
Chapter 20

Material Assets: Agricultural Properties

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20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) identifies, describes and presents an assessment of the likely significant effects of the proposed N2 Slane Bypass and Public Realm Enhancement Scheme (hereafter referred to as the 'Proposed Scheme') on agriculture during both the construction and operational phases of the Scheme. The assessment presented is informed by the following key chapters of the EIAR: **Chapter 4 – Description of the Proposed Scheme** and **Chapter 5 – Description of Construction Phase**.

The term 'Material Assets' covers quite a wide scope as indicated in several key texts. The EPA Guidelines (2022) on the Information to be contained in Environmental Impact Assessment Reports states: "*Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure.*" It further lists "*Built Services, Roads and Traffic, and Waste Management*" as typical topics for consideration under material assets.

In the 2014 EIA Directive, 'Land' is also introduced as a specific factor to be identified, described, and assessed in an EIA. The Department of Housing, Planning and Local Government (DHPLG) Guidelines (2018) for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, outlines that information to be submitted and assessed as part of an EIAR in respect of land should include details of 'landtake' and land use requirements of the whole Scheme during the construction and operational phases.

Given this wide scope, this EIAR has addressed 'Material Assets' through a number of separate chapters to ensure a robust consideration of Material Assets relevant to the Proposed Scheme. **Chapter 20** considers the potential effects that the Proposed Scheme may have on agricultural properties, practices, and enterprises in the environs of the Proposed Scheme. Other 'material assets' are addressed in other specific chapters of the EIAR, namely:

- **Chapter 21 – Material Assets: Non-agricultural Properties:** Landtake which affects non-agricultural properties (including dwellings);
- **Chapter 22 – Material Assets: Utilities:** Details of impacts on utilities/ built services, comprising electricity lines, water, foul sewer, and telecommunications infrastructure; and
- **Chapter 23 – Material Assets: Resource and Waste Management:** Details of impacts relating to waste emissions and resource/materials management.

Other aspects relevant to Material Assets: Agricultural Properties are addressed in other specific chapters of the EIAR, namely:

- **Chapter 7 – Traffic and Transport:** Predicted construction traffic levels;
- **Chapter 8 – Population:** Details of impacts relating to community aspects such as residential amenity and journey characteristics;
- **Chapter 9 – Noise and Vibration:** Predicted noise levels;
- **Chapter 10 – Air Quality:** Predicted air quality effects; and
- **Chapter 18 – Land, Soils, Geology and Hydrogeology:** Predicted impacts on soils and loss of soil resource.

20.2 Methodology

20.2.1 Legislation, Policy, and Guidance

20.2.1.1 Legislation

Agriculture is not mentioned, specifically in the EIA legislation but the requirement to consider and assess the effects of a scheme on the elements of which agriculture may be considered to comprise, namely material assets and land, are prescribed in Directive 2011/92/EU as amended by Directive 2014/52/EU.

20.2.1.2 Policy

The Proposed Scheme is located in the administrative area of Meath County Council (MCC) and the Meath County Development Plan 2021-2027 has been considered in the preparation of this chapter.

20.2.1.3 Guidance

The agricultural properties impact assessment approach has had regard to the general EIA methodology and guidance relating to the EIA process and preparation as set out in **Section 1.3.3 of Chapter 1 – Introduction and EIA Approach**.

The following topic-specific guidance documents have also been considered in the assessment of the effects of the Proposed Scheme on agricultural properties and practices:

- Environmental Impact Assessment of National Road Schemes – A Practical Guide, National Roads Authority (NRA, November 2008);
- Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads (NRA, March 2003, revised 2005);
- Design Manual for Roads and Bridges (DMRB) – HE-DMRB-SE LA 104 – Environmental assessment and monitoring (*formerly HA 205/08, HD 48/08, IAN 125/15, and IAN 133/10*) Revision 1, Highways England (August 2020); Agricultural Land Classification of England and Wales – Revised guidelines and criteria for grading the quality of agricultural land, Ministry of Agriculture, Fisheries and Food (MAFF, 1988); and
- Design Manual for Roads and Bridges (DMRB) LA 112 – Population and Human Health, Version 1, Highways England (January 2020).

20.2.2 Zone of Influence

The Zone of Influence (Zoi) for agriculture encompasses the folios, as well as unregistered land parcels, which intersect lands to be acquired for the Proposed Scheme (the landtake). The Zoi also encompasses those folios that are contiguous to the intersected folios and are either owned or rented by the owner or occupier of an intersected folio.

20.2.3 Sources of Information to inform the Assessment

20.2.3.1 Desktop Study

A number of sources of information were used to inform the assessment including:

- Irish Forest Services (IFS) Soil Classification (produced from the project of soils and subsoils data generated by Teagasc with co-operation of the IFS, the Environmental Protection Agency (EPA) and the Geological Survey of Ireland (GSI), completed May 2006);
- Agricultural data from the Central Statistics Office (CSO) Census of Agriculture, 2010 and 2020; and
- Information on folios obtained from the Property Registration Authority of Ireland (PRAI).

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The primary source of data for this assessment was obtained directly from the affected landowners. The information was obtained from landowners during meetings and farm walkovers. These meetings were held in the Conyngham Arms Hotel on the 13 November 2019 and 14 November 2019.

A series of face-to-face meetings were held with landowners on 15 November 2019 also in the Conyngham Arms Hotel and on site with landowners that specially requested on-site visits. Subsequent to these meetings multiple on-site meetings have been had during the course of the site investigations and issues that arose were fed back to the RPS Agronomist.

20.2.3.2 Field Assessment

In-field surveys were carried out by the Project Team with landowners and/or their agents or representatives. Walkovers of the agricultural lands affected by the Proposed Scheme were also undertaken with the permission of the affected landowner. Access permission from landowners was granted to all affected lands. The information gathered from the in-field surveys was then collated along with folio data obtained from the PRAI and IFS soil survey data, in a GIS database.

The data from these sources was reviewed by the RPS Agronomist and where additional detail or further understanding was required, the RPS Agronomist met with landowners and undertook a walkover survey of the property. From these data sources the overall, and individual, assessments were undertaken (refer to **Section 20.4**).

20.2.4 Key Parameters for Assessment

The following aspects were considered in assessing the potential effect the Proposed Scheme may have on landuse and agriculture:

- **Land to be acquired:** Landtake is one of the more significant impacts that can occur from a change in landuse and agricultural perspective.
- **Area and orientation of lands divided:** Farm division can be a very significant impact particularly where access to properties or agricultural facilities may be restricted or removed.
- **Intensity and viability of farming practices:** Intensity and viability of farming practices can vary considerably within an area and while there is a strong correlation between intensity and the farmer's own ability, it is also a function of a number of other factors including, but not limited to, the area farmed, enterprise type, soil type, aspect, and topography.
- **Removal or division of buildings and/or facilities from retained lands:** Removal or division of buildings and/or facilities from retained lands will have a significant effect on properties. From an agricultural perspective, the significance of this effect is accentuated in dairy and high intensity facilities such as horticultural, pig or poultry units. The removal or division of remote cattle/sheep handling facilities from retained lands, while significant, can generally be replaced and therefore be readily mitigated.
- **Farm enterprises:** Some farm enterprises are less able to absorb the effects of road schemes and as such are more sensitive. Typically, these are farms associated with dairy or equine enterprises but, depending on landtake and farm division, may also significantly affect other enterprises such as beef and tillage. A road scheme may affect different farm enterprises as follows:
 - **Dairy:** Dairying is one of the more profitable farming enterprises. Dairying in Ireland has seen a significant increase in intensification since the lifting of milk quotas in 2015¹. This has allowed this enterprise to rapidly expand, with a subsequent increase of milk production of almost 50% seen since the lifting of the quotas. This increase in milk production was achieved through both an increase in the productivity of the cow but also with an increase in cow numbers.

¹ Dairy cow numbers increased nationally from 1.3M in 2015 to 1.6M in 2022 (CSO, 2022). In Co. Meath dairy cow numbers increased from 53K to 70K in this same period.

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These dairy farms, in this era of no quotas, are generally intensive with many of them requiring nitrate derogations (farms with greater than 170 kg organic nitrogen (ON) per hectare (ha)² or in other words the equivalent or more cows per ha) and, unlike many of their counterparts in Europe and the USA, these farms utilise a grass-based system focused on careful grassland management and intensive grazing.

- As such, these intensive farms require all of their lands to maintain high levels of productivity and therefore do not easily absorb the effects of a new road requiring landtake or farm division. These farms generally have a primary grazing area, which is in close proximity of the milking facilities etc. and a landtake or farm division of this area in particular can further increase the significance of the effects. **Tillage:** Tillage farming is prevalent in the relevant area. Tillage may not require daily or even weekly access, but 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 farm division or reduction in field size due to landtake may reduce the effective operation of large machinery.
- **Drystock:** Drystock farming (sheep, beef and sucklers) is one of the more common farm enterprises in the vicinity of the Proposed Scheme. These 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 a proposed scheme would have to be re-instated, even temporarily, as soon as is practicable unless otherwise agreed with the landowner.
- **Equine:** Horses, particularly thoroughbred horses are of a more nervous disposition than other stock types and are prone to stress caused by unaccustomed noise. There are no stud farms along the Proposed Scheme, but a number of farms do have sport horses and do partake in equine activities. There is one livery stables situated more than 1 km east of the Proposed Scheme, along the N51. The effects on equine activities are considered from two perspectives: the effects, if any, on the wellbeing of the horse and the effects, if any, on the wellbeing of persons in close interactions with the horse.

All agricultural lands potentially affected by the Proposed Scheme have been walked by members of the Project Team and all landowners and/or their representatives or agents have been met. The purpose of these meetings was to get an understanding of their current farming practices, identifying their concerns and issues, and assessing the potential effects that the Proposed Scheme may have on their lands and farming practices.

20.2.5 Assessment Criteria and Significance

The following tables (**Table 20-1** to **Table 20-6**) outline the criteria for considering the sensitivity of the various agricultural operations, the intensity of farm enterprises, and the effects that a loss of facilities or farm division may have on a farm. The tables also outline the magnitude of an impact that a scheme may have on agriculture and the significance of this impact on agriculture.

As a rule, the more sensitive a farm is, and the more intensively it is farmed, then the less able it is to absorb the effects of a development such as the Proposed Scheme. The intensity of a farm is a function of the management of the farm, and the quality and yield potential of the lands. The sensitivity and intensity are both considered in the impact assessment.

These criteria are broadly based on the requirements of the EPA Guidelines (2022) and the Highways Agency DMRB LA 104 (2020).

² The number of derogation farms as a percentage of the total number of dairy farms nationally is approximately 38%. For the Slane Bypass the number of derogation farms as a percentage of the total number of dairy farms affected by the Proposed Scheme is 84%, indicating that dairy farming in this area is intensive.

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Table 20-1: Assessment of Environmental Sensitivity for Agricultural Receptors

Sensitivity	Definition
High	Stud farms
	Riding stables
	Dairy+
	Pig units+
	Poultry units
	Horticultural units
	Deer farms
Medium	Beef+
	Dairy
	Vegetables
	Pig units
	Forestry
Low	Sheep farms
	Drystock
	Beef farms
	Horse (general)
	Fodder conservation areas
	Tillage farms
Negligible	Commonage
	Fallow

+Note: The + denotes farms that are farmed intensively with higher than average stocking rates.

Table 20-2: Criteria for the Assessment of Farm Enterprise Intensity

Enterprise	Description of Intensity	Score
Livestock farms	Only dairy farms in this category. Generally using paddock grazing systems. Expect to see extensive well managed sheds and intricate slurry management systems. All of these farms will be derogation farms ³ with stocking rates exceeding 170 kg ON ^{ha}	Very Intense
	Primarily dairy farms which may be using paddock systems. Some beef enterprises may fit in this category. For these farms expect to see extensive well managed sheds and slurry systems. Some of these farms will be derogation farms with stocking rates >170 kg ON ^{ha} . Others, while not derogation farms, will be close to 170 kg ON ^{ha} threshold.	Intense
	Typical average dairy farm or good beef farm. Well run sheep farms will fit in this category. Reasonable grazing system and reasonable facilities. None of these will exceed the 170 kg ON ^{ha} threshold.	Moderate
	Dairy farms are unlikely to found in this categorisation. Typical beef or sheep farm will fit this categorisation and these farms will typically have limited facilities, if any.	Extensive
	Typically hill sheep farm with no 'green' grazing.	Low
Tillage	Large farms with mixture of cereals, proteins, and vegetables. Extensive facilities for storage and/or drying	Very Intense
	Farms with mixture of cereals, proteins, and vegetables. Limited facilities	Intense
	Farms with mixture of cereals, proteins, and vegetables with no facilities	Moderate

³ Lands where the application of livestock manure in any year exceeds the amount specified in Article 20(1) of the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022 (S.I. No. 113 of 2022) require a derogation.

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Enterprise	Description of Intensity	Score
	Farms with cereals only	Extensive
	Fallow ground	Low
Pig/Poultry Units	Large units with large stock numbers and extensive facilities. These will all be IPPC licenced facilities ⁴ .	Very Intense
	Medium units with facilities. These facilities will be below licence thresholds	Intense
	Likely to form part of a mix of enterprises on a small scale	Moderate
	Not Applicable	Extensive
	Not Applicable	Low

Agricultural land classification has been undertaken with regard to of the criteria outlined in the Agricultural Land Classification of England and Wales (MAFF, 1988). The land classifications under this system are set out in **Table 20-3**.

Table 20-3: Criteria for the Assessment of Land Classification (MAFF, 1988)

Grade	Description
Grade 1: excellent quality agricultural land	Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
Grade 2: very good quality agricultural land	Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1
Grade 3: good to moderate quality agricultural land	Land with moderate limitations which affect the choice of crops, timing, and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
Subgrade 3a: good quality agricultural land	Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
Subgrade 3b: moderate quality agricultural land	Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
Grade 4: poor quality agricultural land	Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
Grade 5: very poor-quality agricultural land	Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

⁴ Defined under the EPA Act 1992 (as amended) as a poultry-rearing installation where the capacity exceeds 40,000 places or the rearing of pigs in an installation where the capacity exceeds 750 places for sows, or 2,000 places for production pigs which are each over 30 kg.

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Table 20-4: Definitions for the Magnitude of Impact

Magnitude of Impact	Definition
High	Large landtake and/or farm division limiting current landuse and farming practices in this area.
Medium	Large landtake and/or farm division requiring a considerable change in current practices and associated costs.
Low	Small landtake and/or farm division. Small change in current practices and additional costs, if any.
Negligible	Slight encroachment on the property. No change in current practices and no additional cost.

Table 20-5: Definitions for the Significance of Impact

Significance of Impact	Definition
Profound	The Proposed Scheme is such that the current landuse can no longer continue and no mitigation measures in the form of accommodation/ scheme works can overcome the impact to allow any current landuse activities to continue in this location;
Major	The Proposed Scheme is such that while a level of current landuse can continue, no mitigation measures in the form of accommodation/ scheme works can overcome the impact
Moderate	The Proposed Scheme requires a significant change in current landuse practices with associated costs due to farm division, landtake, loss of buildings and/or disturbance. The level of impact requires considerable mitigation in the form of accommodation/ scheme works and not all difficulties are negated
Slight	The Proposed Scheme 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/ scheme works would overcome any problems
Imperceptible	The Proposed Scheme is encroaching slightly on a property 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

Table 20-6: Matrix used for the Assessment of the Significance of the Effect

		Magnitude of Impact			
		Negligible	Low	Medium	High
Sensitivity of Receptor	Negligible	Imperceptible	Imperceptible or Slight	Imperceptible or Slight	Slight
	Low	Imperceptible or Slight	Imperceptible or Slight	Slight	Slight or Moderate
	Medium	Imperceptible or Slight	Slight	Moderate	Moderate or Major
	High	Slight	Slight or Moderate	Moderate or Major	Major or Profound

20.2.6 Data Limitations

No difficulties and/or limitations were encountered.

20.3 Description of Existing Environment (Baseline Scenario)

20.3.1 Current Baseline Environment

Meath has a strong farming tradition and is renowned for its rich pasturelands, which are capable of supporting a wide range of farming activities; in particular, there is dairying, crop production, grass growing, and cattle and horse rearing. In Meath there are 4,508, farms utilising approximately 197,425 ha, accounting for 84% of the total land area.

Table 20-7 below shows the main farm practices in Meath. From this table, it can be seen that most of the farming in Meath revolves around the grazing of drystock animals with some 68% of the farms in Meath involved in drystock in one way or another. In 2020, the most recent year the Census of Agriculture was published, the dairy sector in the county accounted for 10.8% of the farming practices with 487 farms specialising in dairying. As previously noted, since 2015 and the lifting of milk quotas, there has been a considerable increase in dairying practices including an increase in the number of dairy farms and the number of dairy cows. In 2010, there were 44,267 cows in Meath (CSO, 2010)⁵, whereas in 2020 there were 67,246 (CSO, 2020)⁶, an increase of some 34%. It is also noted that along with Waterford and Louth, Meath had one of largest average dairy cow herd size in Ireland in 2020.

In Meath, there is also a strong tradition of crop production. According to the 2020 census, Meath along with Wexford, Cork, and Kildare, were the counties where the greatest amount of cereals were grown in 2020. These four counties combined accounted for half the cereals grown in the state (50.5%). The land utilisation data from the census 2020 indicates there were 598 farms with approximately 28,255 ha under cereals. In addition, there were 985 farms with 11,646 ha producing other crops, fruit, and horticulture.⁷

There were some 61 pig herds in Meath in 2020 with approximately 57,300 animals associated with these farms. This figure represents an increase since the 2010 census which showed some 50 pig herds with approximately 30,213 animals were associated with these farms. This is an increase of 22% and 89% respectively.

Furthermore, in the 2020 census statistics, a total of 224 poultry farms were identified in the county. Of these, the majority (192) have laying stock.

Lastly, activities such as horse racing, horse breeding and horse training are also widely popular in Meath and are a strong feature of the county's agricultural landscape. There are currently 65 registered horse trainers in the county with Horse Racing Ireland (Rás).⁴

Table 20-7: Farming in Meath – Census of Agriculture 2020

Enterprise Type	Number of Farms	Percentage of Total (%)
Specialist Tillage	409	9.1
Specialist Dairy	487	10.8
Specialist Beef Production	2,253	50
Specialist Sheep	382	8.5
Mixed Grazing Livestock	347	7.7
Mixed Crops and Livestock	80	1.8
Mixed field crops	480	10.6
Other	70	1.6
Total	4,508	100

⁵ CSO Census of Agriculture 2010 – Final Result. Available at: <https://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2010/full2010.pdf>

⁶ CSO Census of Agriculture 2020, Livestock. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-coa/censusofagriculture2020-preliminaryresults/livestock/>

⁷ CSO Census of Agriculture 2020, Land Utilisation. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-coa/censusofagriculture2020-preliminaryresults/landutilisation/>

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20.3.1.1 Agricultural Enterprise Types

The Proposed Scheme traverses two CSO Electoral Divisions (EDs), Painestown and Slane and passes close to the ED of Mellifont and while the Proposed Scheme does not traverse this ED it was considered (land access, facilities etc.) in for completeness. The 2020 census data⁸ for these EDs are shown in **Table 20-8** below. From this table it can be seen that grass production is the predominant yield.

Table 20-8: CSO Census of Agriculture Data (2020)

Agriculture data	Painestown ED	Slane ED	Mellifont ED [†]
Number of holdings	37	32	49
Average Size of Holding (Ha)	57.7	42.3	54.6
Median Age of Holder	59	54	54
Land Utilisation	Area (ha)	Area (ha)	Area (ha)
Total Cereals	*	*	715
All Grassland	1,625.3	1,202.6	1,781.4
All Area Farmed	2,128.6	1,357.6	2,677.5
Livestock	No. of Head	No. of Head	No. of Head
Total Cattle	3,422	2,894	4,053
Dairy Cows	875	941	1,161
Other Cows	201	302	348
Total Sheep	1,225		2,349
Livestock Units (LSU)	2,793	2,616	4,502

* Denotes data suppressed for confidentiality reasons.

† Note the Mellifont ED is not traversed by the Proposed Scheme but is included for wider context.

20.3.1.2 Soil Types

Table 20-9 below shows the percentage area for different soil types within the landtake area for the Proposed Scheme.⁹ From this, it can be seen that the majority of the land is well-drained mineral soil. The types of soil traversed by the Proposed Scheme are consistent with the mixture of farming practices observed.

Table 20-9: Approximate Percentage of IFS soil type within the Landtake Area

IFS Soil Type within the Landtake Area	IFS Soil Code	Approx. % of Landtake Area
Deep well-drained mineral	AminDW, BminDW	43
Deep poorly drained mineral	AminPD, BMinPD	28
Shallow well-drained mineral	AminSW, BminSW	17
Alluviums	AlluvMin	5
Other	Made Ground, Water	3
Shallow poorly drained mineral	AminSP, BminSP	2
Lacustrine	Lac	1
Poorly drained deep mineral soil with peaty topsoil	BminPDPT	1
Fen Peat	FenP	<0.2

⁸ CSO Census of Agriculture 2020, AgriMap. Available at: <https://visual.cso.ie/?body=entity/ima/coa>

⁹ Irish Forest Services Soil Classification (produced from the project of soils and subsoils data generated by Teagasc with co-operation of the IFS, the EPA and the GSI, completed May 2006).

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20.3.1.3 Summary of Field Surveys

Table 20-10 below shows the primary enterprise types affected by the Proposed Scheme, details of which were obtained during the meetings with these landowners and the walkover surveys. **Figure 20.1** show the agricultural properties affected by the Proposed Scheme.

Table 20-10: Primary Enterprise Types affected by the Proposed Scheme

Primary Enterprise Type	Number	Area within Landtake (ha)
Stud Farms	0.0	0.0
Riding stables	0.0	0.0
Poultry unit	0.0	0.0
Dairy+	7.0	15.4
Pig units+	0.0	0.0
Horticulture	0.0	0.0
Deer farms	0.0	0.0
Beef+	1.0	1.7
Dairy	2.0	0.0
Vegetables	0.0	0.0
Pig units	0.0	0.0
Forestry	0.0	0.0
Sheep	0.0	0.0
Drystock	8.0	13.2
Beef	0.0	0.0
Horses	2.0	0.7
Fodder	0.0	0.0
Tillage	5.0	4.8

* There are two Dairy+ farms who rent lands in the area. Where identified these leased lands are given the same annotation of Dairy+

20.3.2 Evolution of the Environment in the Absence of the Proposed Scheme

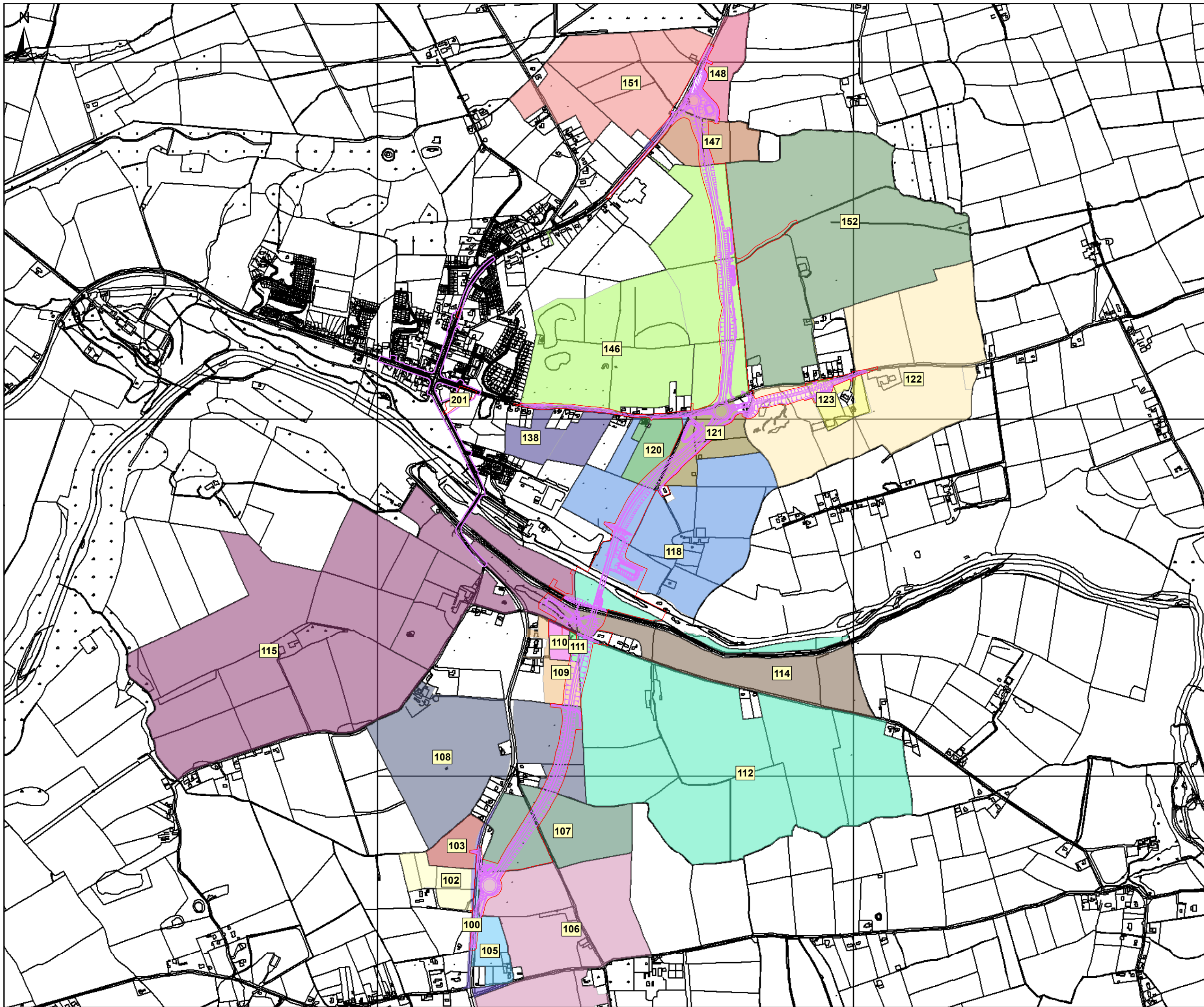
Agricultural practices by their nature change over time. In the last one hundred years there has been considerable change in farming in Ireland, with average farm sizes increasing while the numbers of people involved directly with farming has decreased.

The size of an average farm in Meath has almost doubled over the last century, rising from 24 ha in 1915¹⁰, to 43.8 ha in 2020.¹¹ The number of farms has also changed over this period going from 9,100 farms in 1915 to 4,500 farms in 2020, indicating that fewer farmers are managing larger farms. This trend is likely to continue.

In addition, the area farmed in the county has decreased in the last hundred years from 216,000 ha in 1915 to 197,450 ha in 2020. This reduction in what is termed 'utilised agricultural area' is due to development of the various towns and villages in the county, but also due to the development of infrastructure.

¹⁰ CSO (2016) *Life in 1916 Ireland: Stories from statistics*. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-1916/1916irl/>

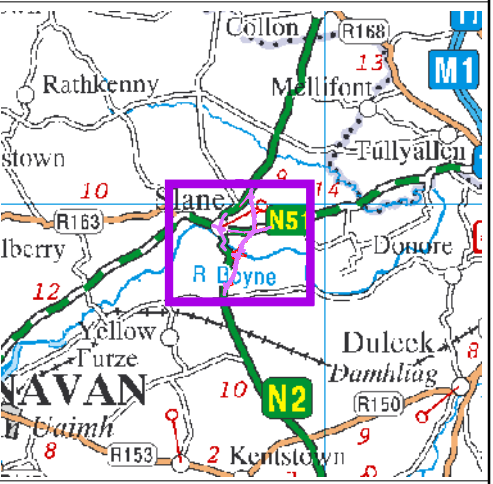
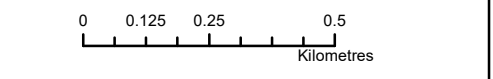
¹¹ CSO Census of Agriculture 2020, Farm Structure. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-coa/censusofagriculture2020-preliminaryresults/farmstructure/>



Legend

- Proposed Scheme
- Proposed Scheme Boundary

Data Source: Land parcels sourced from the Property Registration Authority of Ireland (PRAI); vector mapping from OSI.



Client
Meath County Council

N2 Slane Bypass and Public Realm Enhancement Scheme

Title
Figure 20.1(a)

Agricultural Property Landholdings – Overview

RPS West Pier
Business Campus, T +353 (0) 1 4882900
Dun Laoghaire, E ireland@rpsgroup.com
Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
MDT0806-RPS-00-N2-DR-Z-AG-3071

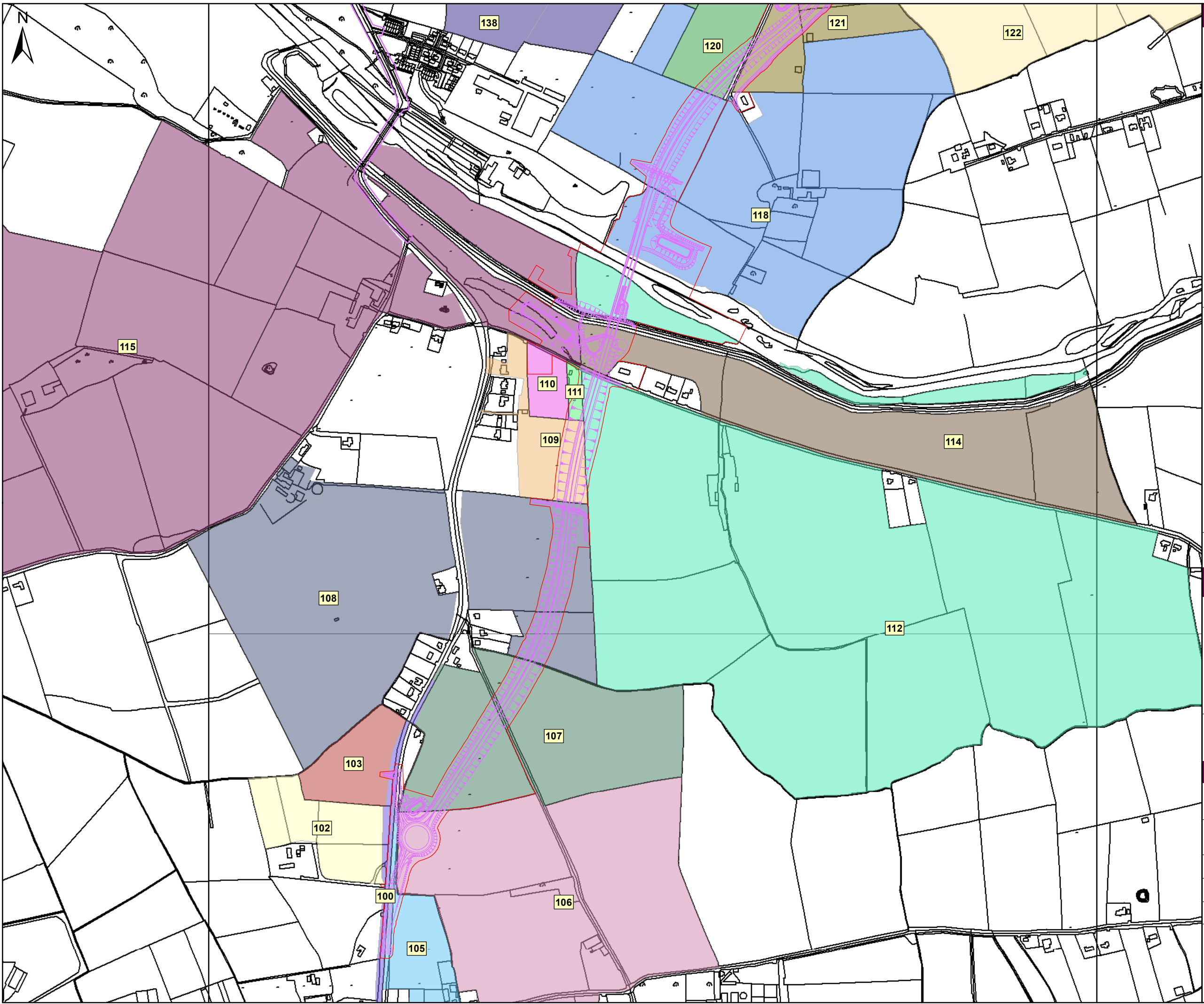
Status:	Rev:	Model File Identifier:
A1	C01	MDT0806-RPS-01-PR-M2-C-XR9000 MDT0806-RPS-01-N2-M2-C-XM1001

Drawn:	NO'N	Date:	27/06/2023
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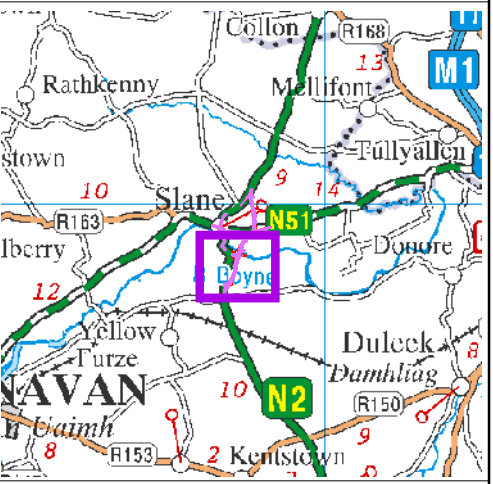
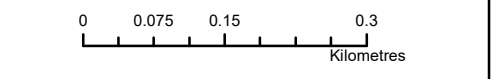
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Legend

- Proposed Scheme
- Proposed Scheme Boundary

Data Source: Land parcels sourced from the Property Registration Authority of Ireland (PRA); vector mapping from OSI.



Client **Meath County Council**

N2 Slane Bypass and Public Realm Enhancement Scheme

Title **Figure 20.1(b)**

Agricultural Property Landholdings – Detail 1 of 2

rps West Pier
 Business Campus, T +353 (0) 1 4882900
 Dun Laoghaire, E ireland@rpsgroup.com
 Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
 MDT0806-RPS-00-N2-DR-Z-AG-3071

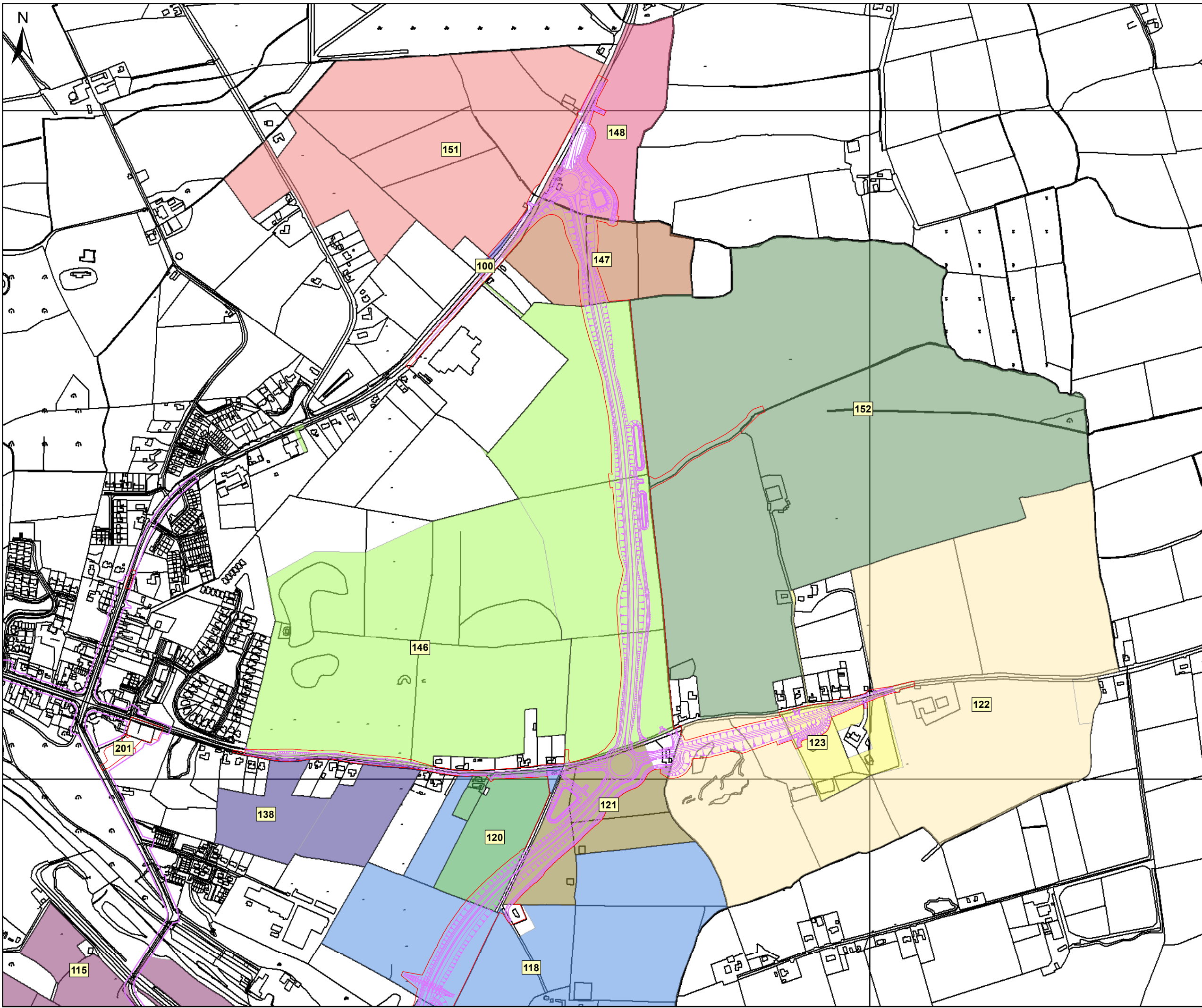
Status: A1	Rev: C01	Model File Identifier: MDT0806-RPS-01-PR-M2-C-XR9000 MDT0806-RPS-01-N2-M2-C-XM1001
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Drawn: NO'N	Date: 27/06/2023
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Approved: CW	Projection: ITM
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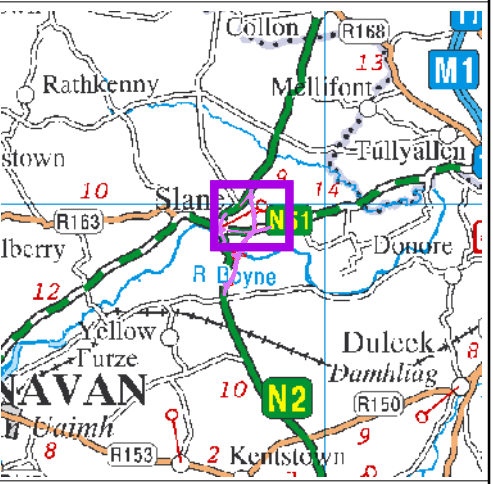
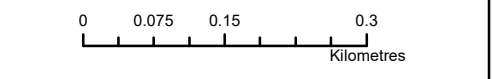
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Legend

- Proposed Scheme
- Proposed Scheme Boundary

Data Source: Land parcels sourced from the Property Registration Authority of Ireland (PRA); vector mapping from OSI.



Client
Meath County Council

N2 Slane Bypass and Public Realm Enhancement Scheme

Title
Figure 20.1(c)

Agricultural Property Landholdings – Detail 2 of 2

RPS West Pier
Business Campus, T +353 (0) 1 4882900
Dun Laoghaire, E ireland@rpsgroup.com
Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
MDT0806-RPS-00-N2-DR-Z-AG-3071

Status: A1	Rev: C01	Model File Identifier: MDT0806-RPS-01-PR-M2-C-XR9000 MDT0806-RPS-01-N2-M2-C-XM1001
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Drawn: NO'N	Date: 27/06/2023
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Approved: CW	Projection: ITM
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20.4 Description of Likely Significant Effects

Sections 20.4.1 and 20.4.3 provide a description of the likely significant effects of the Proposed Scheme on agricultural enterprise in cumulation with other existing development in the area. A description of the likely significant effects in cumulation with other approved development, i.e., development not yet built, is presented in **Section 20.4.3** based on the detailed methodology for the CIA included in **Chapter 25**.

The impact interactions between agricultural enterprise and other environmental factors are identified and described in **Chapter 26** and assessed throughout **Sections 20.4.1 to 20.4.3**.

The effects of Proposed Scheme on agriculture are generally considered and assessed under two main headings, those associated with the construction works, which are usually temporary in nature (for the duration of construction) and those associated with the actual operation of the new road, which include landtake and farm division and are permanent.

The effects of the Proposed Scheme were discussed with the individual landowners and/or their agents and considered in the walkover surveys (refer to **Sections 20.2.3 and 20.3.1.3**).

20.4.1 Construction Phase

The following sections provide an overview of the likely construction impacts that will affect agriculture. The effect of construction impacts on individual agricultural properties is further considered and assessed in **Table 20-12**.

20.4.1.1 Noise

There will be an increase in novel noises during the construction of these roads. For most agricultural enterprises this increase in noise will have little or no effect, and animals will quickly become habituated to these novel noises. However, for certain agricultural enterprises, where the animals are more highly strung, and with increased 'flight or fight' responses, such as horses, the effects of noise can be greater. The significance of the effect can be further exacerbated where there is a close interaction between humans and large animals, such as horse riding. Refer also to **Chapter 9 – Noise and Vibration** for an assessment of the impacts from noise and vibration as a result of the Proposed Scheme, and the mitigation measures outlined.

There are no stud farms or riding stables in the local area and the nearest horse facility (Knowth Stables) is approximately 2km from Proposed Scheme. However, there are some horses in the local area. These horses will be used to the high daily traffic volumes and associated noises and sights from the existing N2 and will therefore have no issue with the Proposed Scheme

20.4.1.2 Dust

Without mitigation the activity of construction machinery can generate dust in the immediate vicinity of the Proposed Scheme. 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. This is particularly relevant to those crops consumed raw such as fruits or salads. Refer also to **Chapter 10 – Air Quality** for an assessment of the impacts to air quality which considers impact of dust arising during the construction phase, and the mitigation measures outlined.

20.4.1.3 Construction traffic

There will be an increase in construction traffic along local roads during the construction phases of the Proposed Scheme, which has the potential to cause nuisance to agricultural traffic, particularly during periods of harvesting. It should be noted that the period for harvesting in the Proposed Scheme will potentially extend from the end of May for first crop silage, to possibly October for late crops of silage (or potatoes in certain years when they are grown in the area). Refer to **Chapter 5 – Description of the Construction Phase** which covers construction phase traffic, and **Chapter 7 – Traffic and Transport** which covers operational phase traffic.

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20.4.1.4 Drainage

As a linear development, an offline road scheme will potentially sever or disturb in-situ field drainage systems during construction. This disturbance may lead to wet or flooded fields during spells of wet weather, potentially reducing farm productivity.

Piped culverting of land drains and diversion of existing drains along the Proposed Scheme have been included in the design where relevant; refer to the drainage proposals in **Chapter 4 – Description of the Proposed Scheme** and **Chapter 5 – Description of the Construction Phase**.

20.4.1.5 Soils

The structure of soils within temporary construction and access areas will, potentially, be affected from being trafficked by construction vehicles. The potential to damage soil structures will become more pronounced when construction activities occur during wet periods. Refer to **Chapter 18 – Land, Soils, Geology and Hydrogeology** which also details the baseline for soils and considers the impacts of loss of local soils resource as a result of the Proposed Scheme.

20.4.1.6 Disturbance of Services (Water and Electricity)

The construction of the Proposed Scheme will potentially disturb or sever current piped water supplies for livestock where the proposed bypass crosses these piped supplies. Access to surface drinking points will also be potentially divided or curtailed during construction.

Furthermore, many farms utilise electric fencing to manage stock. In some instances, the electric fencing will be supplied by a battery-operated system, which will not be affected. However, many farms utilise a main supply to operate their electric fencing and severance of this connectivity from the supply to the fence will impact negatively on the management of the farm.

Refer also to **Chapter 22 – Material Assets: Utilities** for an assessment of the utilities/ built services affected by the Proposed Scheme and the mitigation measures outlined.

20.4.1.7 Loss of Access

The effects of loss of access to divided lands are considered in the operational phase impact assessment (refer to **Section 20.4.2** below) and on an individual basis in **Table 20-12**. However, temporary loss of access to divided lands during construction will also potentially occur. The effects of temporary loss of access to divided lands are primarily a function of the enterprise type but also the management practices and the time of occurrence.

For all farms, loss of access to divided lands, even temporary, during harvesting periods will potentially be significant. For dairy farms, in addition to harvesting areas being inaccessible, loss of access to the primary grazing platform, even temporary, will also be potentially significant.

While the movement of stock on drystock farms is less frequent, daily access will be required to divided fields with stock to check on their welfare.

20.4.1.8 Spread of Disease or Pests

As linear developments the construction of these roads has the potential for spreading both plant and animal disease between fields and farms.

The spread of disease may occur by carrying contaminated material on either machines or personnel from an infected farm to an uninfected one. The risk of disease spread will potentially be more significant in intensive poultry and pig units but also within closed herds¹² of cattle (including dairy animals) and/or sheep.

There are currently no issues with disease break outs on the lands relevant to this Proposed Scheme. However, disease may break out at any time. Animal diseases that are relevant for consideration during the construction of a scheme are diseases such as bovine tuberculosis and bovine vial diarrhoea however, a full

¹² A herd of farm animals that is 100% born and raised on a single farm to ensure the health of the herd. No additional animals are brought in from the outside.

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list can be found in the link in the footnote below.¹³ Knowledge of a disease break out requires the landowner to notify a Project Team member who will bring it up to the appropriate members of the Team. Depending on the disease a Plan will need to put in place to manage the situation and ensure there is no further spread of the disease by the construction team.

The transfer of plant diseases between crops due to the construction of the Proposed Scheme, while possible, is not considered significant.

There are a number of soil-borne pests that may be transferred and that may potentially give rise to a significant effect. This will only occur when contaminated soil adhering to a construction machine is deposited in a clean field growing a susceptible crop. In most instances this will be unlikely, and even if it should occur will not be significant. However, where high cost/value susceptible crops are grown then the effect of the transfer of a soil borne pest by a construction machine will potentially be significant.

20.4.2 Operational Phase

The following section provides an overview of the likely operation impacts Proposed Scheme will have on agriculture. The effects of operational impacts on individual agricultural properties are considered and assessed in detail in **Table 20-12**.

20.4.2.1 Landtake

The primary effect of any road development on an agricultural property is landtake. This was the main concern expressed by many landowners during discussions with the Project Team's landowner liaisons (LLs). The assessment considered how the proposed landtake will affect agriculture from a regional, local, and individual perspective.

The area of land required for any proposed road scheme is not likely to have a significant effect on Irish agriculture when considered at a national (whole of Ireland) or regional level (whole of county). However, from a local or individual perspective landtake can be significant. This is particularly relevant on intensive well-established farms where the loss of land can increase management costs, reduce productivity, and require, in some extreme cases, a change from an intensive, and possibly more profitable enterprise, to one that is less profitable. Typically, these farms are more 'sensitive' to change and therefore less able to absorb the effects of a new development. The sensitivity of various farming practices is outlined in **Table 20-1** above and this, together with a number of other factors, has allowed the significance of the effects on individual properties to be assessed; refer to **Table 20-12**.

20.4.2.2 Farm Division

This was the second biggest concern expressed by landowners during discussions with the LLs. Again, similar to landtake, some farms and farming practices are better able to absorb the effects of farm division. Furthermore, the significance of the effect is also function of where farm division occurs in relation to facilities or primary grazing. As a rule of thumb, access is provided to all divided portions of land greater than 0.25 ha in size. Anything less than 0.25 ha may be subsumed into the overall landtake for the Proposed Scheme.

How access can be provided to divided portions is also of considerable interest to landowners. Overbridges and/or underpasses are generally the preferred choice of the landowner; **Chapter 4** outlines the details of the two farm overbridges that are to be provided as part of the Proposed Scheme, along with details of other scheme works such as lanes and accesses.

Access to divided portions has been considered in the overall assessment of effects (refer to **Table 20-12**) and further details will be agreed as needed with landowners during discussions regarding scheme and accommodation works.

20.4.2.3 Area-based entitlements

Most agricultural lands in Ireland are linked to some form of entitlement and the most common of these entitlements relates to the Basic Income Support for Sustainability Scheme. This Scheme acts as a key support to EU farmers and is granted on the condition that farmers adhere to strict rules on human and

¹³ <http://www.animalhealthsurveillance.agriculture.gov.ie/notifiablediseases/>

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animal health and welfare, plant health, and the environment. It aims to provide basic income support to farmers and contribute to viable food production in the EU without distorting production decisions. The Basic Income Support for Sustainability Scheme is designed to provide farmers with an income safety net; the amount of support received is not linked to the quantities produced (DAFM, July 2022).¹⁴

The Basic Income Support for Sustainability Scheme entitlements are not attached to land; however, a farmer must declare one eligible hectare of land to draw down each entitlement held. Therefore, while a loss of eligible land through the development of this Proposed Scheme will not in itself extinguish entitlements under the Basic Income Support for Sustainability Scheme, it may affect a farmer's ability to draw down on these entitlements in the normal manner necessitating the farmer to acquire additional lands to draw down entitlements, or lease, or sell their entitlements. This effect can be more significant for other forms of entitlement that are directly correlated with the area of eligible land such as the Young Farmer Scheme. In this instance a loss of land, leads to a loss of entitlement.

20.4.2.4 Loss of facilities

The loss of facilities can vary considerably, from minor facilities such as remote cattle or sheep handling facilities to major facilities such as slurry storage facilities or milking parlours.

The location of these facilities is identified early in a scheme and avoidance, where possible, is the preferred option for all major facilities. The removal of more minor facilities, as described previously, may occur. Any loss, of any facility, will potentially have a negative effect on the operation of a farm and where a loss does occur it is considered in the assessment of effects.

20.4.2.5 Summary of Operational Phase Impacts

Table 20-11 below provides a summary of the operation impacts on agriculture the Proposed Scheme imposes. The assessment on individual farms is outlined in **Table 20-12**.

Table 20-11: Summary of Operational Phase Impacts

Description	Number / Area
No. of Agricultural Landowners Affected	25
Total Permanent Landtake (ha)	35.8
No. of Folios Divided	4
No. of Facilities Affected	1
No. of Folios Requiring Access	14

¹⁴ <https://www.gov.ie/en/service/3f1f2-transferring-farm-entitlements/>

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Table 20-12: Assessment of the Impact of Landtake on Agricultural Properties

CPO No.	Land Quality	Primary Enterprise	Primary Intensity	Primary Crop Affected	Total Land Parcel (ha)	Landtake area (Permanent Ha)	Landtake area (Temporary ha)	Farm Division	Facilities Affected	Access Required	Value (Sensitivity)	Magnitude of Impact	Significance of Impact (Pre-mitigation)	Impact Details	Mitigation	Significance of Residual Impact
100b, 100c & 100d	Grade 3a	Dairy+	Very Intense	Paddock grazing	2.122	0.040	0.040	No	No	Yes	High	Low	Slight	These lands are leased to an intensive dairy farmer. These lands are affected by the southern tie-in of the Proposed Scheme. There will be a small temporary landtake affecting the existing access points.	Reinstatement of property entrance.	Imperceptible
102	Grade 3b	Dairy	Intense	Field grazing	10.830	0.000	0.000	No	No	Yes	High	Low	Slight	These lands are leased to an intensive dairy farmer. These lands are affected by the southern tie-in of the Proposed Scheme. There will be a small temporary landtake affecting the existing access points.	Reinstatement of property entrance.	Imperceptible
103a	Grade 3b	Dairy+	Intense	Field grazing	3.250	0.000	0.030	No	No	Yes	High	Low	Slight	These lands are leased to an intensive dairy farmer. These lands are affected by the southern tie-in of the Proposed Scheme. There will be a small temporary landtake and the existing access point will be affected.	Reinstatement of existing field entrance.	Imperceptible
105a	Grade 3a	Horses	Moderate	Field grazing	4.050	0.210	0.000	No	No	No	Medium	Low	Slight	Landtake is 5% of the total area of this plot. However, there is no farm division of this plot.	None required	Slight
106a	Grade 3a	Tillage	Moderate	Cereals	42.590	1.260	0.000	No	No	No	Medium	Low	Slight	There will be no farm division of this plot. The landtake is 3% of this plot to accommodate the roundabout at the tie-in.	None required	Slight
107a, 107c & 108a	Grade 2	Dairy+	Very Intense	Paddock grazing	54.920	5.031	1.800	Yes	No	Yes	High	High	Major	This is a large intensive dairy farm and is affected significantly by both landtake (temporary and permanent) and farm division of the primary grazing platform.	It is proposed to construct an overbridge which will provide access to the divided lands.	Major
109a	Grade 2	Tillage	Moderate	Cereals	5.200	1.120	0.000	No	No	No	Medium	Medium	Moderate	These lands are generally leased. Landtake (22%) will be the primary impact from the Proposed Scheme.	None required	Moderate
110a	Grade 3b	Drystock	Extensive	Field grazing	1.340	0.010	0.330	No	No	Yes	Low	Negligible	Imperceptible	Two small landtakes representing 1% of the total area of this plot will be permanently impacted by the Proposed Scheme and 25% of this plot of land will be temporarily acquired.	None, existing access will be maintained.	Imperceptible
111a	Grade 3b	Drystock	Extensive	Field grazing	0.420	0.242	0.000	No	No	No	Low	High	Moderate	58% of this small holding will be acquired for the Scheme.	None required	Moderate
112a	Grade 3a	Tillage	Intense	Cereals	87.040	0.930	0.010	No	No	No	Medium	Low	Slight	The impact is landtake for this plot. There is no farm division and the plot does not cause any triangulation of the field, which can be an issue for the operation of large tillage machines.	None required	Imperceptible
112c, 112d, 112e & 112f	Grade 4	Drystock	Extensive	Field grazing	87.040	2.560	0.000	No	No	No	Low	Medium	Slight	The lands in question are prone to flooding and have therefore limited agricultural value. It is proposed to subsume this plot into the Scheme for compensatory habitat.	None required	Slight
114a	Grade 4	Drystock	Extensive	Field grazing	17.860	1.029	0.000	No	No	No	Low	Medium	Slight	The impact in this situation is landtake. There will be no farm division	None required	Slight
115a & 115c	Grade 3b	Drystock	Moderate	Field grazing	107.940	1.400	0.290	No	No	No	Low	Medium	Slight	This is a relatively small landtake from a large property to accommodate an attenuation pond. There will be no farm division	None required	Imperceptible
118a, 118b, 118c,	Grade 3a	Dairy+	Intense	Field grazing	38.520	4.300	0.662	Yes	No	Yes	High	High	Major	This is a large intensive dairy farm that will be divided from both grazing and from facilities by the Proposed Scheme. The	It is proposed to provide an overbridge and a new access road (access from the	Major

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CPO No.	Land Quality	Primary Enterprise	Primary Intensity	Primary Crop Affected	Total Land Parcel (ha)	Landtake area (Permanent Ha)	Landtake area (Temporary ha)	Farm Division	Facilities Affected	Access Required	Value (Sensitivity)	Magnitude of Impact	Significance of Impact (Pre-mitigation)	Impact Details	Mitigation	Significance of Residual Impact
118d & 118e														landtake is also considerable at 4.3ha or 11% of the overall plot.	N51 to facilities and access to the overbridge).	
120 a & 120b	Grade 3a	Drystock	Moderate	Field grazing	4.930	0.720	0.010	No	No	Yes	Low	Medium	Slight	The south-eastern section of these lands will be permanently acquired for the scheme with a small additional area of temporary landtake. No division of the retained lands will result. Existing field entrance will be removed.	Reinstatement of existing field entrance.	Slight
121a & 121b	Grade 3a	Dairy+	Intense	Field grazing	7.820	3.840	0.000	No	No	No	High	Medium	Major	These lands are currently leased to an intensive dairy farmer. The impact relates to landtake. There will be no division of the retained land but greater than almost 50% of land being acquired	None required	Major
122a, 122b & 122d	Grade 3a	Dairy+	Intense	Field grazing	46.090	1.500	0.030	Yes	No	Yes	High	Medium	Moderate	These lands are currently leased to an intensive dairy farmer. The impact relates to landtake. There will be division of this plot.	Agricultural access to this plot is from the N51 and while this access can be maintained off the N51, access will also need to be provided off the Proposed Scheme to the lands on the southern side of the Proposed Scheme.	Moderate
123a, 123b, 123c & 123g	Grade 3a	Dairy+	Intense	Field grazing	4.246	0.690	0.150	No	No	No	High	Low	Moderate	These lands are currently leased to an intensive dairy farmer. The impact relates to landtake.	None required	Moderate
138 a & 138b	Grade 3b	Drystock	Moderate	Field grazing	7.090	0.000	0.000	No	No	Yes	Low	Negligible	Imperceptible	There will be a small landtake and the temporary loss of access through two road gates	Reinstatement of existing field gates.	Imperceptible
146a, 146b, 146c, 146d & 146g	Grade 3b	Drystock	Moderate	Field grazing	33.420	7.280	2.320	No	No	Yes	Low	High	Moderate	There will be considerable landtake for the Proposed Scheme. There will be farm division of the lands east of the Proposed Scheme.	Reinstatement of existing field gates in new location and new access provided for divided lands to the east.	Moderate
147a	Grade 3a	Tillage	Moderate	Cereals	7.130	1.470	0.060	Yes	No	Yes	Medium	Medium	Moderate	There will be considerable landtake for the Proposed Scheme. There will also be farm division.	An access road will be constructed to allow access to divided lands to the east.	Moderate
148a & 148c	Grade 3a	Beef+	Moderate	Field grazing	7.000	1.660	0.030	No	Yes	Yes	High	Medium	Moderate	A third of this plot will be acquired permanently for the Scheme. An old house (possibly used for ag purposes) and sheds used for cattle will be acquired. There are also cattle handling facilities in this location that will be affected.	Reinstatement of existing field gates to new location. Loss of sheds and facilities will be dealt with by way of compensation under the statutory code.	Moderate
151a, 151b & 151c	Grade 3a	Dairy	Intense	Field grazing	25.280	0.000	0.000	No	No	Yes	Medium	Negligible	Slight	A small sliver of land (0.16ha) will be acquired for the Scheme. There will be no farm division.	Reinstatement of existing field gates.	Imperceptible
152a	Grade 3a	Tillage	Moderate	Cereals	65.100	0.000	0.500	No	No	No	Medium	Negligible	Imperceptible	There is only a temporary landtake from this plot to access and clean an existing field drain.	None required	Imperceptible

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CPO No.	Land Quality	Primary Enterprise	Primary Intensity	Primary Crop Affected	Total Land Parcel (ha)	Landtake area (Permanent Ha)	Landtake area (Temporary ha)	Farm Division	Facilities Affected	Access Required	Value (Sensitivity)	Magnitude of Impact	Significance of Impact (Pre-mitigation)	Impact Details	Mitigation	Significance of Residual Impact
201a, 201b & 201c	Grade 3b	Horses	Moderate	Field grazing	1.800	0.480	0.050	No	No	Yes	Medium	Medium	Moderate	These lands are being acquired for the Public Realm Enhancement part of the Scheme. While there will be removal of an existing entrance, landtake is the main issue	Reinstatement of existing field gates.	Moderate

Note 1:

- Landholding 100 denotes plots of land owned by MCC but is not specific to the Slane area; the total plot area of landholding 100 is therefore nominally defined for the purposes of this assessment as an estimate of plot areas around the Slane environs known to be in the ownership of MCC. The actual 'total plot area' would encompass both known and unknown areas of land in the ownership of MCC located throughout other parts of the county.

Note 2:

- This table should be read in conjunction with **Figure 20.1(a)-(c)** (Landholdings), as well as the maps in **Volume 3**, drawing series **MDT0806-RPS-01-N2-DR-C-DM1000-DM1003** (Engineering Drawings).
- A CPO reference of '1xx' represents landtake related to the proposed N2 bypass and N51 realignment works. A reference of '2xx' represents landtake related to the proposed public realm enhancement proposals in Slane village.

20.4.3 Cumulative Impact

A cumulative impact assessment (CIA) has been undertaken to consider potential for cumulative impact of the Proposed Scheme with other approved development. The detailed methodology for the CIA is described in **Chapter 25 – Cumulative Effects**. The assessment has considered cumulative sources and impact pathways which could impact on agricultural enterprise.

The projects listed in **Appendix 25.2** have been assessed. The nature of the agricultural landtake effects associated with the Proposed Scheme are specific to individual landholdings and associated farming enterprises, and spatially localised to the footprint of the Proposed Scheme. The significant impacts identified relate to a small number of agricultural properties. It is considered that there is no potential for significant cumulative effects (positive or negative) to arise during either the construction or the operational phases of the Proposed Scheme with other approved projects for the topic of Material Assets: Agricultural Properties.

20.5 Mitigation Measures

20.5.1 Construction Phase

Mitigation measures have been considered on a farm-by-farm basis and details of specific measures that are required for individual properties are specified in **Table 20-12**. However, there are a number of measures that will be implemented by MCC and the contractor across all properties, and these are outlined as follows:

- A Landowner Liaison Officer (LLO) will be appointed by the Local Authority following the making of the Compulsory Purchase Order and granting of Planning Permission. The LLO will act as the interface between the landowners and the Contractor/Local Authority and will be in regular communications with all parties (landowners, Local Authority and Contractor).
- Mitigation measures regarding traffic and transport, noise and vibration, and air quality as outlined in **Chapters 7, 9 and 10**, respectively will be implemented.
- MCC will undertake to replace (either along the same or alternative routes) all existing rights of drainage, rights of access to the public road network and easements across the lands to be acquired.
- All drainage likely to be affected or disturbed during the pre-construction (ground surveys and investigations) and construction works will be confirmed during discussions with landowners. Land drains will, to the extent possible, be maintained during the course of the works. Any damage to drains due to the works will be repaired on completion of the works. MCC as the developing authority will seek to minimise the damage involved and, to the extent required by law, will pay compensation to the owner or occupier. Any such claim for compensation will be dealt with expeditiously.
- Existing accesses to property, including homes, farms and divided lands will, where practicable, be maintained by the contractor during construction of the Proposed Scheme; otherwise, reasonable temporary access will be provided to and from divided land plots and to and from the public road network.
- Where necessary, suitable stockproof temporary fencing will be erected by the contractor for the duration of the works. Where any fences, walls or hedges are damaged during the construction of this Proposed Scheme they will be made stock proof immediately, unless otherwise agreed with the landowner. Any necessary permanent restoration of fences, walls, or hedges will be completed within two months of the work concluding.
- Any disruption to animal water supplies 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. An inspection of these machines will be undertaken by the contractor at the point of entry to the country to ensure this measure has been implemented and the contractor will verify to the LLO that this has been done.
- All machines will be sprayed with appropriate disinfectant prior to arrival on site. The contractor will verify to the LLO that this has been done.

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- The LLO will liaise with the local district veterinary office (DVO) to establish the location of any restricted herds along the route of the Proposed Scheme. 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 LLO as a matter of urgency.
- Where the LLO 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 Scheme will be subject to such operational restrictions as are imposed by DAFM.
- Permanent and temporary landtake will be dealt with by way of compensation.
- Loss of facilities will all form part of the overall compensation package agreed with the landowner.

20.5.2 Operational Phase

Similar to the construction mitigation measures, operational mitigation measures have been considered on a farm-by-farm basis and details of these measures are specified in the individual assessments in **Table 20-12**.

The measures that will be implemented across all farms, where required, during the operational phase and these are outlined as follows:

- Permanent access will be provided to all divided lands. Where required this access will be to and from the public road network and where appropriate the access will be by way of farm tracks and overbridges).
- All drains, cables, conduits, pipes, rights of way and wayleaves etc. where such services are severed by the CPO during construction or operation of the Proposed Scheme will be maintained or replaced, unless otherwise agreed with the landowner.
- MCC will undertake to replace (either along the same or alternative routes) all existing rights of drainage, rights of access to the public road network and easements across the lands to be acquired.
- Ducting will be provided, where required and where practicable, to allow for the provision of services (electrical/water) across the newly developed road to divided areas.
- Where required, suitable permanent stock- proof fencing will be erected along the Proposed Scheme. Maintenance of fencing alongside the Proposed Scheme will be the responsibility of the local authority.

20.6 Residual Impacts

In the last 30 years (1991 to 2020) the Utilizable Agricultural Area¹⁵ (UAA) for Ireland has increased from 4,441,755 ha in 1991 to a high in 2010 of 4,568,938 ha, and down to its current area of 4,509,256 ha in 2020 (CSO, 2020). The change in area is brought about by activities such as development (such as the Proposed Scheme), which accounts for lands lost to the UAA, to activities such as reclamation, which are lands gained to the UAA. As the UAA is largely based on the annual returns from farmers it is considered a reasonable metric to assess the combined effects on landtake from the UAA available due to the development of the Proposed Scheme together with existing development.

When considering the lands to be acquired (permanently) for the Proposed Scheme from a national perspective (whole of Ireland), the change equates to approximately 0.0001% (approx. 36 ha for the Proposed Scheme / 4,509,256 ha UAA for Ireland in 2020 x 100). This change is not considered significant.

When considering the lands to be acquired (permanently) for the Proposed Scheme from a regional perspective (Co. Meath), the change equates to approximately 0.02% (approx. 36 ha for the Proposed Scheme / 197,366 ha UAA for Co. Meath in 2020 x 100). This change is also not considered significant.

¹⁵ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Utilised_agricultural_area_\(UAA\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Utilised_agricultural_area_(UAA))

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The Proposed Scheme will have an impact from a local, and individual, perspective primarily from a loss of agricultural land and division of retained lands.

In summary, the Proposed Scheme will have a permanent negative residual impact on 25 landowners as detailed in **Table 20-12** and summarised in **Table 20-13**.

While accommodation/ scheme 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.

Table 20-13: Summary of Residual Impacts

Residual Impact	Number
Imperceptible	9
Slight	5
Moderate	8
Major	3
Profound	0

20.7 Monitoring

No specific monitoring is required for either the construction or operational phases.

20.8 Chapter References

CSO (2022) Census of Agriculture 2020. Statistical publication, 26 May 2022.

CSO (2016) Life in 1916 Ireland: Stories from statistics.

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<https://www.gov.ie/en/service/3f1f2-transferring-farm-entitlements/>

Highways England (2020) Design Manual for Roads and Bridges (DMRB) HE-DMRB-SE LA 104 – Environmental assessment and monitoring (formerly HA 205/08, HD 48/08, IAN 125/15, and IAN 133/10), August 2020 Revision 1.

Highways England (2020) Design Manual for Roads and Bridges (DMRB) LA 112 – Population and Human Health, Version 1, January 2020.

MAFF (2008) Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land (ALC011). Ministry of Agriculture, Fisheries and Food, October 1988.

NRA (2008) Environmental Impact Assessment of National Road Schemes – A Practical Guide.

NRA (2003) Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads. Revised 2005.