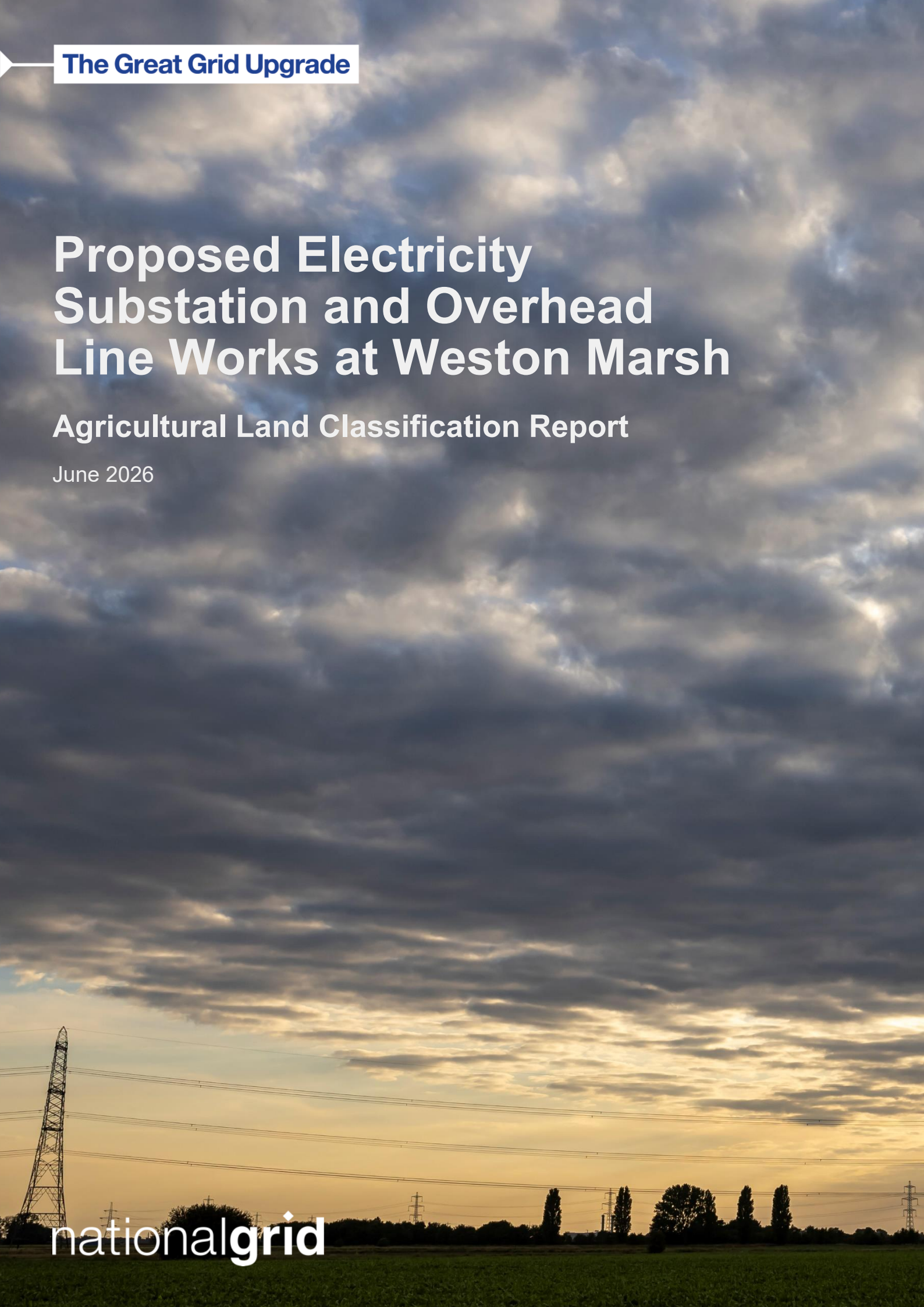
The Great Grid Upgrade

Proposed Electricity Substation and Overhead Line Works at Weston Marsh

Agricultural Land Classification Report

June 2026



nationalgrid

Proposed Electricity Substation and Overhead Line Works at Weston Marsh
Document Control

Document Properties	
Organisation	Arcadis Consulting (UK) Limited
Approved by	National Grid
Title	Agricultural Land Classification Report
Document Register ID	GWNC-ARC-SS50-XXXXXX-RPT-ES-000002
Data Classification	Public

Version History			
Date	**Version**	**Status**	**Description / Changes**
May 2026	1.0	Final	First Issue
June 2026	2.0	Final	Second Issue - minor update to cross references

Contents

1. Introduction

1.1 Overview

1.1.1 This Agricultural Land Classification (ALC) Survey report has been prepared on behalf of National Grid Electricity Transmission plc (National Grid).

1.1.2 National Grid are proposing to undertake works to construct a new electricity substation, new sections of overhead line and modification of existing overhead lines west of the Spalding Tee-Point in the Weston Marsh area, within the administrative boundary of South Holland District Council (SHDC) in Lincolnshire.

1.2 Summary of the Scheme

1.2.1 In totality, the Scheme consists of four components, each planned to be progressed via separate consenting routes. These are summarised in **Table 1.1**.

Table 1.1 Components of the Scheme

Works Required	Consenting Regime
Construction of the new Air Insulated Substation (AIS) – 400kV Weston Marsh Substation A, associated landscaping and environmental mitigation works, drainage, highways and other associated works	Town and Country Planning Act 1990 (TCPA) (Ref 1) Component referred to as '**Substation Works'**
Construction of new sections of overhead line to connect the new substation into the existing 4ZM overhead line. Removal of a section of the existing 4ZM overhead line. Other associated works.	Section 37 of the Electricity Act 1989 (Ref 2) and deemed consent pursuant to section 90(2) of the Town and Country Planning Act 1990 Component referred to as '**S37 4ZM Overhead Line Works**'
Construction of a new section of overhead line to connect the new substation into the existing 4ZM overhead line. Removal of a section of the existing 2WS overhead line. Other associated works.	Section 37 of the Electricity Act 1989 and deemed consent pursuant to section 90(2) of the Town and Country Planning Act 1990. Component referred to as '**S37 2WS Overhead Line Works**'
Reconductoring works required on the existing 4ZM overhead line. Two spans of temporary overhead lines.	The Town and Country Planning (General Permitted Development) (England) Order 2015 (Ref 3) and The Overhead Lines (Exemption) (England and Wales) Regulations 2009 (Ref 4) Component referred to as '**Exempt Overhead Line Works'**

1.2.2 The Substation Works will require consent from SHDC under the TCPA.

1.2.3 The S37 4ZM Overhead Line Works and the S37 2WS Overhead Line Works (collectively referred to as the "S37 Overhead Line Works") will require consent from the Secretary of State for Energy Security and Net Zero under Section 37 of the Electricity Act 1989 (Section 37).

1.2.4 The Exempt Overhead Line Works constitute permitted development under Part 15 Class B of the Town and Country Planning (General Permitted Development) (England) Order 2015 and The Overhead Lines (Exemption) (England and Wales) Regulations 2009.

1.2.5 The Scheme Site Boundary, which consists of the land required to construct and operate the Scheme in its entirety, is illustrated on **Figure 1**. The areas of land required to construct and operate each individual component described in **Table 1.1** are also illustrated on **Figure 1**.

1.2.6 The Scheme in its totality is a standalone development to enable connection of the Outer Dowsing Offshore Wind Farm to the national electricity transmission system. Each component stated in **Table 1.1** is required for the Scheme to fully function as part of the National Electricity Transmission System (NETS).

1.3 Purpose of this Report

1.3.1 This report has been prepared in support of the necessary consent applications required to deliver the Scheme. It has been informed by engagement between National Grid and the relevant consenting authorities.

1.3.2 The report considers the Scheme in its entirety. Where the potential impacts and effects of the Scheme are associated with specific components as set out within **Table 1.1**, this is clearly identified within the following sections. This approach enables the relevant consenting authority to readily identify and consider only those impacts and effects that are associated with the application before them, whilst also maintaining a clear understanding of the Scheme in its wider context.

1.3.3 The purpose of this report is to set out the distribution of ALC grades and assess land quality within the boundary of the Scheme and to provide baseline information to support the assessment of likely effects on agricultural land and soils.

2. Legislative and Policy Framework

2.1.0 Legislation and national and local planning policy relevant to the Scheme is described in the Planning, Design and Access Statement (TCPA application) and Section 37 Statement (S37 applications). Key legislation and policy specifically relevant to this ALC Report is summarised in the following sections.

2.1 Legislation and National Policy

National Planning Policy Framework

2.1.1 This ALC assessment is consistent with the direction given by paragraph 187, Section 15: Conserving and enhancing the natural environment, of the National Planning Policy Framework (NPPF) (Ref 5) as follows:

'Planning policies and decisions should contribute to and enhance the natural and local environment by: … (b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.'

2.1.2 Footnote 65 at paragraph 188 of the NPPF also states that

'where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.'

2.1.3 The NPPF defines best and most versatile (BMV) agricultural land as land in Grades 1, 2, and 3a under the ALC system.

Overarching National Policy Statement for Energy (EN-1)

2.1.4 The National Policy Statements (NPS) for Energy (EN-1) (Ref 6) states that energy projects could have adverse effects on agriculture, and requires:

1) Paragraph 5.11.12 states that Applicants should

'seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferable use land in areas of poorer quality (grades 3b, 4 and 5)'; and

2) Paragraph 5.11.34 states the Sectary of State should

'ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. Where schemes are to be sited on best and most versatile agricultural land the Secretary of State should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.'

2.2 Regional and Local Policy

2.2.1 The South East Lincolnshire Local Plan 2011-2036 (Ref 7) includes the following which are relevant to the Scheme:

1) Section 2.6.1, Strategic Priority 9:

'To promote the more efficient use of land, prioritise the re-use of previously developed land and to minimise the loss of South East Lincolnshire's high quality agricultural land by developing in sustainable locations, at appropriate densities.'; and

2) Policy 3, Design of New Development, requires proposals, where relevant, to

"protect best and most versatile soils".

2.3 Guidance

2.3.1 The revised ALC Guidelines (Ref 8) divide agricultural land into six grades (with Grade 3 land subdivided into Grades 3a and 3b). These grades categorise land according to the degree of limitation imposed on land use by the inherent characteristics of climate, site, and soils.

2.3.2 Protecting BMV agricultural land and undertaking ALC surveys is supported by the Natural England Guide to assessing development proposals on agricultural land (Ref 9).

2.3.3 A description of each grade from the ALC guidelines is set out below:

1) 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.

2) 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.

3) 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 the yields are generally lower or more variable than on land in Grades 1 and 2.

a) 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.

b) 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.

4) 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.

5) 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.

3. Methodology

3.1 Scope of the Assessment

3.1.1 The scope of this assessment has been informed through consultation and engagement with relevant consultees including Natural England and local councils.

3.1.2 The scope of the construction and operational assessment covers soil function as defined by ALC Grade.

3.2 Study Area

3.2.1 The Study Area for this assessment is defined by the Scheme Site Boundary encompassing the components of the Scheme as listed in **Table 1.1** and shown in **Figure 1**. This includes:

1) Approximately 19.7 ha of land which would be required permanently under the Scheme. This accounts for:
    a) the substation including substation access swathe and SUDS basin, land required for drainage diversion and outfall pipe;
    b) a net increase of three pylons; and
    c) two areas required for permanent mitigation: a small area for permanent mitigation to the north west of the substation and a panel of screening planting to the east of the substation the substation.
2) Land temporarily affected by activities including temporary construction compounds, access routes and restringing activities.

3.2.2 Additionally, there are two areas included within the Scheme Site Boundary which are to be used for mitigation but which are not anticipated to affect the soil function or quality. These are:

1) Two fields for skylark mitigation to the west of the substation; this mitigation is proposed to comprise a change in cropping regime only; and
2) A row of existing trees (perpendicular to Marsh Road, north of Crowtree Farm) which have been identified as a potential site for a barn owl box to be installed in. The Scheme Site Boundary includes the whole row of trees but the mitigation proposal would only require access to install one box and no soil impacts are anticipated to be required to deliver this mitigation.

3.3 Data Collection

Desk Study

3.3.1 The following sources have been used to inform the baseline conditions:

1) British Geological Survey (BGS) Geology Viewer (Ref 10)

2) Google Earth (2024). Aerial Photography (Ref 11)

3) Department for Environment, Food and Rural Affairs (Defra) Agricultural Land Classification – Provisional (England), provided through MAGIC (Multi-Agency Geographic Information for the Countryside) (Ref 12)

4) Department for Environment, Food and Rural Affairs (Defra) Post-1988 Agricultural Land Classification (England), provided through MAGIC (Multi-Agency Geographic Information for the Countryside) (Ref 12)

5) Climate data sets for ALC assessment (Ref 14).

Site Survey

3.3.2 The ALC survey and assessment was undertaken in accordance with:

1) Soil Survey Field Handbook (Ref 13);

2) ALC guidelines (Ref 8); and

3) Meteorological Office climatological data (Ref 14).

3.3.3 The detailed survey involved the examination of physical soil properties at 102 auger bore locations and one soil pit location. Sixteen auger bores could not be conducted due to constraints relating to landowner access at the time of the survey access request; of these, three are within the Scheme Site Boundary. The status of auger bores are shown in **Appendix A**, with either a colour representing their ALC grade, or grey to indicate not surveyed. Non-surveyed auger bore locations are discussed further in the Assumptions and Limitations section.

3.3.4 The hand auger surveys were undertaken between 01/07/2025 and 31/01/2026 and the soil pit examinations were undertaken on 24/03/2026.

3.3.5 The survey was conducted at a density of one auger bore examination per hectare within the Scheme Site Boundary, meeting the Guidance requirement (Ref 15). Auger bores (**Appendix A**) were set out prior to the field survey and were loaded with Google Earth app into smart phones to locate auger bore locations in the field.

3.3.6 The following soil and site properties were examined/recorded at each auger bore location:

1) Soil texture;

2) Horizon depths;

3) Stoniness;

4) Calcareousness (using 10% hydrochloric acid);

5) Matrix colour (based on a Munsell Colour Chart);

6) Mottles (colour, size and number);

7) Ped structure; and

8) Slope (using a clinometer).

3.3.7 One soil pit was dug to further examine and assess the subsoil structure to a depth of 100 cm using a hand-held insulated spade. The soil pit profile description is provided in **Appendix A**.

3.3.8 The auger bore logs are presented in **Appendix A** alongside the following parameters:

1) Site: Gradient, Micro-relief and flooding;
2) Interactive Factors: Soil Wetness Class and Soil Droughtiness; and
3) Most limiting factors and final ALC grade.

3.3.9 A Cable Avoidance Tool and Generator (CAT and Genny) was used to scan each auger bore location to ensure avoidance of buried services before breaking ground. The soil profiles were examined up to a depth of 120 cm by using a 5 cm Dutch soil auger and soils from each auger bore were reinstated after examination.

3.4 Assumptions and Limitations

3.4.1 Auger bore locations were based on the design at the time of surveying and as such there are some auger bore locations which lie outside the Scheme Site Boundary (as set on 09/03/2026) and some areas within the Scheme Site Boundary which have not been fully covered by the survey. Areas based on Provisional mapping are distinguished in **Figure 2** using hatching and are as follows:

1) The area to the north east of Welland House Farm has been proposed for environmental mitigation, specifically skylark mitigation. This mitigation includes a proposed change in cropping practice but does not result in impacts on BMV land, soil quality or soil function. The mapping for this area has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the sensitivity of this land. No further soil information is required to support the proposed ecological mitigation.
2) Two areas running north west to south east are required for the 4ZM overhead line works. These are sited a) east of Old Three Tuns Farm (north of the River Welland) and b) to the north east of Top Yard and Lord's Drain. It is not anticipated that any soil stripping or handling will be required in these areas as part of the required works, although tracking over the land will be required. As such, a detailed ALC survey will be completed in this area post-submission and pre-construction, to confirm the soil baseline. For the assessment set out in this report, the mapping for these areas has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the sensitivity of this land.
3) Along a north west to south east band sited north east of augers 1056 to 1061, a band of existing trees is proposed for siting a barn owl box. No soil impacts are anticipated to be required to deliver this mitigation. For the assessment set out in this report, the mapping for this area has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the

sensitivity of this land. No further soil information is required to support the proposed ecological mitigation.

4) A north west to south east band which is sited north east of augers 1061 to 1062 is proposed to be used for Distribution Network Operator works to serve the substation and will be temporarily impacted by the works. As such, a detailed ALC survey will be completed in this area post-submission and pre-construction, to confirm the soil baseline. For the assessment set out in this report, the mapping for this area has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the sensitivity of this land.

5) An area running north to south, adjacent to Bottom Yard, north of auger location WM22 is proposed to be used for permanent screening of the substation. As such, a detailed ALC survey will be completed in this area post-submission and pre-construction, to confirm the soil baseline. For the assessment set out in this report, the mapping for this area has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the sensitivity of this land.

6) A bank of land running north to south, sited west of St. Lambert's Hall is proposed for construction access from the construction compound sited in the area of auger locations 1088 – 1090 and thus would be temporarily impacted by the works. As such, a detailed ALC survey will be completed in this area post-submission and pre-construction, to confirm the soil baseline. For the assessment set out in this report, the mapping for this area has been derived from the Provisional ALC mapping and is shown as, and has been included in the assessment as, Grade 1 land. Given the prevalence of Grade 1 land in this area and the fact that the surveys confirmed Grade 1 land across adjacent land, it is considered that this assumption represents a likely situation and has not under-estimated the sensitivity of this land.

3.4.2 There are two strips of land which have surveyed auger locations running alongside them: north of Crowtree Farm running north west to south east, as part of the overhead line works; and running north to south, sited north west of St. Lambert's Hall. These auger locations are slightly outside the Scheme Site Boundary due to design changes; however, they have been used to assess the likely ALC grade of the land adjacent, based on their proximity.

3.4.3 The areas of land within the central area of the Scheme Site Boundary, and the area immediately east of Marsh Road (the south eastern section of the skylark mitigation area), for which no auger information is available, have been assessed as ALC Grade 1 land. This is based on Provisional mapping, auger results in the areas nearby, and the lack of variability across the surveyed areas in relation to site and visible soil characteristics, as observed by surveyors while undertaking the ALC survey.

3.4.4 Three auger bores within the Scheme Site Boundary (N66, N67, N81) could not be conducted due to constraints relating to landowner access at the time of the survey.

These, along with other auger locations close to the Scheme Site Boundary for which access was sought but could not be agreed (13 in number), are shown in **Figure 2** as grey circles. N66 and N67 are within the land area described in **paragraph 3.4.3** and there are no current plans to survey these points in future. N81 is within the land area described in **paragraph 3.4.1** (6) and therefore will be surveyed post-submission and pre-construction, subject to land access availability.

3.4.5 Auger observations from accessible areas adjacent to the Scheme Site Boundary have been used to infer continuity of conditions across the site, and as such are included in **Appendix A** to provide additional supporting information.

4. Baseline Information

4.1.1 This section provides baseline information collated from a desk study undertaken prior to the ALC survey.

4.2 Land Use

4.2.1 Aerial imagery (Ref 11) indicates that the land use across the Scheme is predominantly a mixture of arable agriculture with fields primarily bounded by ditches with the occasional hedgerow. Arable agriculture in this area is supported by land drainage. This was confirmed during the site visit.

4.3 Topography and Relief

4.3.1 Available Ordnance Survey maps indicate that the topography of the Scheme is flat, being 0 m Above Ordnance Datum (AOD). This was confirmed during the site visit.

4.4 Flooding

4.4.1 The Government's long term flooding risk service information (Ref 16) was consulted to assess the flooding risk of the Scheme. This shows that the area predominantly has a 'low chance' (0.1 % to 1 % chance) of flooding each year (**0**). There are small areas mapped as having a higher risk of flooding each year (medium: 1 % to 3.3 % chance; and high: more than 3.3 % chance) but these are very localised and therefore unlikely to affect land management.

4.5 Geology

4.5.1 Bedrock geology is mapped (Ref 10) as West Walton Formation (sedimentary mudstone and siltstone) and Oxford Clay Formation (detrital mudstone with interbedded carbonates), both formed during the Jurassic Period between 157.3 and 163.5 million years ago.

4.5.2 Clay and silt tidal flat deposits form the superficial drift present, which are sedimentary superficial deposits formed during the Quaternary period (between 11.8 thousand years ago and the present).

4.6 Previous ALC

4.6.1 Provisional ALC mapping (Ref 12) shows the Scheme to be predominantly mapped as Provisional ALC Grade 1 land.

4.6.2 There is no published detailed ALC mapping available for the Scheme.

4.7 Previous Soil Survey Data

4.7.1 Available national soil survey mapping data indicates that the Soil Association present within the Scheme area is predominantly the Wisbech Association (Ref 17). The Wisbech Association comprises deep stoneless calcareous coarse silty soils. Groundwater is usually controlled by ditches or pumps as the land is flat with low ridges. There is a risk of wind erosion locally associated with these soils. They are seasonally waterlogged and affected by a shallow fluctuating groundwater-table. These soils are developed mainly within or over permeable material and have prominently mottled or greyish coloured horizons within 40 cm depth.

4.7.2 The national soil survey information is presented in **Appendix A.**

4.7.3 The England Peat Map Portal (Ref 18) shows that there is not expected to be any peat present within the Scheme.

4.8 Climatological Data

4.8.1 The climate data required for the ALC assessment are provided by the Meteorological Office for 5 km intersections of the British National Grid (Ref 14). Climate data covering the area of the Scheme are provided in **Table 4.1**.

Table 4.1 Climatological data for the site (key below table).

BNG	Alt (m)	AAR (mm)	AT0 (day °C)	FCD	MDMWHT (mm)	MDMPOT (mm)
TF275254	4	573	1439	106	120	115
TF278272	4	576	1438	106	119	115
TF279260	3	574	1440	106	119	115
TF280266	3	575	1439	106	119	115
TF280272	4	577	1438	106	119	115
TF283275	4	578	1438	106	119	115
TF284279	4	580	1437	107	119	115
TF285277	4	579	1438	107	119	115
TF285282	4	582	1437	107	119	114
TF286281	4	581	1437	107	119	114
TF288283	4	583	1437	107	119	114
TF288286	4	584	1437	107	118	114
TF289287	4	585	1437	107	118	114
TF289300	4	590	1436	108	118	114
TF289300	5	591	1435	108	118	114

BNG	Alt (m)	AAR (mm)	AT0 (day °C)	FCD	MDMWHT (mm)	MDMPOT (mm)
TF290288	4	586	1436	107	118	114
TF290289	4	587	1436	108	118	114
TF291292	4	588	1436	108	118	114
TF292293	4	589	1436	108	118	114

BNG = British National grid; Alt = Altitude; AAR = Average Annual Rainfall, AT0 = Accumulated Temperature above 0°C; FCD = Field Capacity Days; MDMWHT = Modelled Moisture Deficit Wheat; MDMPOT = Modelled Moisture Deficit Potatoes.

5. ALC Assessment

5.1.1 This section uses baseline and field survey data to assess the limitations on potential productivity as a result of climate, site and soil characteristics to determine ALC grades across the Scheme.

5.2 Soil Type

5.2.1 The ALC survey indicated that the dominant soil on the Scheme is stoneless calcareous deep light silt with light silt over medium/heavy silt in places. The soils described are typical of Wisbech series, in agreement with the Soil Association that was identified through desk study and reported in **section 4.7**.

5.3 Climatic Limitations

5.3.1 With reference to values in **Table 4.1** and associated limitation criteria, the climatic Grade, in the absence of any other limitations, would be Grade 1. As such, climatic conditions do not present a limitation at the Scheme.

5.4 Site Limitations

Gradient and Microrelief

5.4.1 As stated in **Paragraph 4.3.1**, the Scheme is flat. As such, gradient and microrelief are not considered to represent limiting factors to land grade.

Flooding

5.4.2 The risk of flooding from surface water, rivers and the sea is very low (less than 0.1 % each year), and that from reservoirs and groundwater is unlikely in the Scheme, as stated in **section 4.4**. There are some medium and high (>3.3 % chance) flood risk areas at the margins of drainage ditches and in the marshland centred between Bass Cottages and St Lamberts Cottages. However, these are small and localised in extent so should not impact land management. Therefore, in the absence of any other limitations, the Grade would be Grade 1 according to flood risk.

5.5 Soil Limitations

Soil Depth and Stoniness

5.5.1 The depth and stoniness of the soils do not constitute a limiting factor as the soils over the Scheme are deep stoneless marine alluvial soil - Wisbech soil. As shown in soil log in **Appendix A**, stones were only recorded as present in one borehole, which had 1% stone content; and all soil profiles were 1.2 m deep. These occasional stones

are likely to be incidental to previous agricultural operations and do not reflect the overall character of the soils surveyed.

Soil Texture

5.5.2 Topsoil texture is not a direct limiting factor, as the topsoils are predominantly light silt with no sand or loamy sand present. The subsoils are generally light silt or light loam, with occasional areas of medium or heavy silt.

5.6 Chemical Limitations

5.6.1 No chemical limitations were observed during the survey, such as iron sulphides from acid sulphate soils.

5.7 Interactive Limitations

5.7.1 The presence of a gleyed horizon within 70 cm of the ground surface or a slowly permeable layer was not observed, although “few” to “common” mottles were observed in some locations, as shown in **Appendix A**. As such wetness does not present a limitation.

5.7.2 Droughtiness is not a limiting factor, as the soils are predominantly deep silts and the land is flat and at low altitude.

5.7.3 No water-induced or wind erosion was observed during the site survey. Water-induced erosion is not anticipated due to the flat nature of the site, and wind erosion is also unlikely due to the surrounding tree lines, hedge rows, the nearby dyke, and the presence of crops for most of the year.

5.8 ALC Grade

5.8.1 The final ALC grade, soil properties, moisture balance, and limiting factors for each auger bore are presented in **Appendix A**. The ALC grade distribution of the Scheme and the grade of each auger bore are also present in **Appendix A**.

5.8.2 All agricultural land within the Scheme Site Boundary has been assessed as being ALC Grade 1 land. **Table 5.1** summarises the land take of the scheme according to the following definitions:

1) Temporary Land Take: land used temporarily by the Scheme and reinstated after construction. This comprises the majority of the Scheme Site area.

2) Permanent Land Take: land taken permanently out of agricultural production by the Scheme. This comprises the substation including access swathe and SUD basin, land required for drainage diversion and outfall pipe, a net increase of three pylons, and two areas required for permanent mitigation: a small area for permanent mitigation to the north west of the substation and a panel of screening planting to the east of the substation.

3) Mitigation Not Impacting Soil: land proposed to be used for mitigation which is included in the Scheme Site Boundary but is not anticipated to have an impact on soil quality or function. This includes a band of existing trees for the potential siting of a barn owl box; and fields where cropping is proposed to be changed, to

provide skylark mitigation. The installation of the barn owl box would be done using access method that are not anticipated to impact the soil.

4) Non-agricultural Land: this includes land within the Scheme Site Boundary which is defined as non-agricultural, including roads and access tracks, waterways and woodlands.

5.8.3 The permanent Grade 1 land take of 19.69 ha represents 0.03 % of the land classified as Provisional Grade 1 land, and 0.004 % of land classified as Best and Most Versatile (defined as land mapped as Provisional ALC Grades 1, 2 and 3), in Lincolnshire.

Table 5.1 ALC Grade

ALC Grade	Area (ha)			
	Temporary	Permanent	Mitigation (no anticipated impact on soil)	Total
Grade 1	111.21	19.69	35.13	166.03
Grade 2	0	0	0	0
Grade 3a	0	0	0	0
Grade 3b	0	0	0	0
Grade 4	0	0	0	0
Grade 5	0	0	0	0
Non-agricultural	3.31	0	0	3.31
BMV (Grade 1,2 &3a)	**111.21**	**19.69**	**35.13**	**166.03**
Total	**114.52**	**19.69**	**35.13**	**169.34**

6. Conclusion

6.1.1 The Scheme has been assessed as being located on predominantly ALC Grade 1 land: of the 169.34 ha affected in total, 98.0 % (166.03 ha) was assessed as ALC Grade 1 land and the remaining 2.0 % (3.31 ha) was assessed as non-agricultural.

6.1.2 Of the total land area affected, 19.69 ha will be used permanently, all of which is ALC Grade 1 land. This represents 0.03 % of the land classified as Provisional Grade 1 land, and 0.004 % of land classified as Best and Most Versatile (defined as land mapped as Provisional ALC Grades 1, 2 and 3), in Lincolnshire.

6.1.3 Of the land temporarily affected by the Scheme (114.52 ha), 97.1 % (111.21 ha) is ALC Grade 1 land, with 2.9 % (3.31 ha) classified as non-agricultural, including waterways, woodlands and existing access tracks.

6.1.4 Given the abundance of BMV land within the County and the extent of Provisional Grade 1 land at and around the Scheme location, opportunities for the preferential use of lower grade land were very limited. This matter is discussed in more detail in the Planning Design and Access Statement (TCPA application) and Section 37 Statement (S37 applications).

6.1.5 The soil comprising the Scheme is stoneless calcareous deep silt – soils belonging to the Wisbech Association.

6.1.6 The ALC assessment has been based on 102 auger bore locations and one soil pit location. The majority of auger bore locations were within the Scheme Site Boundary, with additional adjacent locations used to support the inference of land grade in areas where augers have not yet been completed.

6.1.7 There are two areas of land proposed for environmental mitigation which have not been surveyed but where impacts on BMV land, soil quality and soil function are not anticipated, due to the nature of the mitigation. No additional surveying will be undertaken in these areas.

6.1.8 There are five areas of land which have not been surveyed but where additional ALC surveying will be undertaken post-application, pre-construction. These include land temporarily impacted by works and land used permanently for mitigation. Although these areas have not been surveyed for this assessment, given the prevalence of Grade 1 land in the Scheme area and the fact that surveys have confirmed Grade 1 land across adjacent land, it is considered that the assumption that these areas comprise ALC Grade 1 land represents a likely situation and has not under-estimated the sensitivity of this land. The additional surveys will provide information about the pre-construction baseline.

7. Mitigation and Management Measures

7.1.1 Land within the Scheme Site Boundary has been assessed as ALC Grade 1 land, with stoneless deep silt soils, representing some of the best agricultural land in the country. The land is largely used for high-value cash crops such as vegetables and flowers. It is therefore imperative that these soils and land required temporarily are protected during the design and construction of the Scheme, in accordance with the NPPF and NPS in relation to BMV land and soil protection.

7.1.2 Mitigation and management measures for all soil handling operations have been set out in the outline Soil Management Plan using soil data from the ALC survey.

7.1.3 The soil data from the ALC survey will be combined with detailed scheme design and construction approach information to develop the detailed Soil Management Plan, preconstruction, to set out the approaches to soil handling to avoid, reduce and manage adverse effects on agricultural land and soil resources arising from the Scheme. The application of the soil data would enable the separation of topsoil, upper subsoil, and lower subsoil during soil handling, as well as the segregation of soils according to their texture class groups. This would reduce the risk of soil contamination, particularly the contamination of topsoil by subsoil.

7.1.4 A Soil Resources Survey will be undertaken prior to construction to establish a holistic baseline of soil pH, fertility and soil carbon content. The resulting soil nutrient data will inform the detailed design of landscape and ecological mitigation measures and will support soil re-use decisions alongside the ALC survey data.

References

Ref 1 UK Government, (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/571). London: The Stationery Office. Available at https://www.legislation.gov.uk/uksi/2017/571/contents. Accessed 16 February 2026.

Ref 2 UK Government, (1989). Electricity Act 1989 (c. 29), Section 37: Consent required for overhead lines. London: The Stationery Office. Available at https://www.legislation.gov.uk/ukpga/1989/29/section/37. Accessed 16 February 2026.

Ref 3 UK Government, (2015). The Town and Country Planning (General Permitted Development) (England) Order 2015 (SI 2015/596), Schedule 2, Part 15, Class D. London: The Stationery Office. Available at https://www.legislation.gov.uk/uksi/2015/596/contents/made. Accessed 16 February 2026.

Ref 4 UK Government, (2009). The Overhead Lines (Exemption) (England and Wales) Regulations 2009 (SI 2009/640). London: The Stationery Office. Available at https://www.legislation.gov.uk/uksi/2009/640/contents/made. Accessed 16 February 2026.

Ref 5 Department for Levelling Up, Housing and Communities, (2025). National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2. . Accessed 8 February 2026.

Ref 6 Department for Energy Security and Net Zero, (2023). Overarching National Policy Statement for energy (EN-1). London: Department for Energy Security and Net Zero. Available at https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1. Accessed 16 February 2026.

Ref 7 South East Lincolnshire Joint Strategic Planning Committee, (2019). South East Lincolnshire Local Plan 2011–2036 (Adopted March 2019). Available at: https://southeastlincslocalplan.org/media/21941/South-East-Lincolnshire-Local-Plan-2011-2036/pdf/Local-Plan-text-March-2019.pdf. Accessed 06 February 2026.

Ref 8 Welsh Government and Department for Environment, Food and Rural Affairs (Defra), (2025). Agricultural Land Classification of England and Wales: Guidelines for grading the quality of agricultural land (JP069). Available at: https://publications.naturalengland.org.uk/publication/6257050620264448. Accessed 10 February 2026.

Ref 9 Natural England, (2021). Guide to assessing development proposals on agricultural land. Available at: https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land. Accessed 06 February 2026.

Ref 10 British Geological Survey, (n.d.). BGS Geology Viewer. Available at: https://geologyviewer.bgs.ac.uk/. Accessed 06 February 2026.

Ref 11 Google Earth (2024). Aerial Photography [online]. Available at: https://www.earth.google.com

Ref 12 Department for Environment, Food and Rural Affairs (Defra), (n.d.). MAGIC Map (Multi-Agency Geographic Information for the Countryside). Available at https://magic.defra.gov.uk/. Accessed 16 February 2026.

Ref 13 Hodgson, J.M. (2022). Soil Survey Field Handbook: Describing and Sampling Soil Profiles. Harpenden: Rothamsted Research.

Ref 14 Meteorological Office, (1989). Climatological Data for Agricultural Land Classification. Bracknell: Meteorological Office. Available at: https://publications.naturalengland.org.uk/publication/6493605842649088. Accessed 10 February 2026.

Ref 15 Department for Environment, Food & Rural Affairs (Defra) (2021) Guide to assessing development proposals on agricultural land. GOV.UK. Updated 5 February 2021. Available at: Guide to assessing development proposals on agricultural land - GOV.UK

Ref 16 Environment Agency (UK Government,. Check the long term flood risk for an area in England. GOV.UK. Available at: https://www.gov.uk/check-long-term-flood-risk. Accessed 06 February 2026.

Ref 17 National Soil Resources Institute (NSRI), Cranfield University, (2024). Soil data (LandIS). Available at https://www.landis.org.uk/data/index.cfm. Accessed 17 February 2026

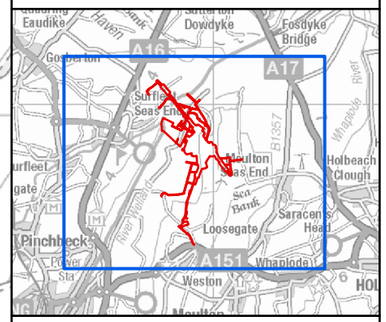
Ref 18 England Peat Map Portal (2025). Available at: https://england-peat-map-portal-ncea.hub.arcgis.com/. Accessed 23 March 2026

Figures

Figure 1 Scheme Site Boundary

N

LEGEND



Legend

- Scheme Site Boundary
- Substation Works Site Boundary
- S37 OHL Works Site Boundary
- Exempt Overhead Line Works Site Boundary
- S37 - 4ZM - OHL Works Site Boundary
- S37 - 2WS - OHL Works Site Boundary

Rev	Date	Description	GIS	Chk	App
A	05/05/2026	First Issue	DF	DF	HB

nationalgrid

Purpose: CONSENTING OVERVIEW

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 1 SCHEME SITE BOUNDARY

Creator:	Date:	Checker:	Date:	Approver:	Date:
DF	05/05/2026	DF	05/05/2026	HB	05/05/2026

Document Type:	Scale:	Format:	Sheets:	Rev:
FIGURE	1:25,000	A3	1 OF 1	A

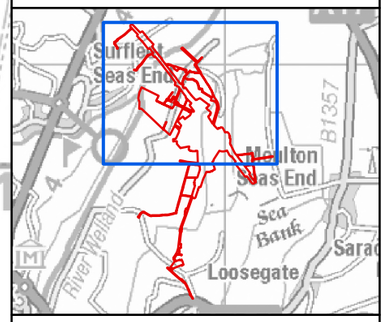
0 250 500 750 1,000 Meters

Document Path: \\eu.aecomnet.com\EMIA\UKI\UKNCL2\Jobs\60721024 Grimsby to Walpole\02_Maps_WM Substation TCPA\Agriculture and Soils\WM_TCPA_Agriculture_Soils.aprx

Figure 2 Agricultural Land Classification Map

N

LEGEND



Legend
- Scheme Site Boundary

Soil Pit
- Grade 1

Auger Point
- Grade 1
- Grade 2
- Not Surveyed

Agricultural Land Classification
- Grade 1
- Based on Provisional Mapping
- Non-agricultural Land

Rev	Date	Description	GIS	Chk	App
A	06/05/2026	First Issue	DF	DF	HB

nationalgrid

Purpose: AGRICULTURAL LAND CLASSIFICATION REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

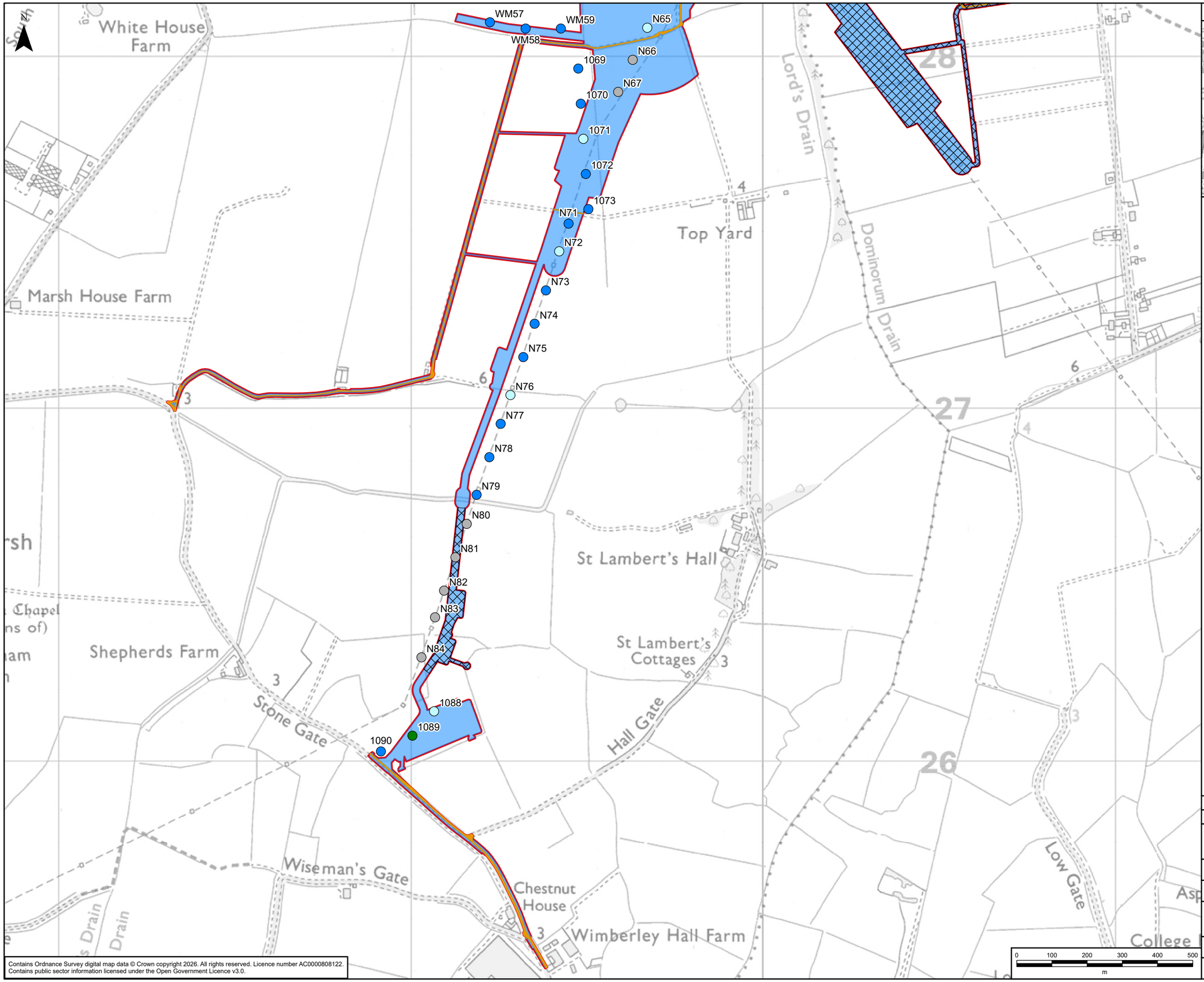
Document Title: FIGURE 2 AGRICULTURAL LAND CLASSIFICATION MAP

Creator:	Date:	Checker:	Date:	Approver:	Date:
DF	06/05/2026	DF	06/05/2026	HB	06/05/2026

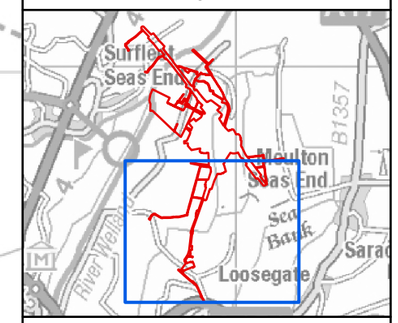
Document Type:	Scale:	Format:	Sheets:	Rev:
FIGURE	1:10,000	A3	1 OF 2	A

0 100 200 300 400 500 m

Document Path: \\eu.aecomnet.com\EMIA\UKI\UKNCL2\Jobs\60721024 Grimsby to Walpole\02_Maps_WM Substation TCPA\Agriculture and Soils\WM_TCPA_Agriculture_Soils.aprx



LEGEND



Legend
- Scheme Site Boundary

Auger Point
- Grade 1
- Grade 2
- Grade 3a
- Not Surveyed

Agricultural Land Classification
- Grade 1
- Based on Provisional Mapping
- Non-agricultural Land

Rev	Date	Description	GIS	Chk	App
A	06/05/2026	First Issue	DF	DF	HB

nationalgrid

Purpose: AGRICULTURAL LAND CLASSIFICATION REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

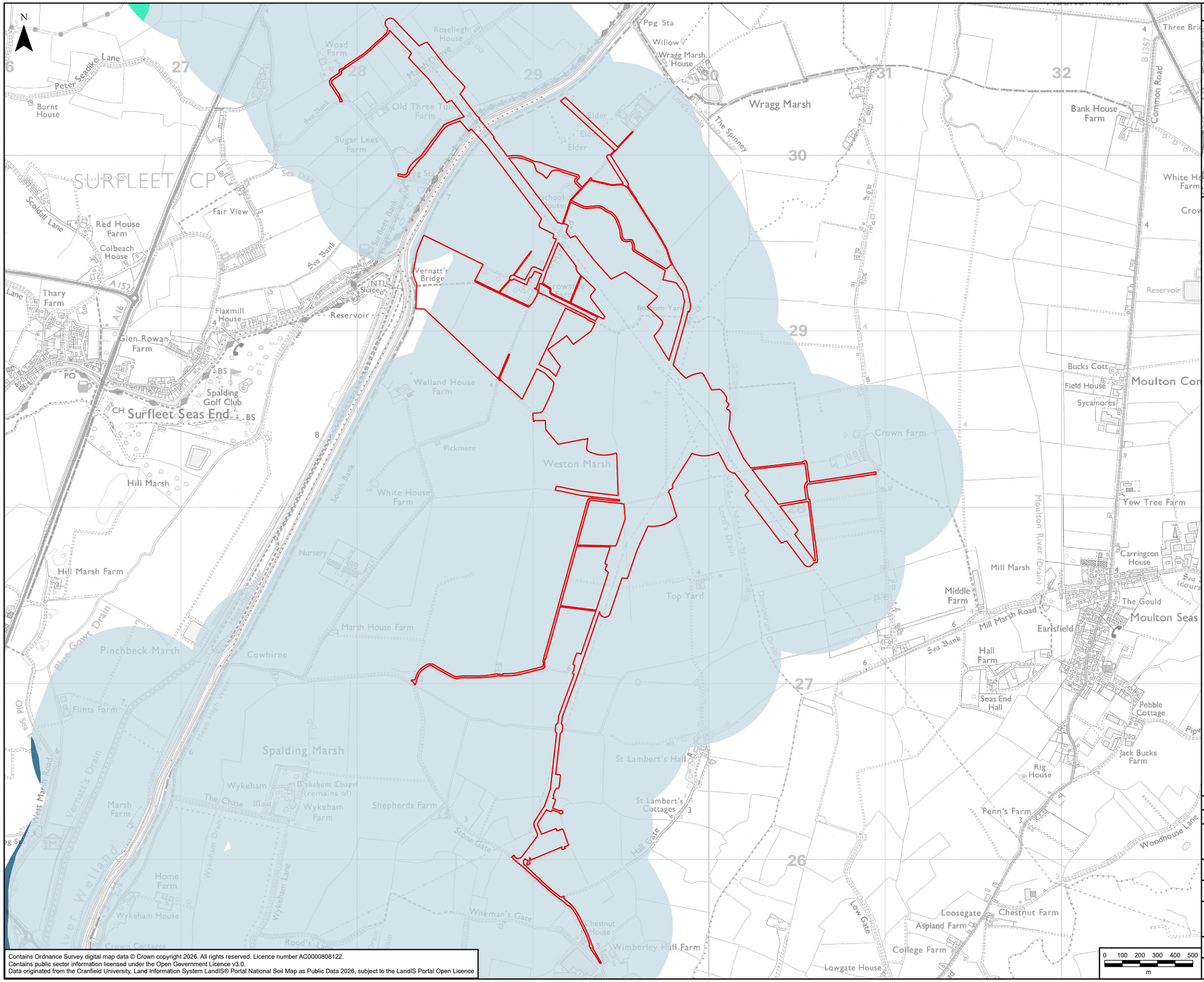
Document Title: FIGURE 2 AGRICULTURAL LAND CLASSIFICATION MAP

Creator:	Date:	Checker:	Date:	Approver:	Date:
DF	06/05/2026	DF	06/05/2026	HB	06/05/2026

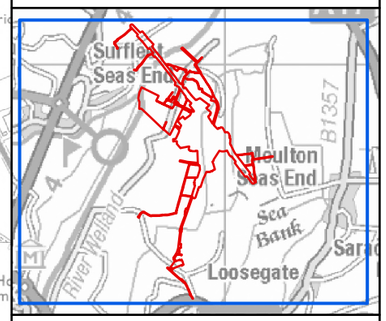
Document Type:	Scale:	Format:	Sheets:	Rev:
FIGURE	1:10,000	A3	2 OF 2	A

Document Path: \\eu.aecomnet.com\EMIA\UKI\UKNCL2\Jobs\60721024 Grimsby to Walpole\02_Maps_WM Substation TCPA\Agriculture and Soils\WM_TCPA_Agriculture_Soils.aprx

Figure 3 National Soils Association Map



LEGEND



Legend

Scheme Site Boundary

National Soil Associations Map

- Tanvats - Deep stoneless fine and coarse silty and clayey soils with groundwater levels controlled by ditches and pumps
- Wisbech - Deep stoneless calcareous coarse silty soils
- Wallasea 2 - Deep stoneless clayey soils. Calcareous in places

Rev	Date	Description	GIS	Chk	App
A	06/05/2026	First Issue	DF	DF	HB

nationalgrid

Purpose: AGRICULTURAL LAND CLASSIFICATION REPORT

Scheme: PROPOSED ELECTRICITY SUBSTATION AND OVERHEAD LINE WORKS AT WESTON MARSH

Document Title: FIGURE 3 NATIONAL SOIL ASSOCIATIONS MAP

Creator:	Date:	Checker:	Date:	Approver:	Date:
DF	06/05/2026	DF	06/05/2026	HB	06/05/2026

Document Type:	Scale:	Format:	Sheets:	Rev:
FIGURE	1:20,000	A3	1 OF 1	A

Document Path: \\eu.aecomnet.com\EMIA\UKI\UKNCL2\Jobs\60721024 Grimsby to Walpole\02_Maps_WM Substation TCPA\Agriculture and Soils\WM_TCPA_Agriculture_Soils.aprx

Appendix A Auger Bore Log and Soil Pit Description

A.1. Auger Bore Log

Auger Bore No	Surveyor Initials	BNG	ALT	Horizon Top (cm)	Horizon Bottom (cm)	Texture	Matrix Colour	Mottle Colour	Mottle %	Mottle Range	Mottle Size	Gley	Depth to Gley	CaCo3 %	Slope	Hard Stone Content % >2mm	Hard Stone Content %>2cm	Wetness Class	Wetness Grade	Droughtiness - MB Wheat	Droughtiness - MB Potato	Droughtiness Grade Converted	Droughtiness Grade	Grade by Depth	Grade by Topsoil Texture	Grade by Topsoil Stoniness	Final ALC Grade
1047	Un-surveyed due to land access restrictions																										
1048	Un-surveyed due to land access restrictions																										
1049	Un-surveyed due to land access restrictions																										
1050	Un-surveyed due to land access restrictions																										
1051	Un-surveyed due to land access restrictions																										
1052	Un-surveyed due to land access restrictions																										
1053	Un-surveyed due to land access restrictions																										
1054	Un-surveyed due to land access restrictions																										
1055	Un-surveyed due to land access restrictions																										
1056	LH	TF289300	4	0	40	ZL	10YR5/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				40	50	ZL	10YR4/4							very calcareous		0	0										
				50	120	fSZL	10YR5/4	10YR6/6;10YR6/1	5	common	fine			very calcareous		0	0										
1057	LH	TF289300	5	0	40	ZL	10YR5/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				40	50	ZL	10YR4/4							very calcareous		0	0										
				50	120	fSZL	10YR5/4	10YR6/6;10YR6/1	5	common	fine			very calcareous		0	0										
1058	LH	TF289300	4	0	35	ZL	10YR5/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				35	45	ZL	10YR4/4							very calcareous		0	0										
				45	120	fSZL	10YR5/4	10YR6/6;10YR6/1	5	common	fine			very calcareous		0	0										
1059	LH	TF289300	4	0	32	ZL	10YR4/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				32	47	ZL	10YR4/4							very calcareous		0	0										
				47	120	fSZL	10YR5/4	10YR6/6;10YR6/1	5	common	fine			very calcareous		0	0										
1060	LH	TF291297	4	0	32	ZL	10YR4/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				32	45	ZL	10YR4/4							very calcareous		0	0										
				45	120	fSZL	10YR5/4	10YR6/6;10YR6/1	5	common	fine			very calcareous		0	0										
1061	LH	TF291297	4	0	25	ZL	10YR4/3							very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				25	48	ZL	10YR4/4							very calcareous		0	0										
				48	120	fSZL	10YR5/4	10YR6/6;10YR6/1	2	common	fine			very calcareous		0	0										
1062	ZL	TF292293	4	0	28	ZL	7.5YR4/3							non-calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	54	ZL	7.5YR5/4							very calcareous		0	0										
				54	120	ZL	7.5YR6/2	7.5YR7/8	10	common				very calcareous		0	0										
1063	ZL	TF292293	4	0	35	ZL	7.5YR4/3							non-calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				35	55	ZL	7.5YR5/4							very calcareous		0	0										
				55	120	ZL	7.5YR6/2	7.5YR7/8	10	common				very calcareous		0	0										
1064	ZL	TF292293	4	0	27	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				27	47	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	3	common				very calcareous		0	0										
				47	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	10	common				very calcareous		0	0										
1065	ZL	TF292293	4	0	32	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				32	47	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	3	common				very calcareous		0	0										
				47	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	10	common				very calcareous		0	0										
1068	ZL			0	28	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	234	161	1	1	1	1	1	1
				28	48	ZL	7.5YR4/4							very calcareous		0	0										
				48	79	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few				very calcareous		0	0										
				79	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common				very calcareous		0	0										
1069	ZL			0	35	mZCL	7.5YR4/3							non-calcareous	level	0	0	I	1	220	147	0	0	1	1	1	1
				35	54	ZL	7.5YR5/6							very calcareous		0	0										
				54	120	ZL	7.5YR6/2	7.5YR7/8	10	common				very calcareous		0	0										
1070	JP			0	28	ZL	10YR4/4							very slightly calcareous	level	0	0	I	1	228	160	1	1	1	1	1	1
				28	59	ZL	10YR5/6							slightly calcareous		0	0										
				59	120	fSZL	10YR5/4	10YR6/1;10YR5/6	5	common	fine			moderately calcareous		0	0										
1071	JP			0	35	ZL	10YR4/4					Yes	68	very slightly calcareous	level	0	0	II	2	228	160	1	1	1	1	1	2
				35	62	ZL	10YR5/6							moderately calcareous		0	0										
				62	120	fSZL	10YR5/4	10YR6/2:10YR5/6	30	many	fine			very calcareous		0	0										
1072	ZL			0	32	ZL	7.5YR4/3							non-calcareous	level	0	0	I	1	234	161	1	1	1	1	1	1
				32	48	ZL	7.5YR5/2							very calcareous		0	0										
				48	120	ZL	7.5YR5/4	7.5YR7/8, 7.5YR7/1	5	common				very calcareous		0	0										
1073	JP			0	28	mZCL	10YR4/4							very slightly calcareous	level	0	0	I	1	205	135	1	1	1	1	1	1
				28	52	hZCL	10YR3/6							moderately calcareous		0	0										
				52	85	ZL	10YR5/4	10YR5/2;10YR5/8	5	common	fine			very calcareous		0	0										
				85	120	fSZL	10YR3/4	10YR5/2;10YR5/8	15	common	fine			very calcareous		0	0										
1088	ZL			0	28	hZCL	7.5YR4/4							very slightly calcareous	level	0	0	I	2	161	125	1	1	1	1	1	2
				28	52	hZCL	7.5YR4/3							very slightly calcareous		0	0										
				52	120	hZCL	7.5YR4/1	7.5YR7/1, 7.5YR6/8						very slightly calcareous		0	0										
1089	ZL			0	27	hZCL	7.5YR4/4					Yes	65	very slightly calcareous	level	0	0	II	3a	144	122	1	1	1	1	1	3a
				27	65	hZCL	7.5YR4/4	7.5YR7/1, 7.5YR6/8	2	common				non-calcareous		0	0										
				65	120	ZC	7.5YR7/1							non-calcareous		0	0										
1090	JP			0	24	ZL	10YR4/3					Yes	75	moderately calcareous	level	0	0	I	1	226	158	1	1	1	1	1	1
				24	43	ZL	10YR3/3							moderately calcareous		0	0										

				43	120	fSZL	10YR5/4	10YR6/2;10YR5/8	30	many	medium			very calcareous		0	0									
N58	ZL	TF292293	4	0	30	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				30	48	ZL	7.5YR4/4							very calcareous		0	0									
				48	120	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common				very calcareous		0	0									
N59	ZL	TF292293	4	0	27	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				27	52	ZL	7.5YR4/4							very calcareous		0	0									
				52	120	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common				very calcareous		0	0									
N60	ZL	TF292293	4	0	28	ZL	7.5YR4/4							very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	48	ZL	7.5YR4/4							very calcareous		0	0									
				48	79	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few				very calcareous		0	0									
				79	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common				very calcareous		0	0									
N61	ZL	TF294288	4	0	27	mZCL	7.5YR4/4							very calcareous	level	0	0	I	1	93	22	1	1	1	1	1	1
				27	46	mZCL	7.5YR4/4							very calcareous		0	0									
				46	120	fSL	7.5YR5/4							very calcareous		0	0									
N62	LH				26	ZL	10YR4/2							non-calcareous	level	0	0	I	1	0	0	0	0	1	1	1	1
					43	ZL	10YR4/3							very calcareous		0	0									
					120	fSZL	10YR5/3	10YR6/2;10YR5/6	4		fine			very calcareous		0	0									
N63	LH				28	ZL	10YR4/2					Yes	76	moderately calcareous	level	0	0	I	1	0	0	0	0	1	1	1	1
					48	ZL	10YR4/3							moderately calcareous		0	0									
					76	mZCL	7.5YR4/4	7.5YR4/6;7.5YR5/2	5		fine			very calcareous		0	0									
					120	hZCL	7.5YR4/4	7.5YR4/6;7.5YR5/2	20		medium			very calcareous		0	0									
N64	JP		4	0	37	mZCL	10YR3/4							non-calcareous	level	0	0	I	1	77	21	1	1	1	1	1	1
				37	52	ZL	10YR4/4							very slightly calcareous		0	0									
				52	120	fSZL	10YR5/4	10YR4/6, 20YR6/1	15	common				very calcareous		0	0									
N65	JP		4	0	42	mZCL	10YR4/3							non-calcareous	level	0	0	II	2	109	45	1	1	1	1	1	2
				42	58	ZL	10YR4/4							very slightly calcareous		0	0									
				58	120	fSZL	10YR5/3	10YR4/6, 10YR6/1	10	common				very calcareous		0	0									
N66	Un-surveyed due to land access restrictions																									
N67	Un-surveyed due to land access restrictions																									
N71	JP		4	0	38	mZCL	10YR4/4							non-calcareous	level	0	0	I	1	89	33	1	1	1	1	1	1
				38	52	mZCL	10YR4/4	10YR4/6	10	common				slightly calcareous		0	0									
				50	120	fSZL	10YR5/3	10YR4/6, 10YR6/1	20	common				very calcareous		0	0									
N72	JP		4	0	35	hZCL	10YR4/4							non-calcareous	level	0	0	I	1	62	5	2	2	1	1	1	2
				35	48	hZCL	10YR5/4							slightly calcareous		0	0									
				48	120	ZL	10YR5/3	10YR6/1, 10YR4/6	25	many				very calcareous		0	0									
N73	JP		4	0	35	ZC	10YR4/2					Yes	65	non-calcareous	level	2	0	I	1	100	30	1	1	1	1	1	1
				37	65	ZC	10YR5/3	10YR4/6	20	common				slightly calcareous		0	0									
				65	120	ZL	10YR5/3	10YR4/6, 10YR6/1	25	many				very calcareous		0	0									
N74	JP		4	0	42	mCL	10YR4/3							non-calcareous	level	1	0	I	1	92	28	1	1	1	1	1	1
				42	53	mZCL	10YR5/4							slightly calcareous		0	0									
				53	120	fSZL	10YR5/3	10YR4/6, 10YR6.1	10	common				very calcareous		0	0									
N75	JP		4	0	35	mCL	10YR4/3							slightly calcareous	level	3	1	I	1	97	33	1	1	1	1	1	1
				35	75	mCL	10YR5/4							moderately calcareous		0	0									
				75	120	ZL	10YR5/4	10YR6/1, 10YR4/6	25	many				very calcareous		0	0									
N76	LH				38	ZL	10YR4/2					Yes	55	moderately calcareous	level	0	0	II	2	0	0	0	0	1	1	1	2
					55	fSZL/fSL	10YR5/4							very calcareous		0	0									
					120	fSZL/fSL	10YR6/3	10YR6/2;10YR6/6	15		medium			very calcareous		0	0									
N77	LH				32	ZL	10YR4/2							non-calcareous	level	0	0	I	1	0	0	0	0	1	1	1	1
					41	ZL	10YR4/3							non-calcareous		0	0									
					78	fSZL	10YR5/4	10YR5/2;10YR5/6	1		fine			very calcareous		0	0									
					120	fSZL	10YR5/3	10YR5/2;10YR5/6	5		medium			very calcareous		0	0									
N78	LH				30	ZL	10YR4/2							non-calcareous	level	0	0	I	1	0	0	0	0	1	1	1	1
					47	ZL	10YR4/3							non-calcareous		0	0									
					78	fSZL	10YR5/3	10YR5/2;10YR5/6	2		fine			very calcareous		0	0									
					120	LfS	10YR6/3	10YR5/2;10YR5/6	4		fine			very calcareous		0	0									
N79	LH				38	ZL	10YR4/2							non-calcareous	level	0	0	I	1	0	0	0	0	1	1	1	1
					120	ZL	10YR4/3							moderately calcareous		0	0									
N80	Un-surveyed due to land access restrictions																									
N81	Un-surveyed due to land access restrictions																									
N82	Un-surveyed due to land access restrictions																									
N83	Un-surveyed due to land access restrictions																									
N84	Un-surveyed due to land access restrictions																									
WMB1	JP	TF291290	4	0	38	ZL	10YR4/3							slightly calcareous	level	0	0	I	1	77	21	1	1	1	1	1	1
				38	120	LfS	10YR5/4	10YR4/6; 10YR6/1	5		fine			very calcareous		0	0									
WMB2	JP	TF291289	4	0	35	ZL	10YR4/3					Yes	54	slightly calcareous	level	0	0	II	2	109	45	1	1	1	1	1	2
				35	54	ZL	10YR5/3	10YR4/6; 10YR6/1	5		fine			very calcareous		0	0									
				54	120	fSZL	10YR6/2	10YR4/6; 10YR6/1	10		medium			very calcareous		0	0									
WMB3	JP	TF296285	4	0	36	ZL	10YR4/2							non-calcareous	level	0	0	I	1	89	33	1	1	1	1	1	1
				36	54	ZL	10YR5/4							very calcareous		0	0									
				54	120	LfS	10YR5/3	10YR4/6; 10YR6/8; 10Y	15		medium			very calcareous		0	0									

WMB4	LH	TF298285	4	0	28	mZCL	10YR4/2					very slightly calcareous	level	0	0	I	1	62	5	2	2	1	1	1	2
				28	47	mZCL	10YR4/3					very slightly calcareous		0	0										
				47	120	LfS	10YR6/3	10YR5/3	2	common	fine	very calcareous		0	0										
WMB5	LH	TF298285	4	0	30	mZCL	10YR4/2					slightly calcareous	level	0	0	I	1	100	30	1	1	1	1	1	1
				30	48	mZCL	10YR4/3					slightly calcareous		0	0										
				48	120	fSL	10YR6/3	10YR5/3	2	common	fine	very calcareous		0	0										
WMB17	LH	TF291292	4	0	32	mZCL	10YR4/2					moderately calcareous	level	0	0	I	1	60	3	2	2	1	1	1	2
				32	48	mZCL	10YR4/3					very calcareous		0	0										
				48	120	LfS	10YR6/3	10YR5/2;10YR6/6	2		fine	very calcareous		0	0										
WMB18	LH	TF291292	4	0	30	mZCL	10YR4/2					moderately calcareous	level	0	0	I	1	71	22	1	1	1	1	1	1
				30	48	mZCL	10YR4/3					very calcareous		0	0										
				48	77	fSZL	10YR5/3	10YR5/2;10YR6/6	4		fine	very calcareous		0	0										
				77	120	LfS	10YR6/3	10YR5/2;10YR6/6	2		fine	very calcareous		0	0										
WMB19	LH	TF290289	4	0	32	ZL	10YR4/2					moderately calcareous	level	1	0	I	1	75	18	1	1	1	1	1	1
				32	49	ZL	10YR4/3					very calcareous		0	0										
				49	120	LfS	10YR6/3	10YR5/2;10YR6/6	3		fine	very calcareous		0	0										
WMB20	JP	TF290290	4	0	30	ZL	10YR4/3					moderately calcareous	level	0	0	I	1	70	13	1	1	1	1	1	1
				30	42	ZL	10Y4/3					very calcareous		0	0										
				42	120	LfS	10YR5/4	10YR6/1	5		fine	very calcareous		0	0										
WMB21	LH	TF290289	4	0	30	ZL	10YR4/2					very calcareous	level	0	0	I	1	82	25	1	1	1	1	1	1
				30	43	ZL	10YR4/3					very calcareous		0	0										
				43	120	LfS	10YR6/3	10YR5/2;10YR6/6	3		fine	very calcareous		0	0										
WMB22	JP	TF290288	4	0	42	ZL	10YR4/3					very calcareous	level	0	0	I	1	71	14	1	1	1	1	1	1
				42	120	LfS	10YR5/4	10YR4/6; 10YR6/1	5		fine	very calcareous		0	0										
WMB23	LH	TF290289	4	0	32	ZL	10YR4/2					very calcareous	level	0	0	I	1	78	21	1	1	1	1	1	1
				32	49	ZL	10YR4/3					very calcareous		0	0										
				49	120	LfS	10YR6/3	10YR5/2;10YR6/6	2		fine	very calcareous		0	0										
WMB24	JP	TF289287	4	0	36	ZL	10YR4/3					very calcareous	level	0	0	I	1	105	34	1	1	1	1	1	1
				36	52	mZCL	10YR4/3					very calcareous		0	0										
				52	120	fSL	10YR5/4					very calcareous		0	0										
WM1	ZL	TF294288	4	0	29	fSZL	7.5YR4/4					very calcareous		0	0	I	1	111	40	1	1	1	1	1	1
				29	50	fSZL	7.5YR5/2	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				50	120	fSL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
WM2	ZL	TF294288	4	0	27	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				27	47	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	3	common		very calcareous		0	0										
				47	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	10	common		very calcareous		0	0										
WM3	ZL	TF294288	4	0	27	mZCL	7.5YR4/4					very calcareous	level	0	0	I	1	95	24	1	1	1	1	1	1
				27	46	mZCL	7.5YR4/4					very calcareous		0	0										
				46	120	fSL	7.5YR5/4					very calcareous		0	0										
WM4	ZL	TF294288	4	0	28	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	46	ZL	7.5YR4/4					very calcareous		0	0										
				46	78	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	3	common		very calcareous		0	0										
				78	120	ZL	7.5YR6/4	7.5YR7/1, 5YR6/8	5	common		very calcareous		0	0										
WM5	ZL	TF294288	4	0	28	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	48	ZL	7.5YR4/4					very calcareous		0	0										
				48	79	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				79	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common		very calcareous		0	0										
WM6	ZL	TF294288	4	0	29	ZL	7.5YR4/3					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				29	43	ZL	7.5YR4/4					very calcareous		0	0										
				43	75	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				75	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	5	common		very calcareous		0	0										
WM7	ZL	TF294288	4	0	29	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				29	46	ZL	7.5YR4/4					very calcareous		0	0										
				46	69	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				69	120	fSZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common		very calcareous		0	0										
WM8	ZL	TF294288	4	0	30	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	114	43	1	1	1	1	1	1
				30	50	fSZL	7.5YR5/2	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				50	120	fSL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common		very calcareous		0	0										
WM9	ZL	TF294288	4	0	30	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				30	50	ZL	7.5YR4/4					very calcareous		0	0										
				50	78	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common		very calcareous		0	0										
				78	120	ZL	7.5YR6/4	7.5YR7/1, 5YR6/8	5	common		very calcareous		0	0										
WM10	ZL	TF294288	4	0	28	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	48	ZL	7.5YR4/4					very calcareous		0	0										
				48	79	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				79	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common		very calcareous		0	0										
WM11	ZL	TF294288	4	0	29	ZL	7.5YR4/4					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				29	43	ZL	7.5YR4/4					very calcareous		0	0										
				43	75	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0										
				75	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	5	common		very calcareous		0	0										

WM12	ZL	TF294288	4	0	27	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	111	47	1	1	1	1	1	1
				27	42	ZL	7.5YR4/4						very calcareous		0	0										
				42	78	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common			very calcareous		0	0										
				78	120	fSZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	10	common			very calcareous		0	0										
WM13	ZL	TF294288	4	0	28	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	114	43	1	1	1	1	1	1
				28	42	ZL	7.5YR4/4						very calcareous		0	0										
				42	60	fSZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	3	common			very calcareous		0	0										
				60	120	fSL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	5	common			very calcareous		0	0										
WM14	ZL	TF294288	4	0	30	ZL	7.5YR4/3						very calcareous	level	0	0	I	1	114	45	1	1	1	1	1	1
				30	50	ZL	7.5YR4/4						very calcareous		0	0										
				50	72	fSZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
				72	120	fSL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common			very calcareous		0	0										
WM15	LH	TF288286	4	0	32	ZL	10YR5/3						very calcareous	level	0	0	I	1	114	43	1	1	1	1	1	1
				32	40	ZL	10YR5/4						very calcareous		0	0										
				40	120	fSL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common			very calcareous		0	0										
WM16	ZL	TF293286	4	0	32	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				32	62	ZL	7.5YR4/5						very calcareous		0	0										
				62	120	fSZL	7.5YR4/6	7.5YR7/1, 7.5YR6/8, 5Y	5	common			very calcareous		0	0										
WM17	ZL	TF293286	4	0	28	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	45	ZL	7.5YR4/5						very calcareous		0	0										
				45	120	ZL	7.5YR4/6	7.5YR7/1, 7.5YR6/8	5	common			very calcareous		0	0										
WM18	ZL	TF293286	4	0	28	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				28	49	ZL	7.5YR4/4						very calcareous		0	0										
				49	77	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	2	common			very calcareous		0	0										
				77	120	ZL	7.5YR6/4	7.5YR7/1, .5YR6/8	15	common			very calcareous		0	0										
WM19	ZL	TF293286	4	0	35	ZL	7.5YR4/4				Yes	88	very calcareous		0	0	I	1	86	47	1	1	1	1	1	1
				35	88	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
				88	120	mZCL	7.5YR6/3	7.5YR7/1, .5YR6/8	8	common			very calcareous		0	0										
WM20	ZL	TF293286	4	0	30	fSZL	7.5YR4/3						very calcareous	level	0	0	I	1	111	40	1	1	1	1	1	1
				30	48	fSZL	7.5YR4/4						very calcareous		0	0										
				48	75	fSL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
				75	120	fSL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common			very calcareous		0	0										
WM21	ZL	TF293286	4	0	30	ZL	7.5YR4/3						very calcareous	level	0	0	I	1	114	43	1	1	1	1	1	1
				30	48	ZL	7.5YR4/4						very calcareous		0	0										
				48	65	fSZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
				65	120	fSL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common			very calcareous		0	0										
WM22	ZL	TF294288	4	0	30	ZL	7.5YR4/3						very calcareous	level	0	0	I	1	114	45	1	1	1	1	1	1
				30	53	ZL	7.5YR4/4						very calcareous		0	0										
				53	72	fSZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
				72	120	fSL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common			very calcareous		0	0										
WM24	LH	TF288286	4	0	38	ZL	10YR5/3						very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				38	58	ZL	10YR5/4						very calcareous		0	0										
				58	120	fSZL	10YR6/4	10YR6/8;10YR6/1	6	common	fine		very calcareous		0	0										
WM25	ZL	TF293286	4	0	28	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				28	57	ZL	7.5YR5/4						very calcareous		0	0										
				57	120	fSZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
WM26	ZL	TF293286	4	0	30	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				30	57	ZL	7.5YR5/4						very calcareous		0	0										
				57	120	fSZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	1	few			very calcareous		0	0										
WM27	ZL	TF293286	4	0	35	ZL	7.5YR4/4				Yes	85	very calcareous		0	0	I	1	84	47	1	1	1	1	1	1
				35	81	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	2	common			very calcareous		0	0										
				81	120	mZCL	7.5YR6/3	7.5YR7/1, 7.5YR6/8, 5Y	10	common			very calcareous		0	0										
WM28	ZL	TF293286	4	0	33	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				33	78	ZL	7.5YR5/4						very calcareous		0	0										
				78	120	ZL	7.5YR6/4	7.5YR7/1, 7.5YR6/8	10	common			very calcareous		0	0										
WM29	ZL	TF293286	4	0	30	ZL	7.5YR4/4						very calcareous	level	0	0	I	1	112	43	1	1	1	1	1	1
				30	75	fSZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	5	common			very calcareous		0	0										
				75	120	fSL	7.5YR6/4						very calcareous		0	0										
WM30	ZL	TF293286	4	0	30	fSZL	7.5YR4/3						very calcareous	level	0	0	I	1	109	40	1	1	1	1	1	1
				30	85	fSZL	7.5YR5/2	7.5YR7/1, 7.5YR6/8	5	common			very calcareous		0	0										
				85	120	fSL	7.5YR6/4						very calcareous		0	0										
WM33	LH	TF292285	4	0	28	ZL	10YR4/3						very calcareous	level	0	0	I	1	114	46	1	1	1	1	1	1
				28	59	ZL	10YR4/4						very calcareous		0	0										
				59	78	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine		very calcareous		0	0										
				78	120	fSL	10YR6/6	10YR6/2	2	common	fine		very calcareous		0	0										
WM34	LH	TF292285	4	0	30	ZL	10YR4/3						very calcareous	level	0	0	I	1	116	45	1	1	1	1	1	1
				30	58	ZL	10YR4/4						very calcareous		0	0										
				58	94	fSL	10YR6/6	10YR6/8;10YR6/1	4	common	fine		very calcareous		0	0										
				94	120	fSL	10YR6/3	10YR6/2	2	common	fine		very calcareous		0	0										
WM35	LH	TF292285	4	0	30	ZL	10YR4/3						very calcareous	level	0	0	I	1	116	45	1	1	1	1	1	1

				30	58	ZL	10YR4/4					very calcareous		0	0									
				58	120	fSL	10YR6/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
WM36	LH	TF292285	4	0	28	ZL	10YR4/3					very calcareous	level	0	0	I	1	82	45	1	1	1	1	1	1
				28	58	ZL	10YR4/4					very calcareous		0	0									
				58	80	fSZL	10YR5/4	10YR5/8;10YR5/1	4	common	fine	very calcareous		0	0									
				80	120	mZCL	10YR5/3	10YR5/8;10YR5/1	6	common	fine	very calcareous		0	0									
WM37	LH	TF292285	4	0	28	ZL	10YR4/3					very calcareous	level	0	0	I	1	109	45	1	1	1	1	1	1
				28	55	ZL	10YR4/4					very calcareous		0	0									
				55	120	fSZL	10YR6/4	10YR6/8;10YR6/1	8	common	fine	very calcareous		0	0									
WM40	LH	TF292283	4	0	25	ZL	10YR4/3					very calcareous	level	0	0	I	1	114	46	1	1	1	1	1	1
				25	68	ZL	10YR4/4					very calcareous		0	0									
				68	95	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				95	120	fSL	10YR6/6	10YR6/2	2	common	fine	very calcareous		0	0									
WM41	LH	TF292283	4	0	24	ZL	10YR4/3					very calcareous	level	0	0	I	1	109	43	1	1	1	1	1	1
				24	35	ZL	10YR4/4					very calcareous		0	0									
				35	60	fSZL	10YR5/4	10YR6/2	2	common	fine	very calcareous		0	0									
				60	95	fSZL	10YR5/4	10YR6/8;10YR6/1	2	common	fine	very calcareous		0	0									
				95	120	fSL	10YR6/3	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
WM42	LH	TF292283	4	0	25	ZL	10YR4/3					very calcareous	level	0	0	I	1	107	43	1	1	1	1	1	1
				25	48	ZL	10YR4/4					very calcareous		0	0									
				48	70	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				70	120	fSZL	10YR6/4	10YR6/8;10YR6/1	2	common	fine	very calcareous		0	0									
WM43	LH	TF292283	4	0	24	ZL	10YR4/3					very calcareous	level	0	0	I	1	106	43	1	1	1	1	1	1
				24	38	ZL	10YR4/4					very calcareous		0	0									
				38	120	fSZL	10YR6/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
WM44	ZL	TF293286	4	0	30	ZL	7.5YR4/3					very calcareous	level	0	0	I	1	116	47	1	1	1	1	1	1
				30	55	ZL	7.5YR4/4					very calcareous		0	0									
				55	88	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0									
				88	120	ZL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common		very calcareous		0	0									
WM45	LH	TF292282	4	0	30	ZL	10YR5/3					very calcareous	level	0	0	I	1	108	45	1	1	1	1	1	1
				30	60	ZL	10YR5/4					very calcareous		0	0									
				60	120	fSZL	10YR6/3	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
WM46	LH	TF292282	4	0	30	ZL	10YR4/3					very calcareous	level	0	0	I	1	113	45	1	1	1	1	1	1
				30	58	ZL	10YR4/4					very calcareous		0	0									
				58	85	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				85	120	fSL	10YR6/6	10YR6/2	2	common	fine	very calcareous		0	0									
WM47	LH	TF292282	4	0	28	ZL	10YR4/3					very calcareous	level	0	0	I	1	111	42	1	1	1	1	1	1
				28	46	ZL	10YR4/4					very calcareous		0	0									
				46	78	fSZL	10YR5/4	10YR6/2	3	common	fine	very calcareous		0	0									
				78	120	fSL	10YR6/3	10YR6/8;10YR6/1	2	common	fine	very calcareous		0	0									
WM48	LH	TF292282	4	0	26	ZL	10YR4/3					very calcareous	level	0	0	I	1	108	45	1	1	1	1	1	1
				26	52	ZL	10YR4/4					very calcareous		0	0									
				52	120	fSZL	10YR6/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
WM49	ZL	TF293282	3	0	29	ZL	7.5YR4/3					slightly calcareous	level	0	0	I	1	108	45	1	1	1	1	1	1
				29	48	ZL	7.5YR4/4					very calcareous		0	0									
				48	67	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0									
				67	120	fSZL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common		very calcareous		0	0									
WM50	ZL	TF293282	3	0	29	ZL	7.5YR4/4					slightly calcareous	level	0	0	I	1	108	45	1	1	1	1	1	1
				29	55	ZL	7.5YR5/4	7.5YR7/1, 7.5YR6/8	1	few		very calcareous		0	0									
				55	120	fSZL	7.5YR6/3	7.5YR7/1, .5YR6/8	5	common		very calcareous		0	0									
WM52	LH	TF290281	4	0	32	ZL	10YR4/3					very calcareous	level	0	0	I	1	113	45	1	1	1	1	1	1
				32	55	ZL	10YR4/4					very calcareous		0	0									
				55	70	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				70	120	fSL	10YR6/6	10YR6/2	2	common	fine	very calcareous		0	0									
WM53	LH	TF290281	4	0	29	ZL	10YR5/3					very calcareous	level	0	0	I	1	108	45	1	1	1	1	1	1
				29	55	ZL	10YR5/4					very calcareous		0	0									
				55	85	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				85	120	fSZL	10YR4/4	10YR6/8;10YR6/1	3	common	fine	very calcareous		0	0									
WM54	LH	TF290281	4	0	26	ZL	10YR4/3					very calcareous	level	0	0	I	1	112	44	1	1	1	1	1	1
				26	48	ZL	10YR4/4					very calcareous		0	0									
				48	85	fSZL	10YR5/4	10YR6/8;10YR6/1	4	common	fine	very calcareous		0	0									
				85	120	fSL	10YR5/2	10YR6/1	1	few	fine	very calcareous		0	0									
WM55	LH	TF290281	4	0	26	ZL	10YR4/3					very calcareous	level	0	0	I	1	111	42	1	1	1	1	1	1
				26	44	ZL	10YR4/4					very calcareous		0	0									
				44	86	fSZL	10YR5/4	10YR6/8;10YR6/1	8	common	fine	very calcareous		0	0									
				86	120	fSL	10YR5/2	10YR6/1	3	common	fine	very calcareous		0	0									
WM56	LH	TF293280	4	0	26	ZL	10YR4/3					very calcareous	level	0	0	I	1	113	43	1	1	1	1	1	1
				26	44	ZL	10YR4/4					very calcareous		0	0									
				44	120	fSL	10YR5/4	10YR6/8;10YR6/1	12	common	fine	very calcareous		0	0									
WM57	LH	TF293280	4	0	25	mZCL	10YR4/3					very calcareous	level	0	0	I	1	100	31	1	1	1	1	1	1

				25	45	mZCL	10YR4/4					very calcareous		0	0								
				45	78	fSZL	10YR5/4	10YR6/8;10YR6/1	6	common	fine	very calcareous		0	0								
				78	120	fSL	10YR5/3	10YR6/8;10YR6/1	5	common	fine			0	0								
WM58	LH	TF293280	4	0	25	mZCL	10YR4/3					very calcareous	level	0	0	I	1	99	31	1	1	1	1	1	1
				25	45	mZCL	10YR4/4					very calcareous		0	0								
				45	88	fSZL	10YR5/4	10YR6/8;10YR6/1	6	common	fine	very calcareous		0	0								
				88	120	fSL	10YR5/3	10YR6/8;10YR6/1	5	common	fine	very calcareous		0	0								
WM59	LH	TF293280	4	0	25	mZCL	10YR4/3					very calcareous	level	0	0	I	1	94	30	1	1	1	1	1	1
				25	44	mZCL	10YR4/4					very calcareous		0	0								
				44	120	fSZL	10YR5/4	10YR6/8;10YR6/1	12	common	fine	very calcareous		0	0								

A.2. Soil pit description

A.2.1. Soil pit 17

A.2.2. Pit observations:

1) Deep stoneless calcareous coarse silty soils;
2) 0-36 cm calcareous brown fine sandy silty loam/fine sandy loam soils;
3) 36-64 cm. Compaction layer. Calcareous light brown fine sandy silty loam soils, subangular blocky shape, very fine to fine peds sized, moderately weak strength, a few very fine roots, 0.5 % fine macropores, weakly developed and good structure;
4) 64-100 cm calcareous light brown fine sandy silty loam soils, subangular blocky shape, very fine to fine peds sized, moderately weak strength, a few very fine roots, 1 % fine macropores, weakly developed and good structure.

Appendix B Long Term Flood Risk Summary

B.1.1. The Environment Agency flood risk checker (Ref 16) gives the following results for Crowtree Farm, Marsh Road, Spalding, PE12 6HF. This address is located alongside the Scheme.

Surface water More about your surface water flood risk

Yearly chance of flooding

Very low | Low | Medium | High

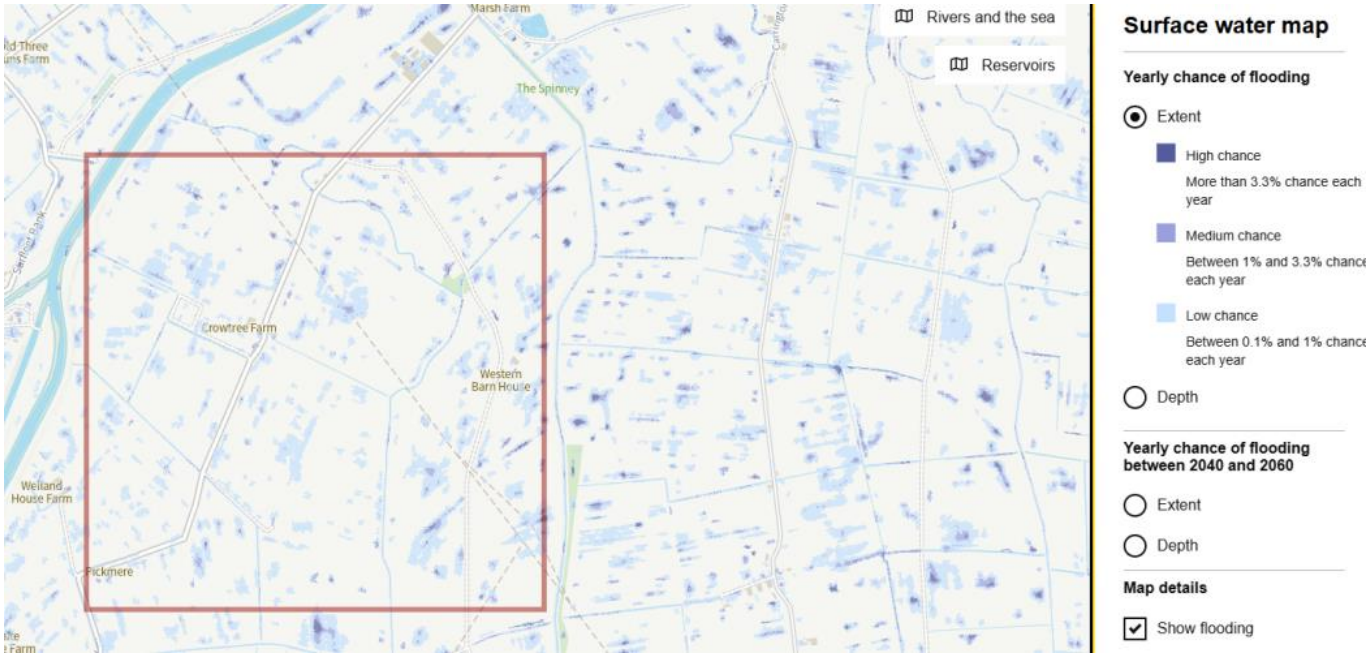
Yearly chance of flooding between 2040 and 2060

Very low | Low | Medium | High

What surface water is

Surface water flooding is sometimes known as flash flooding. It happens when rainwater cannot drain away through normal drainage systems.

▶ Why surface water flooding is a problem



Rivers and the sea

More about your rivers and sea flood risk

Yearly chance of flooding

Very low | Low | Medium | High

Yearly chance of flooding between 2036 and 2069

No data available

This data is currently unavailable. We'll publish the data when it becomes available.

What makes rivers and sea flooding more likely

Low-lying areas that are close to rivers or the sea are more likely to flood when water levels rise.

This information takes into account any flood defences.

▶ Why flood defences cannot completely prevent flooding

Groundwater

More about your groundwater flood risk

We use groundwater flood alert areas to check the risk of flooding from groundwater.

This location is outside of a groundwater flood alert area.

▶ What this means

What groundwater is

Groundwater is the water that is usually held in rocks and soil underground.

Groundwater flooding happens when this water rises and flows above the surface.

Flooding from rivers is more likely when groundwater levels are high.

Reservoirs

More about your reservoir flood risk

Flooding from reservoirs is unlikely in this area.

What a reservoir is

A reservoir is a large natural or artificial lake that is designed to collect and store water.

They are usually formed by building a dam across a river, or by building a large tank or surrounding embankment. If one of these dams or embankments fails, then water could escape from the reservoir. This would result in land or properties being flooded.

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com