Great North Road Solar and Biodiversity Park

BMV Avoidance: Micro-siting Analysis

Document Reference – EN010162/APP/8.35

Revision number 1

February 2026

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, APFP Regulation 5(2)(a)

Table of Contents

Appendices:

1 INTRODUCTION

1.1.1 This document provides information in response to Natural England's (NE) request for "*further detail on steps taken to avoid BMV as far as reasonably practicable for all elements of the development, in line with the NPPF mitigation hierarchy and NPS EN-1 paragraph 5.11.12. Natural England request further information regarding the amount of BMV land that could be permanently lost due to woodland planting*".

1.1.2 NE have welcomed the information given about the avoidance of high grade BMV in site selection, and have asked for additional information on micro-siting once the ALC results were known. This document provides a review of the macro-siting issue, then focuses on micro-siting and the endeavours to minimise the use of BMV within the Site.

1.1.3 This document is structured as follows:

(i) Section 2 sets out the policy context;

(ii) Section 3 sets out the Applicant's approach to macro-siting matters and overall impacts as identified in the application document;

(iii) Section 4 addresses the substation and BESS;

(iv) Section 5 addresses the tracks and smaller items of fixed infrastructure;

(v) Section 6 addresses construction compounds and short-term works;

(vi) Section 7 addresses biodiversity enhancements and woodland planting;

(vii) Summary and conclusions in section 8.

2 POLICY CONTEXT

2.1.1 National and local planning policy is consistent in seeking to minimise impact on Best and Most Versatile ('BMV') agricultural land. BMV land comprises Grades 1, 2 and 3a of the Agricultural Land Classification (ALC). Policy also seeks to guide development away from BMV land where possible, except where its use is justified by other sustainability considerations. National and local policy also require the use of BMV land to be justified.

2.1.2 NPS EN-1 paragraph 5.11.12 states:

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

2.1.3 NPS EN-1 paragraph 5.11.34 states that the SoS:

"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."

2.1.4 NPS EN-3 states at paragraph 2.10.29 that:

"*While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of "Best and Most Versatile" agricultural land where possible*."

2.1.5 NPS EN-3 states at paragraph 2.10.30 that the development of ground mounted solar arrays is not prohibited on BMV agricultural land. It subsequently states at paragraph 2.10.31 that *"It is recognised that at this scale, it is likely that applicants' developments will use some agricultural land. Applicants should explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land."*

2.1.6 NPS EN-3 also recognises that solar projects can result in significant biodiversity benefits and wider environmental gains. Paragraph 2.10.89 states that *"Solar farms have the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed. In some instances, this can result in significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains which is encouraged."*

2.1.7 On 15 May 2024, a written statement was published by Government, titled *'Solar and protecting our Food Security and Best and Most Versatile (BMV)*

Land[1]. This reaffirms the Government's commitment to solar, along with ensuring large solar projects avoid higher quality agricultural land where possible.

[1] https://questions-statements.parliament.uk/written-statements/detail/2024-05-15/hcws466

3 APPLICANT'S APPROACH

3.1.1 In consideration of the policy context set out in Section 2, the following two objectives have underpinned the Applicant's approach to this matter:

- Minimisation of the impact on BMV agricultural land; and
- Justification for the use of BMV agricultural land.

Minimisation of the impact on BMV agricultural land

3.1.2 The Applicant has taken account of ALC grading and agricultural land productivity throughout the design process for the Development and has sought to minimise the amount of BMV land included in the Order Limits.

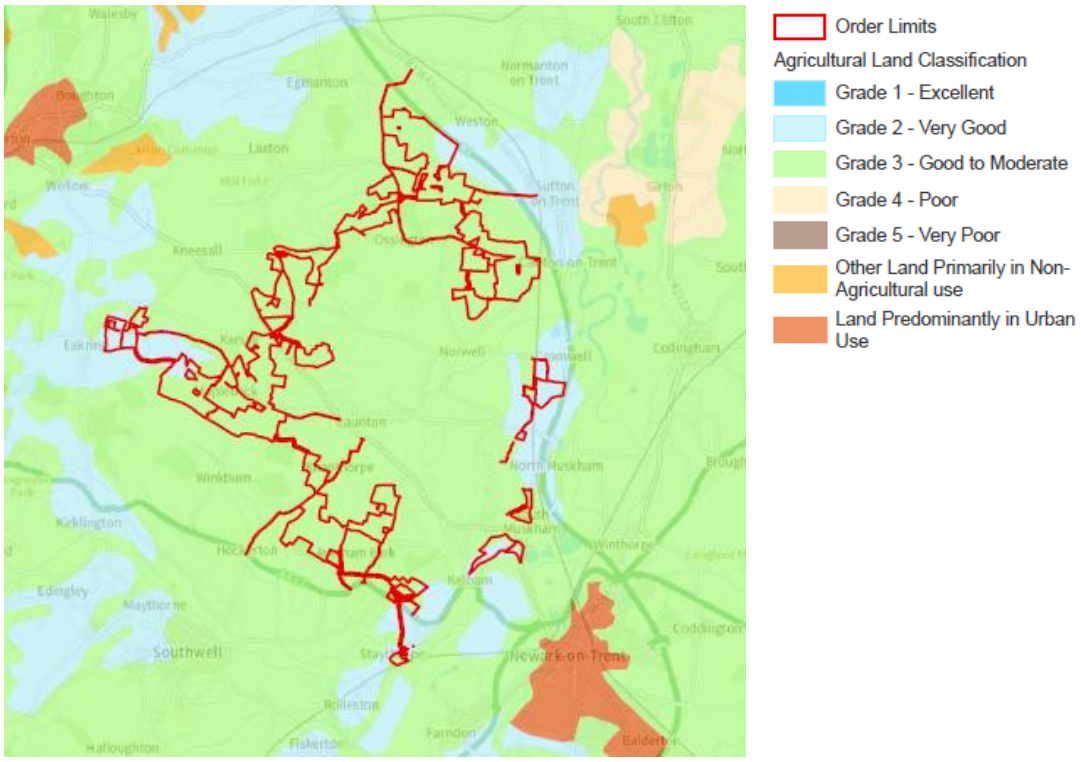
3.1.3 Table 17.5 of **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060] confirms that the Order Limits comprise 149 ha (8.5%) of Grade 2 land, 944 ha (53.5%) of Grade 3a land, 596 ha (33.8%) of Grade 3b land, 1 ha of Grade 4 land (<0.1%) and 75 ha (4.2%) of non-agricultural and not surveyed land under the ALC. ES Chapter 17 is informed by **ES Volume 4, Appendix A17.1: Agricultural Land Classification** [APP-288] [APP-289] which reports the findings of detailed ALC surveys for the Order Limits.

3.1.4 Approximately 1,093 ha (62%) of the Order Limits is categorised as BMV land comprising 149 ha (8.5%) of Grade 2 land and 944 ha (53.5%) of Grade 3a land. This compares with the national proportion of BMV which is 41.3%, whereas in Nottinghamshire County it is just over 50% and in Newark and Sherwood District it is 48.4%.

3.1.5 As set out earlier, **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047] explains that one of the main factors considered in the site selection process for the Order Limits was the ALC grade of land and BMV with the clear objective of avoiding / minimising the use of Grade 1 and Grade 2 land.

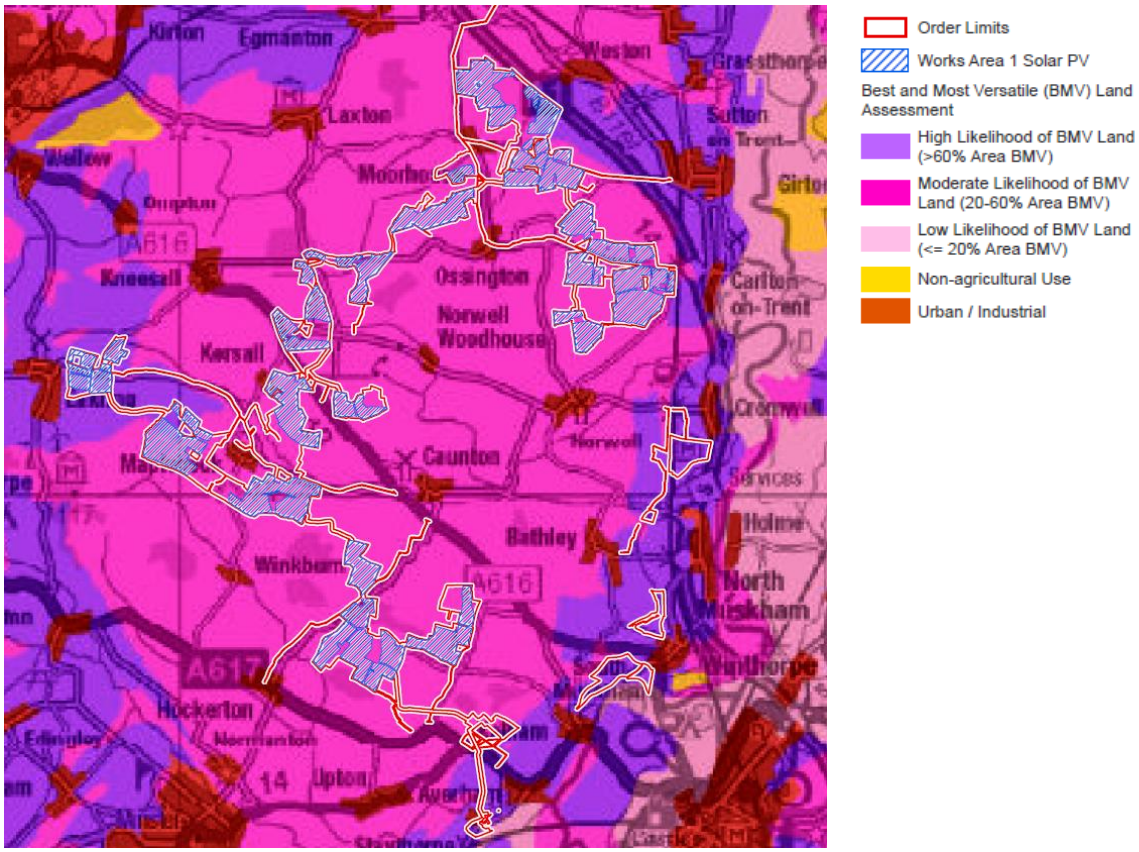
3.1.6 The Order Limits are mostly located on land shown as undifferentiated Grade 3 on the provisional ALC maps, as shown on Insert 17.1 of ES Chapter 17, reproduced below.

Insert 1: 17.1: Provisional ALC (extract from Figure 17.2 [EN010162/APP/6.3.17.2]



3.1.7 The Order Limits are mostly in the moderate likelihood of BMV, as shown on Natural England's maps, with Figure 17.2 from ES Chapter 17 reproduced below.

Insert 2: 17.2: Likelihood of BMV (extract from Figure 17.3 [EN010162/APP/6.3.17.3)



3.1.8 At the end of the Development's operational phase, the decommissioning phase would include the removal of Work no. 1 (Solar PV) and Work no. 5a (BESS) with the land being returned to the landowner and restored for agricultural use and to comparable ALC grade. Other elements, including the substations and some of the habitats created as part of the Development, may be retained depending on the need for this equipment for other purposes at that time.

3.1.9 Further details of the decommissioning phase works are set out in section 5.7 of **ES Volume 2, Chapter 5: Development Description [EN010162/APP/6.2.5]** [APP-048] and **ES Volume 4, Appendix A5.6: Outline Decommissioning and Restoration Plan (DRP) [EN010162/APP/6.4.5.6]** [APP-207]**.** Requirement 19 of Schedule 2 in the **Draft Development Consent Order [EN010162/APP/3.1A]** [AS-012] requires a decommissioning and restoration plan to be submitted to NSDC for approval in consultation with NCC.

3.1.10 The nature of the Development is that, once the Solar PV modules have been installed, the land could continue in, albeit altered, agricultural use, either being used by sheep for grazing or, alternatively, being used for managed grassland.

3.1.11 **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060] includes an assessment of the Development's potential effects to soil quality and the availability of BMV land. Although there would be temporary disturbance of soils and land quality in the areas in which the construction compounds are erected, only limited areas of land would continue to be affected for the operation of the Development, namely the agricultural land required for construction of the base areas for fixed equipment (such as substations), the internal access tracks and the BESS compound. This would result in a temporary disturbance of 19.4 ha of BMV land during operation of the Development.

3.1.12 Development in Work no. 4 (Intermediate substations), Work no. 5b (400 kV compound) and Work no. 7 (Consented Staythorpe BESS and Connection) may remain following the decommissioning phase which would, at worst case, result in the permanent loss of 4.5 ha of BMV. The rest of the BMV land would be capable of restoration to a comparable grade at the decommissioning phase.

3.1.13 Solar projects typically involve minimal ground disturbance and can provide a valuable break from intensive agricultural practices associated with arable rotation. As explained in ES Chapter 17 (Paragraph 34), this 'fallow' (resting) period allows the soil to recover from the constant cultivation, chemical inputs, and compaction associated with modern farming practices. As a result, over the course of the operational life of the Development (up to a maximum of 40 years) evidence would suggest that soil health indicators, (e.g. organic matter content, soil nutrients, worm count) would improve under grassland, increasing its resilience and capacity for future agricultural use.

3.1.14 Table 17.14 in ES Chapter 17 indicates that the national proportion of BMV is 41.3%, whereas in Nottinghamshire County it is just over 50% and in Newark and Sherwood District it is 48.4%. In area terms, across England there is an estimated 3,700,000 hectares of BMV land and the Development would result in a loss of 0.028% of national BMV (as set out in para 233 of **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060]).

3.1.15 The temporary disturbance of 19.4 ha of BMV and, at worst case, the permanent loss of 4.5 ha of BMV is not therefore considered to have a material impact on the overall supply of BMV land in Newark and Sherwood or on food production and food security of the wider region.

3.1.16 With regard to soil impacts, standard good practice soil management measures, such as those set out in Defra's Code of Practice for the Sustainable Use of Soils on Construction Sites, will be prepared to ensure that the levels of loss and damage are minimised. This will ensure compliance with local and national planning policy regarding the protection and sustainable use of soil resources with **ES Volume 4, Appendix A17.2: Outline Soil Management Plan (SMP) [EN010162/APP/6.4.17.2]** [APP-290] [APP-291] [APP-292] [APP-293] securing the appropriate handling of soils for the construction and decommissioning works.

3.1.17 The Development would minimise impacts on agricultural land in line with national policy by keeping the permanent loss of BMV land to a very low amount; retaining the ability to reinstate arable agriculture after decommissioning; and facilitating a continued agricultural use through making the land available for biodiversity management grazing throughout the operational life of the Development. There are no other alternative sites within the search area (15 km from the POC) that could fulfil the requirements of the Development that would have a lesser effect on BMV agricultural land.

Justification for the use of BMV agricultural land

3.1.18 As set out above, NPS EN-1 and NPS EN-3 include a preference for development of non-agricultural land over agricultural land, and when unavoidable, for development of agricultural land to be directed towards land of the lowest available quality. Accordingly, the Applicant has sought to avoid the use of BMV land where possible, with preference given to the use of land in areas of poorer quality and, in particular, avoiding / minimising the use of Grade 1 and Grade 2 land.

3.1.19 Although ALC was taken into account as one of the influencing factors in the site selection process, NPS EN-3 (paragraph 2.10.29) states that land type should not be a predominating factor in determining the suitability of the site location. Indeed, a High Court judgment made clear that national policy and guidance on BMV land does not mandate the consideration of alternatives or the adoption of a sequential assessment (Bramley Solar Farm Residents Group v SSLUHC [2023], paragraphs 179-18019).

3.1.20 At worst case, the Development would result in the permanent loss of 4.5 ha of BMV arising from the retention of development in Work no. 4 (Intermediate substations), Work no. 5b (400 kV compound) and Work no. 7 (Consented Staythorpe BESS and Connection). These elements of the development could be retained if they are required for the ongoing functioning of any substations that are to be retained, albeit that this would not ultimately be known until nearer the time of decommissioning.

3.1.21 Any limited degree of harm that would arise from the potential permanent loss of 4.5 ha of BMV to retain this infrastructure would be more than outweighed by the substantial public benefits of the Development. These include its contribution to meeting the urgent need for low carbon energy infrastructure, delivering benefits at the national scale, in accordance with the objectives of NPS EN-1 and NPS EN-3.

Conclusion on Principles and Approach

3.1.22 The Development minimises impacts on agricultural land in line with national policy by minimising the use of BMV as far as is practicable. Newark and Sherwood District has a higher concentration of BMV land than the national average and any other site selection would be likely to result in similar, or greater, impacts.

3.1.23 The temporary use of BMV land during the Development lifetime relates to

Work Areas 1, 4, 5a, 5b, and 8, which totals 745.6ha[2]. This amount of BMV represents 0.04% of the total BMV land in Nottinghamshire, or 0.13% of the total BMV in Newark and Sherwood District. The permanent loss of BMV land represents 0.008% of the total BMV land in Newark and Sherwood District. The Development is therefore not considered to have a material impact on the overall supply of BMV land in the District and would not have a material impact on food security.

3.1.24 Overall, in consideration of justifying the use of BMV land (bullet 2 above), in accordance with national and local policy the inclusion of some BMV land within the Development is justified and the impacts on BMV land have been minimised by the nature of the Development and its design. The benefits of the Development outweigh the loss of BMV land, particularly noting that NPS EN-3 paragraph 2.10.29 states that land type should not be the predominating factor in determining the suitability of a site for solar development.

[2] Totals taken from Table 17.8 of **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060] for WAs 1, 4, 5, and 8 for Grade 2 and Sub Grade 3A. WAs 6 and 7 have been excluded as they are either non-agricultural land or relate to the consented Staythorpe scheme. WA 3 then relates to the ecological enhancements and has therefore not been included in the figures.

4 MICRO-SITING: SUBSTATIONS AND BESS

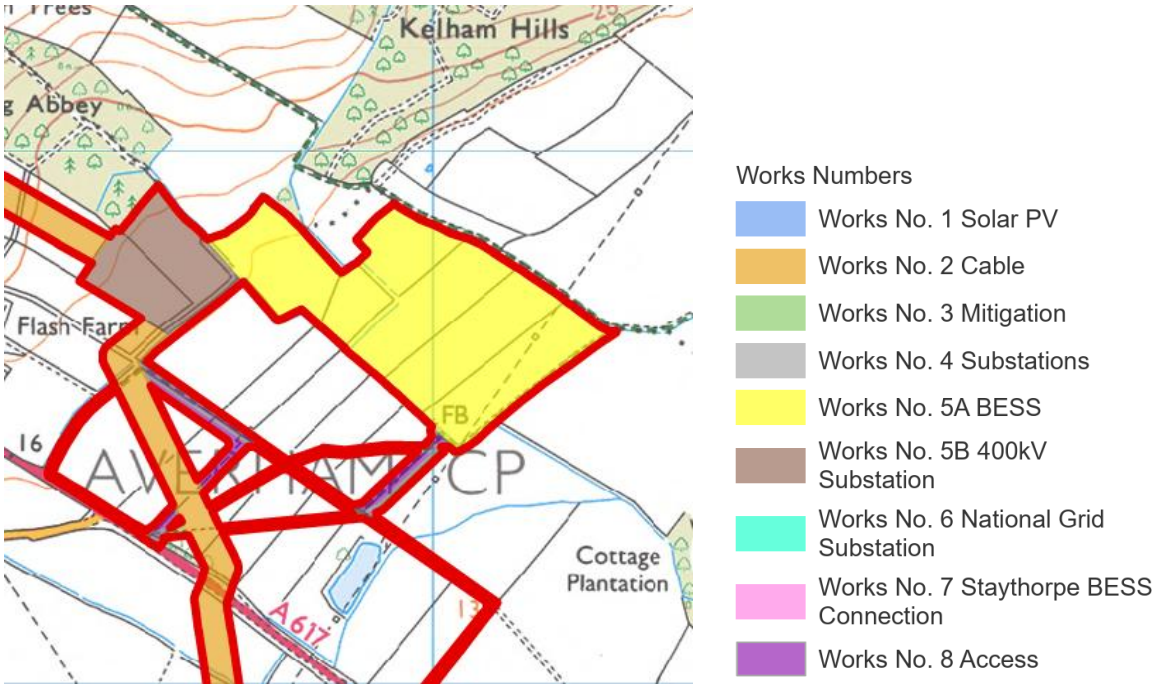
Works 5A and 5B

4.1.1 Works no 5A (BESS) and 5B (400kV substation) are located on agricultural land. This land is a mixture of arable and grassland and is part of a dairy unit.

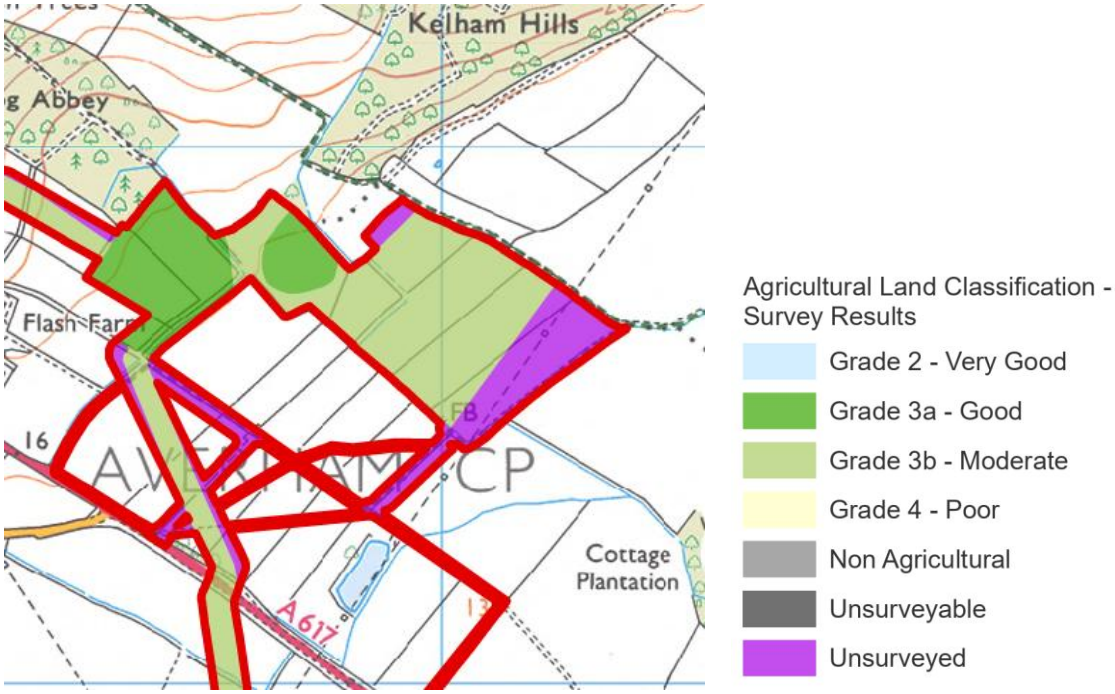
4.1.2 The works areas and the agricultural land quality are shown on Plans Figure 17.5 SE [**APP-183**].

4.1.3 The works and the land quality affected are shown below, on excepts from those plans.

Insert 3: Works Areas



Insert 4: ALC Results



4.1.4 As described in the ES Chapter 17 paragraphs 124 to 129, Works no 5A covers an area of 12.8ha, of which 1.7ha is Subgrade 3a. Restoration on decommissioning to a comparable ALC grade will occur.

4.1.5 Works no 5B (400kV compound) involves a maximum compound area of 3ha, of which 1.7ha is known to be Subgrade 3a and 1.3ha is not surveyed but worst-case assumed to be Subgrade 3a.

4.1.6 The layout minimises the use of BMV as much as possible, as shown on the excerpt from the Illustrative Design Sheet 2 of 39 [APP-029].

Insert 5: Extract from Illustrative Design

4.1.7 The western-most part of the BESS, looking towards the substation, is shown below (being photo 17.41 from the ES Chapter 17).

Insert 6: Western-most Part of the BESS

4.1.8 Consideration was given to seeking to place the substation (Works no 5B) on Subgrade 3b land, but the substation needs to be located in this location for operational reasons, such as the position of the incoming cables and design suitability.

4.1.9 The use of BMV was recognised, but on balance this was identified as the best place from an operational perspective.

4.1.10 Works 5B, the BESS, are on non-BMV land as shown, photographed looking east below.

Insert 7: Non-BMV Land

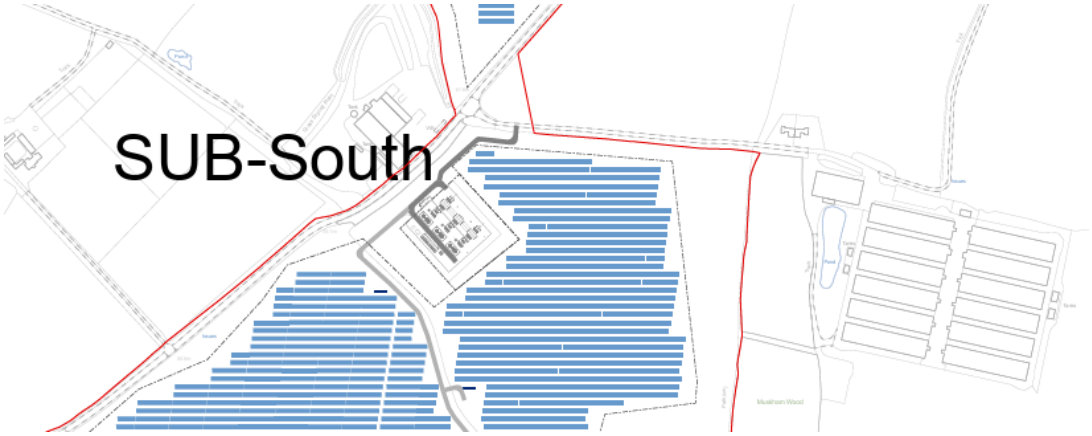
Works 6 and 7

4.1.11 These areas are already consented, so the works in Work 6 is on non-agricultural land, and the loss of agricultural land in Work 7 is approved.

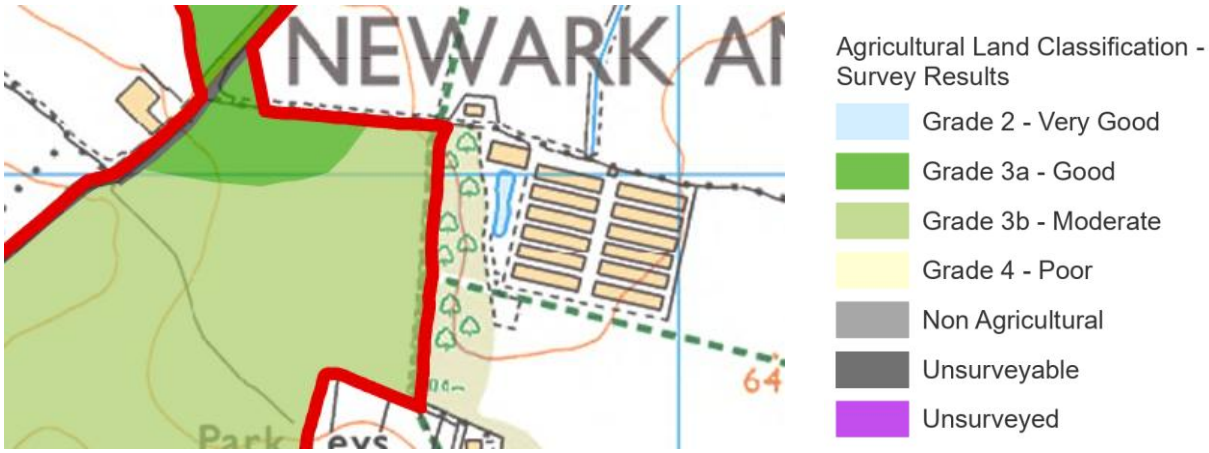
Works 4

4.1.12 The SUB-South substation is shown on the illustrative masterplan sheet 8 [**APP-029**] and is on ALC Subgrade 3a and 3b. The Subgrade 3a forms a small patch in a large field of Subgrade 3b, and locating the substation in this position adjacent to an excellent access will have no significant adverse effects on BMV. Only a small area of Subgrade 3a is affected, as can be seen.

Insert 8: Location of SUB-South

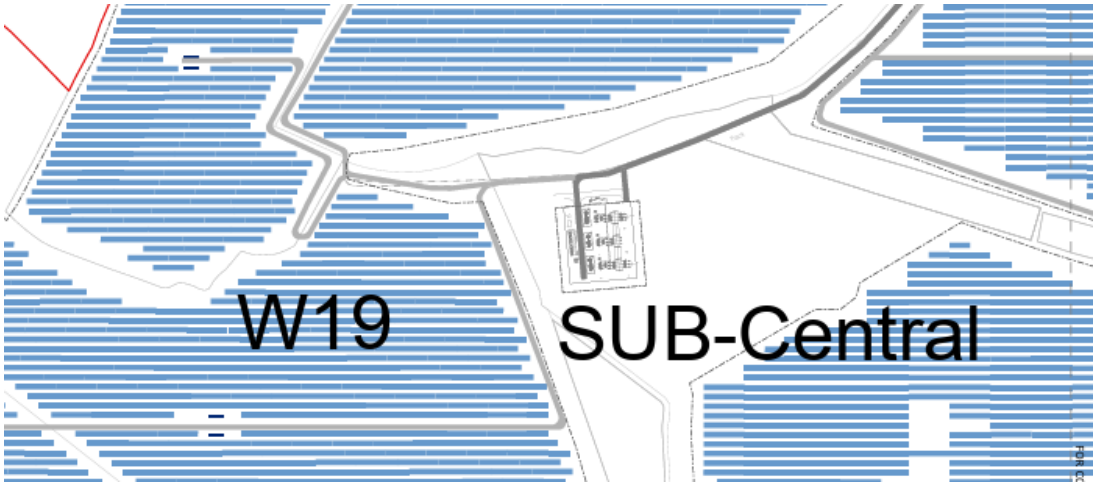


Insert 9: ALC of Sub-South

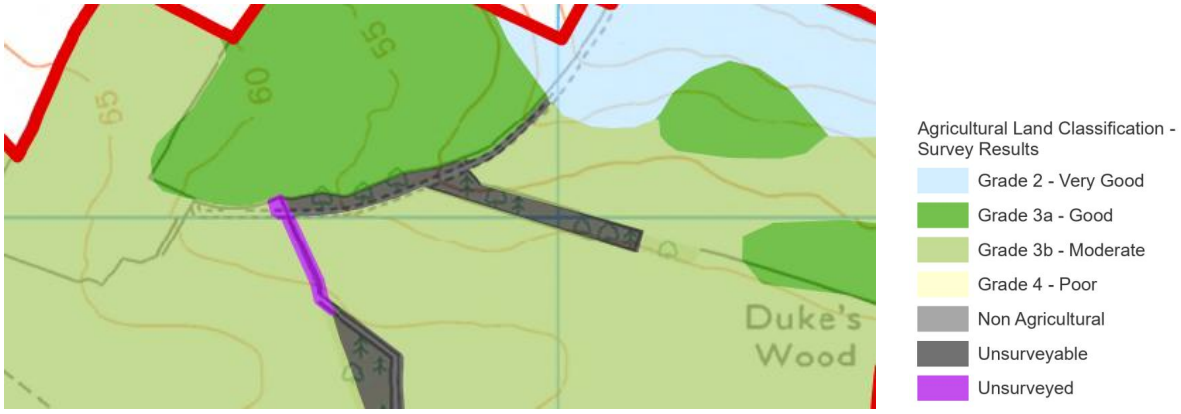


4.1.13 SUB-Central substation is located on Subgrade 3b, avoiding the nearby BMV, as compared below.

Insert 10: Location of Sub-Central

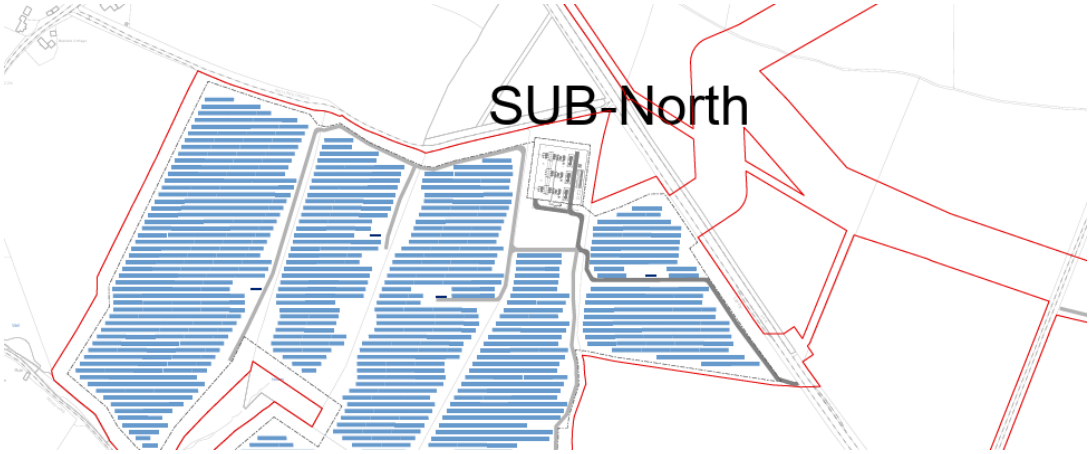


Insert 11: ALC of Sub-Central Area



4.1.14 SUB-North substation is located on Subgrade 3a land. As shown on the comparison below, no lower-quality land was identified in this area.

Insert 12: SUB-North Location

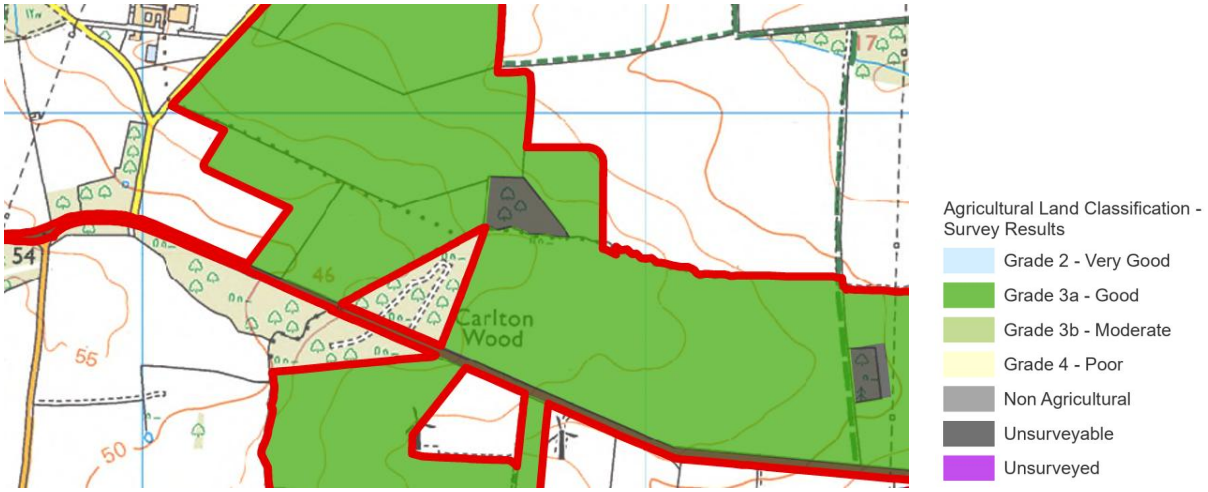


Insert 13: ALC of Sub-North Area

4.1.15 Similarly, SUB-East substation is located on Subgrade 3a land, but there was no poorer quality land in this area, so micro-siting onto lower quality land was not possible.

Insert 14: SUB-East Location

Insert 15: ALC of SUB-East Area



Conclusion

4.1.16 In micro-siting the substations and larger fixed equipment, land quality was fully considered, and the use of BMV minimised where possible.

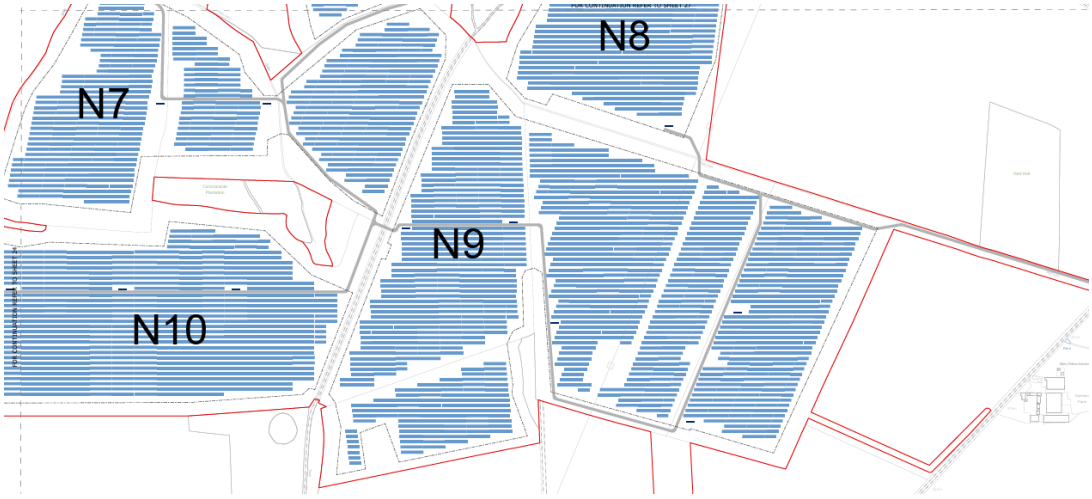
5 MICRO-SITING: TRACKS AND SMALLER ITEMS OF FIXED INFRASTRUCTURE

5.1.1 In the ES Chapter 17 an estimate is made of the likely area that will be used by ALC grade for the tracks and the small bases of small items of equipment, both of which are constructed in the same manner. Table 17.11 sets out the ALC areas by ALC grade.

5.1.2 Tracks largely follow the pattern of the field boundaries, although they are set in from those boundaries inside the fence area.

5.1.3 It is not possible to micro-site tracks to avoid land of BMV quality. Purely for illustration one comparison of indicative track layout and ALC grade is shown below (from sheet 29 of 39).

Insert 16: Illustrative Track Layout



Insert 17: ALC of Illustrative Track Area

5.1.4 These works are all fully reversible.

5.1.5 It is not possible to micro-site the temporary works to avoid land of BMV

quality.

6 MICRO-SITING: CONSTRUCTION COMPOUNDS

6.1.1 Construction compounds, and temporary access works, are short term temporary features.

6.1.2 Access roads may use temporary surfaces, as shown below.

Insert 18: Example of Temporary Haulage Route

6.1.3 Construction compounds are typically built as shown below, being Figure 17.40 from Chapter 17 of the ES.

Insert 19: Example of Temporary Construction Compound

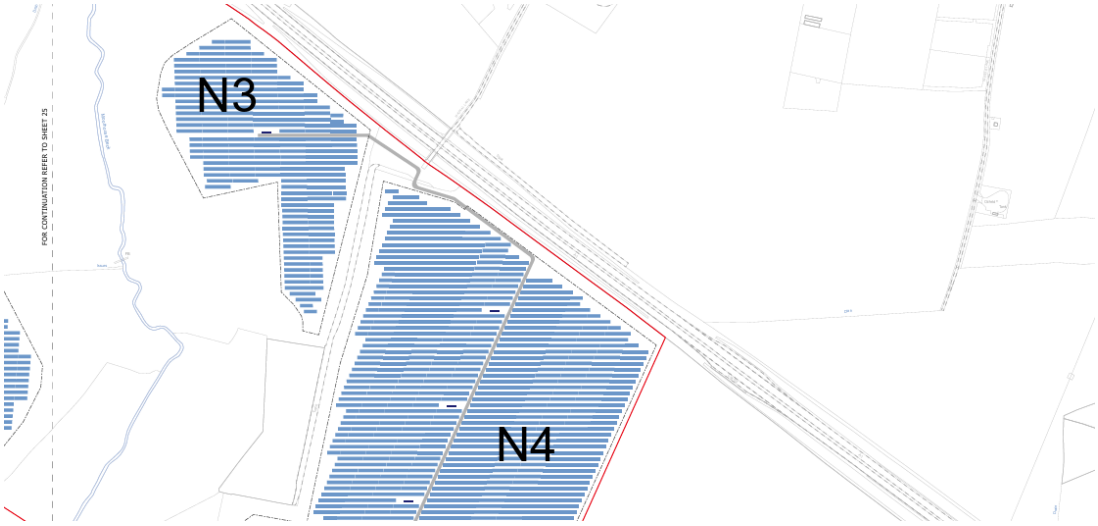
6.1.4 Construction Compounds may be located within Work Areas 1, 2, 4, 5a, 5b and 8. Each construction compound is intended to support the construction of the relevant PV area, or work. The Compounds will be used for the storage and distribution of materials and components that are needed for the relevant

construction activity. They therefore need to be located on parts of the Order Limits that are appropriate distances from potentially sensitive receptors (such as residential properties), have good access to the local road network, and are otherwise logistically efficient.

6.1.5 The illustrative location of the construction compounds is shown on Appendix 1. These compounds would use approximately 24.7ha of BMV.

6.1.6 Many are located on BMV land. As can be seen, avoidance of BMV land in the locating of construction compounds was often not possible. For example, N4 is located on Grade 2 land but this is accessed from the overbridge, as shown below. Land to the northwest, whilst Subgrade 3b, is sloping as shown in the photograph at Insert 21.

Insert 20: Illustrative Layout, CC N4 Area



Insert 21: Looking East Over N3

6.1.7 N9 is located on Subgrade 3a, on the north side of the existing track, minimising the use of Grade 2 (south side of the track).

6.1.8 An internal, all-day workshop was held to discuss micro-siting, including of the construction compounds, whereby various environmental, technical and design specialists provided input. There are many other considerations, such as highway access, service area (ensuring the construction compounds are located in sensible places where they can adequately service construction

areas), drainage etc that influence construction compounds, land quality being only one.

6.1.9 The Outline SMP was updated at Deadline 2 and confirms the Applicant's commitment to restore the temporary works areas to comparable grade at the end of the construction phase.

6.1.10 The illustrative layout does not avoid the use of BMV land, but its temporary disturbance has been considered and minimised wherever possible through design.

7 MICRO-SITING: TREE PLANTING

7.1.1 Woodland planting proposed are illustrated on the ALC basis plan at **Appendix 2**. The larger blocks are considered in this section, being the areas on land of BMV quality.

7.1.2 Woodland 157 infills a small gap as shown below.

Insert 22: Woodland 157

7.1.3 Woodland 52 is on a mix of Grade 2 and Subgrade 3a land, but forms an extension to an existing wood, and is a small triangular field, shown in the aerial photograph below.

Insert 23: Area for Woodland 52

7.1.4 The southern edge of this area is shown below.

Insert 24: Part of Woodland 52 Area (in the foreground)

7.1.5 The Woodland Pasture is open arable land, but its location connects wooded areas to the north and south, as shown in the aerial image below.

Insert 25: Woodland Pasture Area (see Appendix 2)

7.1.6 Woodland 470 occupies an area of subgrade 3a, but as shown below it connects woodland to north and south, and therefore will provide an important wildlife corridor, with no alternative connection available on lower quality ground.

Insert 26: Area for Woodland 470

7.1.7 Woodland planting including community orchard, woodland, woodland pasture and planting buffers will involve agricultural land as follows.

ALC Grade	Area (ha)	Area (to nearest 0.1ha)
2 Very good	1.02	1.0
3a Good	21.35	21.4
3b Moderate	18.13	18.1
Total	40.50	40.5
Total BMV	22.37	22.4

8 SUMMARY AND CONCLUSIONS

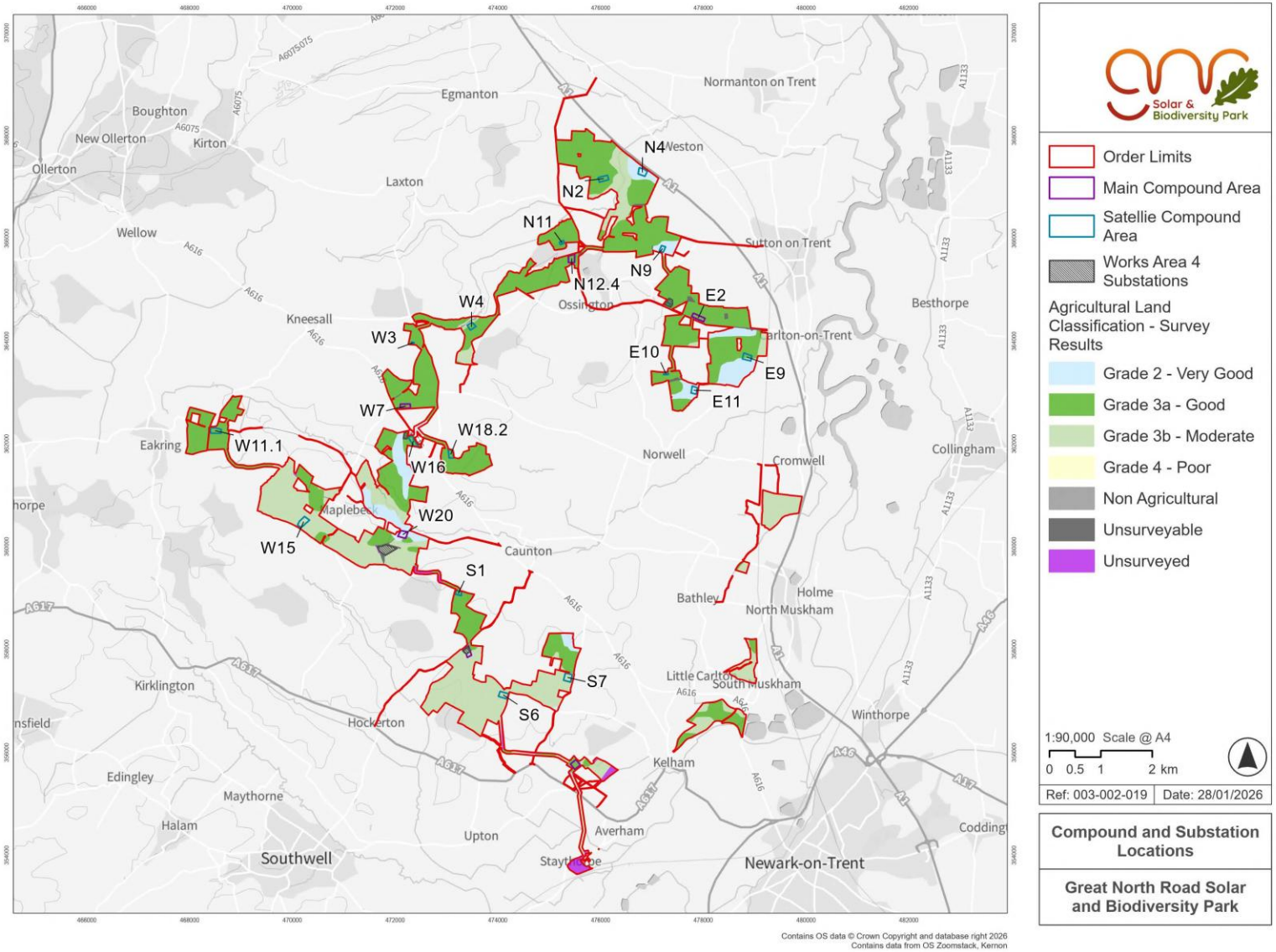
8.1.1 The temporary use of BMV land during the Development lifetime relates to Work Areas 1, 4, 5a, 5b and 8, which totals 745.6ha, or 44% of the Order limits.

8.1.2 **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047] confirms that reasonable alternatives have been studied. The alternatives for design and locations have been adequately assessed, as presented in **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047]. The Site are also considered as part of the Sequential and Exception Test Report (Appendix C of **ES Volume 4, Appendix A9.1: Flood Risk Assessment [EN010162/APP/6.4.9.1B]**).

8.1.3 BMV land is one of the influencing factors in the site selection process. Through a systematic and iterative site selection process, the Development minimises impacts on agricultural land in line with national policy by minimising the use of BMV as far as is practicable. Section 6.8 of the **Planning Statement [EN010162/APP/5.4A]** concludes that the temporary disturbance of 19.4 ha of BMV and, at worst case, the permanent loss of 4.5 ha of BMV is not therefore considered to have a material impact on the overall supply of BMV land in Newark and Sherwood or on food production and food security of the wider region.

8.1.4 The inclusion of BMV land within the Development is therefore justified and the impacts on BMV land have been minimised by the nature of the Development and its design. The benefits of the Development outweigh the loss of BMV land, particularly noting that NPS EN-3 paragraph 2.10.29 states that land type should not be the predominating factor in determining the suitability of a site for solar development.

Appendix 1: Illustrative Location of Construction Compounds and ALC



Appendix 2: Illustrative Planting locations and ALC