 73% of land interests temporarily affected would fall within the



negligible to small magnitude criteria (refer to Table 12.3) and 27% in the medium to large magnitude criteria. Whilst the proportion of land-take would be important to the land-interest, when considering the magnitude of impact on this land use in EIA terms it is appropriate to consider it at this aggregate level.

- 12.5.28 Short-term potential effects would also include disruption to farming practices such as temporary disturbance to access on agricultural land and temporary loss of field boundary features during installation. Livestock water supplies in agricultural fields that are within the working width may also be severed or disrupted, along with field drainage systems during installation. Temporary severance of agricultural fields may also result in use of the land being limited.
- 12.5.29 Using professional judgement to balance this distribution of magnitude of change for the project as a whole, and for individual land interests, and also considering the impacts on boundary features, access and on Land Management Agreements, a small magnitude is assigned in terms of temporary land-take of agricultural land.
- 12.5.30 The construction of the project would affect the Land Management Agreements within the study area. There are 30 agricultural land interests that are affected by the project that currently have single or multiple Land Management Agreement(s) to maintain set features on the agricultural land. Disruption to these agreements may compromise the environmental gains which the agreements are designed to achieve.
- 12.5.31 Following completion of construction, all areas subject to land management agreements that have been disturbed would be reinstated, wherever possible, to their former condition in accordance with the DCO requirements.
- 12.5.32 Given that the land-take within the study area comprises predominantly ALC Grade 3 land, overall a medium sensitivity is assigned for this land use.
- 12.5.33 Using professional judgement to balance the magnitude of change in relation to temporary land-take, temporary disruption to boundary features and access, and temporary disruption to Land Management Agreements, a small magnitude of change is assigned. The assessment has concluded that there would be no significant potential impacts on agricultural land during construction.

#### Development Land

- 12.5.34 As of December 2018 there is one development and six planning applications affected by temporary land-take (totalling approximately 2.57ha) as a result of the project. This equates to 1% of the total area of development land within the study area.
- 12.5.35 Given that the majority of the development land relates to development of commercial property, a high sensitivity is assigned for this land use.
- 12.5.36 Due to the proportion of temporary land-take and approximate construction duration on development land, a small magnitude of change is assigned. The assessment has concluded that there would be no significant potential effects on development land during construction.



### Summary of Potential Effects (Without ES Mitigation)

- 12.5.37 There are no significant effects expected on land use during operation as operational effects relate only to the permanent loss of a small area of land for infrastructure such as the proposed pigging station and valves. Operational effects have therefore been scoped out (as documented in Table 12.1).
- 12.5.38 Table 12.9 summarises the potential effects of the project prior to the identification of ES mitigation during construction. This concludes that there are no significant effects expected as a result of the project.
- 12.5.39 Where the project results in temporary land-take, landowners would be compensated as part of the agreed grant of land rights for the project. Further details of the extent of compensation is outside the remit of the EIA process. As such, and as noted in paragraph 12.2.24, any potential compensation payments were not considered mitigation.
- 12.5.40 As there are no significant impacts anticipated during construction on commercial land and property and on agricultural land, it is assessed that there would be no significant adverse impacts on likely future business viability.

**Table 12.9: Summary of Potential Effects (Without ES Mitigation)**

Matter	Sensitivity	Potential Effect (Without ES Mitigation)	Magnitude	Residual Significance
Residential Property and Land	Medium	Demolition of garages. Temporary land-take of 7.77ha. Temporary change in access and disruption to boundary features.	Small	Minor
Community Land and Facilities	Low	Temporary land-take of 76.38ha. Temporary disruption to access and boundary features.	Small	Negligible
Commercial Property and Land	Medium	Temporary land-take of 81.54ha. Temporary disruption to access and boundary features.	Small	Minor
Agricultural Land	Medium	Temporary land-take of 248.44ha. Temporary disruption to farming practices including loss of boundary features, disturbance to field drainage and change in access. Temporary disruption to land management agreements.	Small	Minor
Development Land	High	Temporary land-take of 2.57ha.	Small	Minor

## 12.6 Mitigation

- 12.6.1 There are no significant effects expected on land use, therefore no mitigation measures have been identified.





## **12.7 Residual Impacts (With Mitigation)**

- 12.7.1 The assessment has concluded that there are no significant residual effects on land use during construction or operation.

## **12.8 References**

- Department of Environment, Food and Rural Affairs (2018). *Structure of the agricultural industry in England and the UK at June*. UK Government, London UK.
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