nationalgrid

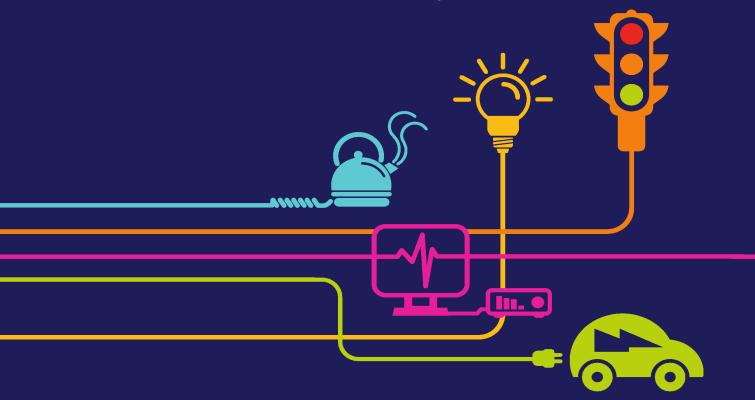
5.9.2.4

National Vegetation Classification Report

Chapter 9 – Appendix 4

National Grid (North Wales Connection Project)

Regulation 5(2)(a) including (l) and (m) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



nationalgrid

North Wales Connection Project

Volume 5

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1 Introduction

1.1 INTRODUCTION

Description of the Project

- 1.1.1 The Proposed Development would provide a new 400 kilovolt (kV) connection between the existing substations at Wylfa and Pentir and includes the following principal components:
 - extension to the existing substation at Wylfa;
 - sections of new 400 kV overhead line between Wylfa Substation and Braint Tunnel Head House (THH) and Cable Sealing End Compound (CSEC) on Anglesey including modifications to parts of the existing 400 kV overhead line between Wylfa and Pentir;
 - Braint THH and CSEC on Anglesey;
 - tunnel between Braint THH and Tŷ Fodol THH;
 - Tŷ Fodol THH and CSEC in Gwynedd;
 - new section of 400 kV overhead line between Tŷ Fodol THH and CSEC and Pentir Substation;
 - extension to the existing substation at Pentir; and
 - temporary construction compounds, access tracks, construction working areas, localised widening of the public highway and third party works that are required to construct the infrastructure listed above.
- 1.1.2 The Proposed Development has been split into six sections (A F), see Figure 1.
- 1.1.3 A full description of the Proposed Development is provided in Chapter 3, Description of the Proposed Development (Document 5.3) and Chapter 4, Construction, Operation, Maintenance and Decommissioning of the Proposed Development (Document 5.4).

Introduction to the Report

- 1.1.4 National Vegetation Classification (NVC) surveys comprise assessments of sections of a given habitat. They are designed to provide a snapshot of the botanical communities which are present in accordance with known NVC community types. The objective of the survey was to identify whether there are any plant communities of interest within and adjacent to the Order Limits for the Proposed Development, particularly focusing on identifying the presence of any Annex 1 habitat types.
- 1.1.5 Annex 1 habitats are those that have been identified under the Habitats Directive (more formally known as Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora) as being considered to be of European interest, following criteria given in the directive. It directs Member States of the European Union (EU) to take measures to maintain the "favourable conservation status" of protected habitats.
- 1.1.6 This report considers the findings of the vegetation surveys undertaken during 2016 and 2017 in areas initially highlighted as potential areas of botanical interest during the Phase 1 Habitat survey which commenced in 2015 and assigns an NVC community, or closest fit, to each survey area where feasible to do so.
- 1.1.7 For robustness, additional surveys were carried out during May and July 2018 to maintain up to date results. Some preliminary results from the 2018 surveys have been included in this report where available at the time of writing. Complete 2018 results will be presented in an Addendum Report.
- 1.1.8 This report also identifies relevant legislation and planning policy relating to important habitats, which are outlined in section 2.

Objectives

- 1.1.9 The objectives of the NVC surveys and report are to:
 - review existing ecological data to identify any important NVC communities within or adjacent to the Order Limits, hereafter referred to as the survey area;
 - provide baseline information about the presence of any important NVC communities within the survey area; the specific surveyed locations are referred to as 'plots' in this report (defined in paragraph 3.2.3);
 - evaluate the status of these NVC communities within the survey plots;

- use the above information to inform the Ecological Impact Assessment (EcIA) set out in Chapter 9, Ecology and Nature Conservation (Document 5.9) to determine whether important NVC communities could be affected by the Proposed Development; and
- inform the Biodiversity Mitigation Strategy (**Document 7.7**) for the Proposed Development.

1.2 VEGETATION OVERVIEW

- 1.2.1 The majority of the survey areas were located on Anglesey. Large extents of the island have relatively little woodland (with more being present on Gwynedd); the only extensive areas of deciduous woodland are located near the Menai Strait. Large amounts of land are devoted to raising sheep and cattle, and marshy, rush-dominated pasture is quite common along the route of the Proposed Development.
- 1.2.2 Most rush-dominated grassland on Anglesey comprises two NVC plant communities; the MG10 Holcus lanatus-Juncus effusus rush pasture on mesotrophic soil and the M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture on more acid substrates. The Proposed Development would fall just within the multiple designated site of Anglesey and Llyn Fens Ramsar, Anglesey Fens Special Area of Conservation (SAC), Cors Erddreiniog National Nature Reserve (NNR), and Cors Erddreiniog Site of Special Scientific Interest (SSSI). This site is located close to a Carboniferous limestone escarpment and has a range of unusual plant communities. There are other statutory designated sites for their botanical interest, but none fall within the Order Limits.

2 Legislation and Planning Policy

2.1 LEGISLATION

2.1.1 Several different acts of legislation and regulations refer to the protection of wildlife. Legislation relevant to plants and habitats is outlined below.

The Conservation of Habitats and Species Regulations 2017

- 2.1.2 The Conservation of Habitats and Species Regulations 2017 (referred to as 'the Habitats Regulations') consolidates all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law and came into force on 30 October 1994.
- 2.1.3 The Habitats Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European sites.
- 2.1.4 The objective of the Habitats Regulations is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. They lay down rules for the protection, management and exploitation of such habitats and species.
- 2.1.5 Schedule 5 (European protected species) lists those species of plants in Annex IV(b) to the Habitats Directive which have a natural range which includes any area in Great Britain. It is an offence to:
 - deliberately to pick, collect, cut, uproot or destroy a wild plant of a European protected species;
 - to be in possession of, or to control a wild plant of a European protected species;
 - to transport a wild plant of a European protected species; or
 - to offer for sale, sell or exchange a wild plant of a European protected species.

2.1.6 This applies to any live or dead plant or part of a plant which has been taken in the wild, and which is of a species or subspecies listed in Annex II(b) (other than any bryophyte) or Annex IV(b) to the Habitats Directive; and anything derived from such a plant or any part of such a plant.

The Countryside and Rights of Way Act, 2000

- 2.1.7 The Countryside and Rights of Way Act 2000 applies to England and Wales only. Part III of the Act deals specifically with wildlife protection and nature conservation.
- 2.1.8 The Act places a duty on Government Departments and the Welsh Government to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.
- 2.1.9 Schedule 12 of the Act amends the species provisions of the Wildlife and Countryside Act 1981 (as amended), strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable', include an offence of reckless disturbance, confer greater powers to police and wildlife inspectors for entering premises and enable heavier penalties on conviction of wildlife offences.

Wildlife and Countryside Act, 1981 (as amended)

- 2.1.10 The Wildlife and Countryside Act 1981 (as amended) is the primary legislation which protects animals, plants and habitats in the UK. The legislation covers four areas:
 - wildlife protection, including protection of wild birds, their eggs and nests, protection of other animal and protection of plants;
 - nature conservation (designation of protected sites), countryside and National Parks;
 - Public Rights of Way (PRoW); and
 - miscellaneous provisions.
- 2.1.11 Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) lists a number of plants which are afforded the following protections:
 - Part 1(a) of the Act makes it an offence to intentionally pick, uproot or destroy listed plants;

- Part 1(b) of the Act makes it an offence to intentionally uproot any wild plant not included in Schedule 8 without authorisation;
- Part 2(a) makes it an offence to sell, offer or expose for sale, or possess or transport for the purpose of sale, any listed plant (live, dead, part or derivative); and
- Part 2(b) makes it an offence to advertise listed plants for buying or selling.

Environment (Wales) Act 2016

- 2.1.12 Section 6 of the Environment (Wales) Act 2016 places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty (Ref 1).
- 2.1.13 To assist in complying with this duty, public authorities must have regard to relevant evidence provided in the State of Natural Resources Report and any relevant area statement for an area in which the authority exercises functions, as well as having regard to the list of living organisms and habitats published under Section 7 of the Act (which replaces the section 42 list for Wales provided in the NERC Act 2006) (Ref 1).
- 2.1.14 Under this Act, Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. A number of plants and habitats are currently listed under Section 7 of the Act. This list is currently under review by the Welsh Government in consultation with National Resources Wales (NRW).

2.2 PLANNING POLICY

National Policy

2.2.1 Government planning policy and guidance throughout the UK requires local planning authorities to take account of the conservation of protected habitats and species when determining planning or development consent applications. This makes the presence of a protected habitats/species a material consideration when assessing a development proposal.

- 2.2.2 In Wales this is implemented through Planning Policy Wales Edition 9, November 2016, supplemented by a series of Technical Advice Notes (TANs) (Ref 2) which sets out the land use planning policies of the Welsh Government. Consultation is currently being held on the draft Planning Policy Wales Edition 10 which was issued in February 2018; the consultation period ended in May 2018.
- 2.2.3 Chapter 5 of PPW (9) sets out the Welsh Government's objectives for the natural heritage of Wales which includes the safeguarding of protected species. It states that 'the presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat'. It also states that 'an ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the planning decision'.
- 2.2.4 Further information on the detail of Planning Policy Wales is provided in Chapter 9, Ecology and Nature Conservation (**Document 5.9**).

2.2.5 Local Policy

- 2.2.6 There are a number of local planning policies set out in the Anglesey and Gwynedd Joint Local Development Plan 2017 (Ref 3) that relate to ecology and nature conservation which in combination with other planning policies will guide local authority expectations in relation to the Proposed Development:
 - Strategic Policy PS 19 relates to conserving and enhancing the natural environment;
 - Policy AMG 4 relates to coastal protection;
 - Policy AMG 5 relates to the protection and enhancement of local biodiversity; and
 - Policy AMG 6 relates to protecting sites of regional or local significance.

Biodiversity Policy

2.2.7 As a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK Biodiversity Action Plan (BAP) is now focussed at a country-level rather than a UK-level. The UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework'

- in July 2012. The UK list of priority species and habitats, however, remains an important reference source and has been used to help draw up statutory lists of priorities in England, Scotland, Wales and Northern Ireland. In Wales the current lists are those under Section 7 of the Environment (Wales) Act 2016 and include habitats such as lowland mixed broadleaved woodland (this includes ancient woodland); semi-improved acid and neutral grasslands and Rhos pasture (purple moor-grass (*Molinia caerulea*)) and rush pasture.
- 2.2.8 The national strategy for biodiversity is delivered at local level via Local Biodiversity Action Plans (LBAPs). Species and habitats of local conservation concern or value are included in the LBAP and an action plan has been created for each species and certain habitat types.
- 2.2.9 The LBAPs relevant to the study area for the Proposed Development are the Anglesey LBAP published by Isle of Anglesey County Council (IACC) and the Natur Gwynedd LBAP for Gwynedd developed by a partnership of organisations and individuals. Natur Gwynedd LBAP and Anglesey LBAP list a number of Habitat Action Plans and flora Species Action Plans on Anglesey.
- 2.2.10 The Wales Biodiversity Partnership (WBP) brings together key members from the public, private and voluntary sectors to promote and monitor biodiversity and ecosystem action in Wales. WBO provides a leadership role and an expert steer on priorities for action on biodiversity and ecosystems in Wales. The WBP Steering Group has now formally disbanded and the biodiversity action work programme taken on by the Wales Biodiversity Strategy Board (WBSB) and the WBP working groups.

3 Methodology

3.1 DESK STUDY

- 3.1.1 To inform the survey process, a desk-top scoping exercise was undertaken using aerial photography mapping (Bing and Google), Ordnance Survey maps, Natural Resources Wales (NRW) Phase 1 Habitat maps and design layouts to identify potentially interesting habitats which could be affected by the Proposed Development.
- 3.1.2 In addition, the desktop study also comprised a review of an existing NVC survey report prepared on behalf of Horizon Nuclear Power (Wylfa) Ltd. in October 2013 (Ref 4).
- 3.1.3 Protected and notable species data was also requested from Cofnod, the local environmental records centre in February 2018; this provided an update to data obtained in November 2016 and May 2015. These are detailed and discussed within the Phase 1 Habitat Report Appendix 9.3 (**Document 5.9.2.3**).

3.2 FIELD SURVEY

- 3.2.1 An initial Phase 1 Habitat survey (**Document 5.9.2.3**) was carried out and included mapping habitats within the Order Limits plus a 50 m buffer (referred to as the survey area in the report). The Phase 1 Habitat survey was undertaken in accordance with the standard survey method (Ref 5).
- 3.2.2 From this, areas of interest were identified that were considered to be of potential botanical interest and warranted a further, more detailed vegetation survey. Some areas, identified by the Phase 1 Habitat survey and desk study, greater than 50 m from the Order Limits have been included where appropriate.

National Vegetation Classification Survey

3.2.3 In order to target NVC survey effort, areas where the Phase 1 Habitat survey identified potentially interesting/diverse areas ('plots') of vegetation that could potentially be affected by the Proposed Development were accessed initially during June/July 2016 and a preliminary visual assessment made based upon the species composition and diversity as to whether a more detailed NVC survey was required. In some cases it was possible for the surveyor to assign an NVC community by eye (common

- communities easily recognised by a surveyor with NVC experience) and a summary of the NVC communities identified this way during the 2016 survey is provided in Table 4.1.
- 3.2.4 Survey plots were assigned a unique reference code and are shown along with the 2017 survey plots on Figure 1. It should be noted that some plots cross over in to two sections.
- 3.2.5 An NVC survey was carried out during July and August 2017 using the methodology outlined in National Vegetation Classification Users' Handbook (Ref 6). For robustness further surveys were also carried out during May and July 2018 to maintain up to date results and preliminary results are presented in this report with complete 2018 results presented in an Addendum Report.
- 3.2.6 Relevés¹ were randomly selected within areas of homogeneous vegetation in each plot. Further relevés were recorded where there was a perceived difference in the vegetation. A glossary of terms relating to the NVC is provided in Appendix B.
- 3.2.7 The location of each relevé was recorded using a handheld GPS navigator (Garmin GPSMAP 62s) and a ten figure Ordnance Survey (OS) grid reference was also recorded.
- 3.2.8 Locations were chosen to provide an overview of the vegetation at the plot, with additional samples taken in areas with distinct vegetation. All samples were randomly selected within stands of vegetation, following the normal NVC protocol. Stands of different vegetation were, where possible, excluded from the relevé. Mosaics were recorded using different relevés for each of the constituent plant communities.
- 3.2.9 In most cases it was only necessary to record a single relevé from each stand of vegetation. Additional relevés were recorded where the vegetation exhibited variation and it was felt necessary to record the range of plant communities that were present.
- 3.2.10 A total of nine woodland relevés were recorded and fifty-one grassland or mire relevés. Woodland was recorded using 50 x 50 m quadrats for the canopy and shrub layers and 4 x 4 m for the ground flora. Grassland and

¹ A 'relevé' is described as a picture of the vegetation; usually composed of a species list from a quadrat of defined area and a description of the physical features of the stand of vegetation.

-

mire vegetation was recorded using 2 x 2 m quadrats. A single woodland relevé (number 60) had two ground flora samples. In some cases, the stand of vegetation was too small to record a 50 x 50 m relevé and a smaller rectangular sample was collected (see relevé 8). It is normal practice to use narrow rectangular relevés for linear features, such as riparian vegetation and roadside verges.

- 3.2.11 For each relevé the total cover of each species was recorded using the Domin scale (Ref 7) and tabulated in a spreadsheet (see Appendix C). Species that were absent from within the relevé but present within the same stand of vegetation were recorded with a '+'. This information is not used in analysis, but can be useful for allocating species-poor or heterogeneous samples. These species are not shown in the relevé table, but may be mentioned in the text.
- 3.2.12 The data was analysed using a combination of surveyor experience and the keys in Rodwell (Ref 8-12).
- 3.2.13 The names of higher plants follow the Third Edition of the *New Flora of the British Isles* (Ref 13). The names of the NVC plant communities follow Rodwell (Refs 8-12). Bryophyte names follow Smith (Ref 14) and Paton (Ref 15).

3.3 ASSUMPTIONS AND LIMITATIONS

- 3.3.1 The NVC surveys were carried out in June and July 2016 and July and August 2017, with further surveys in May and July 2018. The majority of grassland and mire plant species are flowering at this time of the year, but vernal woodland species, such as wood anemone (*Anemone nemorosa*) or bluebell (*Hyacinthoides non-scripta*) may be absent or inconspicuous. Orchids had also finished flowering, which made it difficult to make a definitive identification of several species.
- 3.3.2 Not all requested plots were permitted access.
- 3.3.3 In some instances, livestock and in particular, beef cattle restricted the accessibility of particular land parcels which, on particular occasions, were avoided/evacuated for health and safety reasons.
- 3.3.4 The Anglesey Fens Special Area of Conservation (SAC) was sampled during the survey. The SAC is a very interesting site with a wide range of plant communities present, however; it is extremely difficult to survey. The SAC is located in a shallow valley and the fields were originally laid out to enable access from the respective landowner's farm. There are very few footpaths that cross the whole site and the numerous ditches make access

potentially dangerous. However access to key areas immediately adjacent to the Order Limits was possible.

4 Results

4.1 DESK STUDY

- 4.1.1 A review of the NVC report prepared by Horizon Nuclear Power (Ref 4) provided information regarding the Tre'r Gof SSSI however the survey areas are beyond the Order Limits and 50 m buffer.
- 4.1.2 The desk-top scoping exercise identified potentially interesting habitats which could be affected by the Proposed Development, these were then visited for survey or scoping out.

4.2 FIELD SURVEY

2016 Survey

4.2.1 During the initial 2016 survey some plant communities were identified by eye; these are shown in Table 4.1. The Annex 1 habitat is highlighted in blue; this habitat was ground-truthed in July 2018. Plots that were inconclusive are shown on Figure 1; these plots were surveyed in 2018 if considered relevant to the assessment.

Table 4.1: Summary of 2016 NVC Communities		
Plot reference number	Assigned NVC community	
Section A		
2125_NVC020	MG6 Lolium perenne-Cynosurus cristatus grassland	
2039_NVC005	W6 Alnus glutinosa-Urtica dioica woodland. Confirmed in July 2018.	
62249_NVC025	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture	
1991_NVC051	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture	
1991_NVC050	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture	

Table 4.1: Summary of 2016 NVC Communities		
Plot reference number	Assigned NVC community	
1971_NVC049	M23b Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus effusus sub community	
1956_NVC055	M23b Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus effusus sub community	
1945_NVC054	M23b Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus effusus sub community	
1945_NVC053	M23b Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus effusus sub community	
Section B		
1751_NVC059	MG10 Holcus lanatus-Juncus effusus rush pasture	
1751_NVC060	MG10 Holcus lanatus-Juncus effusus rush pasture	
1751_NVC061	MG10 Holcus lanatus-Juncus effusus rush pasture	
Section C		
1716_NVC062	MG10/MG6 Holcus lanatus-Juncus effusus rush pasture/Lolium perenne-Cynosurus cristatus grassland mosaic	
4001_NVC063	MG10 Holcus lanatus-Juncus effusus rush pasture	
1543_NVC002	M23a Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus acutiflorus subcommunity	
Section E		
1077_NVC034	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture	

Table 4.1: Summary of 2016 NVC Communities		
Plot reference number	Assigned NVC community	
1077_NVC035	MG5 Cynosurus cristatus-Centaurea nigra grassland	
Section F		
177_NVC042	Re-surveyed in 2018 and re-classified to W8 Fraxinus excelsior-Acer campestre-Mercuralis perennis woodland.	
5008_NVC030	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture	
73_NVC027	M23a Juncus effusus/acutiflorus-Galium palustre rush-pasture Juncus acutiflorus subcommunity	

2017 Survey

Section A

Plots 2125_NVC022 and 2125_NVC021

- 4.2.2 Plots 2125_NVC022 and 2125_NVC021 are located in a shallow basin immediately to the east of the Wylfa Nuclear Power Station (Plates 1, 2, 3 and 4). They are located just below the 10 m contour line. There are five small rush-dominated fields, with a series of drains, which coalesce at the eastern end of the basin and drain into the nearby Port Wylfa. A total of three relevés were recorded from these plots (relevés 10, 11 and 12).
- 4.2.3 Plot 2125_NVC022 (relevé 10) is a roughly rectangular stand of rush-dominated vegetation with abundant sharp-flowered rush (*Juncus acutiflorus*). The vegetation is relatively species-rich with frequent greater bird's-foot trefoil and silverweed (*Potentilla anserina*). The predominance of sharp-flowered rush and presence of marsh bedstraw (*Galium palustre*) indicated that it belongs to the M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture plant community. Hairy sedge (*Carex hirta*) was recorded in the single relevé, but carnation sedge (*Carex panicea*) and common sedge (*Carex nigra*) were common in the adjacent vegetation. The relevé is representative of the *Juncus acutiflorus* sub-community. The linear nature of the vegetation suggests that it is growing in a silted-up ditch.

- 4.2.4 Plot 2125_NVC021 (relevés 11 and 12), at the western end, is similar to Plot 2125_NVC022, with large amounts of sharp-flowered rush. The main difference is that meadowsweet (*Filipendula ulmaria*) is common. The eastern end of the field (relevé 12), by contrast, is dominated by purple moor-grass, with abundant devil's-bit scabious (*Succisa pratensis*). Carnation sedge is more common and wild angelica (*Angelica officinalis*) is present. Sharp-flowered rush is replaced by the smaller jointed rush (*Juncus articulatus*).
- 4.2.5 The large amount of meadowsweet and wild angelica in relevés 11 and 12 suggest that this is a stand of M27 *Filipendula ulmaria-Angelica sylvestris* mire, although this is rather an artificial distinction. A change in management to more regular grazing would probably convert it to M25 *Molinia caerulea-Potentilla erecta* mire.

Plots 2037_NVC004 and 2038_NVC

- 4.2.6 Plot 2037_NVC004 (relevés 60a and 60b) consists of an area of deciduous woodland known as 'Brynddu'; to the east of Llanfechnell (Plate 5). The woodland is mainly composed of ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*), with occasional hornbeam (*Carpinus betulus*), wild cherry (*Prunus avium*) and horse chestnut (*Aesculus hippocastanum*). The eastern part of the woodland appears to be the most established and is bordered by a deep ditch *and drystone wall*.
- 4.2.7 The ground flora includes red campion (Silene dioica), wood avens (Geum urbanum), broad buckler-fern (Dryopteris dilatata), nettle (Urtica dioica) and bluebell. The woodland can probably be ascribed to the NVC W8 Fraxinus excelsior-Acer campestre-Mercurialis perennis plant community, although mature specimens of sessile oak (Quercus petraea) are absent. Sessile oak seedlings are present in small numbers, but there is little evidence that the trees are surviving to maturity. The closest fit would probably be the W8e sub-community, which is characterised by the presence of herb Robert (Geranium robertianum). There is evidence of former field walls in the woodland, which suggests that most of it is secondary in nature.
- 4.2.8 Plot 2038_NVC (relevé 61) is a small triangle of deciduous woodland to the west of 'Brynddu' (Plate 6). The woodland includes a number of alder trees (*Alnus glutinosa*) and wych elm (*Ulmus glabra*), but most of the canopy consists of ash and sycamore. The centre of the wood is predominantly covered by bramble (*Rubus fruticosus*) and nettle, but there are more species-rich areas with broad buckler-fern, hart's-tongue fern (*Phyllitis scolopendrium*), male fern (*Dryopteris filix-mas*), enchanter's nightshade (*Circaea lutetiana*), red campion and pendulous sedge (*Carex pendula*).

The soil is damper than in Plot 2037 and the site is bounded by a wet ditch. It can also be ascribed to the W8e *Geranium robertianum* sub-community of the W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland in the NVC.

4.2.9 Plots 2037_NVC004 and 2038_NVC are **Annex 1 habitats (Tilio-Acerion forests on slopes, screes and ravines).**

Plots 2021_NVC028 and 62249_NVC027

4.2.10 Plots 2021_NVC028 and 62249_NVC027 were inconclusive during the 2016 surveys. The plots are located in a shallow valley, to the north of Beudgwyn Farm. A large bull was grazing in the field on both occasions that the site was visited and the survey was consequently not undertaken for health and safety reasons. However, inspection with a pair of binoculars suggested that the vegetation is dominated by soft rush (*Juncus effusus*). There was no evidence of meadowsweet and the majority of the plots probably belongs to the MG10a *Holcus lanatus-Juncus effusus* rush pasture plant community (based on surveyor experience).

Plot 1991_NVC029

- 4.2.11 Plot 1991_NVC029 (relevé 8) is a small area of wet woodland, located in a narrow limestone valley (Plates 7 and 8). The western side of the valley is quite steep and covered by bracken (*Pteridium aquilinum*), while the eastern slope is more gradual and strewn with small blocks of limestone. A small stream, flows down the middle of the valley and a drystone wall separates it from a field to the west. Alder is the dominant tree species, but there are a large number of self-sown sycamore trees in the valley. Beech trees (*Fagus sylvatica*) have been planted on the drier eastern slope and the southern end of the valley. A 20 m x 50 m relevé was used to sample the canopy, excluding the area with the beech trees.
- 4.2.12 The ground flora of the wood is dominated by broad buckler-fern and bramble. Herbaceous species include bluebell, red campion, herb Robert, nettle and wood sorrel (*Oxalis acetosella*). The woodland can be ascribed to the *Sambucus nigra* sub-community of the W6d *Alnus glutinosa-Urtica dioica* woodland community in the NVC. This is characterised by the presence of elder (*Sambucus nigra*). Hawthorn (*Crataegus monogyna*) bushes on the eastern slopes probably predate the planting of the beech trees.
- 4.2.13 Although fragmentary this is **Annex 1 habitat W6d Alnus glutinosa Urtica dioica woodland (Sambucus nigra sub-community).**

Section B

Plot 1942 NVC052

- 4.2.14 The accessibility of plot 1942_NVC052 was restricted in 2017 due to the track being overgrown with blackthorn (*Prunus spinosa*) scrub (Plate 9).
- 4.2.15 The plot appears to include several large fields, all located in a shallow valley to the west of the railway line. Soft rush appears to be the dominant species, but it was not possible to determine whether the majority of the fields were MG10 Holcus lanatus-Juncus effusus rush pasture or M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture without detailed inspection, however this was identified as M23b Juncus effusus/acutiflorus-Galium palustre rush-pasture, Juncus effusus sub-community during the 2016 survey.

Plot 1797_NVC058

- 4.2.16 Plot 1797_NVC058 is a long narrow field divided into two by a barbed-wire fence. The western part had presumably been improved in the recent past, but had been invaded by soft rush. Perennial rye-grass was common in places with large patches of soft rush. The field is a mosaic of MG6 *Lolium perenne-Cynosurus cristatus* and MG10a *Juncus effusus-Holcus lanatus* rush-pasture.
- 4.2.17 The eastern part of the field was slightly more acid and compact rush (Juncus conglomeratus) was co-dominant with soft rush. Greater bird's foot trefoil (Lotus pedunculatus) was abundant in places and oval rush (Carex leporina) occurred occasionally. Lesser spearwort (Ranunculus flammula) was common in the wettest part of the field, with fen bedstraw (Galium uliginosum), wild angelica (Angelica sylvestris) and bog stitchwort (Stellaria alsine). All of this field could be ascribed to the MG10a Juncus effusus-Holcus lanatus rush-pasture community.

Plot 1770_NVC057

4.2.18 Plot 1770_NVC057 is semi-improved field of MG6 perennial-ryegrass and crested-dog's tail grassland, with patches of soft rush. The field may have been ploughed in the past and the soft rush had invaded when the soil was disturbed. The field had limited ecological value.

Plot 1778_056

4.2.19 Plot 1778_NVC056 is a mosaic of MG6 grassland and MG10 rush-pasture. Two samples were collected; one to sample the short grass and the other to sample the rushes. The field had limited ecological value.

Section C

Plots 1522_NVC071 and 1522_NVC074

- 4.2.20 Plots 1522_NVC071 and 1522_NVC074 are part of the Cors Erddreiniog SSSI/NNR, which are part of the Corsydd Môn/Anglesey Fens SAC and Anglesey and Llyn Fens Ramsar. The Anglesey fens support the second largest area of calcareous fens in the UK. The vegetation is highly complex and includes rush-dominated pasture, extensive stands of saw sedge (*Cladium mariscus*) (Plate 11), alkaline fen meadow and mire plant communities (see Plates 10 to 12).
- 4.2.21 The site is located next to an outcrop of Carboniferous limestone. Test bores has shown that there are alternating deposits of peat and marl and that the fen is fed by base-rich springs (Ref 16 and Ref 17).
- 4.2.22 The site has recently been the subject of a large-scale restoration scheme (Ref 18). This has mainly affected the eastern part of the SAC but there is evidence of other large-scale work elsewhere within the SAC.
- 4.2.23 The Proposed Development passes through an extensive area of rough pasture (to the west of the SAC) before heading south-east near, but avoiding, an extensive area of saw sedge swamp.
- 4.2.24 A total of 17 relevés were collected to the east of the Proposed Development within the SAC (relevés 21, 22, 26, 27, 28, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59). These included samples of M22 Juncus subnodulosus-Cirsium palustre mire, M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture, M24 Cirsio-Molinietum fen meadow, M25 Molinia caerulea-Potentilla erecta mire, M27 Filipendula ulmaria-Angelica sylvestris, MG5 Cynosurus cristatus-Centaurea nigra grassland, S14c Sparganium erectum swamp and S2 Cladium mariscus swamp (relevés 28 and 48). A number of these relevés may have been heterogeneous, which suggests that there has been a major change to the management of the mire or some other form of interference in the recent past. The M22 Juncus subnodulosus-Cirsium palustre mires in Volume 2 of British Plant Communities are synonymous with the 'rich fen meadows' described by Wheeler (Ref 19).
- 4.2.25 M24 Cirsio-Molinietum fen meadow and S2 Cladium mariscus swamp are Annex 1 habitats.
- 4.2.26 Several of the stands that were surveyed were very species-rich and the site is known to have several species of orchid.

Plot 4074 NVC017

4.2.27 Vaynol Covert (plot 4074_NVC017) was confirmed as a Scot's pine (*Pinus sylvestris*) plantation and therefore does not fulfil the requirements for an NVC survey.

Plot 1543_NVC012

- 4.2.28 Plot 1543_NVC012 (relevés 19 and 20) comprises two fields. The northern field of this pair is included in the Anglesey Fens SAC. It consists of a triangular, horse-grazed field with a patchwork of species-rich grassland on the drier ground and taller fen-meadow type vegetation in the lower, wetter areas (Plate 13).
- 4.2.29 The drier areas (relevé 20) have a mosaic of very short grassland composed of crested dog's-tail (Cynosurus cristatus), common bent (Agrostis capillaris), Yorkshire fog (Holcus lanatus), red fescue (Festuca rubra) and sweet vernal-grass (Anthoxanthum odoratum) with longer grass dominated by cock's-foot (Dactylis glomerata) and Yorkshire fog. The presence of character species for the Centaureo-Cynosuretum, such as bird's-foot trefoil (Lotus corniculatus) and common knapweed (Centaurea nigra) indicate that this is MG5 Cynosurus cristatus-Centaurea nigra grassland. Companion species include sneezewort (Achillea ptarmica), yellow rattle (Rhinanthus minor) and red clover (Trifolium pratense). The latrine areas of the field have similar species, but cock's-foot is the dominant grass.
- 4.2.30 The lower lying parts of the field (relevé 19) are dominated by Yorkshire fog, creeping bent (Agrostis stolonifera) and creeping buttercup (Ranunculus repens). Marsh thistle (Cirsium palustre) is fairly common, with smaller amounts of wild angelica, purple loosestrife (Lythrum salicaria), marsh-bedstraw, common valerian (Valeriana officinalis), marsh willowherb (Epilobium palustre) and water mint (Mentha aquatica). Carnation sedge is fairly common and oval sedge occurs sporadically. Sharp-flowered and jointed rush have relatively low cover, but the combination of species suggests that it is M23a Juncus effusus/acutiflorus-Galium palustre rush-pasture (Juncus acutiflorus sub-community).

Plot 4074_NVC013

- 4.2.31 Plot 4074_NVC013 (relevés 14, 15 and 16). The more southerly field is not part of the SAC and was not included in the NVC vegetation map of the reserve (Ref 20).
- 4.2.32 A large proportion of the site is covered by species-poor, Yorkshire fogdominated acid grassland (see relevé 16). The presence of common bent,

red fescue, sheep's fescue (*Festuca ovina*) and large amounts of sweet vernal-grass suggests that this is mainly U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland. Common knapweed is frequent in the drier, raised parts of this stand.

- 4.2.33 Purple moor-grass is the dominant species in the lower parts of the site (relevé 14), forming almost pure stands (Plate 14). This vegetation can be placed in the NVC M25 *Molinia caerulea-Potentilla erecta* plant community. Elsewhere the purple moor-grass is co-dominant with sharp-flowered rush. Water mint, purple loosestrife, marsh willowherb, fen bedstraw and velvet bent (*Agrostis canina*) are common, with scattered shoots of star sedge (*Carex echinata*). This dominance of sharp-flowered rush would suggest that it is M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture.
- 4.2.34 Relevé 15 was recorded from a small seasonal pond dominated by marsh cinquefoil (Potentilla palustris) and common cotton-grass (Eriophorum angustifolium) (Plates 15 and 16). The vegetation is slightly unusual because it includes a large number of associates such as marsh horsetail (Equisetum palustre), marsh pennywort (Hydrocotyle vulgaris), water mint, carnation sedge, star sedge, lesser spearwort and marsh willowherb. Whilst an NVC community could not be assigned to this area, the large quantity of cotton grass would normally place it in the M3 Eriophorum angustifolium bog pool community, but the majority of species are characteristic of the M23 Juncus effusus/acutiflorus-Galium palustre rushpasture. Cow-horn bog-moss (Sphagnum denticulatum) was present in This suggests that the field is drying out and that the marsh runnels. cinquefoil and cotton-grass will eventually disappear. The field is surrounded on three sides by improved grassland and it may be the remains of a drained raised bog. Drained raised bogs, with the potential for restoration are an Annex 1 habitat (7120). .
- 4.2.35 Tufted hair-grass (*Deschampsia cespitosa*) is abundant along the western boundary of the field. The presence of large amounts of purple moor-grass in this plot means that this vegetation still belongs in the M25 *Molinia caerulea-Potentilla erecta* plant community.

Plot 1487

4.2.36 The five fields in Plot 1487 were subjected to five relevés (numbers 24, 25, 39, 40 and 41). Relevé 24 was species-rich with large amounts of purple moor-grass, carnation sedge and sharp-flowered rush. Wild angelica, meadowsweet, hemp agrimony (*Eupatorium cannabinum*), water mint and marsh pennywort were common and less frequent species included common spotted orchid (*Dactylorhiza fuchsii*), parsley water-dropwort

(*Oenanthe lachenalii*), sneezewort and lousewort (*Pedicularis sylvatica*). Relevé 25 was less species-rich and was dominated by large amounts of sharp-flowered rush. The stands with large quantities of meadowsweet can most likely be ascribed to the M27 *Filipendula ulmaria-Angelica sylvestris* plant community and those with larger amounts of sharp-flowered rush belong to the M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture community.

4.2.37 Given the species diversity of these fields, they were re-visited in 2018. The full 2018 survey results will be presented in an Addendum Report; a summary of the results is discussed in section 4.3.

Section C/D

Plots 1505 NVC066 and 5006 NVC004

4.2.38 Plots 1505_NVC066 and 5006_NVC004 were inaccessible. However, 1505_NVC066 could be seen through the hedge as being dominated by soft rush, while 5006_NVC004 was covered by hard rush. Neither appeared to be species-rich and would most likely belong to MG10a and MG10b respectively.

Section D

Plot 5006_NVC003

4.2.39 Plot 5006_NVC003 is in the corner of an otherwise improved field. Restricted access meant that the plot was viewed from the adjacent field and appeared to be MG10b rush-pasture with hard rush (*Juncus inflexus*).

Plot 5032_NVC001

- 4.2.40 Plot 5032_NVC001 is a large area of deciduous woodland, known as Gylched Covert (relevés 44 and 45 and Plate 17). The woodland is dominated by ash, sessile oak, downy birch (Betula pubescens) and sycamore with a shrub layer of holly (Ilex aquifolium), hazel and elder. The wood is located on the top of a Carboniferous limestone outcrop and shows extensive signs of quarrying. The ground flora is reasonably diverse, including hart's tongue fern, broad buckler-fern, herb Robert, enchanter's nightshade, wood sedge (Carex sylvatica) and germander speedwell (Veronica chamaedrys).
- 4.2.41 There were no ancient woodland indicator species, but the vegetation can be ascribed to W8e Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland plant community (Geranium robertianum subcommunity) with the western 20 % of the woodland showing characteristics

of the W8b (*Anemone nemorosa*) sub-community. As such, the woodland is an Annex 1 habitat.

Plots 1332_NVC069 and 1332_NVC070

- 4.2.42 Plots 1332_NVC069 and 1332_NVC070 (relevés 9, 13 and 17 are in different ownership and approached from different entrances. Both plots are very similar and are located beside the same stream.
- 4.2.43 Both plots are located at the bottom of a shallow valley (Plate 18). The ground is poorly drained and shows evidence of poaching by livestock. Plot 1332_NVC069 was grazed by sheep at the time of the survey and was dominated by hard rush. Soft rush was relatively uncommon, but the vegetation clearly belonged to the *Juncus inflexus* sub-community (MG10b) of the MG10 *Holcus lanatus-Juncus effusus* rush pasture community. Both hairy and false fox-sedge (*Carex otrubae*) were common here. Hard rush is normally indicative of gleyed, clay soils.
- 4.2.44 Soft rush is the dominant species in Plot 1332_NVC070, rather than hard rush. Hard rush does occur at the northern end of the field, but is less common elsewhere. False fox-sedge is common again, together with marsh willowherb, wild angelica, common marsh-bedstraw and broad buckler-fern. The northern part can be ascribed to the MG10b sub-community and the southern to the MG10a sub-community of Holcus lanatus-Juncus effusus rush pasture. Bottle sedge (Carex rostrata) and common figwort (Scrophularia nodosa) were found growing in the nearby ditch.

Section E

4.2.45 No NVC surveys were conducted in Section E as no areas were identified during the Phase 1 Habitat survey or desk study that would warrant more detailed vegetation surveys.

Section F

Plot 6022_NVC012

4.2.46 Plot 6022_NVC012 consists of three rush-dominated fields (Plate 19). Only a corner of the western field is within the Order Limits. The field is extremely waterlogged and badly poached by two ponies. The wettest part of the field was species-rich with 29 species in a 2 x 2 m² relevé (relevé 30). The sedges include common yellow sedge (Carex demissa), common sedge, star sedge and carnation sedge. Broad-leaved plants include bog pimpernel (Anagallis tenella), marsh St. John's-wort (Hypericum elodes), imperforate St. John's-wort (Hypericum maculatum) and greater bird's-foot trefoil. The vegetation can be ascribed to the M23 Juncus effusus/acutiflorus-Galium

palustre rush-pasture community, the equivalent to the MG10 plant community on more acid soils.

Plots 84_NVC033, 48_NVC034 and 55_NVC032

- 4.2.47 Plots 84_NVC033, 48_NVC034, 55_NVC032 are all located around Pentir Substation.
- 4.2.48 The western part of Plot 84_NVC033 includes a substantial earth bund, which was constructed along the western perimeter of the substation (Plate 20). Two 4 x 4 m samples of the ground flora were recorded (relevés 2 and 3). The northern part of the bund was planted with Lawson's cypress trees (Cupressus lawsoniana) and Norway maple (Acer palmatum), which are alien species and are not included in the NVC. The vegetation was rather heterogeneous, with larch (Larix sp.) on the western side of the bund, Lawson's cypress on the eastern side and self-sown Norway maple on the summit. A 10 m x 50 m canopy plot was recorded to reflect the linear nature of this stand, but strictly speaking the plot was unsuitable for a NVC survey.
- 4.2.49 The more southerly part of the plot (relevé 3) has a more diverse ground flora, but there were insufficient deciduous trees to record a standard 50 x 50 m canopy relevé. The closest fit would be for W12a Fagus sylvatica-Mercuralis perennis woodland, Mercuralis perennis sub-community.
- 4.2.50 There were a number of sessile oak trees near the road and the ground flora included enchanter's nightshade, broad buckler-fern and herb Robert. Turkey oak (Quercus cerris), a non-native tree species, was found growing on the wall beside the road. The more northerly ground flora relevé (relevé 2) had few plant species other than ivy.
- 4.2.51 The eastern section of the plot is located next to the access road along the north of the substation. It is situated immediately beneath an electricity pylon and was not sampled for health and safety reasons due to works being carried out and machinery being present at the time. It was observed from the adjacent area that the vegetation was dominated by false-oat grass (Arrhenatherum elatius) and belonged to the MG1 Arrhenatherum elatius grassland community. The grassland had been mown shortly before a second visit on 7 August 2017 and therefore the area was scoped out from further survey.
- 4.2.52 Relevé 1 in Plot 48_NVC034 was dominated by downy birch, with a shrub layer of rowan (Sorbus aucuparia), rhododendron (Rhododendron ponticum) and sessile oak (Plate 21). Broad buckler-fern was very common and there was a well-developed bryophyte layer composed of Sphagnum palustre, Thuidium tamariscinum, Lophocolea bidentata, Polytrichum commune and

Pseudoscleropodium purum. A series of parallel furrows suggest that the land was previously used as a coniferous plantation and has been colonised by downy birch. The vegetation can probably be ascribed to the W4a Betula pubescens-Molinia caerulea plant community (Dryopteris dilatata-Rubus fruticosus sub-community), although purple moor-grass was not present in the relevé.

- 4.2.53 Plot 55_NVC032 (relevé 4) is located to the north-west of Pentir Substation. On this occasion silver birch (Betula pendula) was the dominant tree, rather than downy birch (Plate 22). The ground flora was similar to that in 48_NVC034 with abundant broad buckler-fern, smaller amounts of male fern, lady fern (Athyrium filix-femina), hard fern (Blechnum spicant) and soft shield-fern (Polystichum setiferum). Higher plants were restricted to soft rush, heather (Calluna vulgaris), velvet bent, ivy (Hedera helix), greenribbed sedge (Carex binervis) and bramble. The bryophyte layer consisted of abundant (Thuidium tamariscinum) and smaller amounts of (Polytrichum commune). The ground flora suggests that the plot may have supported heathland before it was planted with conifers.
- 4.2.54 The track adjacent to the road in Plot 55_NVC032 (relevé 29) is being invaded by gorse (*Ulex europaeus*) and willow (*Salix* sp.) scrub. However, a small area of species-rich grassland has survived near the entrance. Knapweed, wild carrot (*Daucus carota*), centaury (*Centaurium erythraea*) and bird's-foot trefoil are abundant in this area. Character species for the (*Cynosurion cristati*) alliance are absent and the vegetation is probably best ascribed to the MG1e plant community of false oat-grass dominated (*Arrhenatherum elatioris*) grassland (*Centaurea nigra* sub-community). These are the species-rich, ungrazed equivalent of the MG5 *Cynosurus cristatus-Centaurea nigra* old meadows (Plate 23).

4.3 2018 SURVEY SUMMARY

4.3.1 This section summarises the additional important NVC communities identified during the May and July 2018 surveys. Full details of the 2018 NVC surveys, including results will be presented in an Addendum Report.

Section C

Plot 1487

- 4.3.2 Given the apparent species diversity of this plot, it was re-visited in 2018 Additional relevés were sampled (relevé 30) and showed the M22a *Juncus* subnodulosos-Cirsium palustre fen-meadow community to be present.
- 4.3.3 An area of MG5 *Centaurea nigra-Cynosurus cristatus* grassland was also identified in this plot.

4.3.4 M22a *Juncus subnodulosus-Cirsium palustre* fen-meadow is an Annex 1 habitat.

Section F

Plot 88_NVC016

4.3.5 This is an area of woodland at the eastern end of the ravine. A 50 x 50 m relevé was recorded (relevé 31), but the canopy was assessed from the edge of the wood. The ground flora was extremely species rich and the woodland has been classified as W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland.

Plot 84_NVC032

4.3.6 Plot 84_032 lies to the south-east of Pentir Substation. This plot comprises mixed plantation to the north and a smaller area of secondary semi-natural broadleaved woodland to the south. The area of broadleaved woodland is representative of the W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* community, although it is a species-poor example.

Plot 177 NVC042

- 4.3.7 This is an area of deciduous woodland in a deep ravine and has been classified as W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland.
- 4.3.8 **W8** Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland plant community is an Annex 1 habitat.

4.4 SUMMARY OF NVC COMMUNITIES

4.4.1 A summary of the NVC communities identified within and adjacent to the Order Limits, along with a brief description, are shown in Table 4.2 (those within the Anglesey Fens SAC are shaded blue). Although these may be present within the Order Limits, some communities may remain outside of the construction working areas. Those in bold are Annex 1 habitats.

Table 4.2: Summary of NVC Communities	
NVC community	Description
MG1 Arrhenatherum elatius grassland Present in Section F	False oat-grass is normally found on ungrazed, mesotrophic soils where the grass is cut annually. This plant community is found on roadside verges, occasionally in hay meadows, churchyards and other mown habitats. False

Table 4.2: Summary of NVC Communities	
NVC community	Description
	oat-grass is usually associated with hogweed (Heracleum spondylium) and cleavers (Galium aparine).
MG1e Arrhenatherum elatius dominated grassland, Centaurea nigra sub-community Present in Section F	These false oat-grass dominated grasslands are characteristic of mown, rather than grazed habitats. This particular sub-community is species-rich and found in churchyards, roadside verges and on the margins of horse-grazed pasture, where it can occur as a mosaic with MG5 grassland.
MG6 Lolium perenne- Cynosurus cristatus grassland Present in Sections A, B and C	This is the most widespread type of semi- improved grassland in the lowland parts of the British Isles. Crested dog's-tail and rye-grass are normally co-dominant with large amounts of white clover.
M3 Eriophorum angustifolium bog pool community Present in Section C	This is a very species-poor community, typically found in peat cuttings or bog pools. Cotton grass rapidly colonises areas of bare peat, but it is also an element in many other upland plant communities.
M22 Juncus subnodulosus-Cirsium palustre fen-meadow Present in Section C	Blunt-flowered rush dominated vegetation is restricted to base-rich, peat based soils. The rush can grow to 120 cm high and, in ideal conditions, can have up 80% cover in a relevé. This plant community has a very restricted distribution in the British Isles.
M23 Juncus effusus/acutiflorus- Galium palustre rush- pasture Present in Sections A, B, C, E and F	This is a common plant community on badly-drained, peat or mineral soils. It is common in the western parts of Britain and replaces the MG10 rush-pasture on acid soils. Grazed examples of this plant community can be very species-rich.
M24 Molinia caerulea- Cirsium dissectum fen- meadow	This was an under-recorded plant community in the original NVC, but Stevens <i>et al</i> (Ref 21) have subsequently shown that it is quite widespread in Wales. Purple moor-grass,

Table 4.2: Summary of NVC Communities		
NVC community	Description	
Present in Section C	tormentil and devil's-bit scabious are normally present with cross-leaved heath (Erica tetralix) and carnation sedge. Flea sedge (Carex pulicaris) and tawny sedge (C. hostiana) are often present. Meadow thistle (Cirsium dissectum) does not occur in North Wales.	
M25 Molinia caerulea- Potentilla erecta mire Present in Sections A and C	The majority of purple moor-grass dominated grassland can be allocated to this community. It is widespread in south-western England, Wales and parts of southern Scotland. Some stands of the vegetation can be very species-poor, with five or less species in a 2 x 2 m relevé.	
MG5 Cynosurus cristatus- Centaurea nigra grassland Present in Sections C and E	This is the characteristic plant community of species-rich hay meadows in the British Isles. The vegetation is characterised by species such as common knapweed, bird's-foot trefoil and rough hawkbit (Leontodon hispidus). These species-rich grasslands have suffered a dramatic decline since the Second World War because of agricultural improvement.	
MG10a Holcus lanatus- Juncus effusus rush- pasture. Typical sub- community Present in Sections A, B, C and D	Rush-dominated grasslands are common on poorly drained soils in western Britain. Soft rush is an aggressive coloniser of bare soil and it is very difficult to eradicate when it is established. The plant community is typically species-poor.	
MG10b Holcus lanatus- Juncus effusus rush pasture; Juncus inflexus sub-community Present in Sections C and D	Hard rush is typically found on gleyed clay substrates, rather than peat-based soils. The hard rush may completely replace soft rush, which subsequently plays a subservient role.	
S2 Cladium mariscus sedge swamp Present in Section C	Saw-sedge is a tall-growing sedge, which may form pure stands to the exclusion of most other species. It is normally found in lowland mires and ditches with base-rich ground water. More	

Table 4.2: Summary of NVC Communities		
NVC community	Description	
	species-rich stands with bog-bean (Menyanthes trifoliata) and common reed (Phragmites australis) may also occur.	
S14c Mentha aquatica sub-community of Sparganium erectum swamp Present in Section C	Branched bur-reed (Sparganium erectum) swamp occurs in shallow mesotrophic to eutrophic water, in ditches, dykes, canals and ponds. Branched bur-reed will tolerate a degree of shade and pollution. The Mentha aquatica sub-community is more species-rich than the typical form. The habitat is more open and lower growing plants such as water mint, water forget-me-not (Myosotis scorpioides), and gypsy-wort (Lycopus europaeus) are able to compete with the bur-reed.	
U4 Festuca ovina- Agrostis capillaris- Galium saxatile grassland Present in Section C	Possibly the most widespread plant community in the British Isles. Sheep's fescue-common bent grassland is typical of well-drained, acid soils in upland Britain. It is typically composed of common bent and sheep's fescue and can be extremely species-rich on base-rich soils.	
W4a Betula pubescens - Molinia caerulea community Present in Section F	Downy birch is a common pioneer species in the upland areas of the British Isles. The tree is relatively short-lived and eventually gives way to sessile oak woodland. Purple moor-grass is often absent from drier stands of this plant community.	
W6d Alnus glutinosa- Urtica dioica woodland; Sambucus nigra sub-community Present in Section A	This type of woodland is normally found beside rivers and large lakes. Alder is usually dominant and there is a relatively impoverished ground flora. The soil is often eutrophicated as evidenced by the presence of extensive nettle beds.	
W8 Fraxinus excelsior- Acer campestre- Mercurialis perennis woodland	Ash and sycamore quickly colonise unused land and this plant community is common on well-drained soils throughout the British Isles. The plant community includes species-rich, long-	

Table 4.2: Summary of NVC Communities			
NVC community	Description		
Present in Sections A and F	established woodland and recent plantations. Field maple was absent from the Anglesey samples and hazel was the most important shrub species.		
W23 Ulex europaeus - Rubus fruticosus scrub Present in Section C	This gorse/bramble scrub community has a fairly low woody cover, usually between 1 and 2 m high, in which gorse is the dominant plant. The community has a widespread distribution.		
W12 Fagus sylvatica- Mercurialis perennis woodland Present in Section F	Beech trees are normally dominant in this type of woodland. It is found on dry, base-rich soils, such as those which occur on the Chilterns, South Downs and Cotswolds. However, it also includes plantations of beech, where it may be the dominant tree. Beech is the only Class V constant, but dog's mercury is a Class IV constant in most of the stands.		

5 Conclusion

5.1 INTRODUCTION

5.1.1 The dominant habitats within the Proposed Development comprise improved and semi-improved grassland. Most of these areas would recover quickly where the soil would be reinstated. However, there are a number of more sensitive areas along the Proposed Development and these are described below.

5.2 SENSITIVE AREAS

5.2.1 The main aim of the NVC survey was to identify rare vegetation types, so that they could be avoided or mitigated appropriately by the Proposed Development. Many of the surveyed sites were rush-dominated pasture with little botanical value. However, the survey did identify a number of sites that are of Local Value or European (Annex 1) Interest (see Table 5.1), and these are summarised below.

Woodland

- 5.2.2 Deciduous woodland is uncommon within the Proposed Development and the loss of the remaining areas would have a disproportionate effect without mitigation. All of the surveyed woodland appeared to be secondary in nature and there were no veteran trees or indicators of ancient woodland in the areas surveyed. The most valuable areas were the woodland adjacent to the sewage works (Section A), in the ravine at Coed Nant Y Garth (Section F), woodland at Melin-nant (Section A) and Gylched Covert (Plot 5032_NVC001), which is located to the east of Llangefni (Section D).
- 5.2.3 These areas of woodland are examples of Annex 1 woodland types.

Mesotrophic grassland

5.2.4 MG5 Cynosurus cristatus-Centaurea nigra grassland has suffered a dramatic decline since the Second World War. The majority of plots containing MG5 are outside of the Order Limits however an area is present within the Order Limits at plot 1487. MG5 grassland may be relatively widespread on Anglesey, but can be difficult to identify from aerial photography.

5.2.5 The great majority of the plots that were highlighted by the Phase 1 Habitat survey were MG10a or MG10b Holcus lanatus-Juncus effusus rush pasture. This is a Priority Habitat on Section 7 of the Environment (Wales) Act 2016 but in practice it has limited ecological value. Soft rush is an aggressive coloniser of waterlogged soil and it would be expected to return after ground is reinstated.

Mire habitats

- 5.2.6 M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture was present where there were low lying areas of peaty soils. A large expanse of potential M23 rush pasture is located near Rhosgoch (Plot 1942_NVC052). The surveyors tried to gain access to this land on a couple of occasions, but the only access was via a narrow track, which was blocked by blackthorn scrub. Only a very small section of this plot lies within the Order Limits, within the buffer around the third party asset works.
- 5.2.7 The most significant mire habitat lies at Cae Canol-dydd where there is a mosaic of mire communities including M22 *Juncus subnodulosus-Cirsium palustre* mire.

Table 5.1: Summary of sensitive areas				
Plot number	Location		Description	
Section A				
2125_NVC021 and 2125_NVC022	Field to the east of Wylfa Power Station. Locations: SH35677 93626 and SH35698 93657.	Within 50 m of the Order Limits.	This group of marshy fields is located immediately to the east of the power station. The fields are located in a shallow basin and drain into the sea at Port y Wylfa. The fields were speciesrich and had large amounts of devil's-bit scabious. The higher ground around the valley appeared to be species-rich.	
2039_NVC 005	Woodland adjacent to	Within the Order Limits	This has been identified as an Annex	

Table 5.1: Summary of sensitive areas				
Plot number	Location		Description	
	sewage works. Location: SH37511 91436.	and the 50 m buffer	1 habitat W6d <i>Alnus</i> glutinosa – Urtica dioica woodland.	
1991_NVC029	Melin-nant. SH39242 90091.	Within the Order Limits and within the 50 m buffer	Wet woodland is quite rare in Anglesey. Plot 1991 to the north of Melin-nant is a narrow limestone gorge with W6d alder woodland. The northern part of the woodland was quite overgrown.	
Section C				
1522_071	Anglesey Fens SAC. Location: various.	Outside the 50 m buffer of the Order Limits.	Fragmentary examples of MG5 grassland were present along the western perimeter of the Anglesey Fens SAC (see relevé 52).	
4074_NVC013	Located to the south of Anglesey Fens SAC. Location: SH46861 80518.	Within the Order Limits.	This field is outside the Anglesey Fens SAC. It included an area of MG5 Cynosurus cristatus-Centaurea nigra grassland to the north (Plot 1543_NVC012, outside the 50 m buffer). This plot appeared to have been a mire in the past, but has presumably been drained. A shallow pool with marsh cinquefoil and common cottongrass (Eriophorum	

Table 5.1: Summary of sensitive areas				
Plot number	Location		Description	
			angustifolium) was recorded. The remainder of the site had relatively low species diversity.	
1543_ NVC012	Part of Anglesey Fens SAC. SH46949 80765.	Outside the 50 m buffer of the Order Limits	An area of horsegrazed MG5 Cynosurus cristatus- Centaurea nigra grassland.	
1543 – relevés 53, 55, 56	Anglesey Fens SAC. Location: various.	Outside the 50 m buffer of the Order Limits.	Anglesey Fens SAC is an extremely complex site and has a wide range of mire plant communities.	
1487	Cae Canol-dydd. SH47803 78204.	Within the Order Limits and within the 50 m buffer.	Fields with botanical interest. The fields included M22, M23, M24, M25 and M27 mire and fen meadow.	
Section D				
5032_NVC001	Gylched Covert. Location: SH48170 76302.	Within the Order Limits.	An extensive area of W8e Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland. Presumed to be secondary in nature, it is located on the summit of an outcrop of Carboniferous limestone. There was evidence of past quarrying.	
Section F	Section F			
6022_NVC012	Fields to the	Within 50 m	The western field had	

Table 5.1: Summary of sensitive areas				
Plot number	Location		Description	
	north of Fodol- ganol. SH54810 68625.	of the Order Limits.	little botanical interest. It was heavily grazed by ponies and the ground was poached. However, the wetter part of the field was extremely species-rich.	
177_NVC042	Woodland within ravine at Coed Nant Y Garth. SH55086 68207	Within the Order Limits.	This has been identified as Annex 1 habitat W8 Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland.	
84_032	Woodland south of Pentir Substation. SH256013 367607	Within the Order Limits.	This has been identified as Annex 1 habitat W8 Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland.	

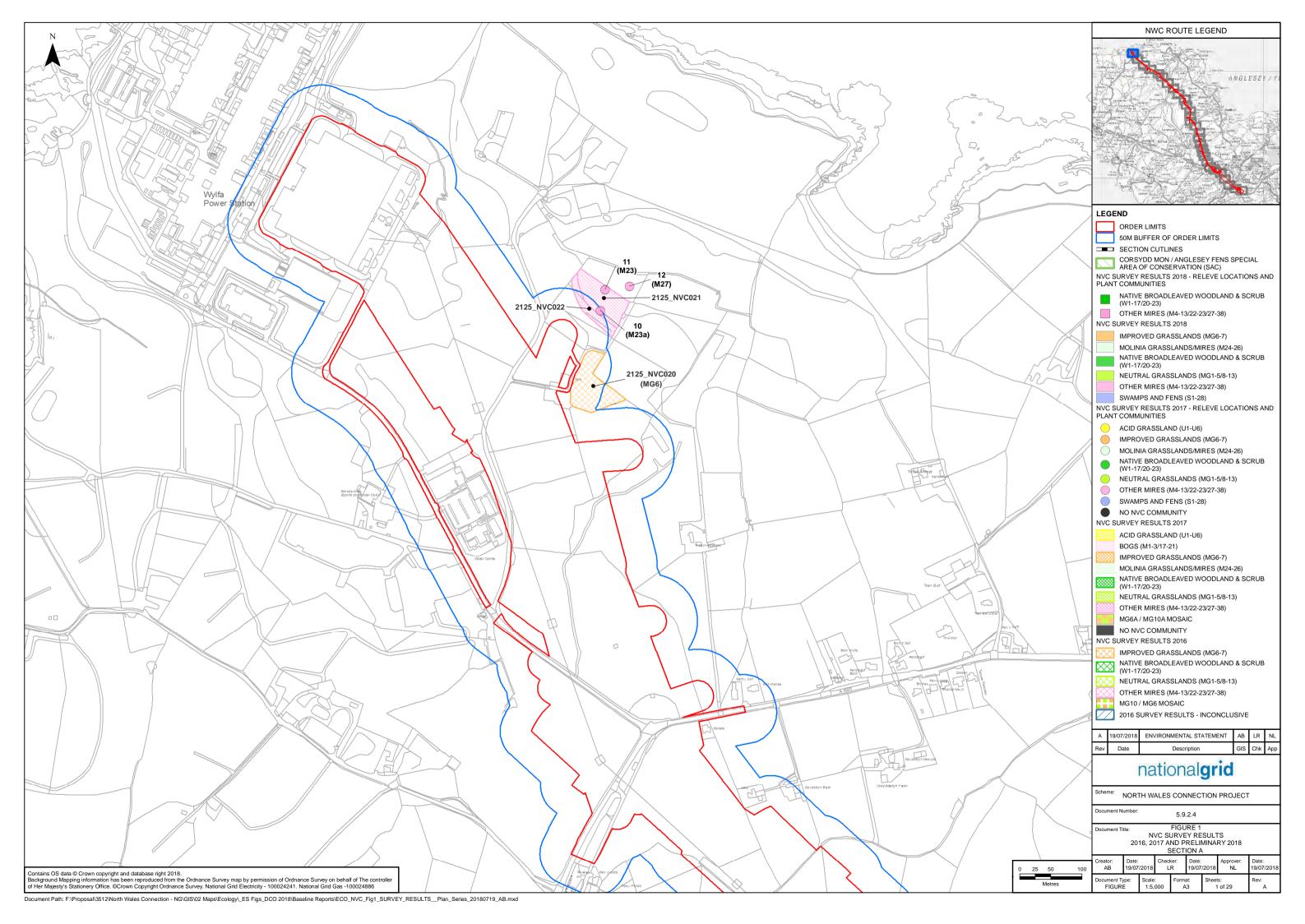
5.2.8 Effects as a result of the Proposed Development and mitigation measures are detailed in Chapter 9, Ecology and Nature Conservation (**Document 5.9**). Further details on the mitigation measures are provided in the Biodiversity Mitigation Strategy (**Document 7.7**). Potential enhancement opportunities are detailed within the Enhancement Strategy (**Document 7.13**) which includes opportunities for enhancement of habitats.

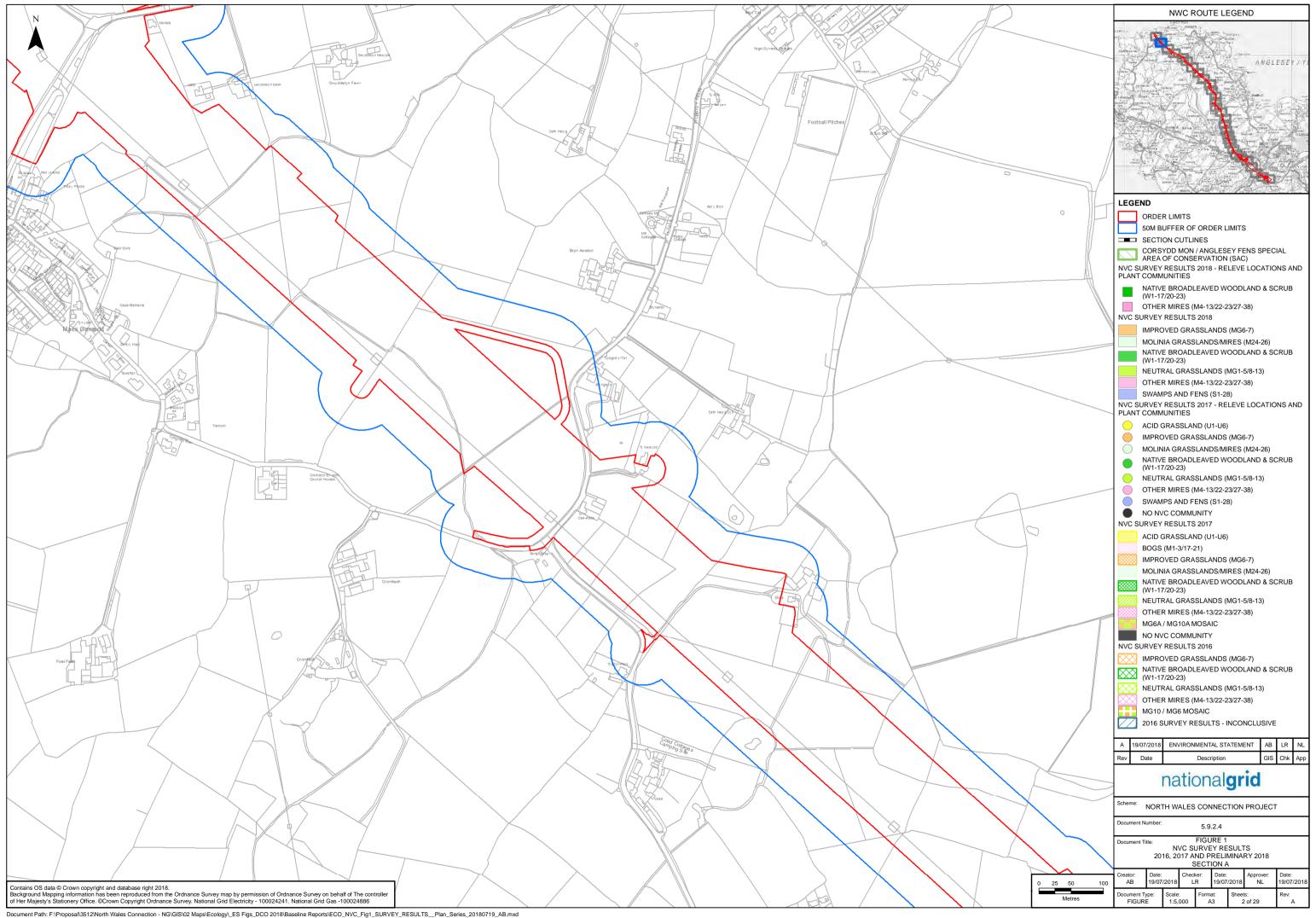
6 References

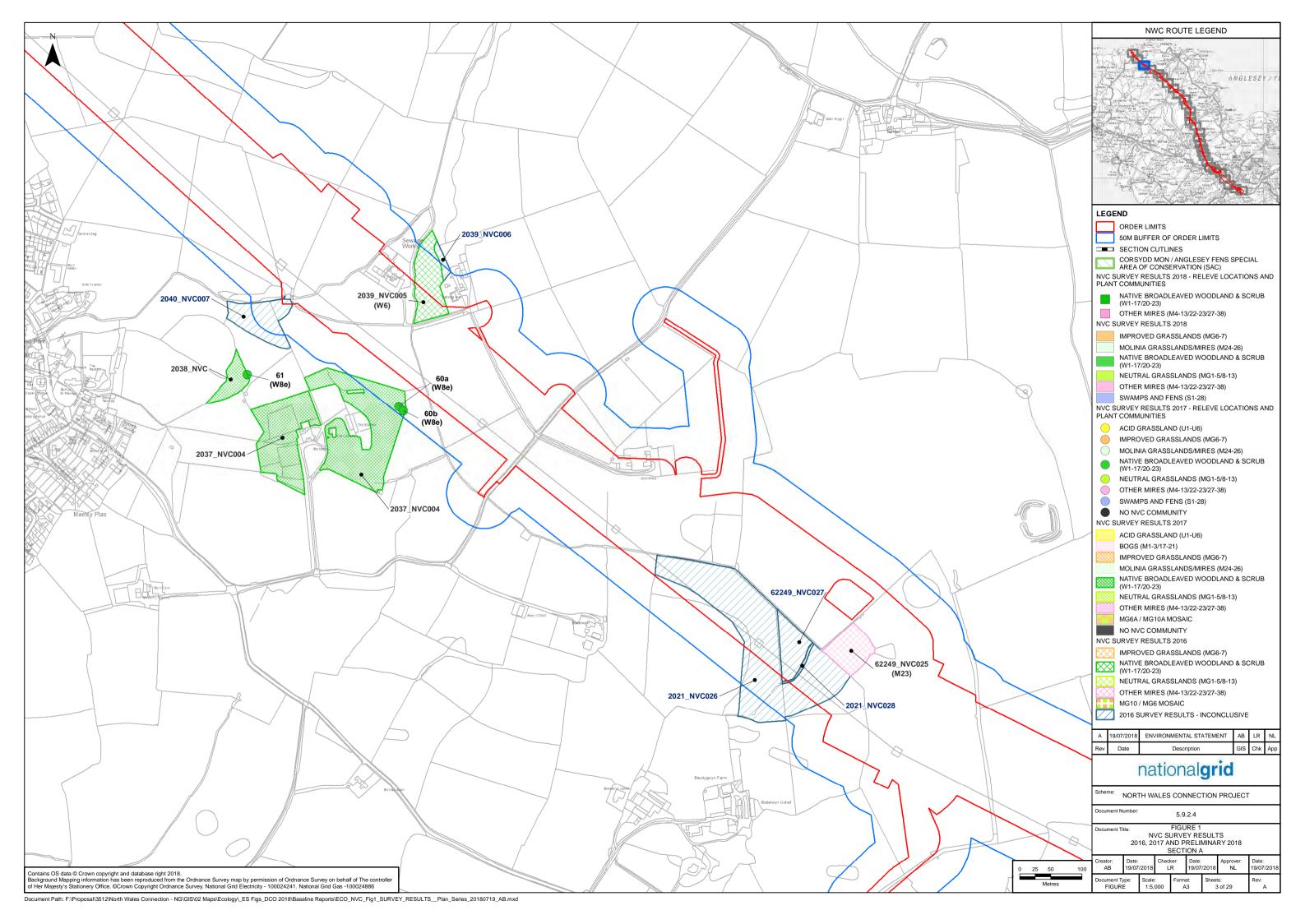
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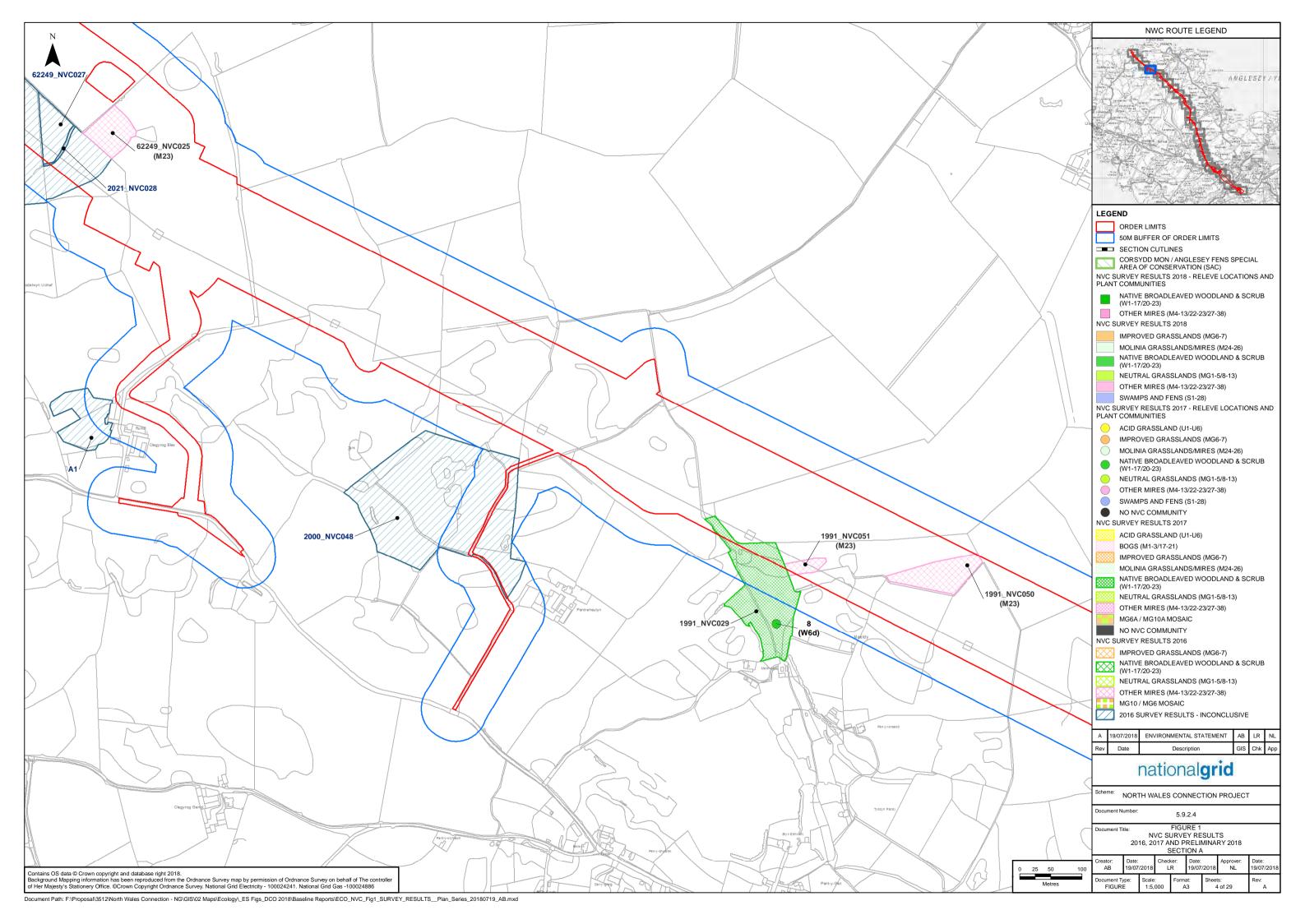
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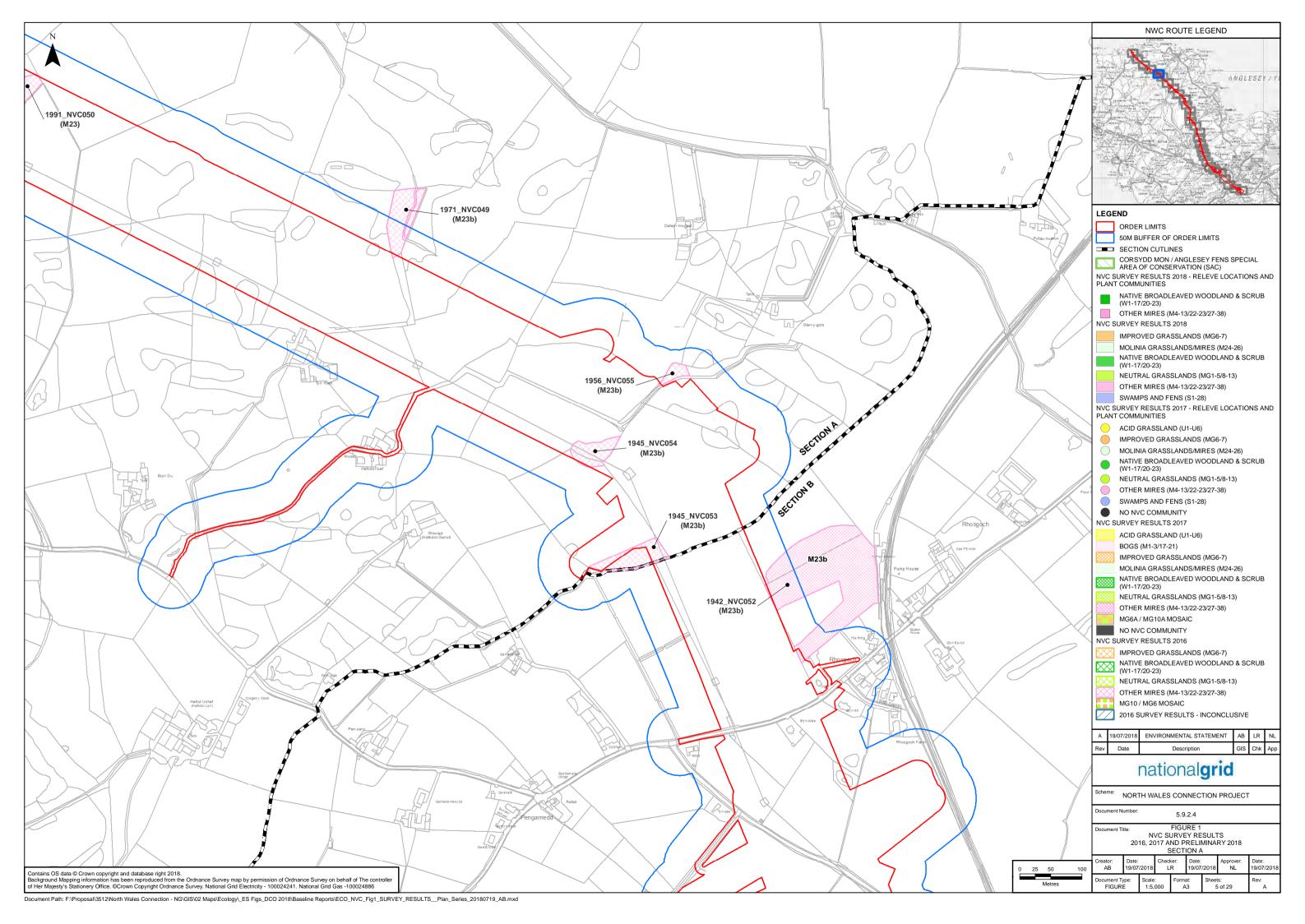
Figures

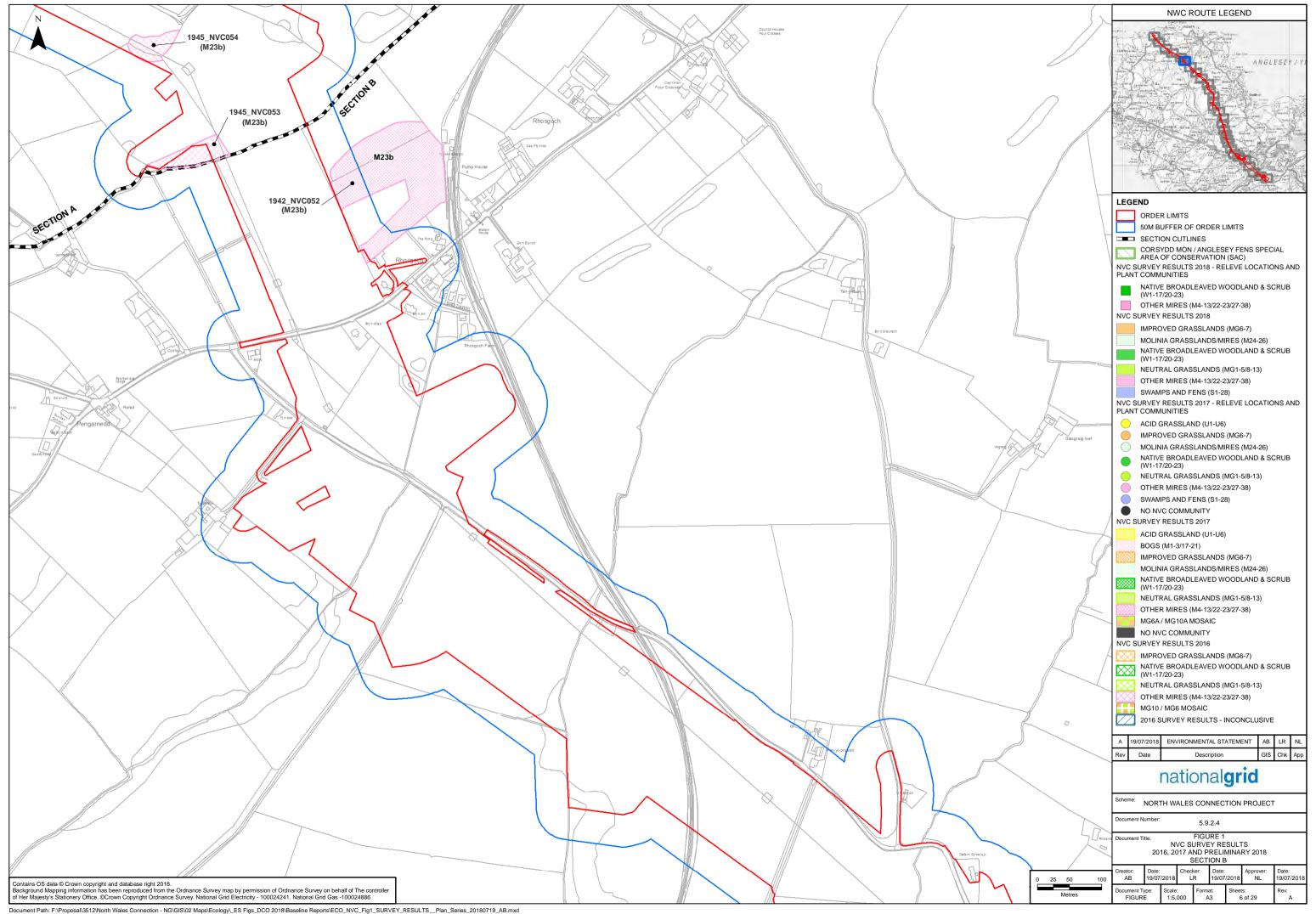


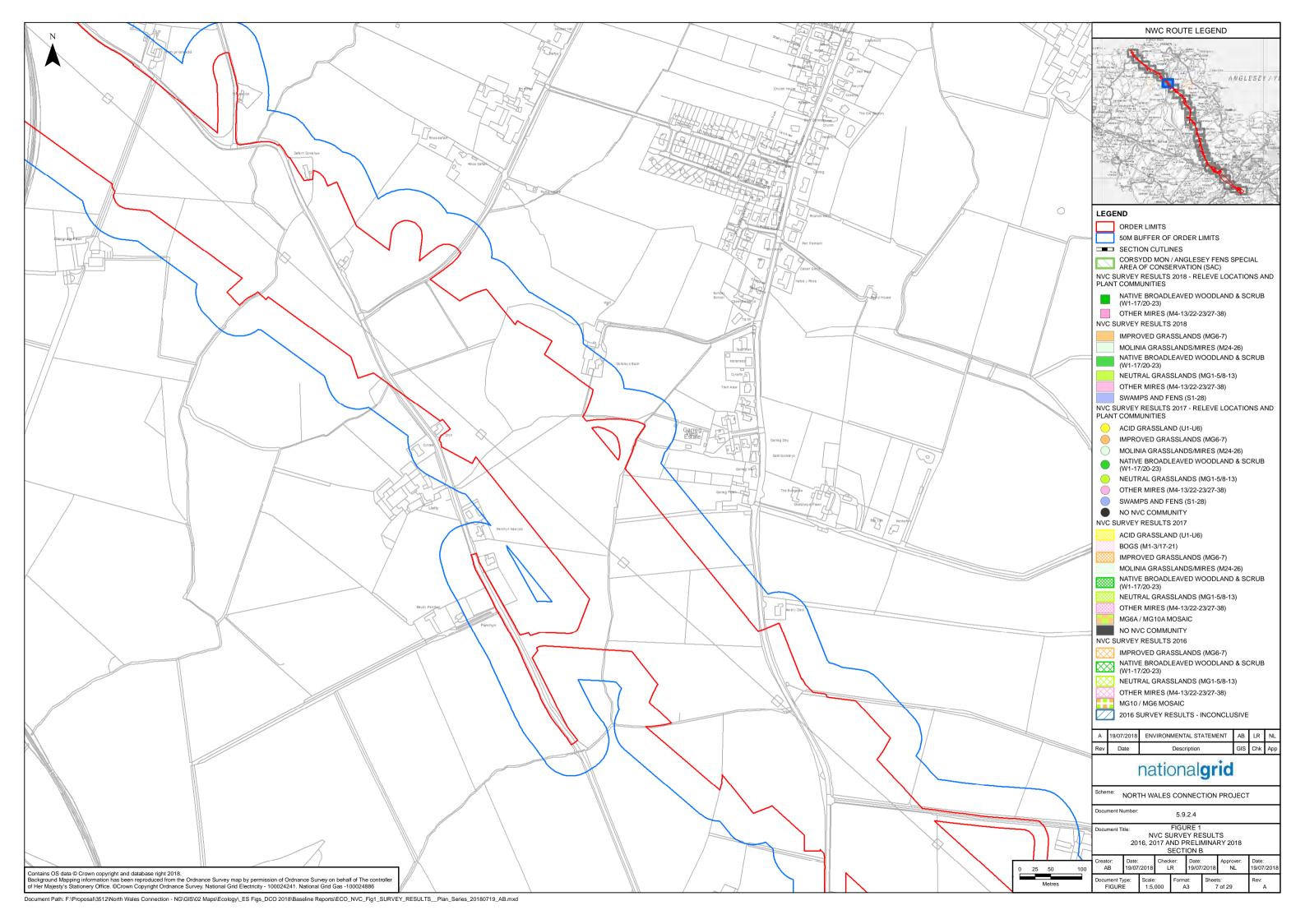


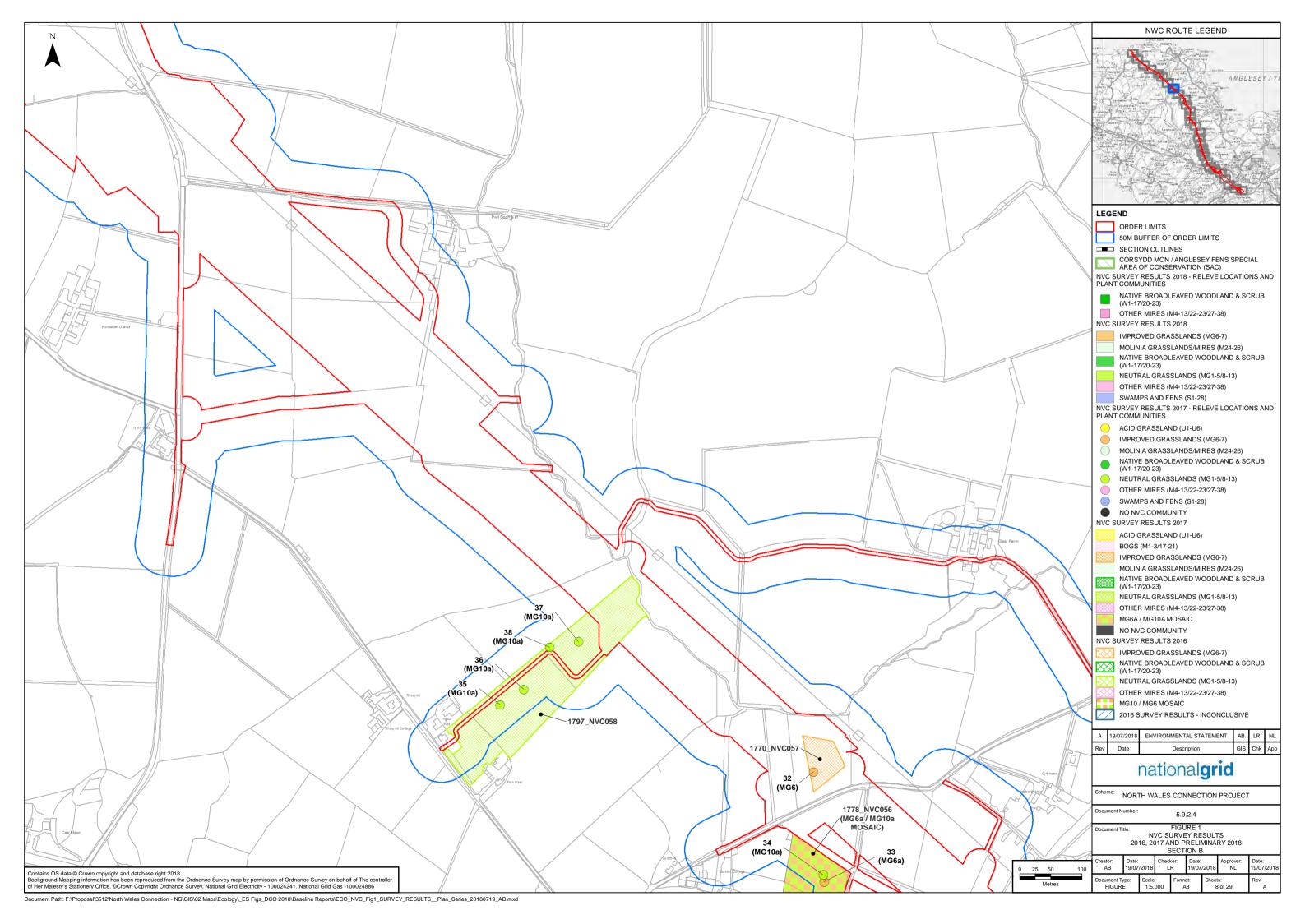


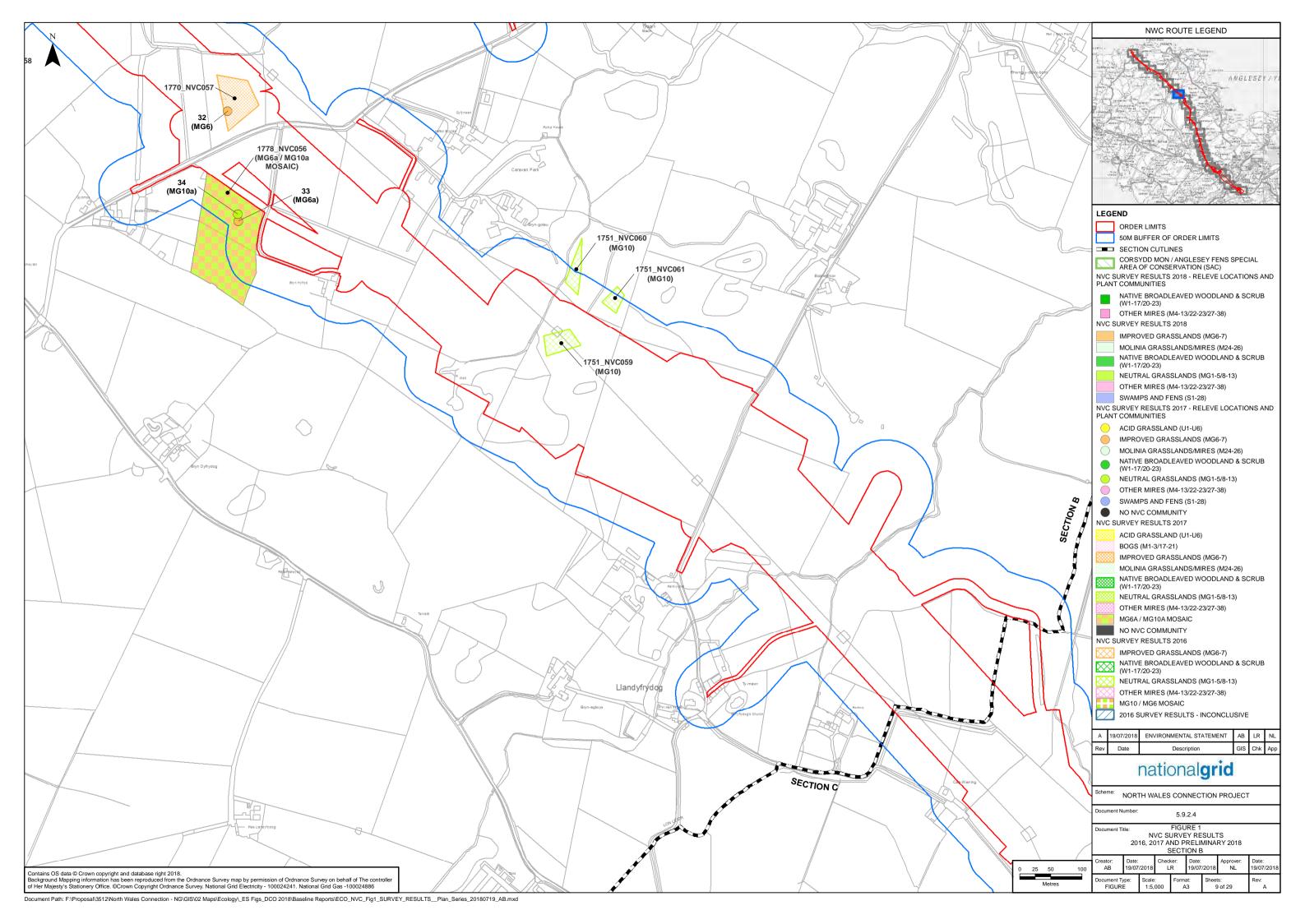


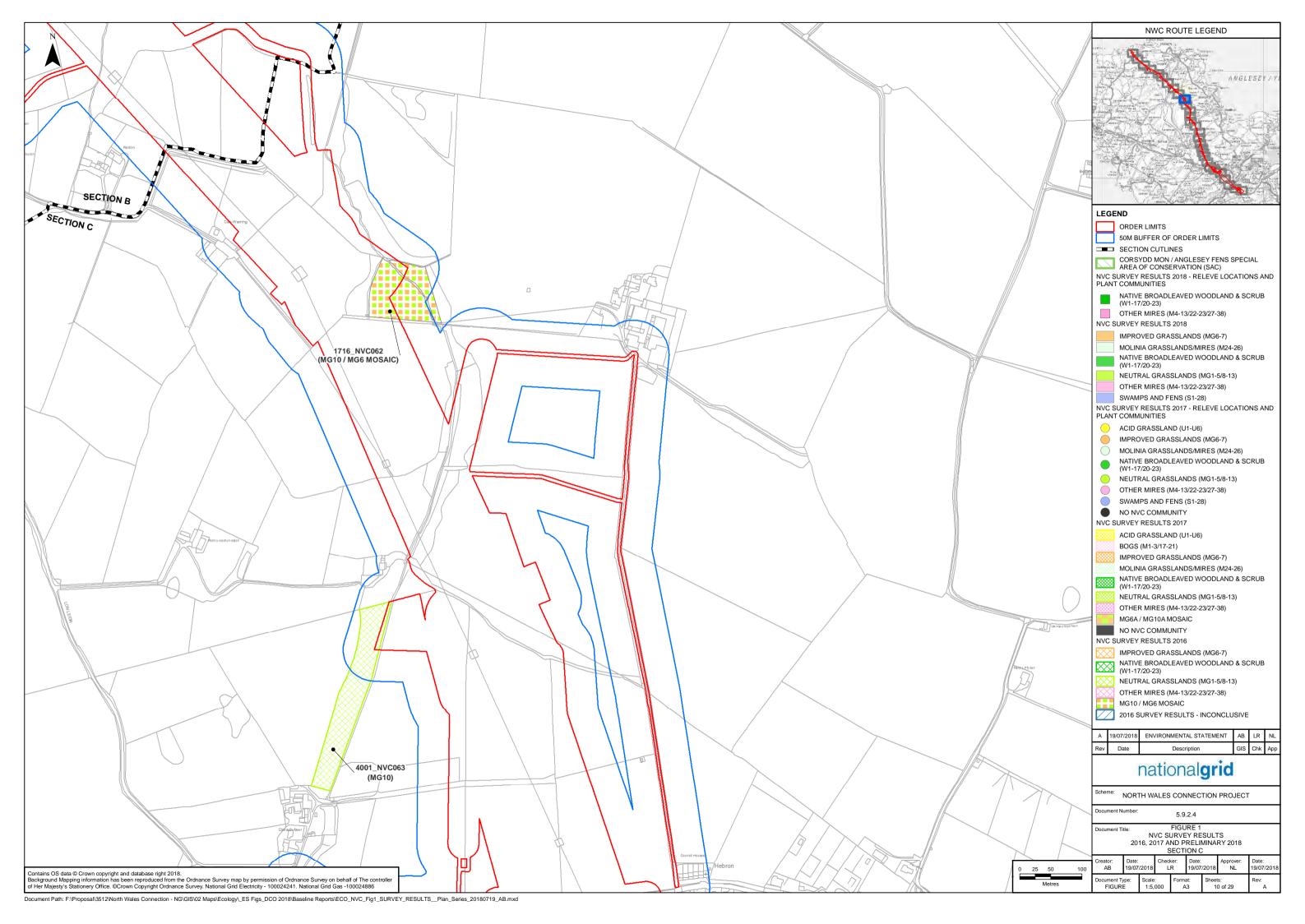


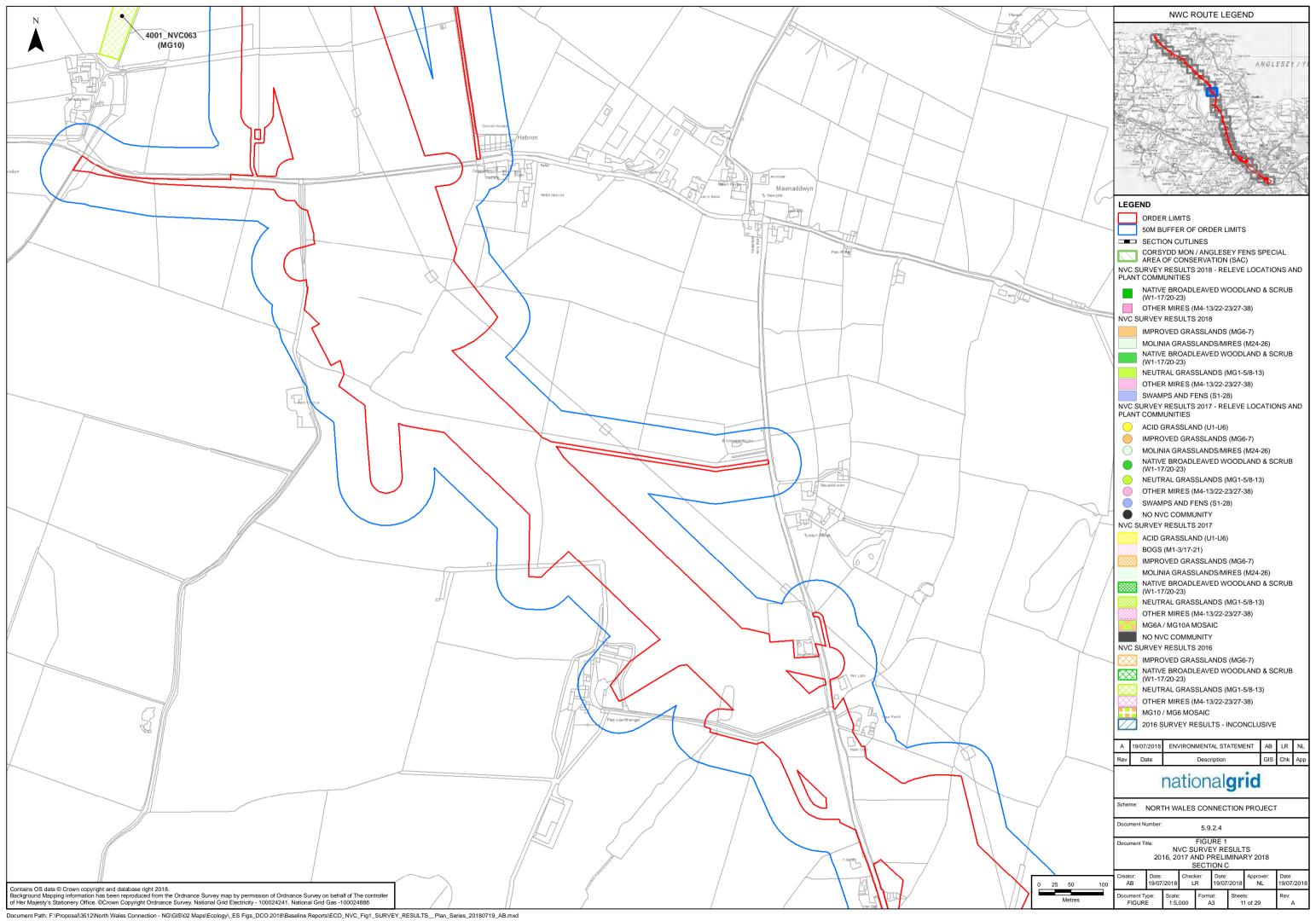


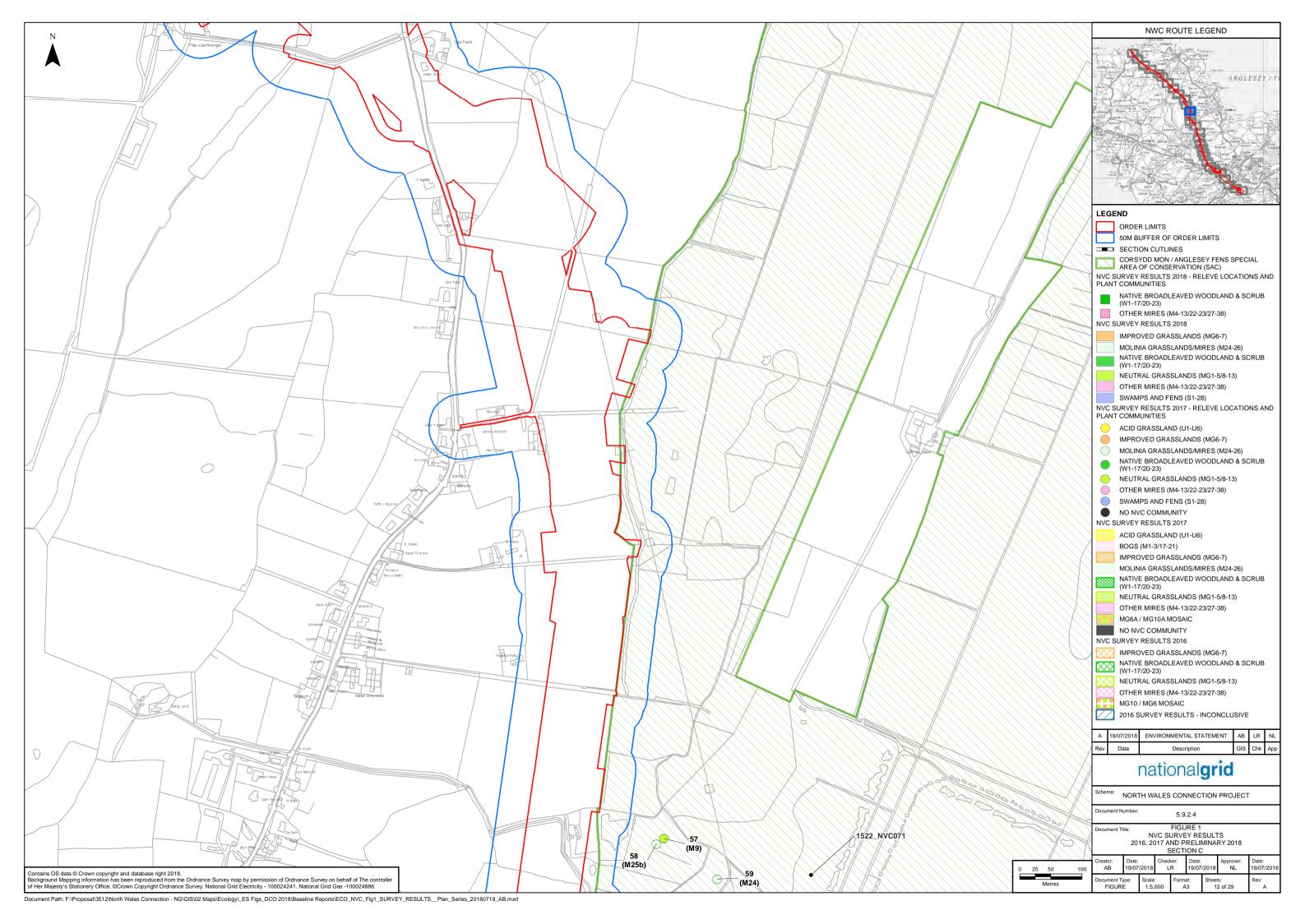


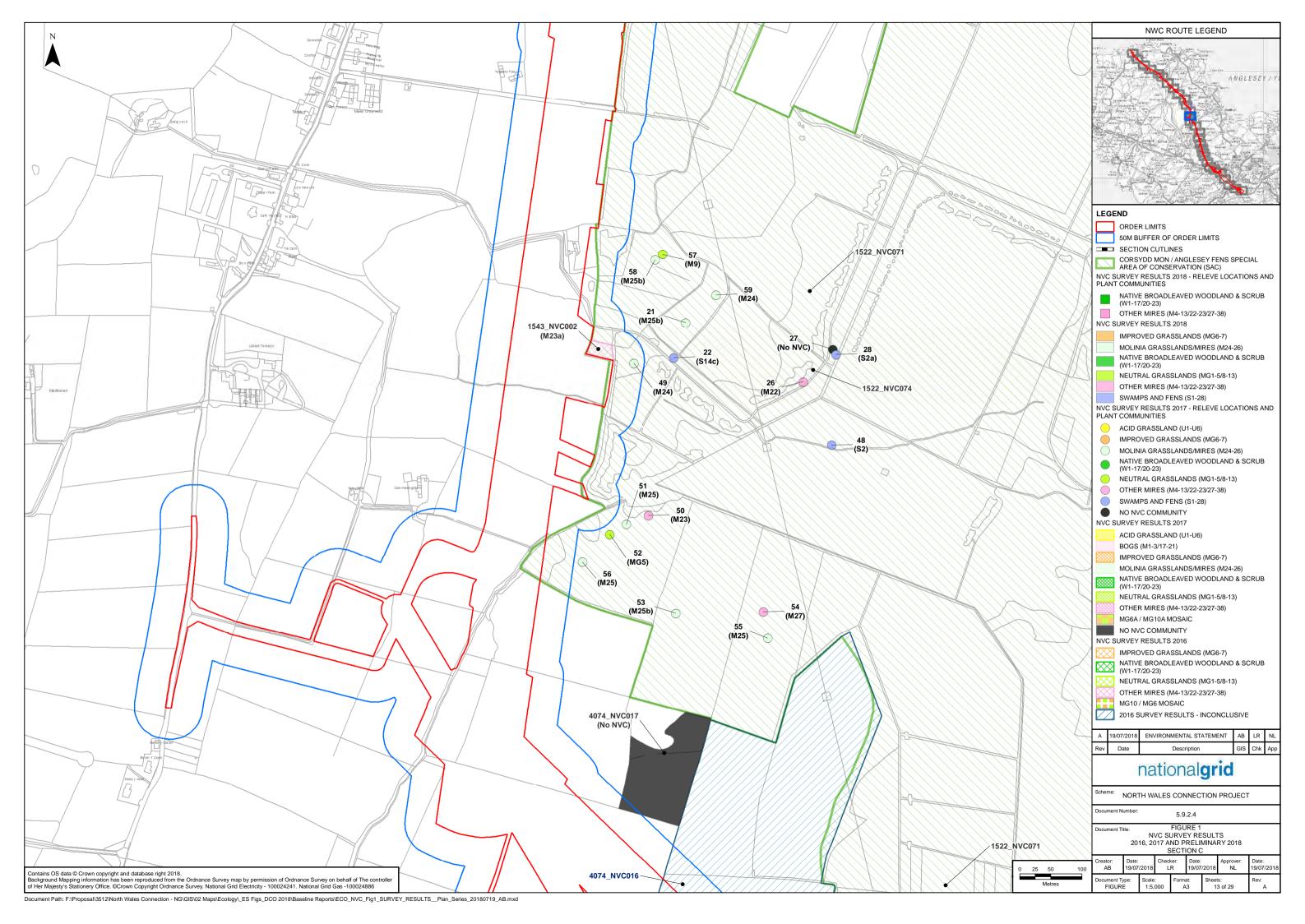


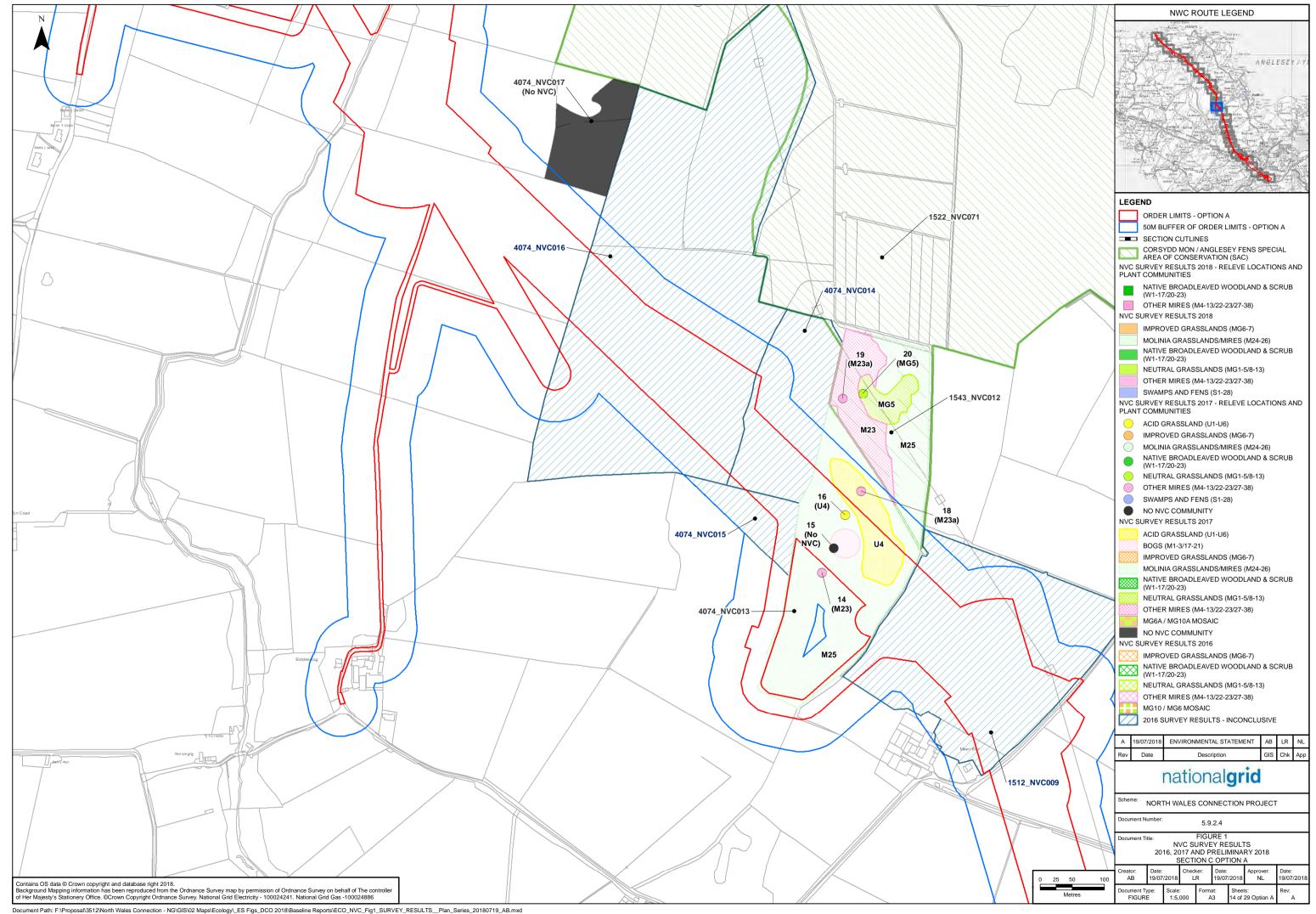


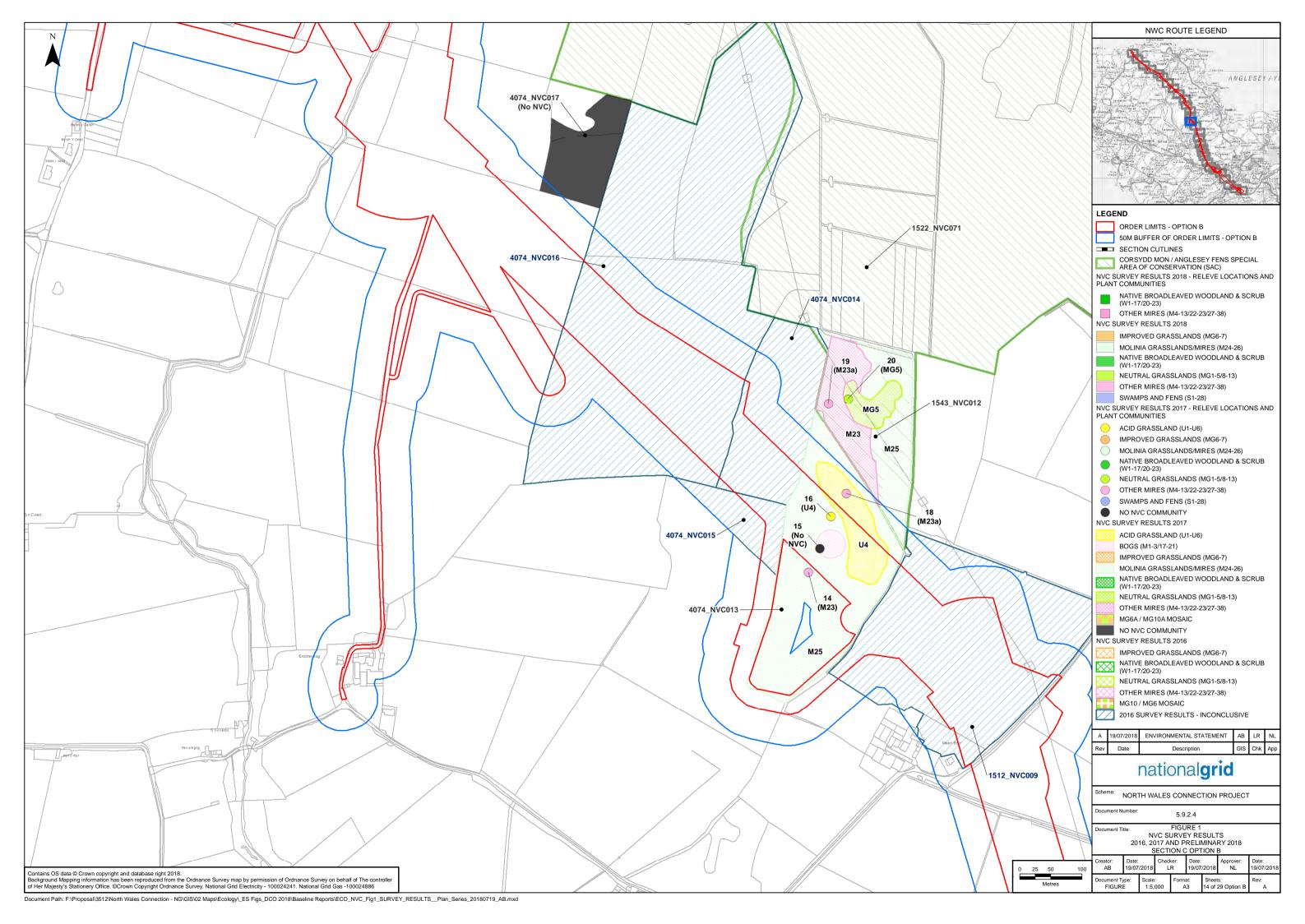


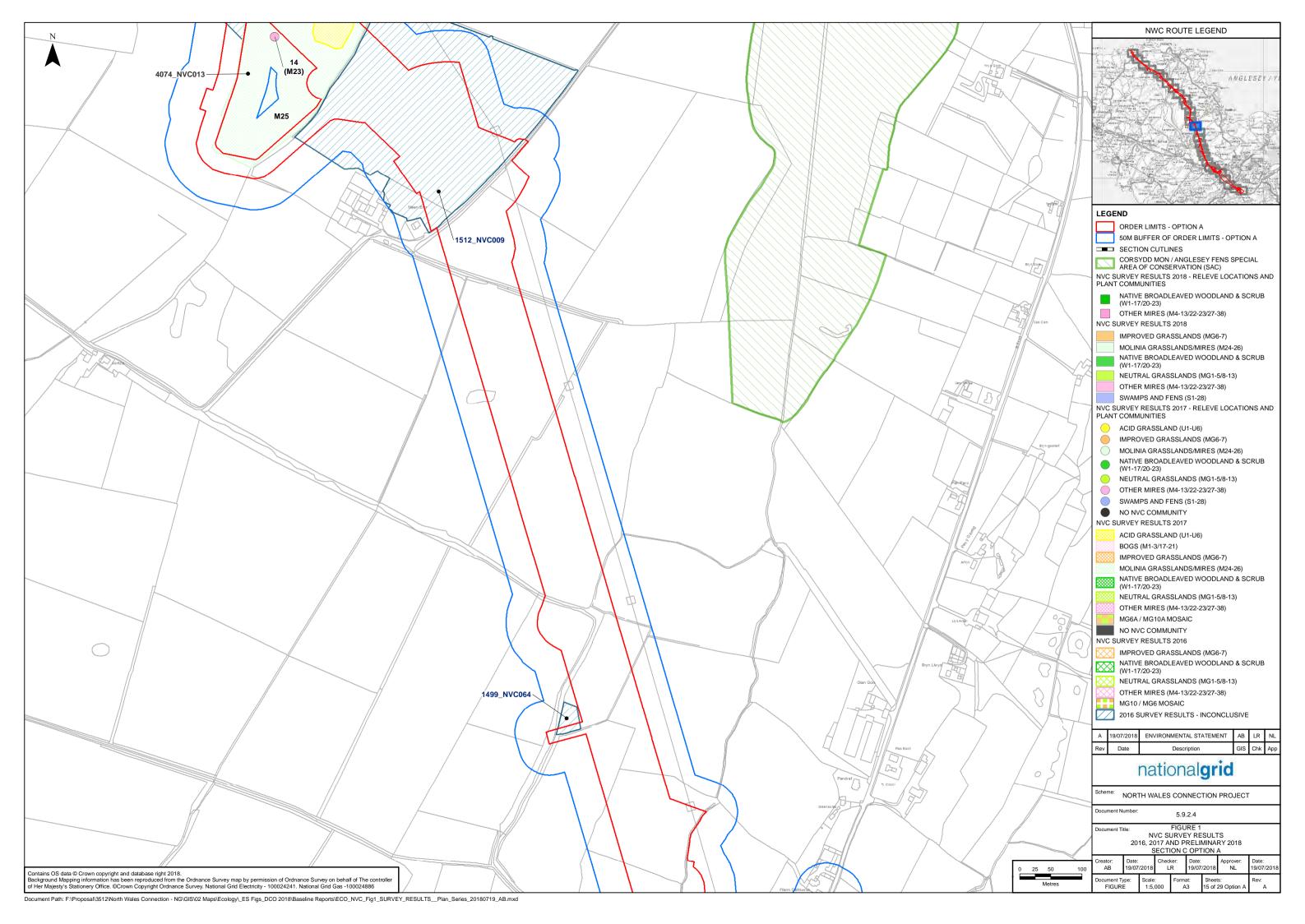


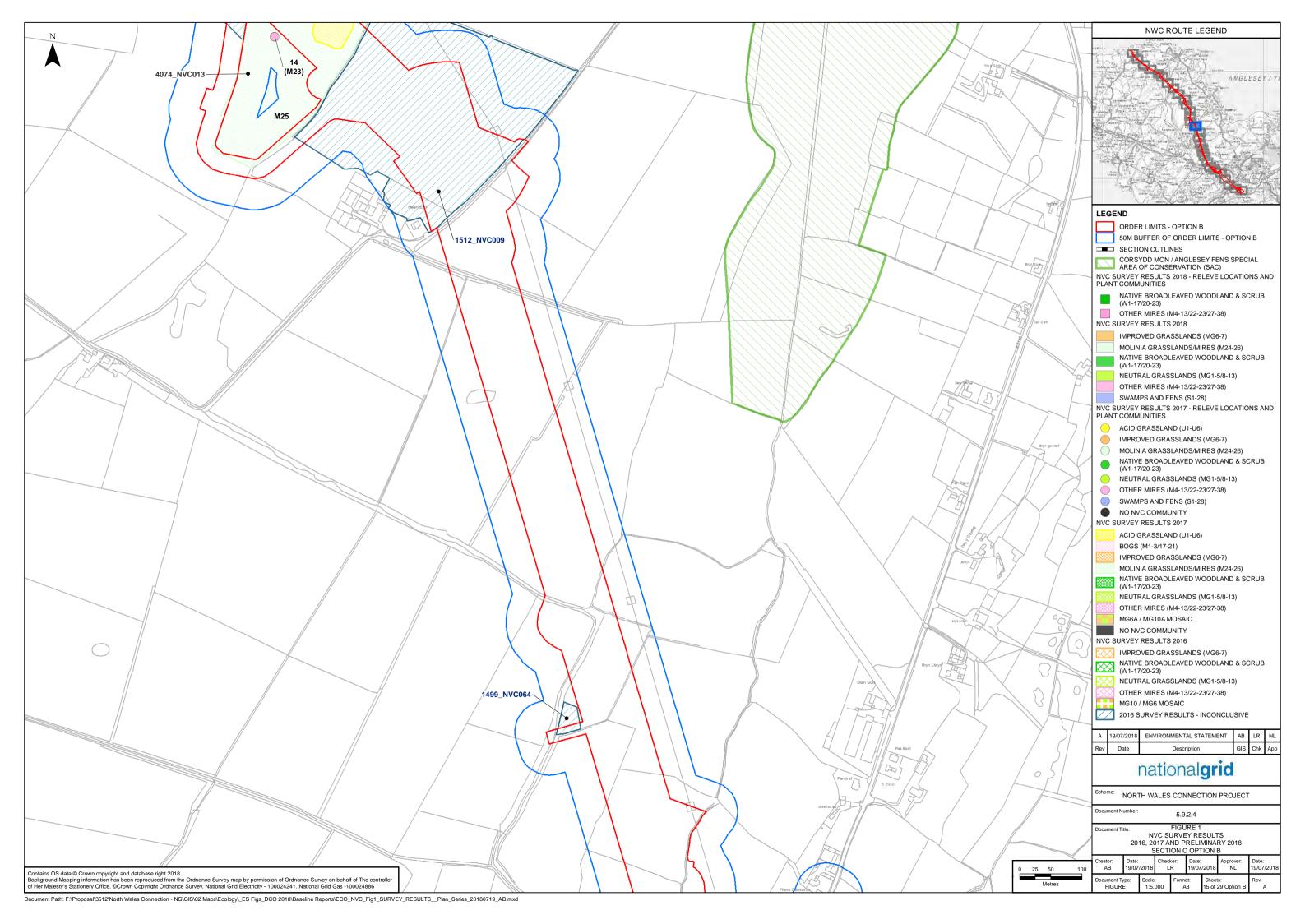


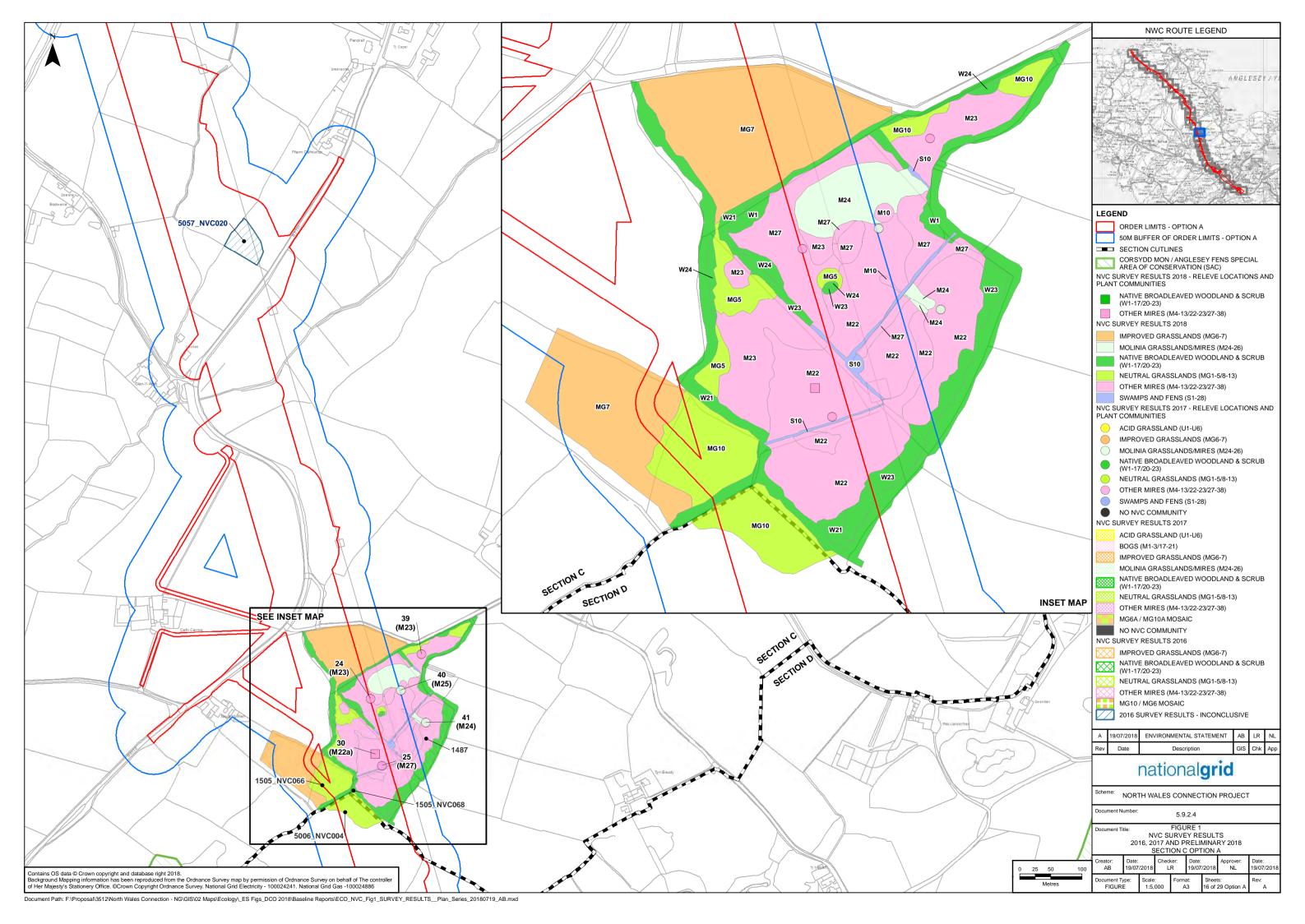


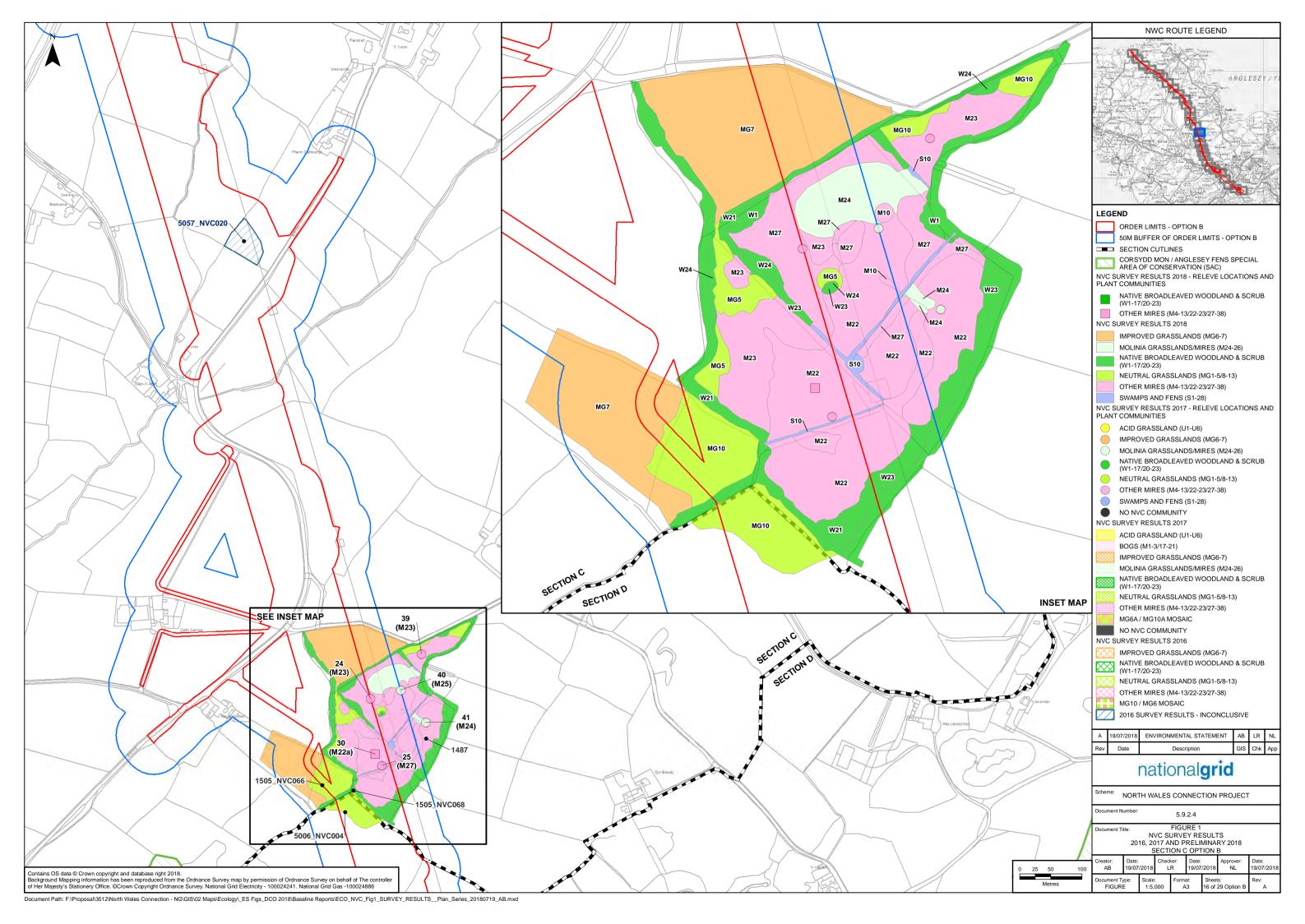


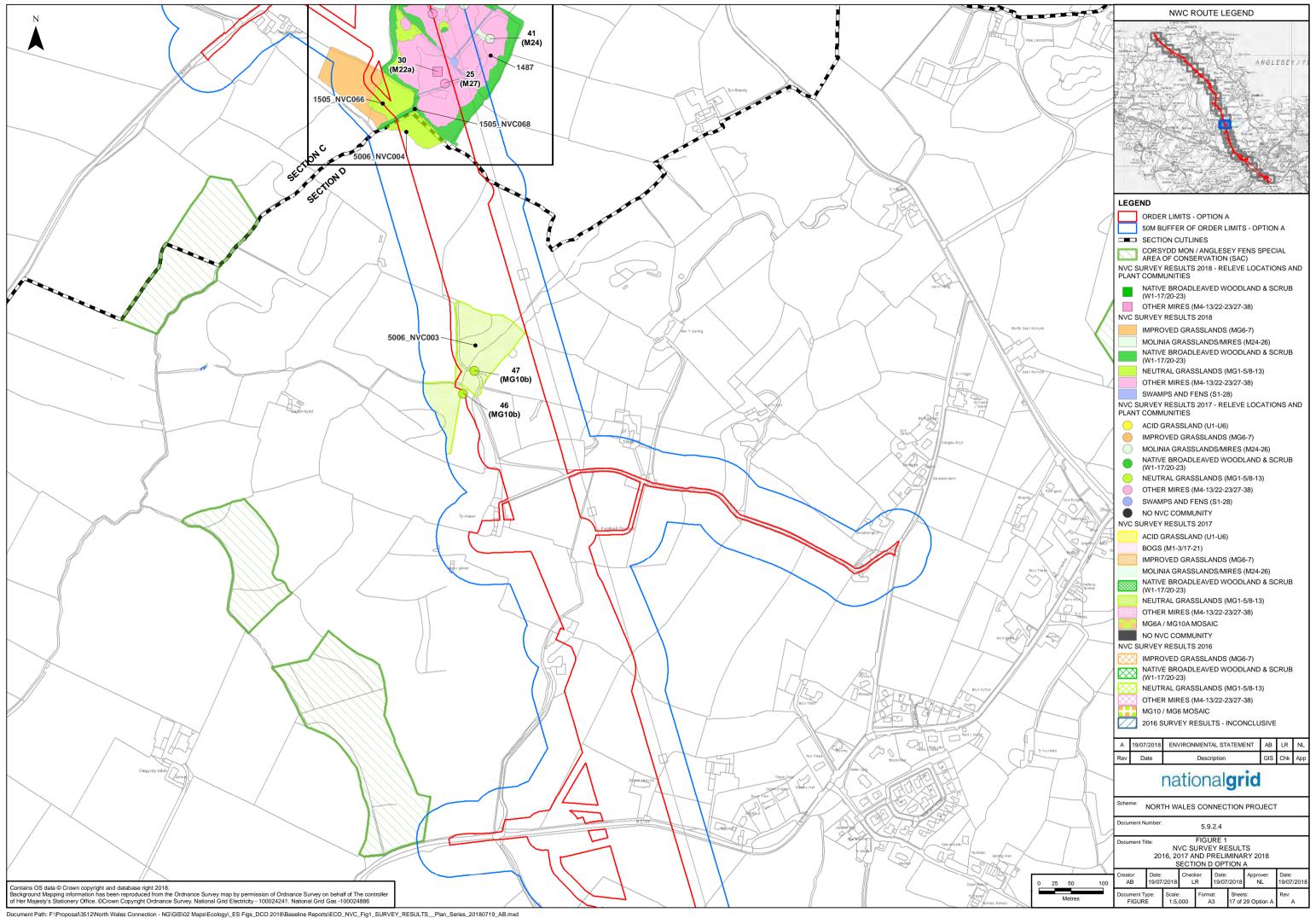


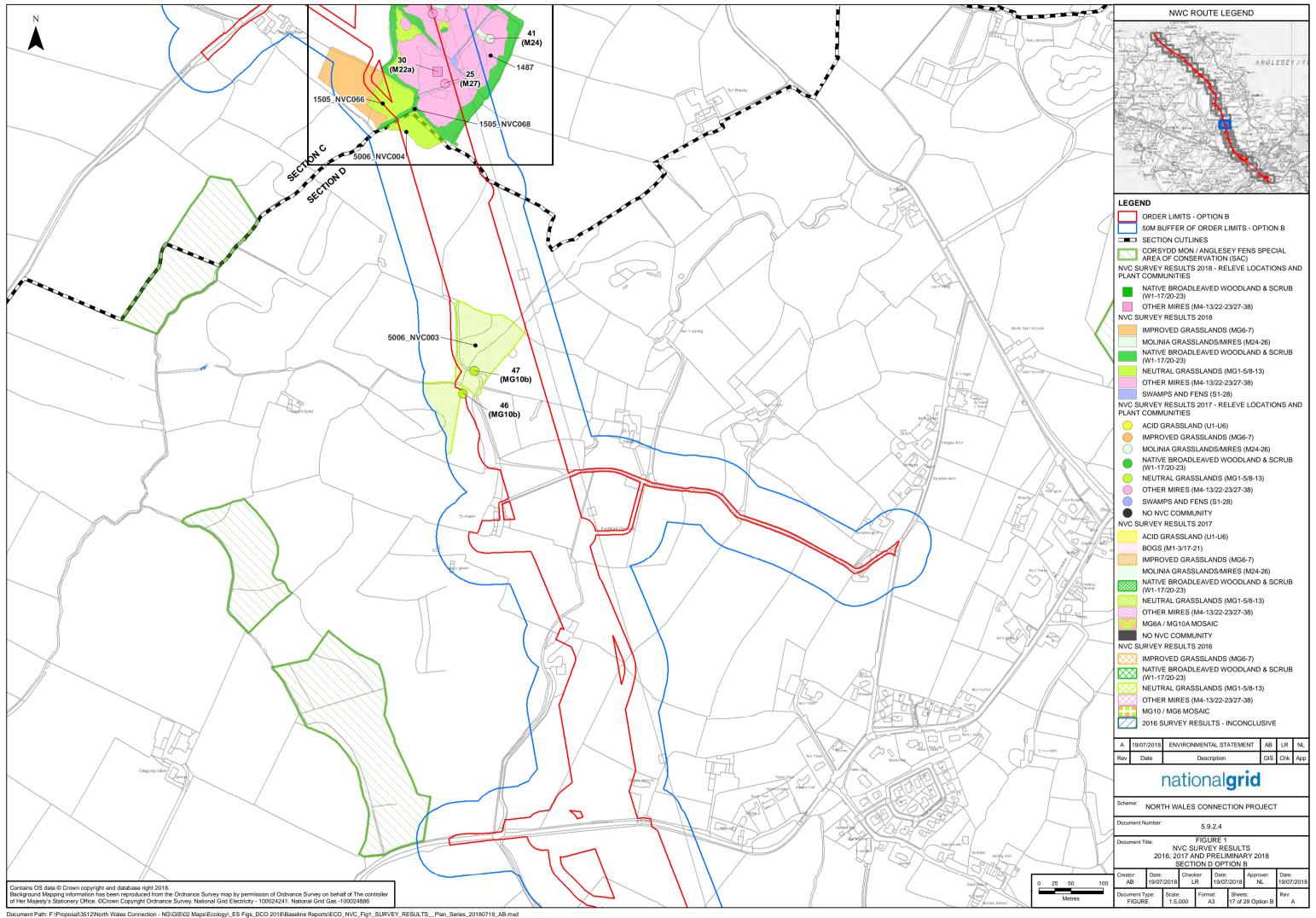


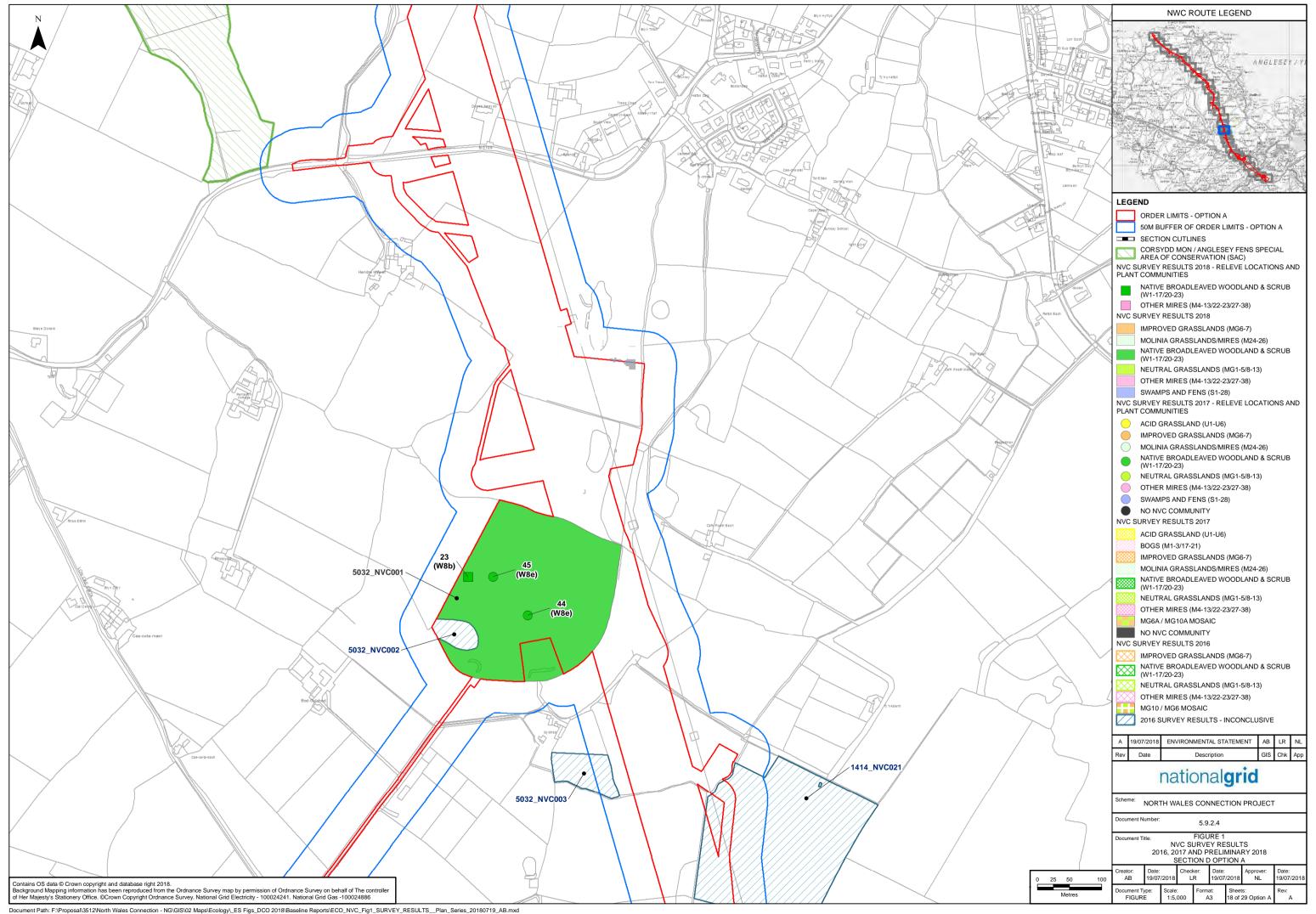


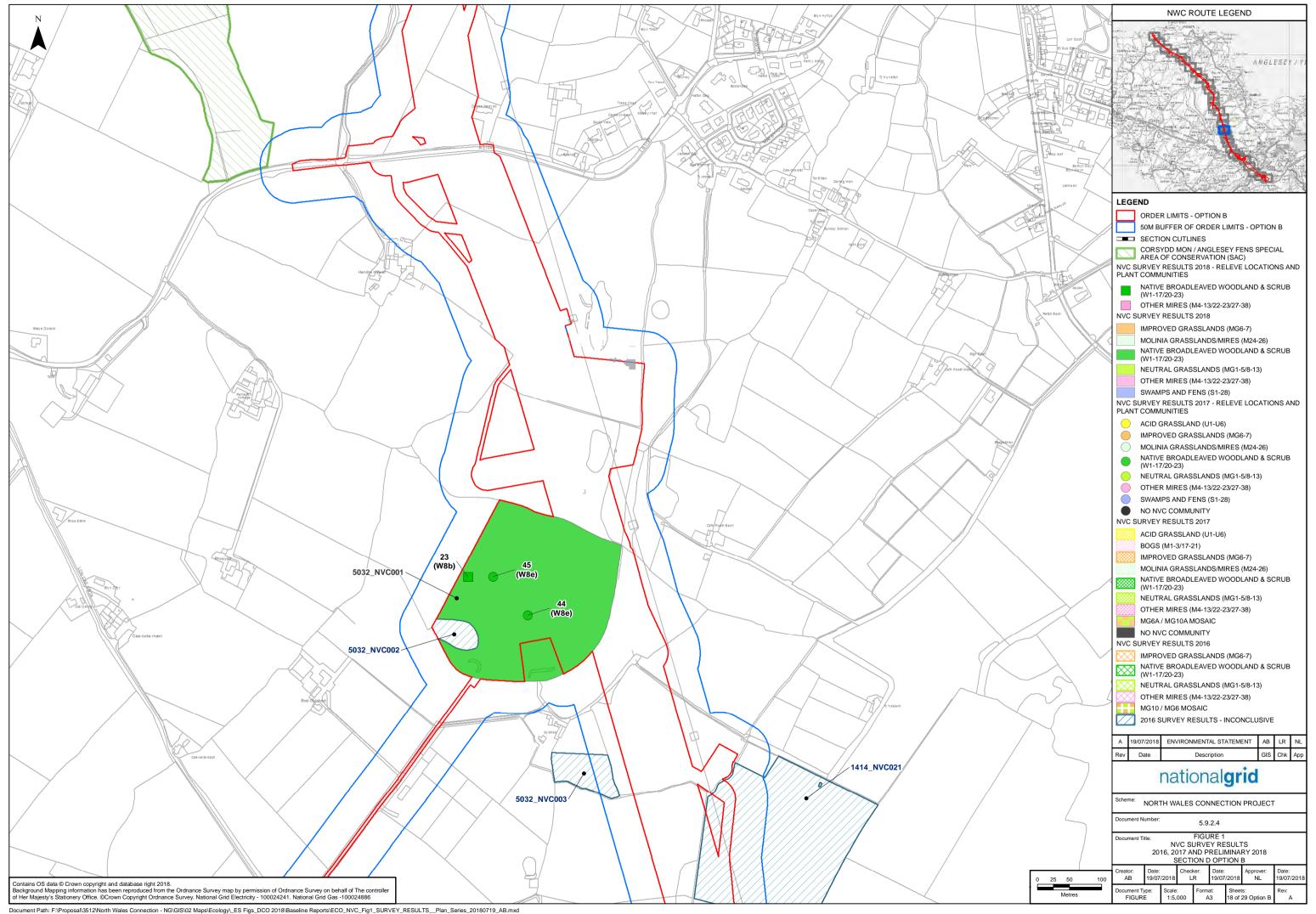


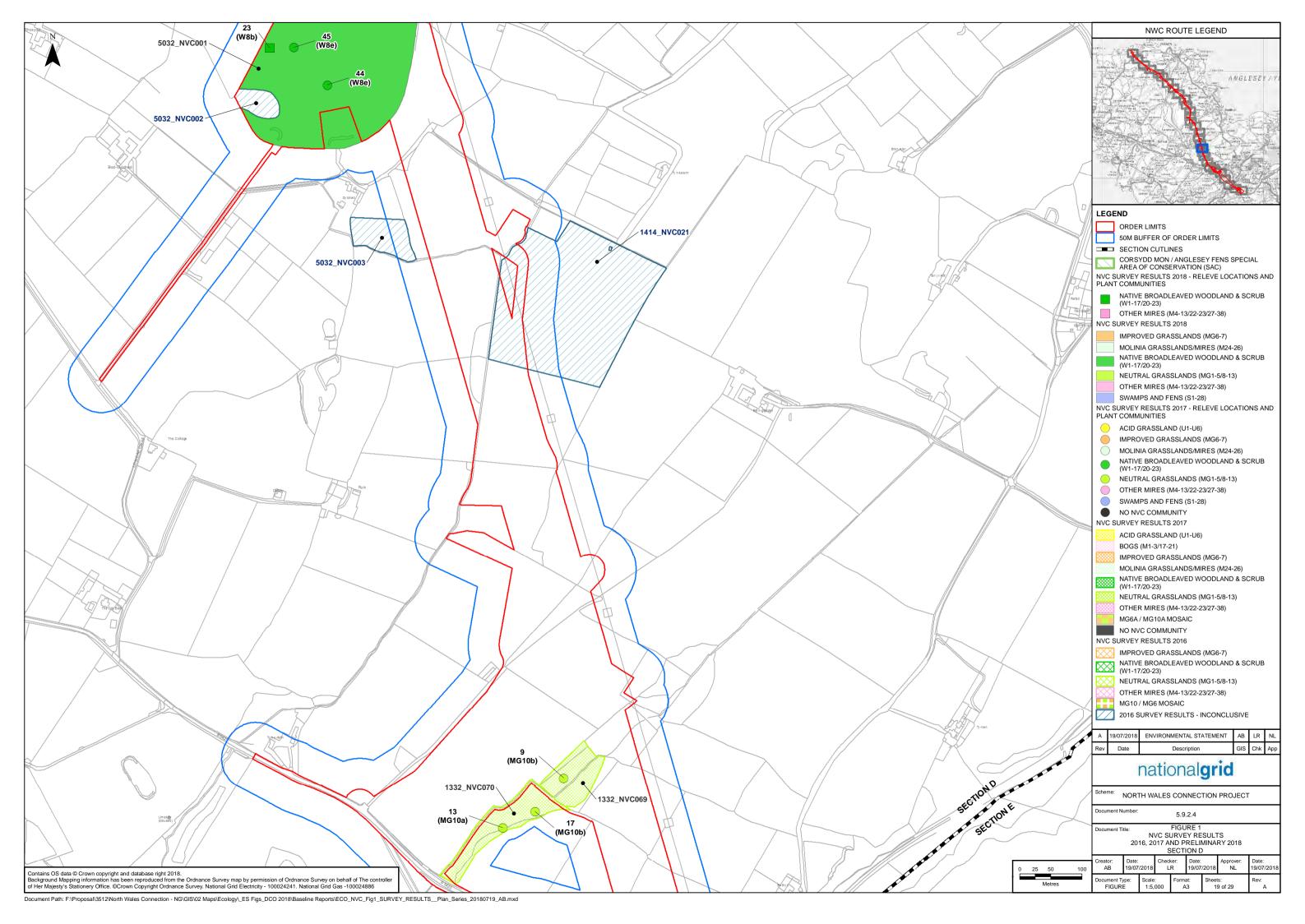


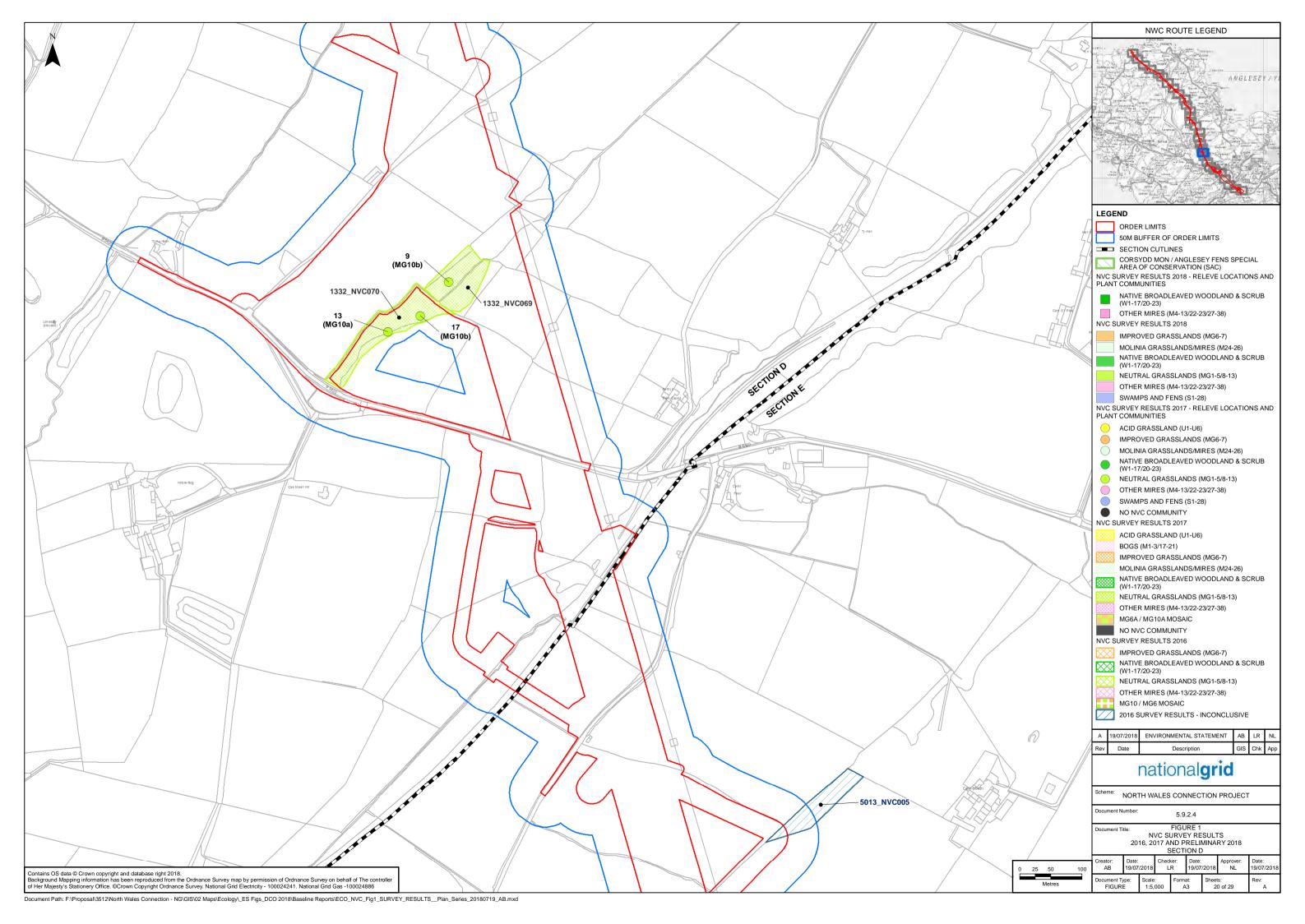


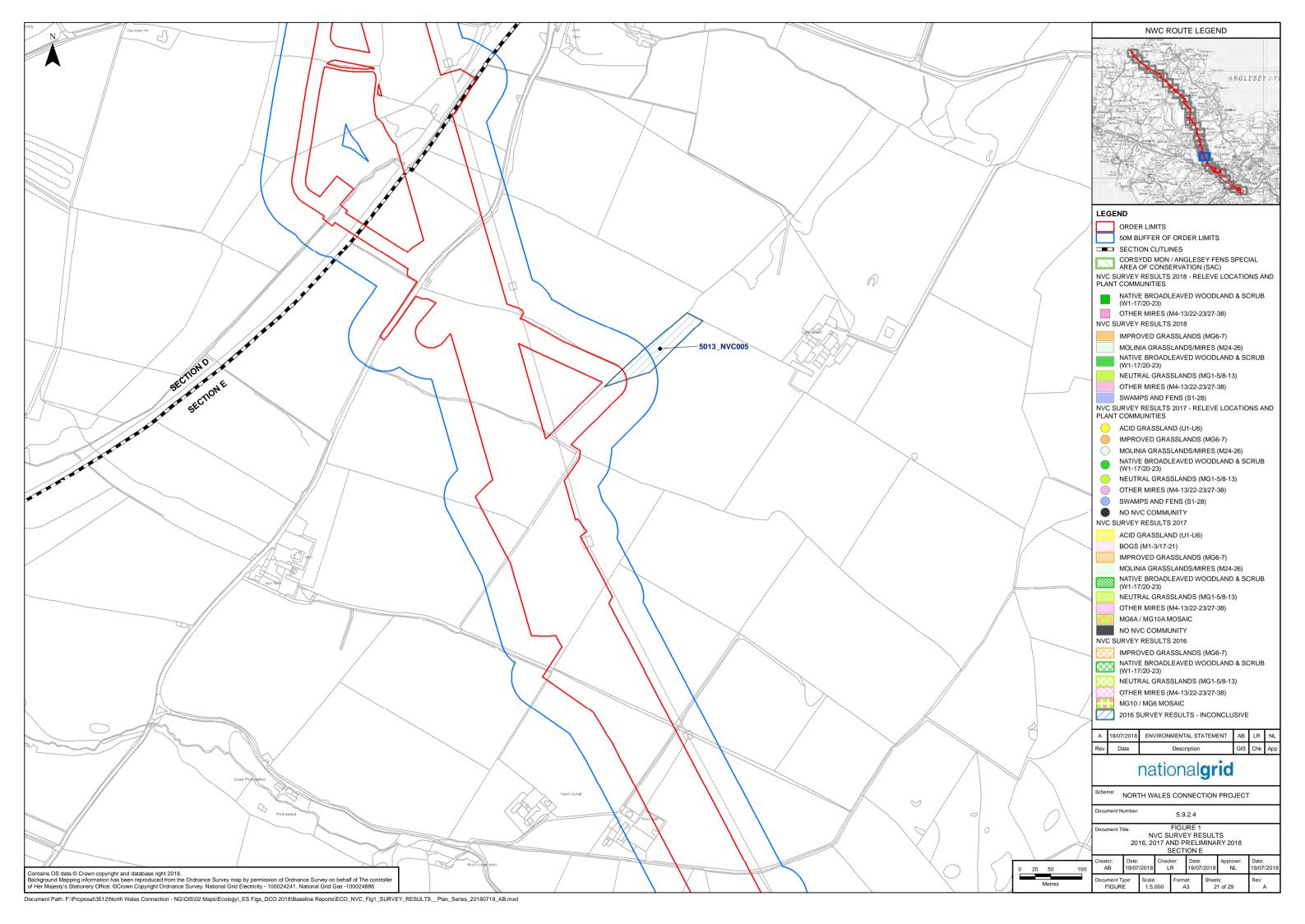


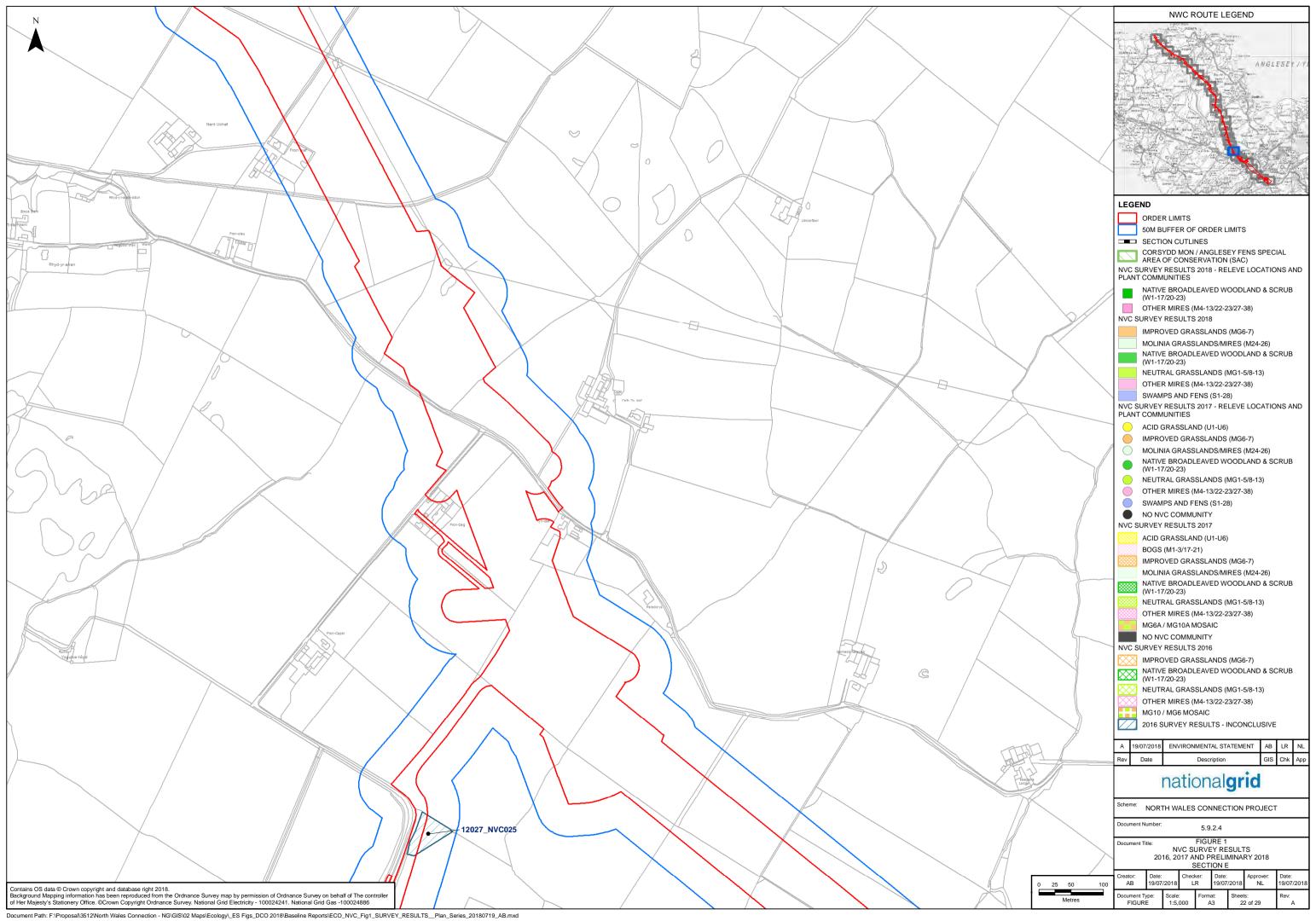


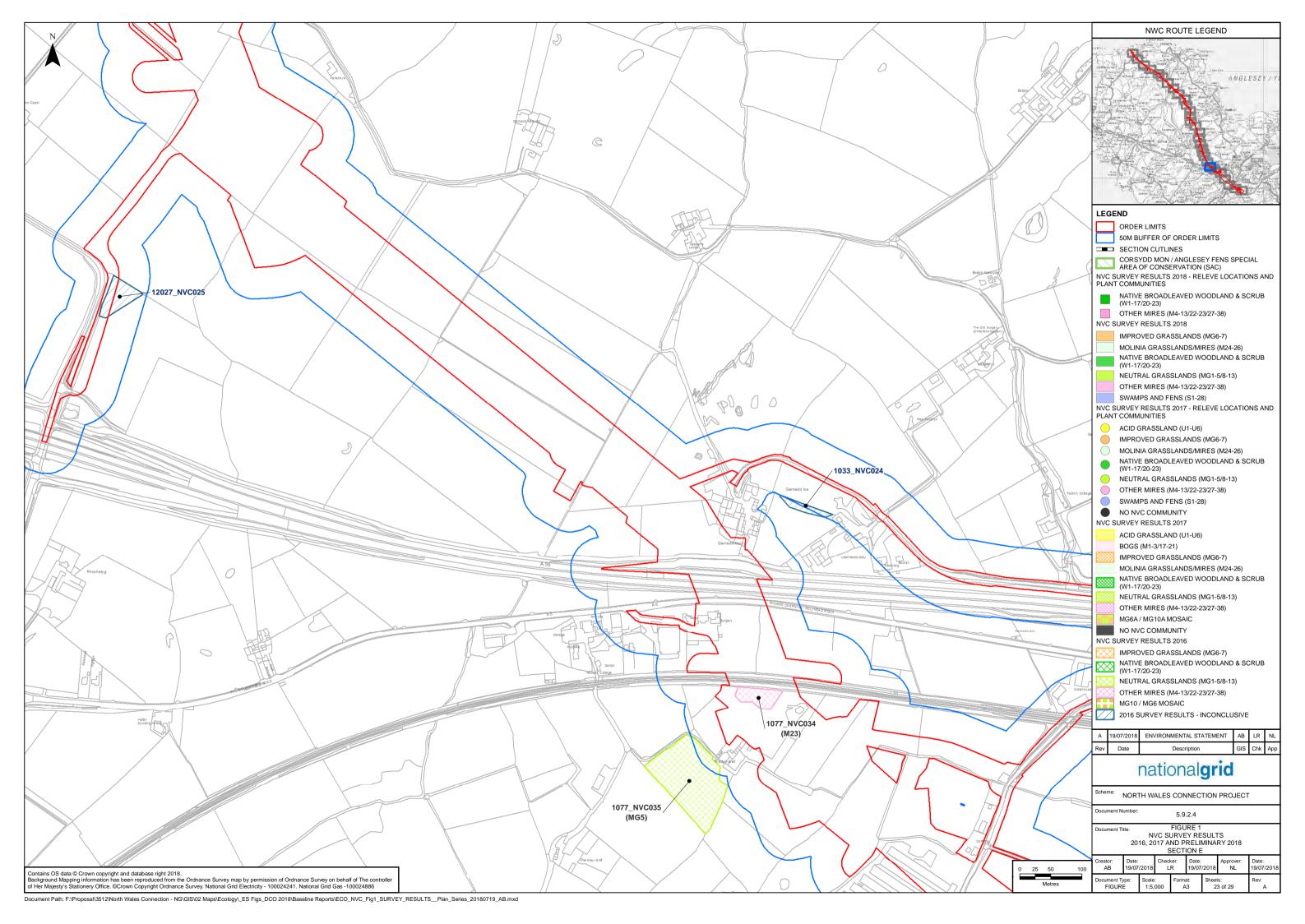


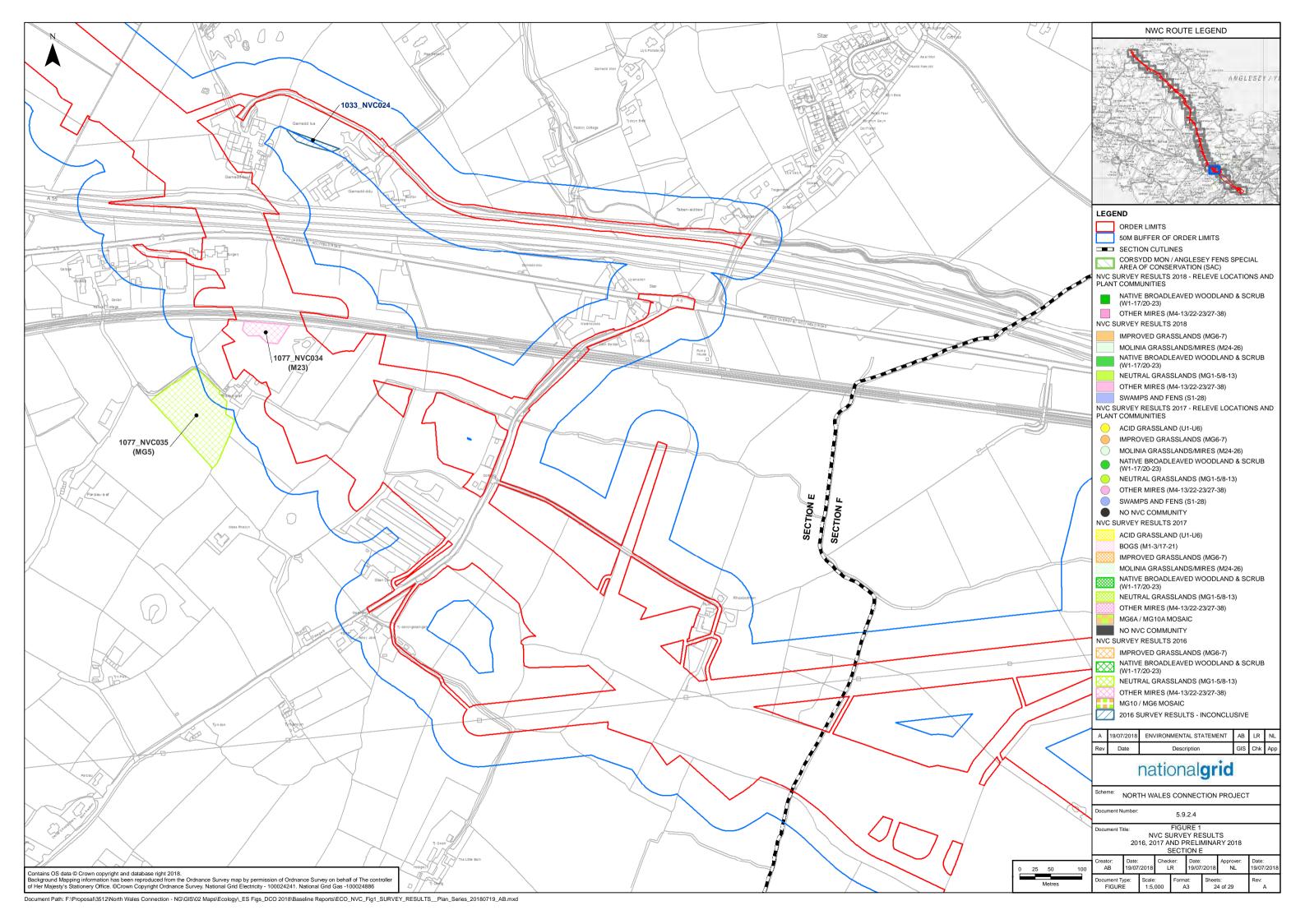


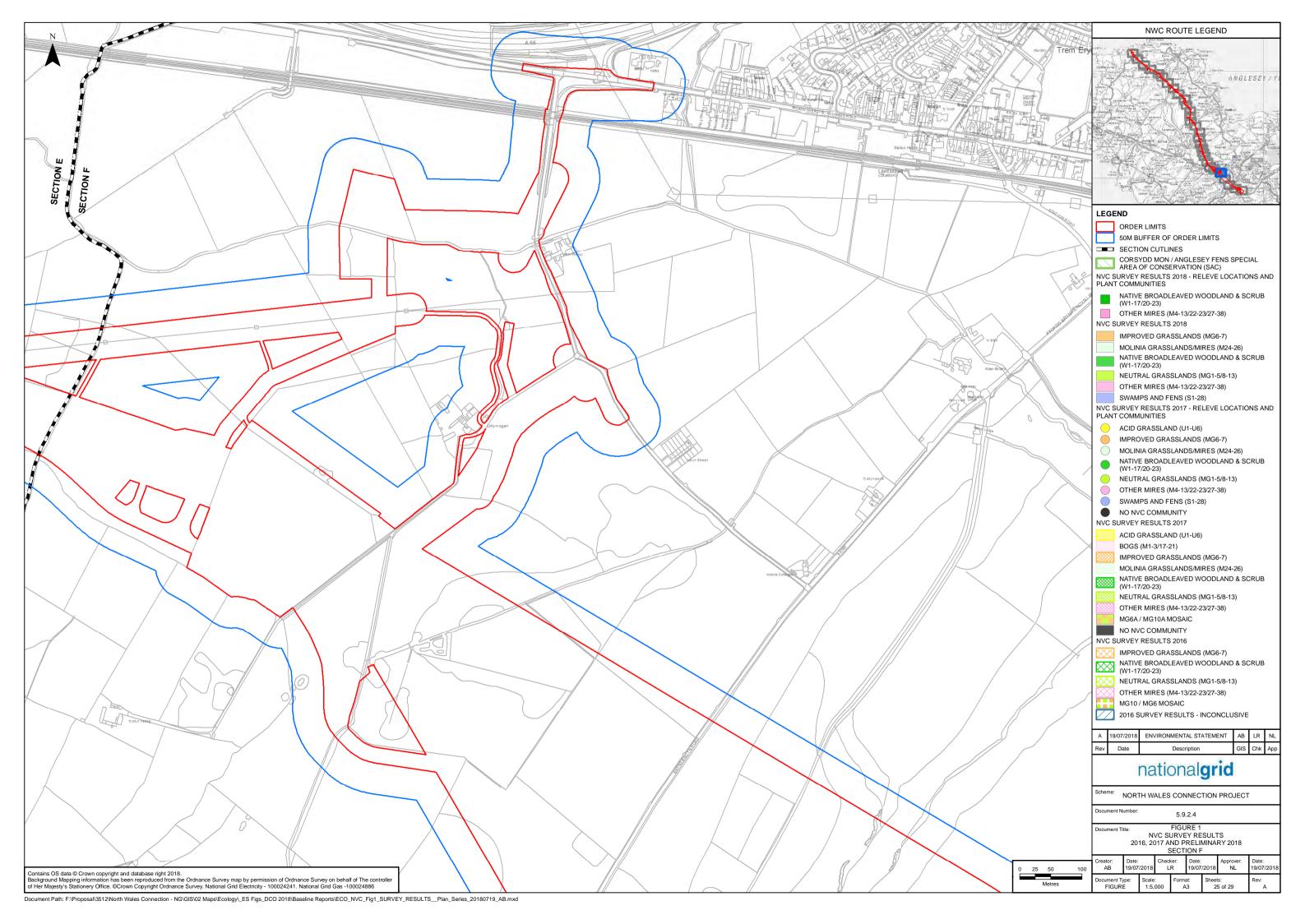


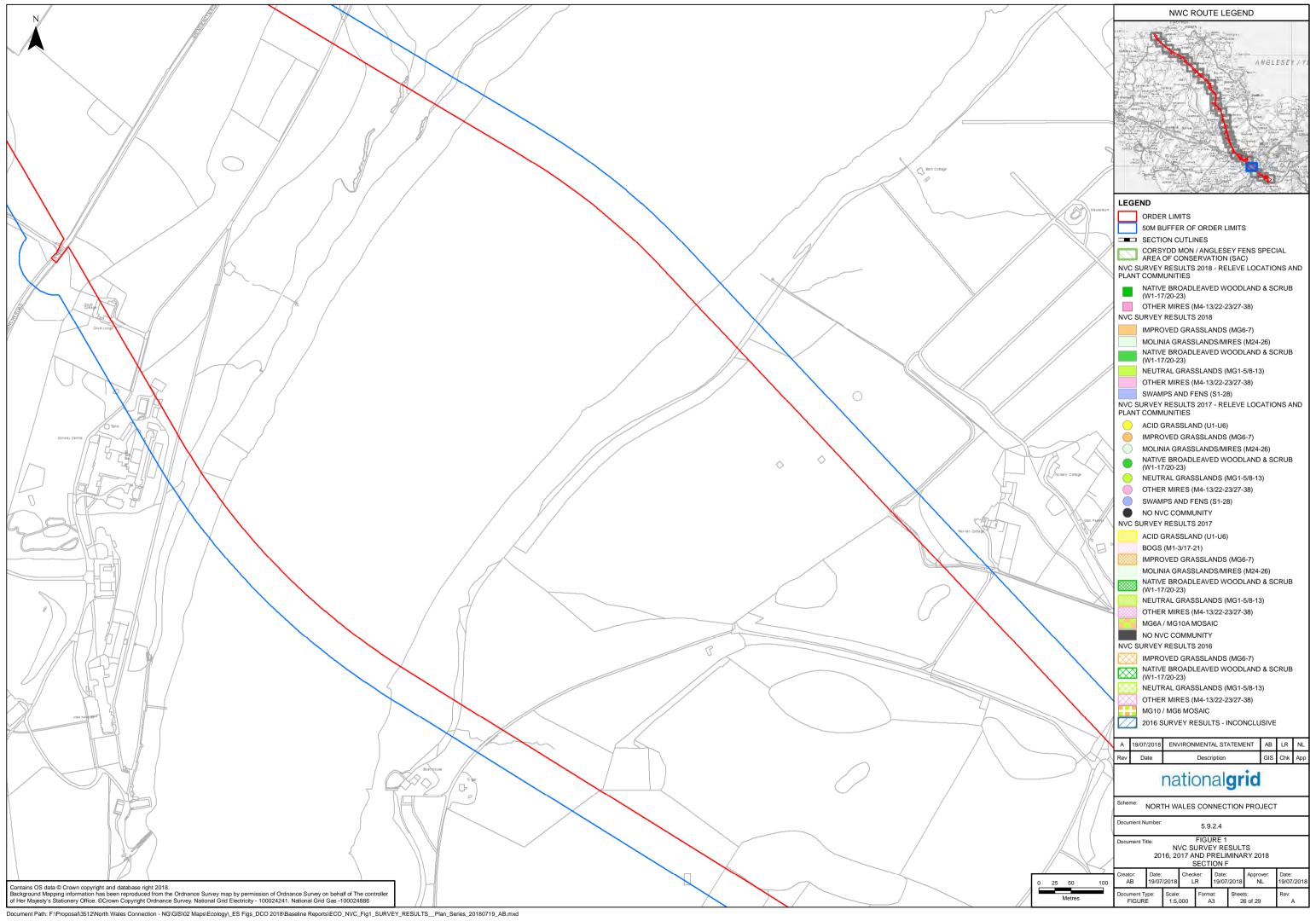


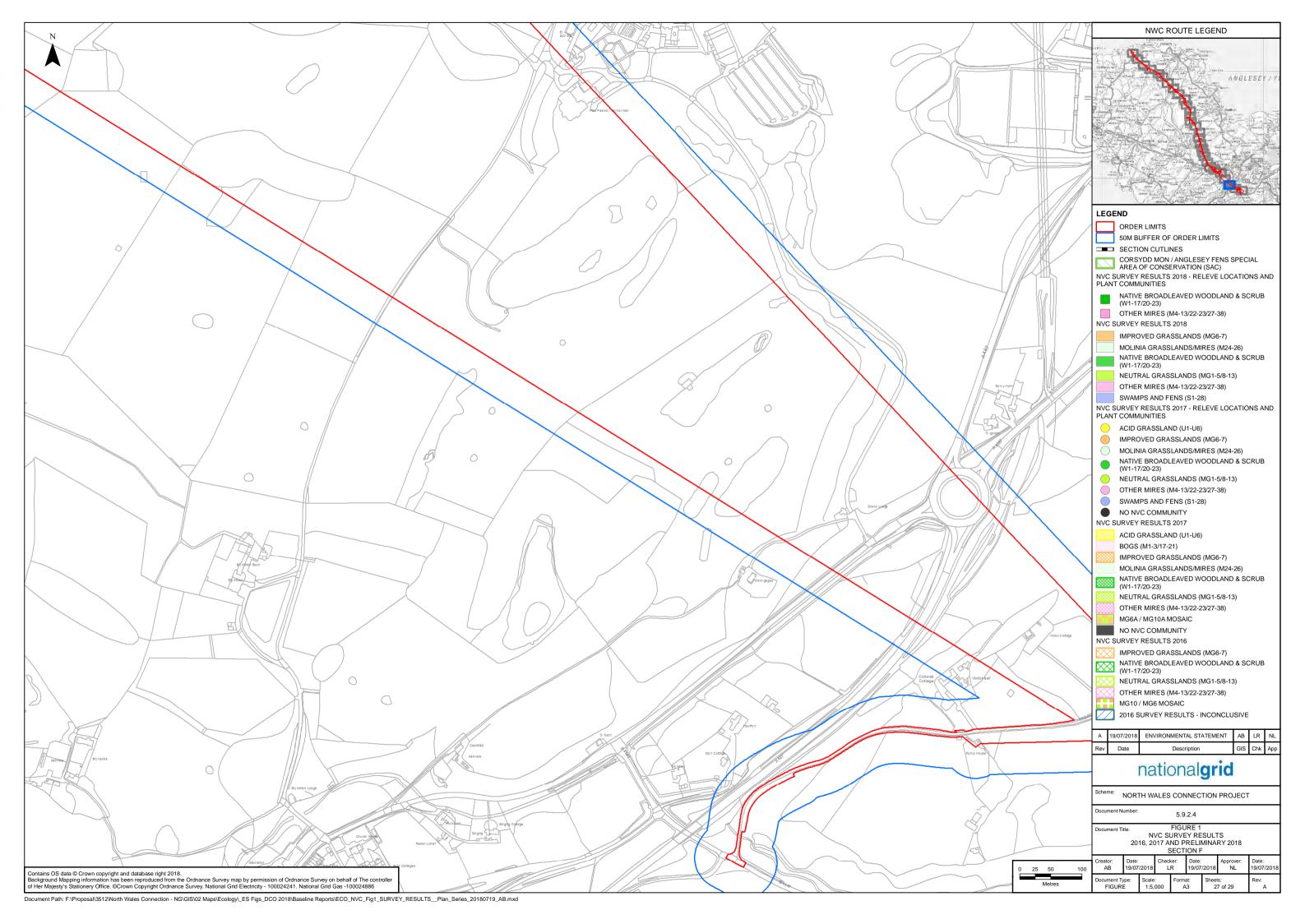


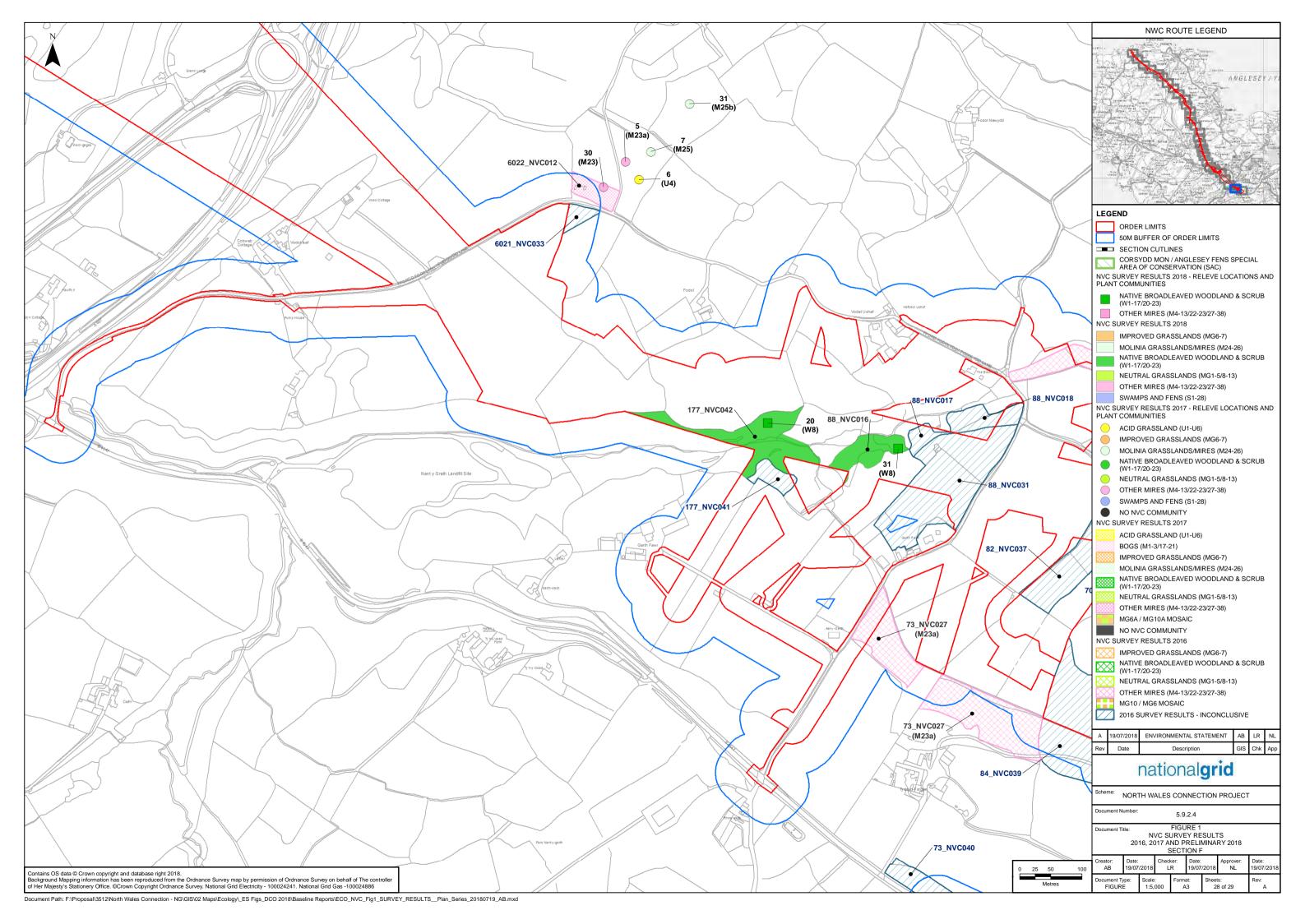


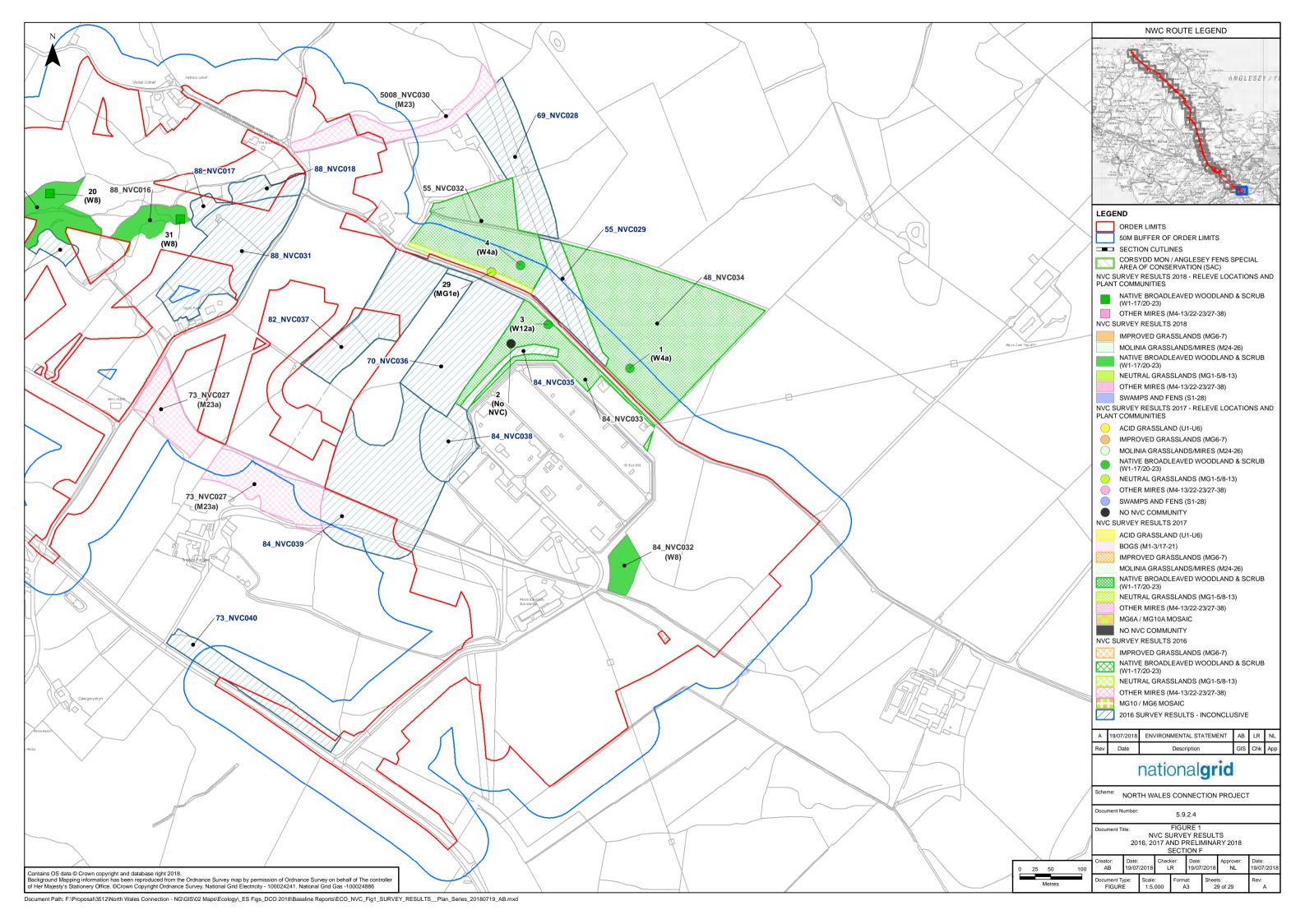












Appendix A - Photographs

Plate 1: The rush dominated fields occupy a shallow basin. Plots 2125_NVC022 and 2125_NVC021.



Plate 2: Devil's-bit scabious is abundant in 2125_NVC021.



Plate 3: Meadowsweet is abundant in the western part of 2125_NVC021.



Plate 4: 2125_NVC022, by comparison, is dominated by rushes.



Plate 5: The woodland by 'Brynddu' is predominantly composed of ash and sycamore.



Plate 6: The woodland in Plot 2038 has a more diverse flora along the margins, where the soil appears to be less eutrophicated.



Plate 7: The valley floor of 1991_NVC029 is dominated by alder.



Plate 8: Beech trees have been planted along the adjacent slopes and the southern end of the wood.



Plate 9: Access was restricted to 1942_NVC052 due to the track being overgrown.



Plate 10: Anglesey Fens SAC is an extremely diverse site, with a wide range of plant communities.



Plate 11: Saw sedge is dominant in some of the ditches.



Plate 12: Bog myrtle is common in the Anglesey Fens SAC.



Plate 13: 1543_NVC012 is grazed by ponies. There is a mosaic of short species-rich MG5 grassland and longer grass in the latrine areas.



Plate 14: The eastern part of 4074_NVC013 is dominated by tussocks of purple moor-grass.



Plate 15: This seasonal pond supports common cotton-grass.



Plate 16: Marsh cinquefoil is also abundant in the pool.



Plate 17: Gylched Covert is an area of ash and sycamore dominated woodland on a limestone outcrop.



Plate 18: The northern part of 1332_NVC069 is grazed by sheep. It is dominated by soft rush (*Juncus effusus*).



Plate 19: This field appears to have limited interest, but it has a very species-rich flora.



Plate 20: The embankment to the west of the Pentir Substation (Plot 84_NVC033) was planted with Lawson's cypress.



Plate 21: Plot 48_NVC034 was probably conifer plantation until comparatively recently. It is now covered by downy birch pioneer woodland.



Plate 22: 55_NVC032 is dominated by silver birch and has a bryophyte-rich ground flora.



Plate 23: The southern side of Plot 55_NVC032 has a small area of species-rich grassland.



Appendix B – Glossary of terms

Term	Definition
Character species	Species that show fidelity to a particular association.
Constancy Class	This is an indication of frequency of a species within the community. The Roman numeral I = 1-20%, II = 21-40%, III = 41-60%, IV = 61-80% and V = 81-100%.
Differential species	Species that can be used to differentiate between different associations.
Eutrophication	This is the enrichment of soil by agricultural chemicals or by the seepage of organic manure. Nettles (<i>Urtica dioica</i>) are a good indicator of eutrophication.
Grassland	A grass-dominated plant community that is maintained by grazing, cutting or burning.
Mesotrophic	Of intermediate nutrient status.
Neutral Grassland	Neutral grasslands are defined as "Agricultural grasslands (and related mown or grazed communities) developed on mesotrophic to eutrophic soils where neither nutrient deficiency, nor soil toxicity problems occur. The management that they receive and the water regime throughout the year determine these plant communities."
NVC	The Nature Conservancy Council established the National Vegetation Classification in August 1975. Its remit was to undertake a phytosociological classification of natural, seminatural and artificial habitats in Great Britain (but excluding Northern Ireland). NVC surveys are sometimes referred to as 'Phase Two Surveys'.
Pasture	Pasture is 'neutral grassland' that is permanently used for grazing animals. The name pasture is derived from the Latin word <i>pastura</i> . In medieval times the majority of pasture was on higher ground, while the meadows were in the valleys.
Quadrat	A defined plot of vegetation usually marked out with a square or rectangular grid.
Relevé	A picture of the vegetation; usually composed of a species list

Term	Definition
	from a quadrat of defined area and a description of the physical features of the stand of vegetation.
Ruderal	These are plants of waste ground. The word is derived from the Latin <i>rudera</i> , the plural of <i>rudus</i> , meaning 'rubble'.
Stand	An area of homogeneous vegetation.

Appendix C – Relevé Data

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Relevé number	1	2	3	4	8	44	45	60a	60b	61
Grid reference	SH56019 67927	SH55828 67966	SH55888 67997	SH55843 68092	SH39261 90049	SH48160 76277	SH48106 76337	SH37466 91231	SH37473 91224	SH37222 91282
Plot number	48_NVC034	84_NVC033	84_NVC033	55_NVC032	1991_NVC029	5032_NVC001	5032_NVC001	2037_NVC004	2037_NVC004	2038_NVC
NVC Plant community	W4a	None	W12a	W4a	W6d	W8e	W8e	W8e	W8e	W8e
Canopy layer										
Acer palmatum		5	7							
Acer pseudoplatanus			2		5	6	9	8	8	7
Alnus glutinosa	1				8					3
Betula pendula				9	3					
Betula pubescens	10		3	5		6				
Carpinus betulus								1	1	5
Crataegus monogyna						1				
Cupressus lawsoniana		7								
Fagus sylvatica					4					
Fraxinus excelsior						6	6	6	6	6
Larix decidua		2								
Pinus sylvestris	1	1				4				
Quercus cerris			1							
Quercus petraea			4							
Salix cinerea					3					
Sorbus aucuparia		1								
Ulmus glabra										4
Shrub layer										
Acer pseudoplatanus		1			2	3	1	7	7	5
Aesculus hippocastanum								4	4	
Alnus glutinosa (spl)										1
Betula pendula (spl)					1					
Carpinus betulus										2
Corylus avellana						2	2	4	4	5
Crataegus monogyna		1			1	3		1	1	4
Fagus sylvatica (spl)					1	-				
Fraxinus excelsior						3		4	4	3
Hedera helix						2		2	2	
Ilex aquifolium				1	1		3			
Lonicera periclymenum						1				

Table C.1 NWC Woodland	Relevés									
Relevé number	1	2	3	4	8	44	45	60a	60b	61
Picea abies	2			1						
Quercus petraea	2							1	1	
Rhododendron ponticum	3									
Salix cinerea				1						
Sambucus nigra		1			2	1				
Sorbus aucuparia	2									
Ulmus glabra										2
Ground flora										
Acer palmatum (sdg)		1	1							
Acer pseudoplatanus (sdg)			4	1				5	4	
Agrostis canina				4						
Agrostis capillaris						2				
Alnus glutinosa (sdg)					1					
Arrhenatherum elatius	1									
Athyrium felix-femina		1	4						1	
Blechnum spicant				2						
Calluna vulgaris				2						
Carex binervis				2						
Carex pendula										4
Circaea lutetiana			3			4				2
Corylus avellana									1	
Crataegus monogyna(sdg)						1				
Dryopteris dilatata	7	3	5	7	5	1			4	5
Dryopteris filix-mas	1	1		2					1	4
Epilobium sp.						1				
Fraxinus excelsior (sdg)			1			3				
Galium aparine										1
Geranium robertianum			3		3	5				2
Geum urbanum						4		2	1	1
Glechoma hederacea									1	
Hedera helix	1	10	6	1	3	2		6	6	8
Heracleum sphondylium								2	1	
Hyacinthoides non-scripta					1					
Juncus effusus				2						
Litter			8							
Oxalis acetosella					2					
Phyllitis scolopendrium									1	1

Relevé number	1	2	3	4	8	44	45	60a	60b	61
Plagiothecium undulatum	3									
Poa pratensis						3				
Poa trivalis						1				2
Polytrichum commune	3									
Quercus petraea (sdg)									1	
Quercus robur (sdg)				1						
Ranunculus repens					3			2		
Rubus fruticosus	5		3	2	8	5			1	4
Sambucus nigra (sdg)						1				
Silene dioica					5			2	1	2
Sorbus aucuparia (sdg)				1						
Urtica dioica								4	4	3
Veronica chamaedrys						2				
Veronica hederifolia						2				
Litter								5		4
Bare soil								5	4	
Lower plants										
Brachythecium rutabalum								2	2	
Fissidens bryoides			3							
Hypnum cupressiforme	4									
Kindbergia praelonga			2		3			7	9	6
Lophocolea bidentata	3						2			
Mnium hornum			3			4				2
Mnium undulatum						1	2		4	3
Pellia epiphylla			2							
Polytrichum commune				2						
Polytrichum formosum			2							
Pseudoscleropodium	2									
purum	۷									
Rhytidiadelphus			1							
squarrosus										
Sphagnum palustre	3		_							
Thuidium tamariscinum	5		7	8		8		2		3
Lichens (trees)										
Hypogymnia physodes										
Parmelia saxatilis					1					
Parmelia sulcata				2						

Table C.1 NWC Woodland	l Relevés									
Relevé number	1	2	3	4	8	44	45	60a	60b	61
Pertusaria albescens					1					
Xanthoria parietina				2						

^{*} Canopy and shrub layer as 60a. This list is not exhaustive.

Table C.2 NWC Grassland	and	Mir	e R	elev	és																																							
Relevé number	6	10	11	12	13	14	15	16	17	18	19	21	200	24	25	26	27	28	29	30	32	33	34	35	36	37	38	39	40	41	46	47	48	49	20	51	52	53	54	22	26	22	58	20
Grid reference	SH48540 75162	SH35686 93620	SH35694 93654	SH35733 93659	SH48442 75082	SH46830 80507	SH46848 80546	SH46866 80597	SH48494 75108	SH46891 80634	SH46862 80778	SH46894 80786	SH46505 81902	SH46486 81846 SH47768 78257	SH47787 78149		SH46742 81859	SH46747 81851	SH55796 68081	SH54822 68587	SH43611 86306	SH43628 86129	SH43627 86140	SH43107 86414	SH43145 86939	SH43233 86515	SH43187 86506	SH47850 78328	SH47817 78270	SH47857 78218	SH47815 77669	SH47833 77704	SH46740 81705	SH46422 81837	SH46445 81592	SH46410 81578	SH46383 81562	SH46489 81435	SH46630 81437	SH46637 81395	SH46339 81517	SH46468 82012	SH46456 82003	
Plot number	1332_NVC069	2125_NVC022	2125_NVC021	2125_NVC021	1332_NVC070	4074_NVC013	4074_NVC013	4074_NVC013	1332_NVC070	4074_NVC013		1543_NVC012	1522_NVC071	1522_NVCU/T	146/	1522 NVC074	1522 NVC074	155_NVC074	55_NVC032	6022_NVC012	1770_NVC057	1778_NVC056		1797_NVC058	1797_NVC058	1797_NVC058	1797_NVC058	1487-NVC001	1487_NVC002	1487_NVC003	11		1522_NVC071	1522_NVC071	1522_NVC071	1522_NVC071	1522_NVC071	1543	1522_NVC071	1543	1543	1522_NVC071	1522 NVC071	
NVC Plant Community	MG10b	M23a	M27	M27	MG10a	M23	No NVC community	U4	MG10b	M23a	M23a	MG5	OCZIVI	S14C	M27	M22	No NVC community	S2a	MG1e	M23	MG6	MG6a	MG10a	MG10a	MG10a	MG10a	MG10a	M23	M25	M24	MG10b	MG10b	S2	M24	M23	M25	MG5	M25b	M27	M25	M25	M9	M25h	
Achillea ptarmica																				2														1		3								
Agrostis canina	1					6	3	7		_	3	7		2	2	3	4			5	7	_									4			3	4	7	_	_	3		3		3	
Agrostis capillaris	3	1	2		E	2	1	7	2	5		/	+.	_			-	-	3		/	5	7	0	0	0	2	2	2	_	1	4			2	7	7	2	2		2	_	3	+
Agrostis stolonifera	2	4	3	4	5		1		2	2	4		+	3			2	1	3	1	5		7	8	8	8	3	2	2	1	4	4			2	4					F	2	3	+
Anagallis tenella Angelica sylvestris	-			2	1						2	-	+		1 5	5 2	-		-	I				+			2	2	I	3		-			3			3	2		5	4	3	+
Anthoxanthum odoratum	+	2		3	1	4		6		3		2 ;	3		1 0			+	3	2	2			3						J				3	1			4			3	4	2	
Arrhenatherum elatius	+			3		7		2		5	5	_ '	+					+	2					3						+	+	$\overline{}$		5	'			7			3		_	+
Bellis perennis	+							_														1																						+
Briza media	+												+									'												3										+
Bromus hordeaceus									+									+	1				+				+																1	+

Table C.2 NWC Grassland	and	l Mii	re l	Rele	vés																																					
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Calluna vulgaris																																						1	2		2	2
Caltha palustris																2	4																									
Cardamine amara																1																										
Cardamine flexuosa		1																												2	2											
Cardamine pratensis																				2		3 :	3																			
Carex acutiformis													2																													
Carex demissa																				4								2	3			3	3									
Carex diandra																2																										
Carex echinata						1	1													2								2	3				1	2						3	_	1
Carex elata																																2										
Carex flacca																																	4		- 2	2					,	П
Carex hirta	2	1			3				1																						3		\top				\top	\top	+			+
Carex hostiana					Ť				-					1																			-				5					7
Carex leporina			1		1									Ť									1					<u> </u>				\top	\top		+		_	\top	+	1	+	+
Carex nigra			2	2 2			2									1	6			3								4				1	3 5	5 2	2				1			4
Carex otrubae	2		+-	+-	5		_		1																								+		+				十			+
Carex panicea	2			4					•		3	3		6		3				5								3	5			<u> </u>	7		-	3	7	-	7 5	4	+	7 5
Carex pendula				<u> </u>								+		+		-			1									 					+		+	+	- +	+	+	+ •	+ '	+
Carex serotina												+							-														+		+		+	+	+			+
Carex pulicaris																																	+		+		-	+	+		1	3 1
Carex acutiformis												+											+						5				+		+		+	+	+		+	+
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Centaurium erythraea											<u>'</u>								2														+		+	+	-	+	+			+
Cerastium fontanum subsp.			-							2												1	2	,						1			+		_		_	_	+		-	_
Cirsium palustre		2							2			1		2	2							•		-			1	2	2		3		+		+		1	1	+			2
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Dactylis glomerata		'									1								1		3	<u>'</u>		, 2	- '								- +		+	0	-	-	+		+	+
Dactylorhiza fuchsii					-									1					<u> </u>				-	-				1					+		-			-	+			+
Dactylorhiza species			+		1								+	- '			\vdash						+	+				1	1			+	+		+		+	+	+	+	+	2
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Daucus carota	-		-	-	+					-	_	+					\vdash		4				+	+	+			-				+	+	+ .	+		+	1	1		+	+
Deschampsia cespitosa					1												\vdash						+					1				٠,	+	- '	3	1	1	1	+			+
Deschampsia flexuosa			+		2								+										\dashv	-									1			1	1	-	+	+	+	+
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Epilobium palustre					 	2	2				2	1		1	2					1			\perp			2			<u> </u>				+	I	+		3 2	2	+	1		+
Epilobium parviflorum	-		1		<u> </u>				4				-	1	3								\perp	\perp	_	+	2	1	2	3	2	\perp	+		+		-	\bot	+	+	\perp	+
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Erica tetralix					<u> </u>									_									\perp										\perp		\bot				\perp	1_		3
Eriophorum angustifolium			1		1		8								_									\perp			_	1_	<u> </u>				\perp		\bot			\bot	\bot	5	\perp	\bot
Eupatorium cannabinum					1									4	1								\bot				3	2	2			2	\perp					\perp	\bot			\bot
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Filipendus ultramine A	Festuca ovina																3	3			4									1				4				1		4	4		3 3
Freatius excelsior (sdq) Gallum pellustre 2	Festuca rubra	2	2		2				5	1			3							2					1					1		3					5	3					
Frexious excession (sdd) Galium patistree 2	Filipendula ulmaria	4		7	5					2					4	1 5	5 3	3																				4	5				
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Galfum Uniglnosum 2 2 2			2			4		1				2			8			3	;		3								1						2			1					
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Luzula campestris 2									2				3							6														1			5						
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Lysimachia sp. 1 1 1 1 1 2 2 4 2 2 4 3	Luzula campestris				2																																						
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Table C.2 NWC Grasslan	d and	Mir	re F	Relev	és																																							
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Plantago lanceolata												2							2	2																	2							
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Poa trivialis	2																																											
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Valeriana officinalis							\perp				1				\perp		1		-	\perp	-		-				1											4	3	\vdash	\longmapsto	\square	₩	+
Viola palustris	_		1	-											+	-	-	_		-	+			-			-												<u> </u>	\vdash	\longmapsto		—	+
Lower plants									_						\perp	\perp	_		\perp	\perp	\perp		_				1					_							<u> </u>	\sqcup	$\vdash \vdash$		<u> </u>	+
Brachythecium rivulare			-					_							\perp		_		-	_	\perp		_	-	-		<u> </u>	1				_						_	<u> </u>		\longmapsto		₩	\bot
Brachythecium rutabulum	_				3				3						\perp	\perp		_	5)						1	1				2						3	3	ļ	\square	\vdash	 	<u> </u>	_
Breutelia chrysocoma																																									1			

Table C.2 NWC Grassland	and	M	ire F	Rele	vés																																							
Relevé number	6	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	28	29	30	32	33	34	35	37	38	39	40	41	46	47	48	49	20	51	52	53	54	55	26	57	28	29
Calliergon giganteum																	3																											
Calliergonella cuspidata 3 3 4 4 4 3 8 7 3 6 6 3 5 5 4 3 4 3 4 6 9 Campylium stellatum 1 1 1 1 2 1														5	4																													
Calliergonella cuspidata 3 3 4 4 4 3 8 7 3 6 6 3 5 5 4 3 4 3 4 6 5 Campylium stellatum 3 4 4 4 4 3 8 7 3 6 6 3 5 5 4 3 4 3 4 6 5																																												
Cratoneuron sp.																																												
Equisetum fluviatile			1	2							1		1		2		3		1									3	3	2	2											5		
Equisetum palustre							2							3				1										2		1														
Fissidens adianthoides																																												,
Hypnum jutlandicum																																								3				
Kindbergia praelonga												1															3									1								
Mnium sp.																															3													
Mnium undulatum																																1												
Pellia endivifolia																																												
Rhytidiadelphus squarrosus									2																									4						3			5	
Scleropodium purum																				3														2			1			3			4	3
Scorpidium revolvens																																												
Sphagnum denticulatum							2																																					
Sphagnum papillosum																												-													2			
Bare ground												4		6						5	5													4	5		1						\pm	
Litter																	<u>L</u>																					5				5		

Relevés 15 and 27 cannot be allocated to any specific NVC community, using the keys in Rodwell or TABLEFIT.

Spl = Sapling

Sdl = Seedling

Sp. = Species

Subsp. = Sub-species

Sp. = Species

Subsp. = Sub-species