

6 LAND USE AND AGRICULTURE

6.1 Introduction

6.1.1 This chapter reports on the predicted effects of the Scheme on land use including agriculture, development land and property.

6.2 Methodology

6.2.1 This section outlines the method used to assess the potential impacts of the Scheme on agricultural land use and describes the criteria used to assess the significance of the resulting effects. The method is consistent with the guidelines given in DMRB Volume 11.

Agricultural Land and Soils

6.2.2 The assessment of land and soils focuses on the quality of agricultural land in the Study Area as a resource, and considers “*the likely consequences of land-take for UK agriculture*” (DMRB, Volume 11, Section 3, Part 6, Paragraph 10.2). The methodology follows the guidance in DMRB and builds upon the strategic information published in the Agricultural Land Classification (ALC) maps prepared by the former Ministry of Agriculture, Fisheries and Food in the late 1960s and 1970s.

6.2.3 An assessment of the quality of agricultural land in the scheme corridor was undertaken in 2003 and details of this survey are included in Volume 2, Chapter 6. The criteria set out in Table 6.1 below have been used to assess the significance of the effects of the Scheme upon the agricultural land resource. They reflect the guidance in DMRB and in Planning Policy Statement 7 (*PPS7: Sustainable Development in Rural Area*). The impact of the Scheme on lower quality land (i.e. Subgrade 3b and Grades 4 and 5), whilst of relevance, is not to be given much weight in terms of the impact on the national agricultural resource. The criteria below have been developed in consultation with the Department for Environment, Food and Rural Affairs (DEFRA), which accepts that they are appropriate for the assessment of highway development schemes.

Table 6.1 Criteria for Assessing the Significance of Effect of the Scheme on the National Agricultural Resource

Significance	Criteria
Large Adverse	The proposed scheme would directly lead to the loss of over 50 hectares of the best and most versatile agricultural land.
Moderate Adverse	The proposed scheme would directly lead to the loss of between 20 and 50 hectares of the best and most versatile agricultural land.
Slight Adverse	The proposed scheme would directly lead to the loss of less than 20 hectares of best and most versatile agricultural land, or more than 20 hectares of lower quality agricultural land.
Neutral	No permanent effect on agricultural land.
Slight Beneficial	The proposed scheme would result in the net restoration, or enhancement to best and most versatile quality, of up to 20 hectares of agricultural land.
Moderate Beneficial	The proposed scheme would result in the net restoration, or enhancement to best and most versatile quality, of 20 to 50 hectares of agricultural land.
Large Beneficial	The proposed scheme would result in the net restoration, or enhancement to best and most versatile quality, of over 50 hectares of agricultural land.
Note: ‘best and most versatile agricultural land’ = Grades 1, 2 and 3a	

Farm Viability

- 6.2.4 The present-day status of viability for the farms that would be affected has been calculated and an assessment made as to how the Scheme might affect that viability, as suggested in DMRB Section 3, Part 6, Paragraph 10.16. A number of interviews have been undertaken with the occupiers of affected farms during 2003 and 2004 to establish the physical characteristics of those farms, their general level of viability, and how the present road network affects farm operations, in terms of boundaries, access and severance. In order to assess the effect of this Scheme on those farming the land the criteria set out in Table 6.2 have been used. Unlike the issue of land quality, there are no definitions in land use planning policy that describe what level of impacts on farming businesses are likely to be significant in the national interest. The criteria that have been developed reflect advice given in DMRB and have been developed in discussion with DEFRA.

Table 6.2 Criteria for Assessing the Significance of the Effect of the Scheme on Farm Viability

Significance	Criteria
Large Adverse	The impact of the Scheme would be likely to render the whole farm non-viable.
Moderate Adverse	The viability of the farm holding should not be threatened but significant changes in the day to day management may be required.
Slight Adverse	The viability of the farm holding is not threatened. Minor changes would be required to the enterprise and the type and range of enterprises is unaffected.
Neutral	The impact would be insignificant in relation to Net Farm Income and no alteration to the farming system would be needed to absorb the physical impact.
Beneficial	The potential viability of the farm holding could be enhanced by, for example, an increase in the area of land farmed, a reduction in severance, or the removal of traffic from access routes.

6.3 Baseline Conditions

Land Quality

- 6.3.1 A survey has been undertaken to determine the quality of the agricultural land that would be affected by the Scheme, along with a determination of the key components of the soil resource.
- 6.3.2 The extent and distribution of the land affected has been classified according to the Agricultural Land Classification (ALC) and is shown on Figure 6.0. Details of topsoil and subsoil types are shown on Figures 6.1 and 6.2 respectively.
- 6.3.3 There is no Grade 1 land within the Study Area. The majority of the agricultural land surveyed is of lower quality in subgrade 3b, Grade 4 and Grade 5. Approximately 40% of the land surveyed is classified as 'best and most versatile land' in subgrade 3a; a small percentage is Grade 2.

Farm Holdings

- 6.3.4 In terms of agricultural utility, the land that would be affected is generally of reasonable quality and should be capable of a range of cropping options (though possibly unsuited to soft-fruit production or for growing potatoes). However, at present the majority of the land is utilised with grass with many fields rented to third-

party graziers of either beef cattle and sheep, or horses. Figure 6.3 identifies the land holdings in the vicinity of the Scheme.

6.3.5 Some 21 holdings that include some agricultural land are located along the route of the Scheme. Table 6.3 summarises the area of each, the principal use of the land, and an assessment of whether the unit constitutes a viable agricultural business. Descriptions of each of these units are presented in Volume 2, Chapter 6, Appendix 2.

Table 6.3 Present Occupiers: Land Holding Size and Main Enterprise.

Nos. on Figure 6.3	Approximate Holding Size (ha)	Main Enterprise(s)/Land use	Presently viable as a stand-alone agricultural business?
1,2,3	93.0	Dairy, Arable	Yes
4	<100.0	Organic dairy, arable	Yes
5	24.3	Sheep, Turkeys	No
6	4.9	Horticultural Nursery	Yes
7	1.3	No information available	n/a
8,9	2.4	Let for Horse grazing	No
10	n/a	Non-agricultural holding	No
11	0.5	Non-agricultural holding	No
12	4.2	Horse grazing	No
13	3.3	Information still awaited	No
14	4.6	Horse grazing	No
15	0.5	Let for Stock grazing	No
16	12.1	Let for Horse grazing	No
17	3.4	Let for Stock grazing	No
18	2.4	Let for Stock grazing	No
19	6.7	Let for Stock grazing	No
20	2.0	Let for Stock grazing	No
21	81.0	Sheep, Beef	Yes
22, 23	0.8	Non-agricultural holding	No
24	<50	Beef and sheep	Yes
101	--	Non-agricultural	--
102	--	Non-agricultural	--
22(East)	--	Non-agricultural	--
25	160	Dairy and beef	Yes

6.4 Mitigation Strategy

6.4.1 The design of the Scheme has sought to minimise the effect on land take and no agricultural land would be left unmanaged after the opening of the Scheme. Where land is intended to be restored to agricultural land the methods used in that restoration would reflect the end use intended for the land. The majority would be restored with a soil profile suitable for the creation of land of subgrade 3a quality.

6.4.2 Mitigation measures included in the Scheme are principally related to the provision or re-alignment of agricultural accesses, in order to reduce the impact of the Scheme upon those farming the land. These are described in more detail in Volume 2.

6.5 Construction Impacts

Impact on Land

6.5.1 The principal agricultural resource is the land and the key agricultural land use consideration is to minimise the loss of best and most versatile agricultural land (Grades 1, 2 and 3a). As far as the permanent effect on agricultural land is concerned, the areas of the various grades that would be affected by the Scheme would be:

Table 6.4: Quality of Agricultural Land Affected

	<i>Total area affected (ha)</i>	<i>Area returned to agriculture (ha)</i>	<i>Permanent loss of agricultural land (ha)</i>
<i>Grade 1</i>	-	-	-
<i>Grade 2</i>	2.17	-	2.17
<i>Subgrade 3a</i>	15.50	1.62	13.88
<i>Subgrade 3b</i>	14.03	0.76	13.27
<i>Grade 4</i>	5.48	0.04	5.44
<i>Grade 5</i>	-	-	-
<i>Non-agricultural</i>	3.69	-	3.69
<i>Unclassified</i>	3.77	1.21	2.56
Total area ⁽¹⁾	44.64	3.63	41.01
Note 1: Excluding urban land east of the mainline railway and north of Aller Junction			
Note 2: Excluding strip of land between branch line railway and the existing A380 south of Stadium Drive (refer Chapter 9 (9.6.54))			

6.5.2 In terms of its permanent effects on agricultural land resources, the loss of 16.05 ha (see table above) of higher-quality land in Grade 2 (2.17ha) subgrade 3a (13.88 ha) is considered to be a **Slight adverse** effect.

Impact on Farm Holdings - Permanent

6.5.3 The impact of the Scheme on farm holdings is assessed primarily on the long-term effect arising from the construction of the Scheme. Although most impacts are usually capable of mitigation via statutory financial compensation, the impact on farm holdings can have the effect of rendering land incapable of fulfilling its present functions, which is the principal criterion for assessing the significance of the effect.

6.5.4 Full details of the impacts arising on the various holdings are provided in Volume 2. Overall, it has been determined that no currently viable farms would be rendered unviable by the proposed construction albeit the profitability of the farms affected would be reduced. Table 6.5 sets out the impact of the Scheme on the agricultural holdings affected.

Table 6.5: Land Holdings Affected

Nos. on Figure 6.3	Total Area farmed (ha)	Presently viable?	Total area lost (ha)	Percentage permanently lost	Impact on viable holdings
1	} 93.0	Yes	0.64	} 9.0	Slight Adverse
2			1.02		
3			6.79		
4	<100.0	Yes	9.96 ⁽¹⁾	>10.0	Neutral
5	24.3	No	1.33	5.5	Slight Adverse
6	4.9	Yes	0.82	16.7	Slight Adverse
7	1.3	No	0.69	53.1	Neutral
8, 9	2.4	No	0.62	25.8	Neutral
10	n/a	No	0.86	n/a	Neutral
11	0.5	No	0.22	44.0	Neutral
12	4.2	No	0.91	21.7	Neutral
13	3.3	No	0.88	26.7	Neutral
14	4.6	No	0.66	14.3	Neutral
15	0.5	No	0.23	46.0	Neutral
16	12.1	No	4.01	33.1	Neutral
17	3.4	No	0.11	3.2	Neutral
18	2.4	No	0.24	10.0	Neutral
19	6.8	No	2.92	43.6	Neutral
20	2.0	No	1.30	65.0	Neutral
21	<50.0	Yes	0.68	>1.4	Neutral
22, 23	1.1	No	1.06	100	Neutral
24	<50.0	Yes	4.11	>8.2	Neutral
25	160	Yes	0.87	0.5	Slight Adverse
101	Non-ag	--	0.39	--	--
102	Non-ag	--	0.13	--	--
22(East)	Non-ag	--	0.005	--	--

Note: Plot 4 extends to 11.97ha and is rented from DCC. Following the construction of the Scheme the remaining agricultural land (2.01ha) would be used primarily for nature conservation with occasional light grazing undertaken.

6.5.5 Although financial accounts have not been made available for any of the farms, it is considered that none of the farms that are presently assessed as viable (Nos. 1, 4, 6, 21, 24 and 25) would be rendered non-viable by the construction and operation of the Scheme. Although the percentage of land lost in most cases exceeds 5% in the majority of cases the land affected is not owner-occupied but is rented under short-term grazing agreements. Such land cannot be guaranteed in successive years and thus the viability of the holding cannot be considered reliant upon the availability of this land. Any loss of such rented land to the construction of the Scheme must be considered of less relative importance to the viability of the farming business than would be the case if the land were owner-occupied.

6.5.6 In the case of Holding No 1 (the most seriously affected unit) this farm would lose 8.33ha of the land farmed (9%). However, the majority of the land that would be lost is rented from Holding No.3 and lies some distance from the milking parlour. In

consequence, the land available for grazing the dairy cows would not be materially affected and the existing enterprise should be capable of continued production. Overall the permanent effect of the Scheme would be Minor Adverse with the long-term viability of the farm not being threatened. Some changes would be required in terms of simple day-to-day management of the unit.

- 6.5.7 The other holdings that are affected are all presently assessed as non-viable agricultural units (under their current form of management). The construction of the Scheme, whilst likely to reduce the potential profitability of these units due to a reduction in land area, would not compromise the long-term prospects of any viable agricultural business - the test set out in the DMRB.

Impact on Farm Holdings - Temporary

- 6.5.8 In addition to the permanent loss of land, there would be potential temporary land effects arising from construction activities. In all cases the loss of income from this land would be compensated under the provisions of statutory compensation.

- 6.5.9 In the event of a failure to protect agricultural soils within areas of temporary usage, there is a potential for a permanent or long-term loss of land quality in the event of its return to agricultural use. However, all soil stripping and restoration would be undertaken in accordance with the procedures set out in The Code of Good Agricultural Practice for the Protection of Soils, MAFF (1998)¹ and the Good Practice Guide for Handling Soils, MAFF, 2000².

- 6.5.10 The construction compounds, areas for soil storage bunds and settling ponds could lead to potential short and medium-term effects on those farming alongside. Physical intrusion beyond the construction boundary could result in crop losses and potential harm to animals, whilst soil storage areas could, if managed inappropriately, become covered in weeds. However, appropriate control measures, good site practice and liaison between construction contractors and the local farming community would all be undertaken to ensure that potential problems are minimised.

- 6.5.11 Construction can generate pollution that has an adverse impact on the local agricultural community. Standard dust suppression techniques would be employed. The assessment of issues related to air quality is set out in Chapter 13.

- 6.5.12 Certain agricultural operations, such as silage making and grain harvest, are heavily constrained by timeliness and require an uninterrupted flow of activity. Unrestricted access to fields can be crucial at many times of the year and this would be maintained as far as practicably possible. This would be achieved through regular liaison between the contractors and the landowners.

6.6 Operational Impacts

- 6.6.1 In the long-term, and following the successful completion of the construction of the road and the restoration of such land to agriculture as identified in the Masterplan, all the viable agricultural businesses should be capable of continued agricultural production - subject to external market forces. None of the farms that are assessed as viable in 2004 would be forced to close as a result of the use of the road.

- 6.6.2 In terms of operational impact it is not considered that the Scheme would result in any additional adverse agricultural impacts.

- 6.6.3 The one significant benefit that all farms would experience following the construction of the Scheme would be the removal of traffic from the local road network. The removal of this traffic would result in savings in journey times when moving

¹ The Code of Good Agricultural Practice for the Protection of Soils, MAFF, 1998

² Good Practice Guide for Handling Soils, MAFF, 2000.

agricultural machinery on the public highway and would assist in the management of many agricultural operations, such as grass and grain harvesting. These effects have been taken into account in the assessment of holdings.

6.7 Development Land and Demolition of Private Property and Associated Land Take

Development Land

6.7.1 A total of 0.135 ha of land zoned for employment development in the Torbay Plan would be required for the Scheme. The land is required for an access track but the land take is not considered material since, with the agreement of the developer, an alternative access could be gained from the internal roads within the future development. There is no affect on the viability of the development.

Demolition of Private Property and Associated Land Take

6.7.2 Eleven properties would be demolished for the construction of the Scheme. Nine of the properties are owned by Devon County Council, of which seven are unoccupied and are boarded up. The owners of the two properties not owned by the authority would be compensated in the land purchase procedures. The properties to be demolished are shown on Figures 6.4a and 6.4b. In addition a further 0.21 ha of private gardens are required.

6.8 Conclusions

Impact on Land and Soil

6.8.1 The construction of the Scheme would result in the permanent loss of 41.01ha of agricultural land, of which 16.05ha are classified as best and most versatile land in subgrade 3a and Grade 2. The loss of the area of “best and most versatile” agricultural land is assessed as a **Slight adverse** effect.

Impacts on Farm Holdings

6.8.2 Although financial accounts have not been made available for any of the farms, it is considered that none of the farms that are presently assessed as viable (Nos. 1, 2, 3, 4, 6, 21, 24 and 25) would be rendered non-viable by either the construction or operation of the Scheme. The overall effect would be **Slight adverse** on 5 holdings and **Neutral** on the other 3 holdings.

6.8.3 Holding No 1 (which includes Nos.2 and 3) would be most seriously affected with the loss of 9% of the total area farmed (though less than 1% of the land that is owner-occupied). However, although the loss of 9% of the land farmed would require some changes to day-to-day management, the residual unit (extending to over 90ha, and fully equipped as a dairy farm) would still be of sufficient size and layout to continue in milk production.

6.8.4 The other holdings that are affected are all presently assessed as non-viable agricultural units (under their current form of management). The construction of the Scheme, whilst likely to reduce the potential profitability of these units due to a reduction in land area, would not compromise the long-term prospects of any viable agricultural business - the test set out in the DMRB.

6.8.5 The effect on property and development land would be **Slight adverse**.

ⁱ *The Code of Good Agricultural Practice for the Protection of Soils, MAFF, 1998*

ⁱⁱ *Good Practice Guide for Handling Soils, MAFF, 2000.*