

## 8 AGRICULTURAL LAND USES

### 8.1 INTRODUCTION

The impacts that the proposed M28 Road Project may have on agriculture are a function of the following factors:-

- Area of lands acquired (temporary and permanent) for the construction, operation and maintenance;
- The length of time until lands temporarily acquired for construction return to, or exceed post-construction production levels;
- Area and orientation of lands severed;
- Farm enterprises; and
- Intensity of farming practices.

### 8.2 ASSESSMENT METHODOLOGY

The following publications and documents were considered in undertaking this assessment:-

- Revised Guidelines on the Information to be Contained in Environmental Impact Statements (Draft), EPA, September 2015;
- Guidelines on the Information to be Contained in Environmental Impact Statements, EPA, 2002;
- Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads, March 2003 (revised 2005);
- EPA/ Teagasc/ GSI GIS Map of National Soil Types, 2006;
- Census of Agriculture 2010, final results;
- Environmental Impact Assessment of National Road Schemes – A Practical Guide, November 2008; and
- Aerial Photography.

Desktop surveys, field surveys, public consultation and discussions with landowners<sup>1</sup> were carried out to assess the potential impact on agriculture in the area. The surveys and discussions assessed a number of factors including:-

- The current agricultural practice taking place on the lands in and around the proposed M28 Road Project;
- Concerns and issues landowners may have; and
- Level of management currently practiced.

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<sup>1</sup> All agricultural landowners affected by the scheme were met by the Project Team.

The potential impacts that the proposed M28 Road Project may have on agriculture are primarily related to the type of farming practised in the area and the intensity with which the enterprise is farmed.

The proposed road project may affect different farm enterprises as follows:-

- **Drystock:** Drystock farming (sheep, beef and sucklers) is the most common farm enterprise in the vicinity of the proposed road project. The animals, particularly the beef and sucklers, associated with this enterprise type are generally of a quiet disposition. These animals normally do not require moving on a daily basis but will require daily access and water, and facilities affected by the proposed road project would have to be re-instated, even temporarily, as soon as is practicable unless otherwise agreed with the landowner.
- **Dairy:** Dairy farming is one of the more profitable farming enterprises in this country. These farms require stock to be moved to and from the place of milking to the grazing area, usually close to the milking facilities, twice daily. Due to this frequency of animal movement the management of a dairy farm may be affected if access is temporarily restricted. Furthermore, landtake, even temporary, is potentially more significant on a dairy farm than other enterprises. There are a small number of dairy farms (3 No.) affected by the proposed road project.
- **Tillage:** Tillage farming is undertaken in the vicinity of the proposed road project and while tillage farms may not require daily or even weekly access they do require regular access and do require access that is suitable for large machinery. Furthermore, the effective operation of large machinery benefits from large square fields. Triangulation of a field due to severance or reduction in field size due to landtake may reduce the effective operation of large machinery.
- **Equine:** Horses, particularly thoroughbred horses are of a more nervous disposition than other stock types and are prone to stress caused by unaccustomed noise. Construction activities associated with the proposed road project may cause stress due to associated noise levels. There are no stud farms along the proposed road project<sup>2</sup>, but a number of farms do have sport horses and do partake in equine activities. Furthermore, land take and severance of land parcels may result in fields of an irregular shape (e.g. triangular shaped fields with sharp/narrow corners). These fields may be less suitable for grazing with horses due to an increased risk of injury.

The significant criteria outlined in **Table 8.1** have been developed for assessing impacts on agriculture. These criteria are broadly based on EPA “*Revised Guidelines on the Information to be contained in Environmental Impact Statement*” (Draft, 2015) and “*Advice notes for Preparing Environmental Impact Statements*” (Draft, 2015) with reference specifically to the agricultural enterprise affected.

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<sup>2</sup> Stud farm as listed in the “Directory of the Turf”  
[http://www.directoryoftheturf.com/search\\_results.cfm/searchcategory/Stud%20Farms/searchcounty/Co%20Dublin](http://www.directoryoftheturf.com/search_results.cfm/searchcategory/Stud%20Farms/searchcounty/Co%20Dublin)

**Table 8.1: Assessment Criteria**

Significance of Impact	Criteria
Imperceptible	The effects of a proposed road project have no noticeable consequences on an agricultural property.
Not Significant	The proposed road project is encroaching slightly on an agricultural boundary causing a slight inconvenience and/or creates a small level of disturbance but there are no noticeable consequences in the day to day management or current farming practices.
Slight Effects	The proposed road project causes a level of inconvenience and/or disturbance but does not require a significant change in current farming practices or day to day management. Mitigation in the form of accommodation works would overcome any problems.
Moderate Effects	The proposed road project causes a degree of land take, severance or disturbance that causes a change in current farming practices and day to day management leading to an increase in costs. Mitigation measures in the form of accommodation works should overcome most difficulties. Impacts not addressed in the accommodation works will be dealt with by way of compensation.
Significant Effects	The proposed road project requires a significant change in management practices with associated costs due to severance, land take, loss of buildings and/or disturbance. The level of impact requires considerable mitigation in the form of accommodation works and not all difficulties are negated. Impacts not addressed in the accommodation works will be dealt with by way of compensation.
Very Significant Effects	The proposed road project is such that while a level of farming can continue, no mitigation measures in the form of accommodation works can overcome the impact and the only mitigation is compensation. In this situation an intensive dairy farm may have to revert to a less intensive enterprise such as dry stock.
Profound Effects	The proposed road project is such that farming can no longer continue and no mitigation measures in the form of accommodation works can overcome the impact to allow any farming activities to continue in this location.

**Table 8.2** shows the criteria used for this agronomic assessment to describe the duration of an impact:-

**Table 8.2: Duration of Impact**

Description	Duration
Momentary	Effects lasting seconds to minutes
Brief	<1 day
Temporary	<1 year
Short Term	1 to 7 years
Medium Term	7 to 15 years
Long Term	15 to 60 years
Permanent	>60 years

## 8.3 EXISTING ENVIRONMENT

### 8.3.1 Farming in Cork

There are 14,222 farms in County Cork, utilising approximately 541,858ha (CSO, 2010). The average farm size is 38.1ha. **Table 8.3** shows the breakdown of the numbers and percentages of farms specialising in different enterprises in County Cork.

**Table 8.3: Numbers of Farms in County Cork in Different Enterprises**

Enterprise Type	Number of Farms	Percentage of Total
Specialist Tillage	795	6
Specialist Dairy	4,037	28
Specialist Beef Production	5,999	42
Specialist Sheep	661	5
Mixed Grazing Livestock	1,206	8.5
Mixed Crops and Livestock	351	2.5
Mixed field crops	991	7
Other	182	1
<b>Total</b>	<b>14,222</b>	<b>100</b>

From this table, it can be seen that the majority of the farms in County Cork are involved in grass based livestock farming (84%) with a large number of farmers specialising in beef and dairy.

### 8.3.2 Farm Types along the Proposed M28 Road Project

The lands affected by the proposed road project are primarily under grass. **Table 8.4** shows the number and type of different enterprises affected by the proposed road project.

**Table 8.4: Numbers and Types of Enterprises along the Proposed M28 Road Project**

Enterprise Type	No.	Area within Landtake (Ha.)
Dairy	3	1.018
Drystock	17	35.602
Mixed (Tillage/Drystock)	6	27.613
Mixed (Tillage/Equine)	2	6.979
Tillage	5	20.305

### 8.3.3 Soil Types along the Proposed M28 Road Project

The National Soil Database was used to ascertain the soil type for each plot and is shown in the individual plot assessments shown in **Appendix 8A**.

**Table 8.5** shows the different soil types as a percentage of the land to be acquired for the proposed road project. From **Table 8.5** it can be seen that the majority of the soils are deep well drained mineral (AminDW).

**Table 8.5: Soil Type along the Proposed M28 Road Project (National Soil Database)**

IFS Soil Database	% Within Landtake
(AminDW) Deep Well Drained Mineral	81.3
(AminSW) Shallow Well Drained Mineral	2.2
(BminSRPT) Shallow, Lithosolic-Podzolic Soils	16.5

### 8.3.4 Land Quality along the Proposed M28 Road Project

Land quality has been assessed based on the results from the EPA/Teagasc/GSI national soil database, current landuse and general on site observations.

The land quality has been classified as follows:-

- **Poor:** Land that is only suitable for rough grazing, poor forestry or peat harvesting. No grass will be mechanically harvested from this land. No fertiliser would be used on this land. These lands will generally have high levels of peat and/or be of poor drainage.
- **Poor/Medium:** Land that has seen some improvement through management. It may consist of cut-over peat or reclaimed from scrub or rock. This land will have limited usage and will primarily be used for summer grazing. Grass may be mechanically harvested from this land in a dry year.
- **Medium:** Land that would have little peat and consist mainly of mineral soils. The limiting factor on this land will be management. The same land, better managed, would be associated with some of the better farms in the area. This land would receive fertiliser and could be used for grass harvesting by mechanical means during dry periods.
- **Medium/Good:** Land that is well managed and would be used for dairy enterprises or more intensive beef production. This land will have some restricting factors such as soil, slope, drainage or aspect that prevents it being classified “good”.
- **Good:** Land that can be used for any of the farming enterprises typically practiced in that particular area. These lands would be managed very well. They would be the most productive lands in the area and the soils would be naturally free draining mineral soils.

**Table 8.6** shows the percentage of land qualities affected by the proposed road project and the land quality for the individual plot is shown in the individual assessments in **Appendix 8A**.

**Table 8.6: Land Quality along the Proposed M28 Road Project**

Land Quality	% Along Route
Good	56
Medium/Good	39
Medium	5
Poor/Medium	0
Poor	0

## 8.4 POTENTIAL IMPACTS

### 8.4.1 Construction Stage

- Noise associated with construction activities can be an issue with certain types of livestock such as horses and dairy stock. However, it should be noted these animals are regularly seen grazing contentedly alongside motorways and construction sites in this country therefore it would be expected that the impact from noise is unlikely to be significant (see **Chapter 14: Noise and Vibration** for further details on the noise environment).
- Without mitigation the activity of construction machinery can generate dust in the immediate vicinity of the proposed M28 Road Project. The proliferation of dust has a nuisance value and livestock are at risk to eye irritations from high levels of wind-blown dust particles. Dust and other particulate matter deposited onto crops may also impact the quality of these crops.
- There will be an increase in traffic along local roads during the construction phases of the proposed road project, which has the potential to cause nuisance to agricultural traffic.
- Field drainage systems currently in-situ may be disturbed and in places disabled during construction. This disturbance may lead to wet or flooded fields during spells of wet weather and farm productivity could be reduced.
- The structure of soils within temporary construction and access areas will be potentially affected from being trafficked by construction vehicles. The potential to damage soil structures will become more pronounced when construction activities occur during wet periods.
- Without mitigation the construction of the proposed road project may disturb water supplies for livestock in fields and properties.
- Road construction is a linear development and therefore has the potential for carrying disease between fields and farms.
- The loss of lands along the proposed route from main agricultural practices will impact on payments for area based schemes.

### 8.4.2 Operation Stage

Meetings have taken place with landowners situated along the proposed road project route and their farming practices and enterprise type have been determined. Furthermore, all lands associated with the proposed road project have been assessed.

The impact assessment has been considered on a whole farm basis, where possible, while remaining cognisant of the potential impact the proposed road project will have from a field by field perspective. All data required for this assessment has been managed in a geographical information system (GIS) which has been used to determine the areas acquired, degree of severance affecting the folio, mitigation measures, and potential impacts.

Whilst every effort has been made to minimise the impact on agriculture, approximately 91.517 hectares of agricultural land will be permanently removed from production for this proposed road project. The average landtake from farms is 2.773 hectares. The significance of the residual impacts is shown in the individual assessments in **Appendix 8A**.

There will be 21 agricultural land parcels severed during construction of the proposed road project. A number of properties will be severed leaving parcels of land too small to carry out normal farming practices. The loss of this severed portion has been considered and assessed and is shown for each land parcel in the individual assessments contained in **Appendix 8A**.

Severance of larger plots has also been considered and assessed in the individual reports. Severance is particularly relevant to stock farms requiring access on a regular basis from grazing areas to facilities. The severance of large fields leaving triangulated plots will create increased management difficulties and potentially reduce the effectiveness of large machinery operations.

## 8.5 MITIGATION MEASURES

### 8.5.1 Construction Stage

The following measures are proposed to mitigate against the potential impacts identified in **Section 8.4** above:-

- Existing accesses to property, including homes, farms and farm facilities will, where practicable, be maintained during construction, otherwise reasonable temporary access will be provided.
- Mitigation measures regarding traffic, air and noise are outlined in the **Chapters 5, 13** and **14** respectively of this EIS and will mitigate the effects these impacts may have on agriculture.
- All drainage likely to be affected or disturbed during the construction phase will be identified and reinstated. Damage to crops and soils by flooding as a result of the construction of this road, will be rectified and/or compensated.
- Any lands temporarily acquired will, before return to the landowner, be subsoiled to alleviate compaction and minimise risk of impeded crop growth.
- Any disruption to water supply will be reinstated immediately by the Contractor or an alternative source supplied until the source is reinstated, unless otherwise agreed with the landowner.
- All machinery coming from outside of the State will be cleaned and disinfected on entry to the country.
- All machines will be sprayed with appropriate disinfectant prior to arrival on site. The Contractor will verify to the Project Liaison Officer (PLO)<sup>3</sup> that this has been done.

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<sup>3</sup> The Project Liaison Officer will be appointed by the local authority.

- The PLO will liaise with the local District Veterinary Office (DVO) to establish the location of any restricted herds along the route of the proposed road project. The liaison will continue on a regular basis throughout the construction and reinstatement periods. Where any landholder becomes aware that his/her herd has become infected, it is his/her responsibility to inform the PLO as a matter of urgency.
- Where the PLO has been informed of a restricted herd along the route, it will require the Contractor to disinfect machinery and personnel before leaving the land concerned. The number of accesses across the working strip will be reduced to one in the case of lands having restricted herd status. The Contractor will arrange for disinfectant mats/baths to be replenished with disinfectants, as required.
- In the event of an outbreak of a Notifiable Disease, the proposed road project will be subject to such operational restrictions as are imposed by Department of Agriculture Food and the Marine (DAFM).

### 8.5.2 Operation Stage

The following measures are proposed to mitigate against the potential impacts identified in **Section 8.4** above:-

- Permanent and temporary landtake will be dealt with by way of compensation. Matters of compensation do not form part of this application process.
- All agricultural lands, temporarily acquired, will be re-instated to pre-construction conditions unless otherwise agreed with the landowner.
- Ducting will be provided to allow for the provision of services (electrical/water) across severed areas unless otherwise agreed with the landowner and where practicable.
- Where required, suitable stock proof fencing shall be erected along the proposed road project.
- Where any fences, walls or hedges are damaged they will be made stock proof immediately, unless otherwise agreed with the landowner.

The construction and operation of the proposed service area within the lands of the Port of Cork will not have a significant impact on agriculture in the vicinity therefore no mitigation is required.

## 8.6 RESIDUAL IMPACTS

The proposed M28 Road Project will not have a significant impact on agriculture from a national or regional perspective. It will have an impact on a local perspective due to loss of agricultural land and severance.

In summary, the road will have a permanent negative residual impact on 33 landowners as shown in **Table 8.7** and in **Appendix 8A** of this EIS.

**Table 8.7: Residual Impact and Numbers at a Local Level**

<b>Residual Impact</b>	<b>Numbers</b>
Imperceptible	3
Not Significant	6
Slight Effects	6
Moderate Effects	13
Significant Effects	3
Very Significant Effects	1
Profound Effects	1

While accommodation works will mitigate many residual impacts, not all can be mitigated in this manner and the remainder will be dealt with by way of compensation under the statutory code.