October 2024

Sully to Cosmeston
Active Travel Route

Green Infrastructure Statement

GREEN INFRASTRUCTURE STATEMENT

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INTRODUCTION

1.0 INTRODUCTION

1.1 INTRODUCTION

1.1.1 Arcadis Consulting (UK) Limited has been commissioned by Vale of Glamorgan Council to produce a Green Infrastructure Statement in support of a detailed design application for a proposed Active Travel Route (ATR) between Sully to Cosmeston ('the Proposed Development').

1.1.2 The Proposed Development is located between Sully and Cosmeston, approximately 5km to the south of Cardiff City Centre with a central grid reference of ST 17533 68504. The site links Sully to Cosmeston Lakes via a disused railway and existing footpath along the B4267 road. The site boundary is shown below in Figure 1.

1.1.3 The western section of the site follows the footpath on the northern side of the B4267 and is located adjacent to amenity grassland, a species-poor hedgerow, hedgerow with trees and scattered trees. The central section of the site crosses the B4267 and is located along a narrow footpath and disused railway line within semi-natural broadleaved woodland. The central part of the site is adjacent to the Ty'r Orsaf SINC which contains a pond. The eastern section of the site is on a footpath with bare ground, semi-improved neutral grassland and tall ruderal habitat. The north-eastern section of the site is within the residential estate of Cosmeston Drive. Bridges are also located along the route.

1.1.4 The application site boundary is shown in the accompanying Soft Landscape Design (Ref: 10056562-ARC-300-XX-DR-LA-00001) and on Figure 1.

1.1.5 The planning application seeks full permission for the following:

'The provision of an Active Travel Route, ramp, landscaping, and associated works from Sully to Cosmeston'

1.1.6 This Green Infrastructure (GI) Statement has been prepared to demonstrate how the Proposed Development responds to its GI assets and surrounding context.The GI Statement sets out an entrenched approach to minimise and mitigate the negative effects of the development. The purpose and detail of the GI Statement is set out in Section 1.4 below.

Figure 1. **Location of Sully to Cosmeston ATR Site**

1.2 SUMMARY OF PROPOSED DEVELOPMENT

1.2.1 The proposals are for a new ATR between Sully and Cosmeston. An ATR is a path that will be used for walking and cycling (including the use of mobility scooters) for everyday journeys.

1.2.2 The western section of the site follows the footpath on the northern side of the B4267. The central section of the site is along a footpath and old disused railway line off road. The eastern section is located predominately along a bare ground track through tall ruderal and grassland habitat. This section connects with the hardstanding of the residential street, Cosmeston Drive. The existing footpath and disused railway are likely to need widening and the proposals will lead to some vegetation clearance, but the extent of vegetation clearance is currently unknown. There may also be a requirement to incorporate lighting along the ATR.

1.2.3 Works will include:

- Dedicated Cycle lanes, pathways and pedestrian crossings and pedestrian ramps,
- signage and markings
- lighting and ensuring accessibility, and
- drainage.

1.2.4 The proposed works are local in scale and unlikely to result in significant landscape and ecological impacts beyond the boundaries of the Study Area. However, due to the presence of suitable habitats within the Study Area, in the absence of mitigation and potential enhancement works, and in particular habitat creation / reinstatement, have the potential to impact (kill and/ or injure) protected and notable species.

1.2.5 A suite of Landscape and Ecological Enhancement Strategy Plans have been prepared to accompany the application (Appendix A Drawing 10056562-ARC-300-XX-DR-LA-00001) which illustrates a scheme of ecological enhancement measures including a planting schedule and specification.

1.2.6 Key ecological and landscape enhancement features include:

- Ensuring that wildlife corridors are maintained and created and that any new planting is designed to be beneficial to wildlife.
- Incorporation of a sensitive lighting strategy to be considered in the design;
- Tree replacement and new tree planting where feasible;
- Installation of invertebrate hotels, bird and bat boxes in trees to provide additional refuge sites for these species groups;
- The creation of habitat piles to provide refuge for reptiles, amphibians and hedgehogs.

1.2.7 The Landscape and Ecological Enhancement Strategy / Soft Landscape Design sets out the proposed planting palettes for mitigation and enhancement of the site area. The proposed species have been selected in consideration of existing key ecological species and invertebrate in the area, such as planting to enhance habitats suitable for nesting birds, hedgehog, reptiles and amphibians, and vegetation which is suitable for the locality in consideration of soil type and the ability to create a very diverse range of habitats across the site where conditions vary:

- Proposed native hedgerow mix includes Acer campestre (Field Maple), Prunus spinosa (Blackthorn) and Crataegus monogyna (Hawthorn);
- Proposed native woodland mix includes native species comprising Quercus robur (English Oak), Corylus avellana (Hazel) and Salix caprea (Goat Willow);
- Specimen trees include species such as Betula pendula (Silver birch), Sorbus aucuparia (Rowan) and Prunus padus (Bird cherry);
- A series of grass mixes including Strong Lawn Grass Mixture (Emosgate EG22) for verges, Basic General Purpose Meadow Mixture (EM1) for general meadow areas and Hedgerow Mixture (EH1) for shaded areas.

1.2.8 A Construction Environmental Management Plan (CEMP) will be delivered as a planning condition for the planned works. The CEMP will provide a framework detailing how the works will be undertaken and managed in accordance with environmental commitments and requirements, which include contractual, legislative and construction industry best practice. The CEMP will provide a means for recording environmental risks, commitments and other environmental constraints and identifies the processes that will be used to manage and control these aspects. The CEMP will also facilitate compliance with relevant environmental legislation, government policy objectives and schemespecific environmental objectives, whilst also providing the mechanism for monitoring, reviewing and auditing environmental performance and compliance.

1.3 PLANNING POLICY CONTEXT

1.3.1 At a national level, Planning Policy Wales (PPW) 12 Edition (Welsh Government, February 2024) provides relevant planning guidance informed by the Well Being Future Generations Act, together with the National Development Framework: Future Wales – The National Plan 2040 (February 2021), as well as supporting Technical Advice Notes (TANs). The content of national guidance must be taken into account by local planning authorities when deciding planning applications. Detail of all applicable policy detail is set out in the Planning Statement (Document Ref:xxxxxx).

Green Infrastructure

1.3.2 The Environment (Wales) Act 2016, provides a context for the delivery of multi-functional GI. Its protection and provision can make a significant contribution to the sustainable management of natural resources, and in particular to protecting, maintaining and enhancing biodiversity and the resilience of ecosystems in terms of the diversity within and connections between ecosystems and the extent and condition of these ecosystems, so that they are better able to resist, recover from and adapt to pressures. This means that the development of GI is an important way for local authorities to deliver their Section 6 duty.

1.3.3 Proposed changes to PPW were consulted on between March and May 2023. The finalised policy for inclusion in the next iteration of Planning Policy Wales (version 12) are programmed for later this year. In the interim, in order to fulfil COP 15 obligations, an updated chapter 6 policy has come into immediate effect as an annex (October 2023). The main changes include emphasis on GI, including trees and woodland and Protection for Sites of Special Scientific Interest as well as a Net Benefit for Biodiversity and the Step-wise approach.

- **Green Infrastructure:** stronger emphasis on taking a proactive approach to GI covering cross boundary considerations, identifying key outputs of GI assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.
- **Net Benefit for Biodiversity and the Step-wise Approach:** further clarity is provided on securing net benefit for biodiversity through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and, the need to consider enhancement and long-term management at each step. The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. A simplified diagram of the policy approach has been developed (which will be further refined in the consolidated version of PPW12). The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.
- **Protection for Sites of Special Scientific Interest:** strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle. Exceptionally, a planned approach may be appropriate where necessary safeguards can be secured through a development plan.
- **Trees and Woodlands:** closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

1.3.4 Paragraph 6.2.5 of the annex sets out that the quality of the built environment should be enhanced by integrating GI into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, GI can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and well-being outcomes. Furthermore a GI statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach has been applied.

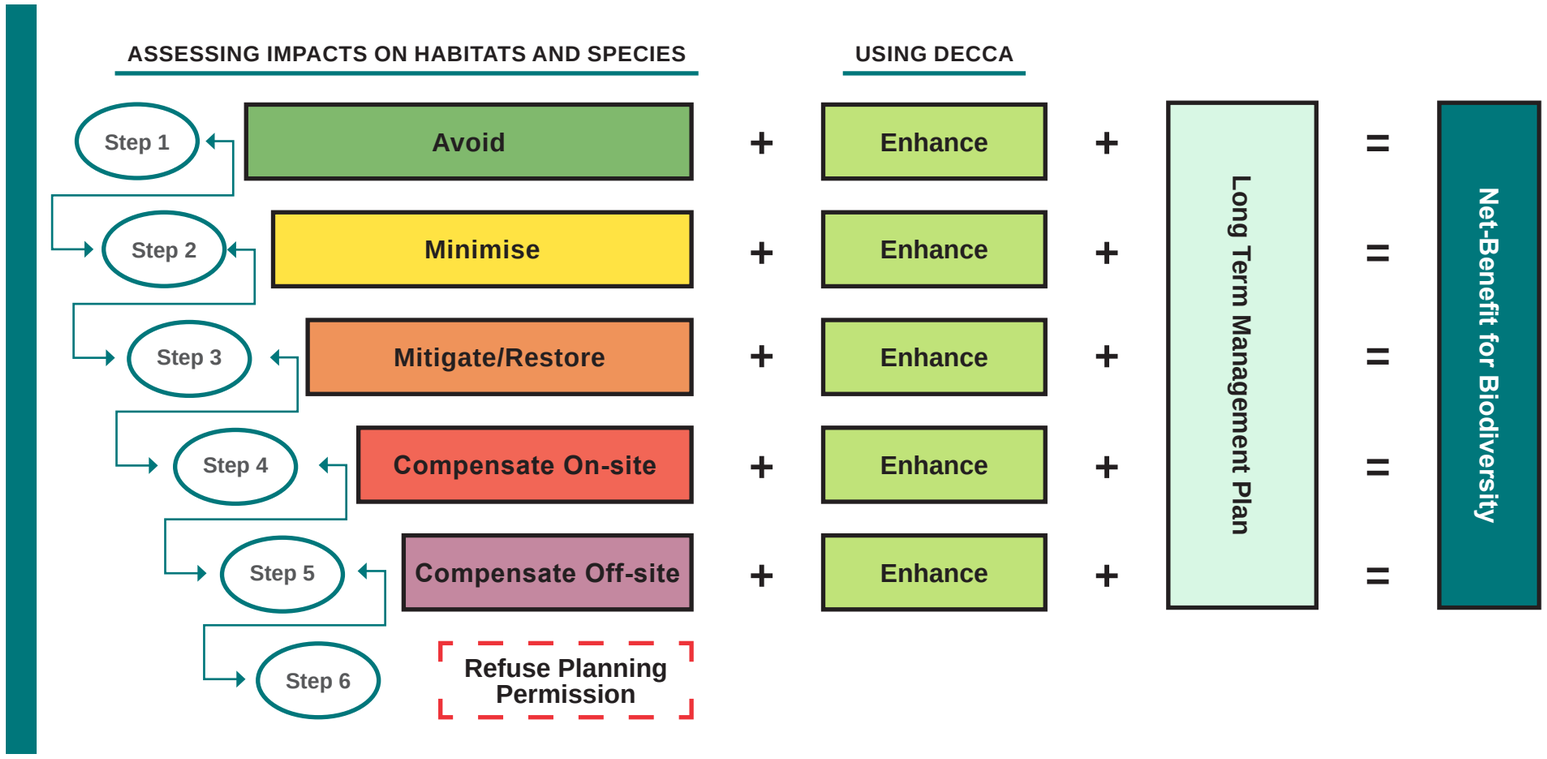


Figure 2. **Step-wise Approach**

1.3.5 Improving ecosystem resilience, particularly improving connectivity to the immediate surroundings, would be a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement. How a development would improve the attributes of resilience should be demonstrated as far as this is reasonably practical.

Step-Wise approach summary

1.3.6 The first priority for planning authorities is to avoid damage to biodiversity in its widest sense (i.e. the variety of species and habitats and their abundance) and ecosystem functioning. Proposals in statutory designated sites are, as a matter of principle unacceptable, and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable and must be safeguarded. When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities must seek to minimise the initial impact on biodiversity and ecosystems by:

- maintaining the largest possible area of existing habitat supporting

biodiversity and functioning ecosystems, by minimising development size and appropriate orientation on site, paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity;

- ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained;
- retaining existing features, develop a management plan for their future care (e.g., trees, hedgerows, species rich grasslands, heath, wetlands, ponds and freshwater habitats) and use appropriate buffers to protect these from construction and operational impacts, and
- using proven innovative/creative solutions (where required) to minimise damage and maintain existing biodiversity features and ecosystems in tandem with robust monitoring and rectification strategies.

1.3.7 Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage. Mitigation measures must be put in place to limit the negative effects of a development. Effective mitigation or restoration measures should be incorporated into the design proposal following the consideration of steps one and two above. Mitigation or restoration measures must be designed to address the specific negative effects by repairing damaged habitats and disturbed species. When all the steps above have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes further on site/immediately proximate, and as a last resort off-site compensation for unavoidable damage must be provided. This must be of significant magnitude to fully compensate for any loss.

1.4 GREEN INFRASTRUCTURE OVERVIEW

1.4.1 GI is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places. Component elements of green infrastructure can function at different scales and some components, such as trees and woodland, are often universally present and function at all levels. At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways, peatlands and mountain ranges or be connected networks of mosaic habitats, including grasslands. At a local scale, it might comprise parks, fields, ponds, natural green spaces, public rights of way, allotments, cemeteries and gardens or may be designed or managed features such as sustainable drainage systems. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks.

1.4.2 GI plays a fundamental role in shaping places and our sense of well-being, and is intrinsic to the quality of the spaces we live, work and play in. The planning system must maximise its contribution to the protection and provision of green infrastructure assets and networks as part of meeting society's wider social and economic objectives and the needs of local communities. Taking a proactive and spatial approach, which links to wider activity being taken by local authorities to protect and provide green infrastructure, will help provide clarity around the contribution which the planning system can make. This means considering how it complements existing and future maintenance and management regimes within urban areas and contribute towards wider land management activities in rural areas to aid nature recovery, and its underpinning natural resources. This will require effective joint working and collaboration across various sectors and activities, including administrative boundaries. Establishing arrangements to promote collaboration across local authority borders will be necessary, especially where the provision of off-site compensatory land to address biodiversity loss and provide enhancement will have the greatest benefit for biodiversity and resilient ecological networks.

1.4.3 GI is capable of providing several functions at the same time and as a result offers multiple benefits, for social, economic and cultural as well as environmental resilience. The components of green infrastructure, by improving the resilience of ecosystems, can result in positive benefits to well-being including flood management, water purification, improved air quality, reduced noise pollution and local climate moderation, climate change mitigation and food production. These benefits are important in urban environments where they can facilitate health and well-being related benefits of open space, clean air and improved tranquillity, for example, as well as creating a sense of place and improved social cohesion. In addition, green infrastructure has a role in protecting local distinctiveness, providing economic benefits and social and community opportunities.

1.5 PURPOSE AND STRUCTURE OF THE STATEMENT

1.5.1 The purpose of this GI Statement is to demonstrate positive multi-functional outcomes as a result of the Proposed Development and how the step-wise approach has been applied.

1.5.2 This Statement includes an assessment which is structured around the Building with Nature standards[1]. These Standards represent good practice and are an effective prompt for developers to improve the quality of their schemes and demonstrate the sustainable management of natural resources. Using these Standards in a way which is proportionate to the nature and scale of the development proposed is a useful way of ensuring appropriate consideration in circumstances where there is an absence of a green infrastructure assessment and planned approach or relevant local or Supplementary Planning Guidance. The Standards are underpinned by an accreditation system and whenever possible, accreditation under these standards should be pursued.

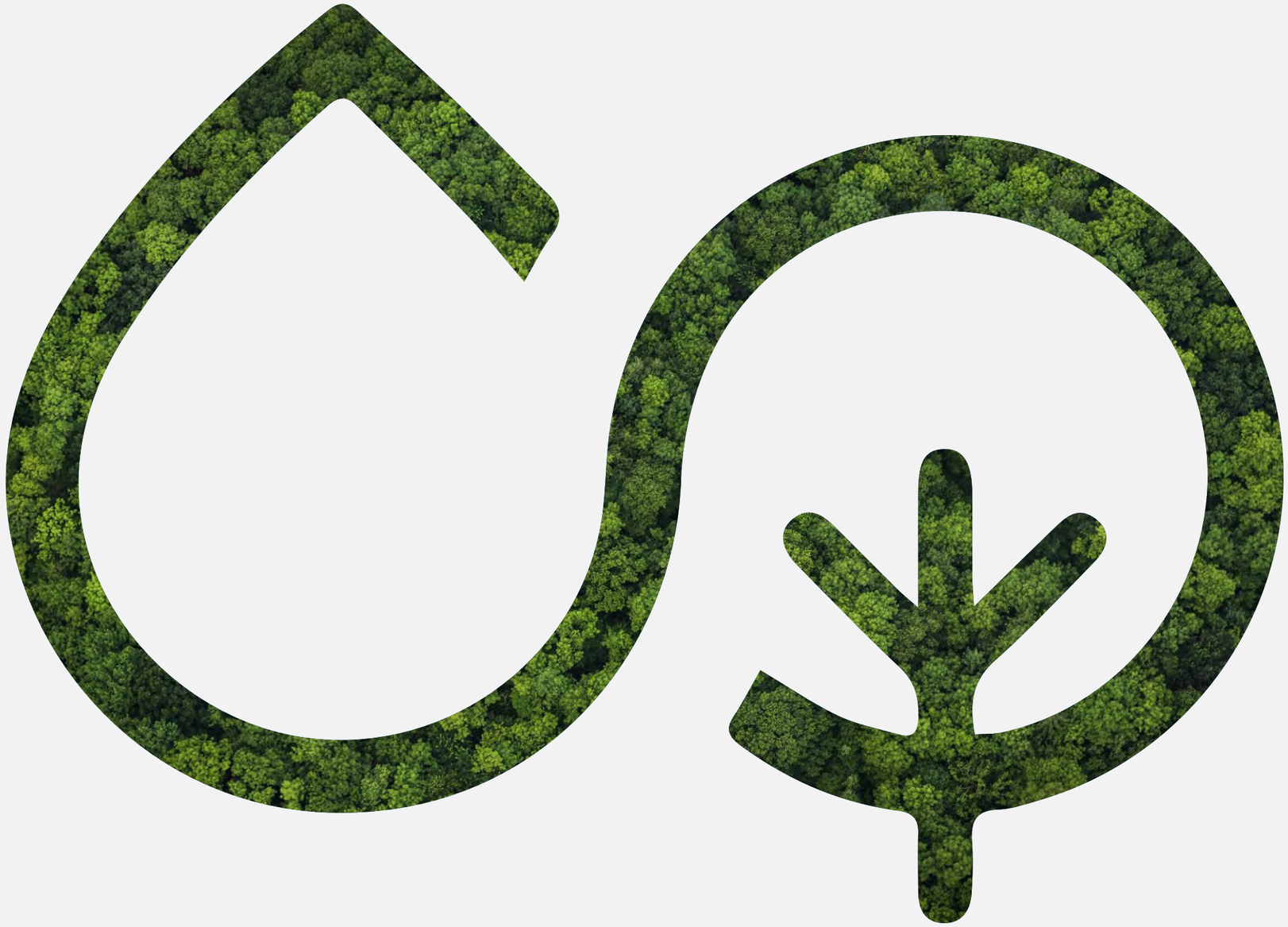
1.5.3 The structure of the Green Infrastructure Statement is as follows:

- **Chapter 1** provides a brief description of the Proposed Development, an overview of Planning policy context and purpose and structure to the Statement.
- **Chapter 2** sets out the Site Context in consideration of the immediate locality of the Proposed Development and the wider Green Infrastructure context in which it is located.
- **Chapter 3** provides an analysis of the GI in consideration of the Building with Nature Standards.
- **Chapter 4** reaches conclusions on the overall provision and design of GI.

Existing Disused Railway

Viewpoint of St Mary's Well Bay

[1] Building with Nature



02

SITE CONTEXT

2.0 SITE CONTEXT

2.1 INTRODUCTION

2.1.1 This Chapter provides an overview description of the Green Infrastructure assets surround the Site and a description of the Proposed Development Site (PDS). Full details can be found within the Planning Statement Document: (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). and further detail of habitats within the Preliminary Ecological Appraisal (PEA) Document: 10056562-ARC-AT-300-RP-E-00001. The PEA is designed to present the initial ecological baseline information and in particular identify confirmed (or potential) locations of important ecological features, distinguishing these from areas of less ecological value.

2.2 DEVELOPMENT SITE & SURROUNDINGS

2.2.1 As mentioned previously, the western section of the Site follows a disused railway line to the north of the B4267 which comprises semi natural broadleaved woodland and dense scrub. The central section of the site crosses the B4267 and is located along a narrow footpath and disused railway line within semi-natural broadleaved woodland.

2.2.2 The eastern section of the Site is on a footpath with bare ground, semi-improved neutral grassland and tall ruderal habitat. The north-eastern section of the site is within the residential estate of Cosmeston Drive. Bridges are also located along the route.

2.2.3 The topography within the Study Area is undulating in nature, ranging from approximately 10m AOD at Cosmeston Lakes Country Park, to approximately 61m AOD at the crest of a ridge between The Spinney Holiday Park and The Bay Caravan Park.

2.2.4 There are a limited number of waterbodies within the Study Area, these are listed below:

- Cosmeston Lakes, which lies approximately 500m to the north of the PDS;

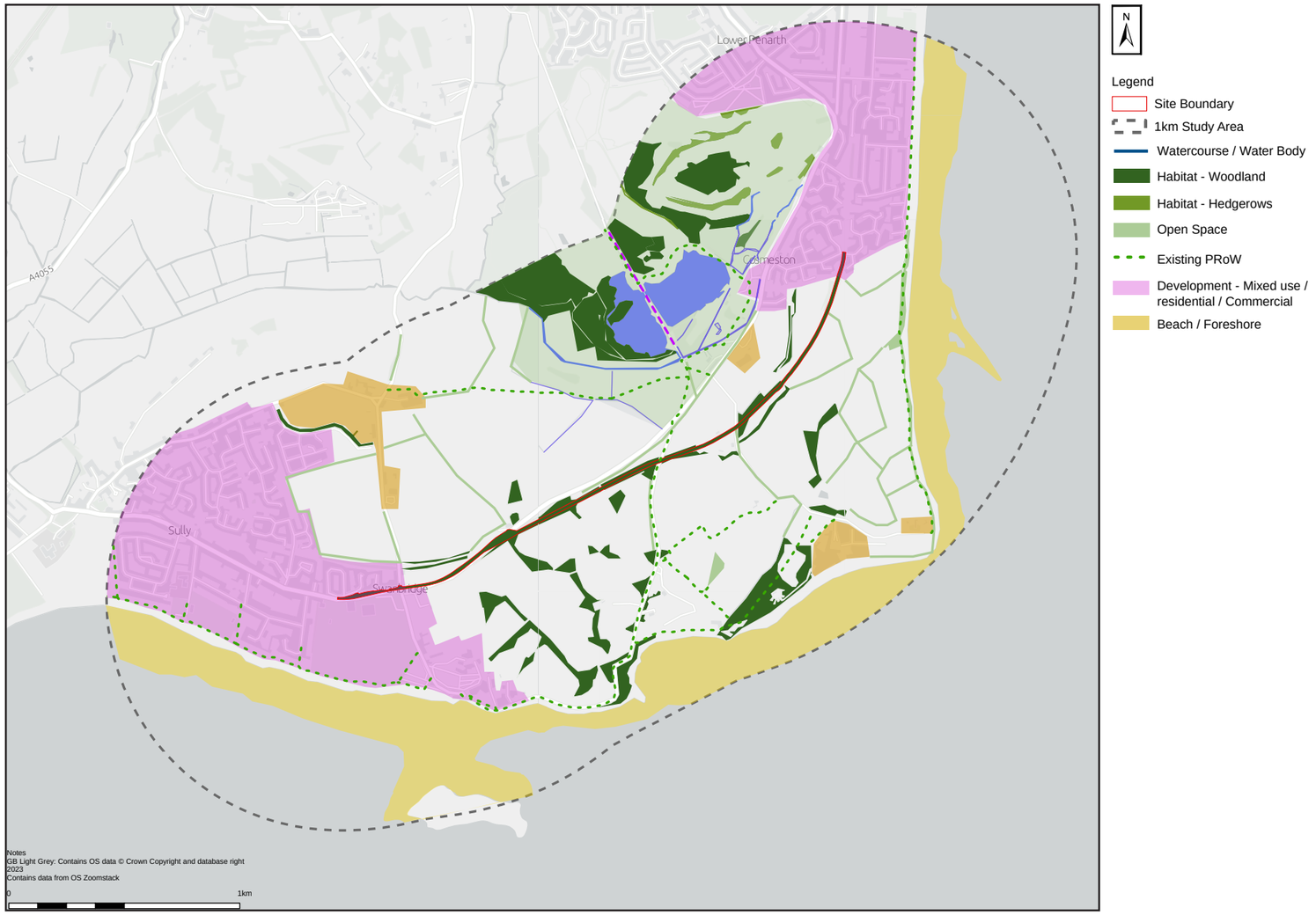


Figure 3. **Green Infrastructure Contextual Assets Plan**

- Sully Brook, which runs broadly east west through the Study Area, passing approximately 300m to the west of the PDS at its closest point; and
- A small number of un-named drainage ditches and ponds.

2.2.5 There are various Tree Preservation Order (TPO) trees or groups within or immediately adjacent to the PDS. The details of these can be found the the LVA Report (Document ref: 10056562-LVA) . The site is not directly contained within any statutory designated areas or sites.

2.2.6 There are no areas of Ancient Woodland within the PDS, however there are a number of areas of Ancient Semi Natural Woodland and Restored Ancient Woodland within the wider Study Area.

2.2.7 The western extent of the PDS comprises the existing A4067 as is passes through the urban fringe of Sully. It is characterised by residential development to the north and by playing fields and buildings associated with Sully Sports and Leisure and Sully Indoor Bowls Club to the south, with longer views towards the sea beyond. Further to the east, the route deviates from the A4067, following the route of a disused railway embankment through mature woodland, which encloses views.

2.2.8 There are a number of Public Rights of Way (PRoW) within the Study area. They are mainly located along the eastern, southern and western coastlines, with a only a few routes located in closer proximity to the north and south. These are still, however, approximately 300-500m away from the site boundary.

LANDMAP

2.2.9 LANDMAP is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated in a nationally consistent data set. It is a whole landscape approach that covers all landscapes, designated and non-designated, it covers natural, rural, peri-urban and urban areas, (excluding the Cities of Cardiff and Swansea) and it includes inland waters and coastal areas to the low water mark. LANDMAP divides Wales into discrete geographical areas known as aspect areas. For each aspect area there is a survey record of landscape information. The five LANDMAP spatial datasets are called the Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape.

2.2.10 The site lies within National Character Area NLCA 35 - Cardiff, Barry and Newport. The area forms a busy transport and development corridor. It occupies the coastal lowlands between the Severn estuary with its levels, and the edge of the South Wales Valleys with their uplands. The area includes major ports at Cardiff, Barry and Newport, and associated industrial infrastructure. There is an intensive network of busy roads and railways, including part of the M4 corridor. These urban landscapes have expanded across formerly open countryside over the last century. Yet despite all this development, the area also includes Wales' only Green belt (around Cardiff) and appealing areas of sylvan woodland, pastures and hedgerows in open countryside.

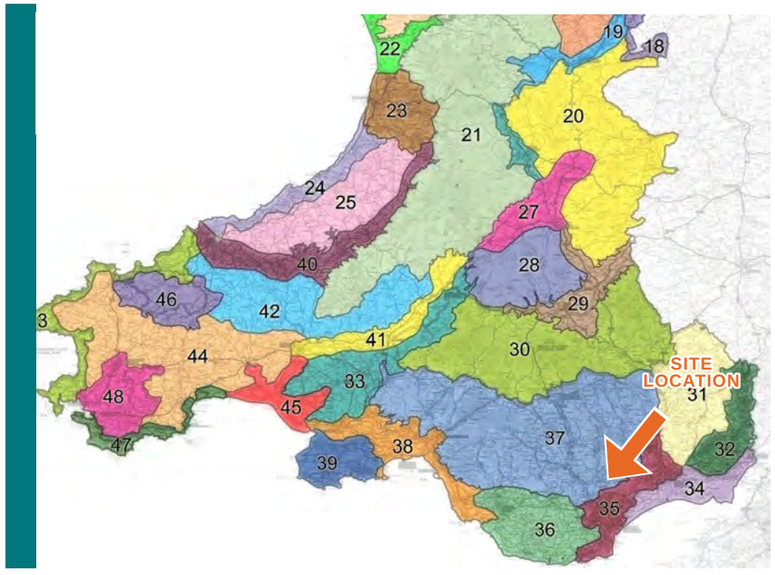


Figure 4. **NLCA35 Boundary Map**

Statutory and Non-Statutory Designated Sites

2.2.11 There are various Sites of Special Scientific Interest (SSSI) within 1km of the PDS. Penarth Coast SSSI is located 210m south fo the PDS; the Severn Estuary SSSI is located 230m east of the PDS; the Llynnoedd Cosmeston / Cosmeston Lakes SSSI is located 240m west of the PDS; and Sully Island SSSI is located 800m to the south of the PDS. There are no other statutory designated sites for nature conservation within 1km of the PDS.

2.2.12 Other environmental statutory designations include the Seven Estuary Special Area of Conservation (SAC) and the Seven Estuary Special Protection Area (SPA) both located 230m east of the site.

2.2.13 There are also a number of non-statutory designated sites located within 1km of the PDS. These include Local Wildlife Sites, Sites of Importance for Nature Conservation (SINCs) and a Wildlife Trust Reserve. The closest SINCs include Ty-r-Orsaf SINC located immediately south/south east of the PDS; Cosmeston Lakes SINC located 300m west of the site; and Lavernock Point East SINC located 300m south fo the PDS. Lavernock Point Wildlife Trust Reserve is also located 300m south of the PDS.

Local Heritage Assets

2.2.14 There are no Historic Landscapes or Historic Parks & Gardens within the 1km Study area. There are also no Scheduled Monuments within the PDS, but some present within the wider study area such as Sully Island, "Danish" Fort (950m to the south) and St Mary's Well Bay Pillbox (800m to the south). Listed Buildings are also not present within the PDS but a number are located within the wider study area including: Church of St John the Baptist (Grade II, Sully, 1100m to the west), Limekiln (Grade II, Sully, 1125m to the west) and a planned group of farmyard buidlings at Cog Farm (Grade II, Sully, 900m to the north west).

2.2.15 There are no areas of Ancient Woodland within the PDS, however there are a number of areas of Ancient Semi Natural Woodland and Restored Ancient Woodland within the wider Study Area

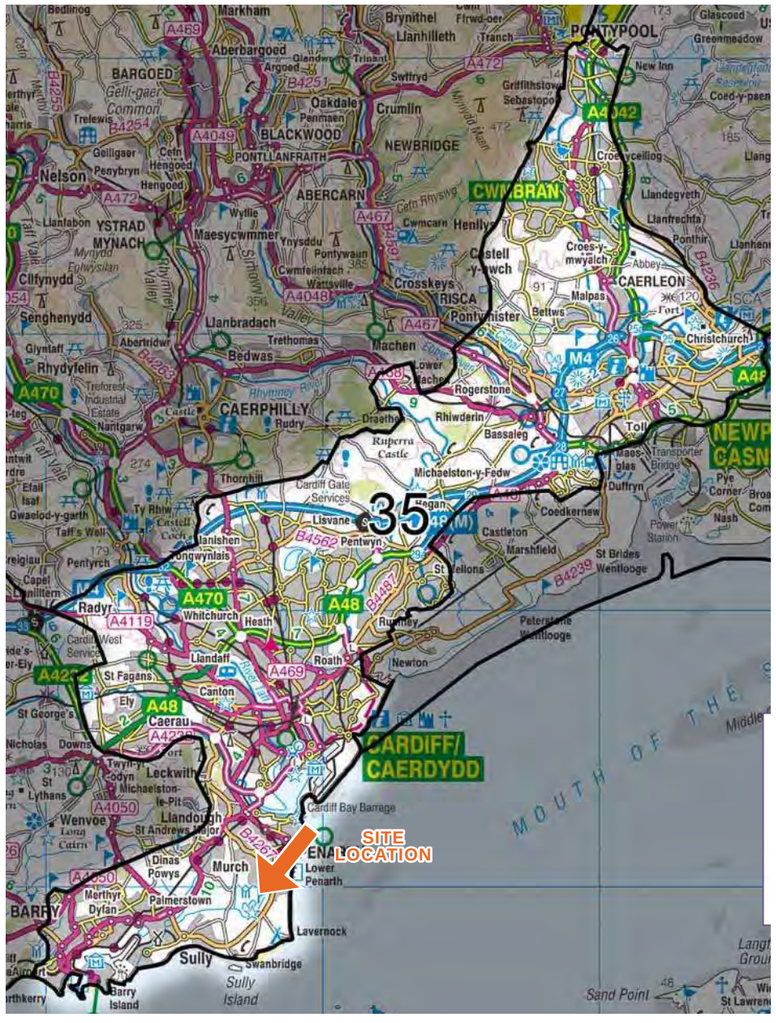


Figure 5. **NLCA35 Boundary Map**

Figure 6. **Local Designations within 1km of PDS**

Existing Habitats

2.2.16 Full details of the existing habitats and surveys are set out in the PEA (Document ref: 10056562-ARC-AT-300-RP-E-00001).

2.2.17 There are six ancient semi-natural woodland sites within 2km of the proposed development, the closest area is located at Cosmeston Lakes 300m from the site. There is also a Natural Resources Wales (NRW) Priority Area (Coastal Saltmarsh), and NRW Priority Area (Enclosed Farmland) within 2km of the site. The closest area of enclosed farmland is located adjacent to the north of the disused railway line within the western section. The coastal saltmarsh priority habitat is located almost 1km south of the central section of the site.

2.2.18 The site supports species-poor hedgerow, hedgerow with trees and scattered trees adjacent to the hardstanding footpath along the north of the B4267 (western section of the site, southern option) and near Cosmeston Drive (north-eastern section of the site). The northern option within the western section follows a disused railway line to the north of the B4267 which supported semi-natural broadleaved woodland and dense scrub. The central area of the site supported amenity grassland, semi-natural broadleaved woodland with semi-improved neutral grassland, tall ruderal vegetation and amenity grassland within the eastern section of the site.

2.2.19 **Semi-natural Broadleaved Woodland:** Small blocks of semi-natural broad-leaved woodland are located along the central section of the route with some new planting observed adjacent to the road.

Canopy tree species consists of Oak (Quercus spp), Sycamore (Acer pseudoplatanus), Ash (Fraxinus excelsior), Field Maple (Acer campestre), and Willow species (Salix spp). A footpath and disused railway line are located within the woodland creating woodland rides.

2.2.20 The dominant understorey species in the central section are Hazel (Corylus avellana) and Bramble (Rubus fruticosus agg.) with Hawthorn (Crataegus monogyna); and ground flora species include Common Nettle (Urtica dioica), Wild Teasel (Dipsacus fullonum) and Hogweed (Heracleum sphondylium subsp. sphondylium) amongst others.

2.2.21 **Scattered Broadleaved Trees:** Broadleaved trees are located adjacent to the footpath alongside the northern side of the B4267 within the western area of the site and adjacent to amenity grassland near Cosmeston Drive. Species include Ash, Oak and Sycamore.

2.2.22 **Hedgerow:** Species-poor hedgerow and a hedgerow with trees are located adjacent to the footpath along the B4267 along the western section of the site and the eastern section of the site near Cosmeston Drive. The hedgerow is Hawthorn-dominated with Bramble, Field Maple, Hazel and Ash are also present. Trees within the hedgerow include Sycamore, Ash and Hazel. Other species include Lord's-and-Ladies, Traveller's-joy, Hedge Bindweed, and Sow-thistle (Sonchus spp.).

2.2.23 **Semi-improved Neutral Grassland:** Semi-improved neutral grassland is located adjacent to a bare ground pathway along the western section of the site. Tall ruderal habitat and dense scrub are located immediately adjacent to the grassland. Species include Cock's-foot, False Oat-grass (Arrhenatherum elatius), Perennial Rye-grass (Lolium perenne), and Crested Dog's-tail (Cynosurus cristatus).

2.2.24 **Tall Ruderal** Tall ruderal habitat is located adjacent to the semi-improved neutral grassland, within the woodland understorey and a large stand was recorded within the eastern section of the site adjacent to a bridge near Cosmeston Drive. The dense stand located near Cosmeston Drive is dominated by Common Nettle and other tall ruderal habitat species include Hemp-agrimony and Rosebay Willowherb (Chamerion angustifolium).

2.2.25 **Scrub:** Dense areas of scrub are located within areas of the woodland and adjacent to the pathway within the eastern area of the site. Species include Bramble, Hawthorn and Blackthorn. There is also a small area of Bramble-dominated dense scrub on a bridge, with bare areas exposing track ballast, within the western section of the site. Creeping Cinquefoil, Herb-Robert, Common Toadflax (Linaria vulgaris) and Raspberry (Rubus idaeus) are recorded in this area.

2.2.26 **Amenity Grassland:** Regularly managed amenity grassland is located along the B4267 adjacent to the road and the footpath along the western section of the site and towards Cosmeston Drive along the eastern section of the site. Species include Annual Meadow-grass (Poa annua), Perennial Rye-grass, and Dandelion (Taraxacum agg.).

2.2.27 **Other Habitat:** Hardstanding footpaths, roads and bare ground paths are located along the north-eastern and western sections of the site. Bridges are located along the central and eastern section of the site.

2.2.28 **Protected and Notable Plant Species:** The PEA identified key notable species of flowering plant, Algae and Bryophyte present within the study area, although the habitats recorded within the site are not suitable to support any of these notable species.

2.2.29 Protected fauna and species of conservation concern also include terrestrial invertebrates, amphibians, reptiles, birds, bats, Hazel Doormouse, Water Vole, Otters and Badgers, as well as other mammals such as hedgehogs.

2.2.30 Phase 1 Habitat Plans are provided on the next page. Habitat Plans are included in the PEA (Document ref: 10056562-ARC-AT-300-RP-E-00001). as well as detailed information about existing habitats.

Woodland Habitat

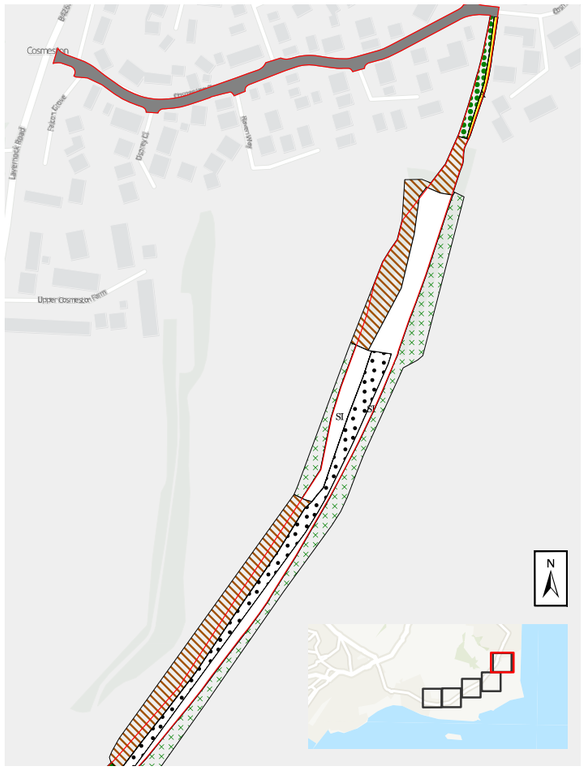


Figure 7. **Phase 1 Habitat Plan (1 of 5)**

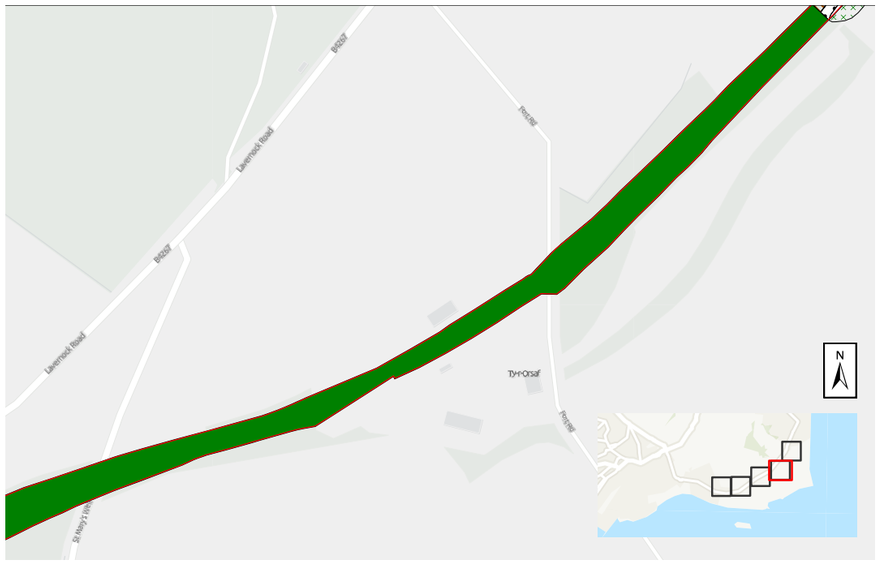


Figure 8. **Phase 1 Habitat Plan (2 of 5)**

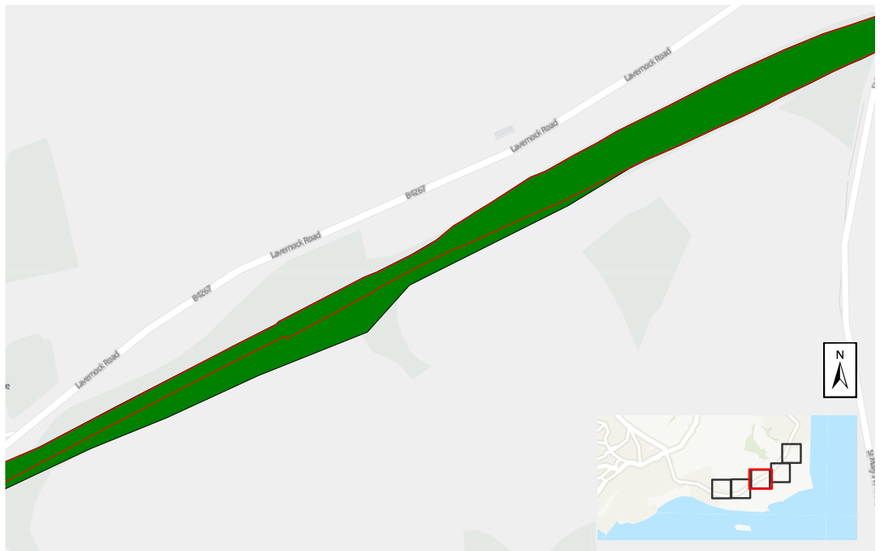


Figure 9. **Phase 1 Habitat Plan (3 of 5)**

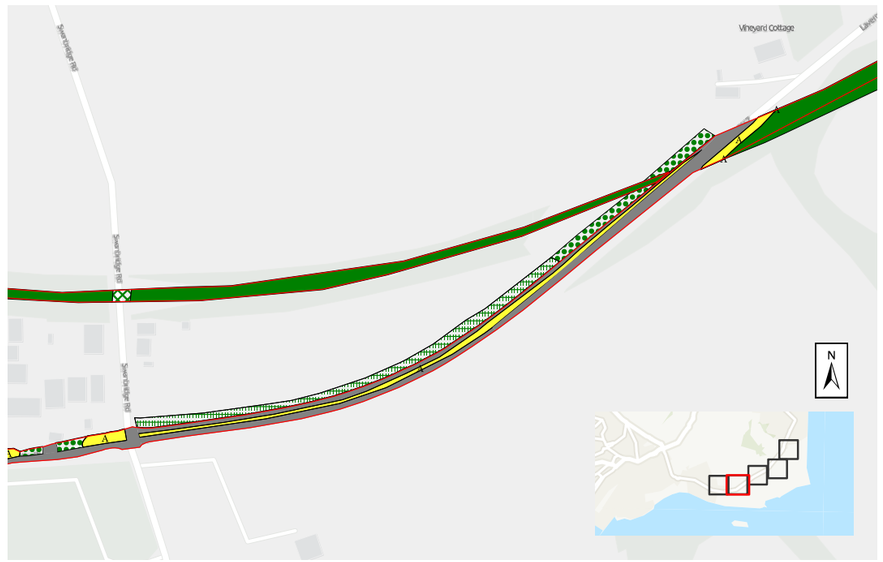


Figure 10. **Phase 1 Habitat Plan (4 of 3)**

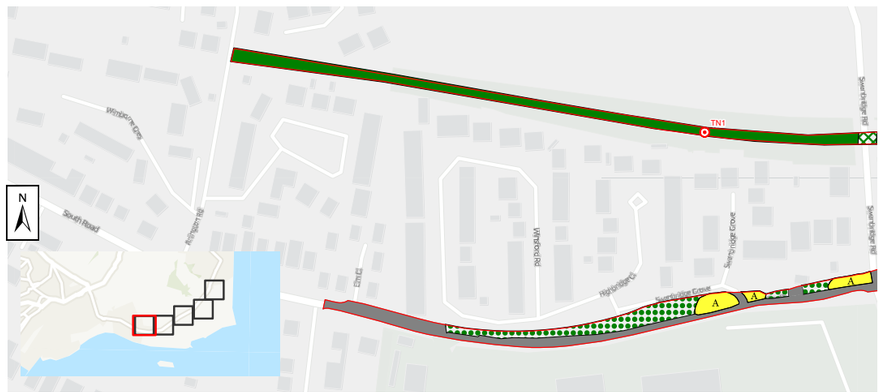
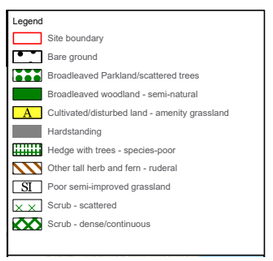


Figure 11. **Phase 1 Habitat Plan (5 of 5)**



03

GREEN INFRASTRUCTURE ANALYSIS

3.0 GREEN INFRASTRUCTURE ANALYSIS

3.1 APPLICATION OF THE BUILDING WITH NATURE STANDARDS

3.1.1 This Chapter provides an analysis of GI in consideration of the planning application material prepared for the Proposed Development. The analysis is structured using the Building with Nature (BwN) Standards. Taken together, the 12 BwN Standards define “what good looks like” by offering a set of quality standards for placemaking and place-keeping, covering the themes of Wellbeing, Water and Wildlife. The BwN Standards support cross-disciplinary decision making about GI design and delivery, implementation, construction, management and maintenance of green infrastructure in development.

3.1.2 The analysis considers each of the 12 BwN Standards against the key criteria in consideration of the design, mitigation and management arrangements for the Proposed Development bringing together the contextual analysis as a baseline starting point and analysis of the proposed GI enhancement and gains. The table set out below provides evidence referencing the key planning application documents where each of the standards can be supported with explanatory text to set out the key proposals and benefits they will bring.

3.1.3 The Landscape Strategy is provided in Appendix A for reference however all Planning documents have been reviewed as part of the desk top review and this analysis.

BwN Standards	Evidence	Analysis
Standard 1 Optimises Multifunctionality and Connectivity		
Optimises multifunctionality and connectivity within the boundary of the project and links with existing and planned for GI in the surrounding area.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA). **Soft Landscape Design** (Ref: 10056562-ARC-300-XX-DR-LA-00001)	The Proposed Development ensures that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained. Biodiversity and ecosystem resilience has been considered at the earliest possible stage of the development. The Proposed Development will maintain, protect and enhance ecological networks and features of importance for biodiversity, particular importance will be given to maintaining and enhancing the connectivity of ecological network. Vegetation clearance will be minimised as much as possible to retain the existing habitats present within and adjacent to the Proposed Development. Prior to works commencing, an ecological mitigation and enhancement plan will be in place to conserve and enhance biodiversity and promote biodiversity net gain if possible. The following general enhancement measures have been incorporated into the scheme design: • Ensure that wildlife corridors are maintained and created and that any new planting is designed to be beneficial to wildlife. • Incorporation of a sensitive lighting strategy to be considered in the design; • Tree replacement and new tree planting where feasible; • Installation of invertebrate hotels, bird and bat boxes in trees to provide additional refuge sites for these species groups; • The creation of habitat piles to provide refuge for reptiles, amphibians and hedgehogs. The landscape and ecological design and mitigation assists both the aesthetic and functional aspects of the surrounding landscape but also contribute significantly to the preservation and restoration of the natural ecosystems.

BwN Standards	Evidence	Analysis
Standard 2 Positively Responds to the Climate Emergency		
Is designed to be climate resilient by incorporating mitigation and adaptations that respond to the impacts of climate change. The green infrastructure is designed to promote low carbon behaviours and contributes to achieving zero carbon development by optimising carbon sequestration and demonstrating low carbon approaches to design, construction, and long-term maintenance.	**Construction Environmental Management Plan** - to be provided as a planning condition	In line with the UK Government's carbon reduction plan, the design of the works will aim to reduce greenhouse gas (GHG) emissions as far as practicable to help contribute towards the UK's net reduction in carbon emissions. The design helps mitigate the causes of climate change by minimising carbon and other greenhouse gas emissions associated with its design, construction and use and includes features that provide effective adaptation to, and resilience against, the current and predicted future effects of climate change. Principles: — Avoid and prevent: explore alternative lower carbon options to deliver the objectives. — Reduce: apply low carbon solutions (including technologies, materials and products) to minimise resource consumption during the construction, operation and at end-of-life; and cons truct efficiently: use techniques that reduce resource consumption over the lifecycle of the works. — Construction works will be carried out in accordance with the best practicable means, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce fumes or emissions. This will include all vehicle engines and plant motors to be switched off when not in use.

BwN Standards	Evidence	Analysis
Standard 3 Maximises Environmental Net Gains		
Is designed to actively mitigate any unavoidable harmful environmental impacts of development on soil and air quality and to minimise light and noise pollution. In addition, it delivers environmental net gains, including improving air and water quality and wherever possible includes quiet spaces for people and wildlife.	**Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Construction Environmental Management Plan** - to be provided as a planning condition **Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001).	Potential temporary impacts and mitigation measures will be detailed in the Construction and Environmental Management Plan (CEMP), to be delivered as a planning condition. Vegetation and wood chippings arising from the vegetation clearance works will be retained on Site and used to create or enhance footpaths, tracks and roadways, and to suppress/prevent regrowth of plants and trees in cleared areas. Excavated materials such as soils will be carefully stored in segregated piles for subsequent re-use on Site, wherever possible. Suspected contaminated materials will be kept separated from clean materials and sent for either treatment, recycling or recovery, where appropriate, or disposal at appropriately permitted and licensed facilities. The Proposed Scheme would not involve the use of any hazardous substances in notifiable quantities. Other design details, namely the lighting will be designed and sited as sensitively as possible to avoid visual intrusion and light spillage.
Standard 4 Champions a Context Driven Approach		
Positively responds to the local context, including the physical environment, such as landscape and urban character and social, economic, and environmental priorities, including the evidenced needs and strengths of existing and future local communities.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA). **Soft Landscape Design** (Ref: 10056562-ARC-300-XX-DR-LA-00001)	The closest environmental statutory designated site is the Penarth Coast SSSI located 210m south fo the PDS.This coastal section holds some species rich calcareous grassland and cliff-top scrub which supports a number of plant species of limited occurrence and distribution in the former counties of Mid and South Glamorgan. Other statutory designated sites in close proximity support Annex I habitats and Annex II species, as well as habitats that hold national and international importance for breeding, feeding, wintering and migration of rare and vulnerable species of birds. The local context and local character features have been used as a starting point for the proposals and incorporates them into the Proposed Development to reference, reflect and enhance the local environment. This is includes restoration and creation of native woodland and hedgerows using a variety of native species and avoidance of the use invasive non-native plant species within landscape planting. The Soft Landscape Design drawings set out the proposed planting palettes. The proposed species have been selected in consideration of existing key ecological species and invertebrates in the area, such as planting to enhance habitats and encourage species that are suitable for the locality in consideration of soil type and the ability to create a very diverse range of species across the site where conditions vary.

BwN Standards	Evidence	Analysis
Standard 5 Creates Distinctive Places		
Is integral to the project and is designed to reinforce local distinctiveness and/or create a distinctive sense of place	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA). **Soft Landscape Design** (Ref: 10056562-ARC-300-XX-DR-LA-00001-11)	The scale of the Proposed Development has been limited to that which is functionally necessary for the proposed works. Due to the distance it is not considered that there would be any adverse effects on the character and setting of locally important places such local SSSIs and Comeston Lakes Country Park which is located within 175m from the PDS. The Soft Landscape Design reinforces locally distinctive habitats and species through the inclusion of: – The proposed hedgerow includes Acer campestre (Field Maple), Prunus spinosa (Blackthorn) and Crataegus monogyna (Hawthorn) – Proposed woodland trees include native species comprising Quercus robur (English Oak), Corylus avellana (Hazel) and Salix caprea (Goat Willow) – Specimen trees include Acer campastre (Field Maple), Betula pendula (Silver Birch) and Prunus padus (Bird Cherry_)
Standard 6 Secures Effective Place-keeping		
Is subject to management arrangements that demonstrate a commitment to effectively implement, establish and maintain features at all stages of the development process. This should include details of funding, governance, maintenance, monitoring, remediation and, where appropriate, community involvement and stewardship.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001).	It is recommended that a site-specific Reasonable Avoidance Measures Method Statement (RAMS) is produced to ensure the potential for ecological impacts of the proposed remediation works are minimised. To ensure the implementation of the RAMS, an Ecological Clerk of Works (ECoW) should have oversight and be available to supervise and provide guidance to the contractors prior to and during the works, as required. While the RAMS should be produced using site and task specific information, provided below are general mitigation measures to be considered for inclusion in the RAMS: – All vegetation clearance works should be overseen by a suitably qualified ecologist performing the role of Ecological Clerk of Works (ECoW) in accordance with the RAMS. – Pre-commencement checks for protected/ notable species including amphibians, reptiles and hedgehogs should be undertaken prior to clearance works commencing. – If clearance works are undertaken between 1 March and 31 August, pre-clearance checks for nesting birds should also be completed. Should any protected/ notable species be encountered during the works, all works should cease and advice sought from the ECoW. – Removal and disposal of the invasive non-native species Rhododendron and Cherry laurel should be undertaken in accordance with best practice. The ECoW will be agreed and appointed prior to the works commencing.

BwN Standards	Evidence	Analysis
Standard 7 Brings Nature Closer to People		
Is close to where people live, work, learn, play and/or visit, and is designed to optimise use and enjoyment for everyone across the year, to maximise health and wellbeing outcomes and to promote active living for existing and future communities.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001).	The site is open to members of the public. The site will be managed to ensure good horticultural practice provides a high level of after care and landscape is aesthetically and ecologically managed.
Standard 8 Supports Equitable and Inclusive Places		
Is designed to encourage and enable everyone, including those from vulnerable or excluded groups, to use and enjoy it, to help reduce health inequalities and to build a shared sense of community and belonging.	**Construction Environmental Management Plan** - to be provided as a planning condition **Design and Access Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00002).	There is full public access to the site. Ensuring the route is safe for all users by providing separate lanes for cyclists and pedestrians, clear signage, well-marked crossings, and proper lighting. The proposition of an ATR encourages physical activity and reduces sedentary lifestyles by offering alternatives to personal vehicles, this also assists in alleviating traffic congestion by offering alternative modes of transportation which will allow ease of movement on these existing networks. The ATR will also offer improved liveability as they create more pedestrian-friendly environments, enhancing the overall quality of urban spaces, leading to more inclusive and community driven environments.
Standard 9 Delivers Climate Resilient Water Management		
Is integral to sustainable drainage using above ground features to manage flood risk, maintain the natural water cycle and improve water quality within the boundary of the project and at a catchment scale. The green infrastructure is designed to be drought resistant and wherever possible, includes measures for the retention and reuse of rainwater.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001).	The works include activities that have the potential to impact water quality within identified water resources. Impacts could be via sediment runoff, surface runoff and accidental spills of oils, chemicals and fuels. Implement working methods will be developed to protect surface water from pollution and other adverse impacts. This will be completed in accordance with relevant legislative requirements and appropriate industry guidance. The Contractor(s) will utilise good practice pollution prevention methods for activities such as storage of fuels, chemicals and oils, and vehicle washing. The Proposed Scheme would not involve the use of any hazardous substances in notifiable quantities.

BwN Standards	Evidence	Analysis
Standard 10 Brings Water Closer to People		
Is designed to integrate water, including areas of standing water, flowing water, seasonal and ephemeral features, to bring additional amenity and wildlife benefits.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA).	The site is open to the public and includes a number of Rain Gardens, which are likley to be seasonally wet, featuring native planting to maximise its value to nature conservation and mitigate for the loss of semi-natural habitats. Habitat is retained where possible and replacement planting is provided to ensure there is no net loss of biodiversity.
Standard 11 Delivers Wildlife Enhancement		
Optimises long term and climate resilient net benefits for nature, by retaining and enhancing existing ecological assets and creating locally relevant new habitats within the boundary of the project. Wildlife measures are secured at all stages of implementation and where applicable, across multiple phases of development.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA).	A Preliminary Ecological Appraisal (PEA) has been prepared to accompany the application and in consultation with the Landscape and Ecology County officers a landscape and ecological design for the Site incorporates principles of The Nature Recovery Action Plan for Wales (2020-21). This includes safeguarding species and habitats of principal importance and improving their management; restoring degraded habitats and the creation of habitats in consideration of target habitats in the area.
Standard 12 Underpins Nature's Recovery		
Creates effective links with existing and planned for ecological features and networks beyond the boundary of the project to support the creation and restoration of resilient ecological networks in the wider landscape.	**Planning Statement** (Ref: 10056562-ARC-XX-XXX-TR-ZZ-00001). **Preliminary Ecological Appraisal** (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02). **Landscape and Visual Appraisal** (Ref: 10056562-LVA).	The proposed landscaping and ecological mitigation proposals play a key role in achieving environmental sustainability as part of the Proposed Scheme. The proposals enhance the aesthetic and functional aspects of the surrounding landscape but also contribute significantly to the preservation and restoration of natural ecosystems. By incorporating these key design principles promote a balanced coexistence between the proposed development and the environment aspects of the site. The proposals ensure that target habitats are enhanced such as the creation of hedgerows using native species of local provenance and ensuring fencing is permeable to wildlife (e.g. leaving gaps to allow hedgehogs through) to provide greater connectivity throughout the development.

04

CONCLUSION

4.0 CONCLUSION

4.1 GREEN INFRASTRUCTURE SUMMARY

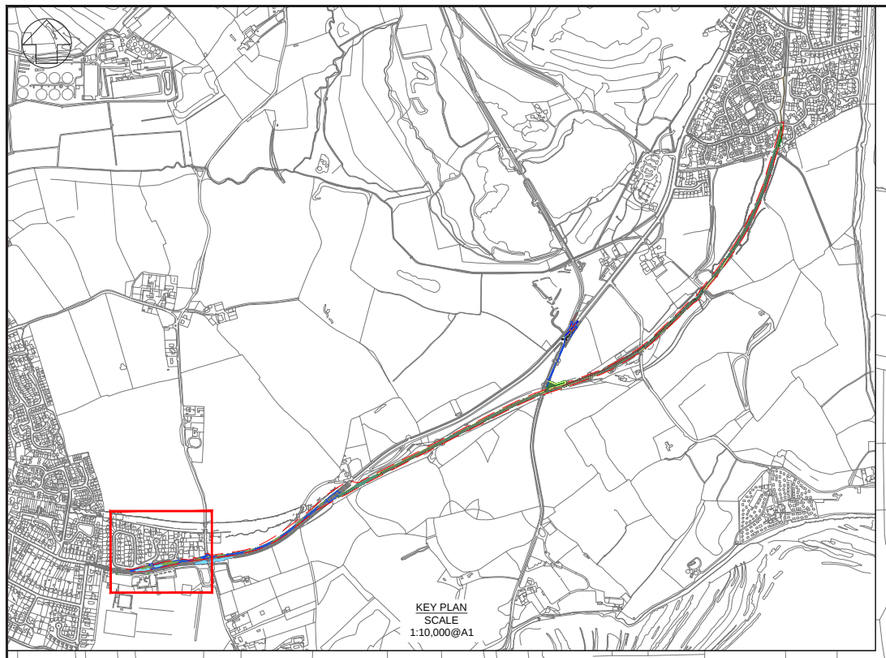
4.1.1 The Proposed Development demonstrates that the design and mitigation proposals have been designed to protect and reinforce local distinctiveness, notably in consideration of landscape character and local habitat typologies. The Proposed Development identifies important local character features as a starting point for the Green Infrastructure proposals and incorporates them into the Proposed Development to reference, reflect and enhance the local environment.

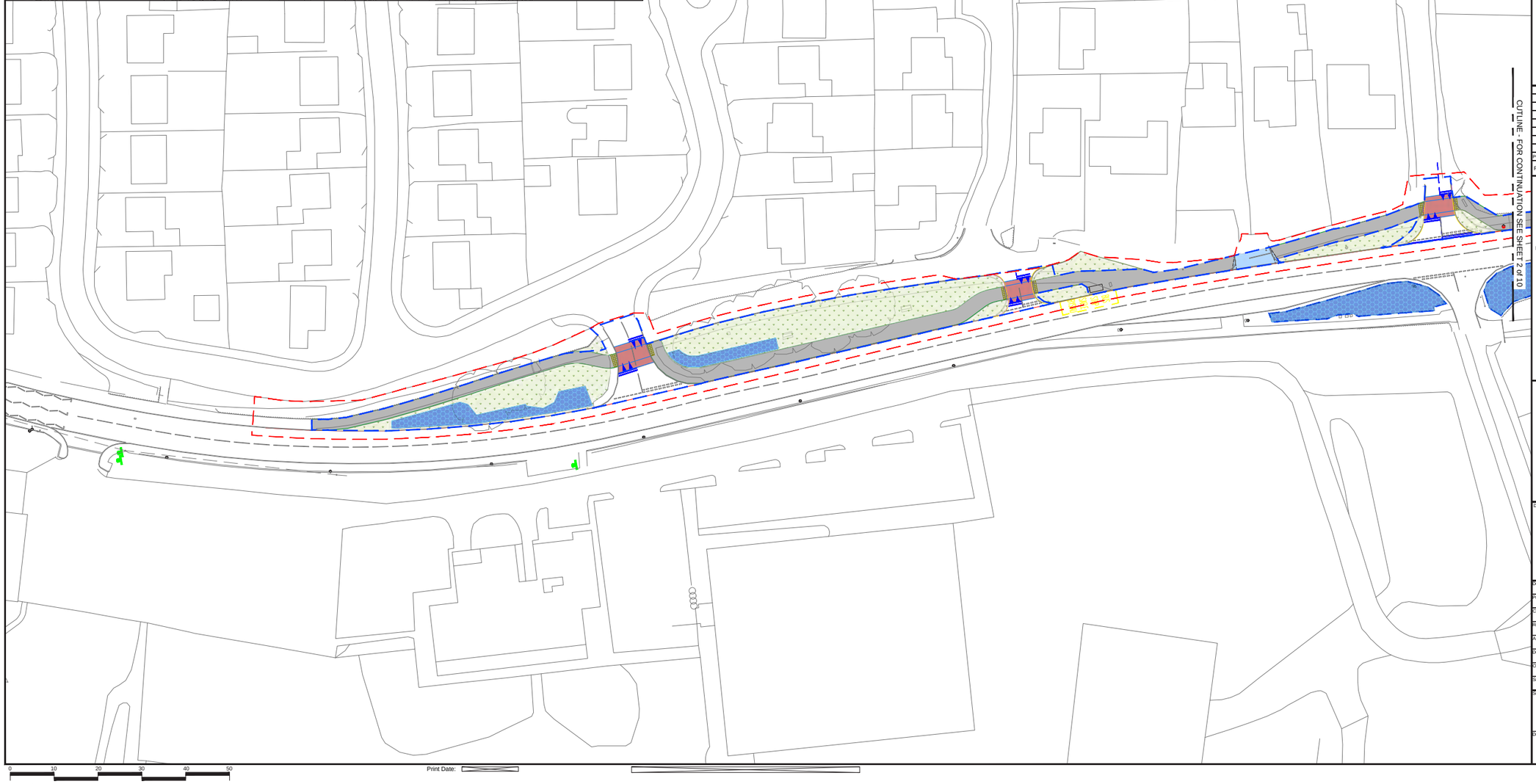
4.1.2 In consideration of the Step-wise approach the design has considered maintaining the largest possible area of existing habitat paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity. The proposals ensure that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained.

4.1.3 Given the importance and influence of local landscape character and existing Green Infrastructure assets, careful planning and design has informed an appropriate level of Green Infrastructure which embeds the benefits of biodiversity. The landscape and ecological design and mitigation assists both the aesthetic and functional aspects of the surrounding landscape but also contributes to the preservation and restoration of the natural ecosystems. By incorporating these key design principles they promote a balanced coexistence between the Proposed Development and the environmental aspects of the site.

APPENDIX A

SOFT LANDSCAPE DESIGN





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2. ALL UNITS IN METRES UNLESS STATED OTHERWISE.
3. REFER TO DRAWING 10056562-ARC-AT-110-DR-C-00003 FOR GENERAL ARRANGEMENT OVERVIEW.
4. REFER TO DRAWING 10056562-ARC-AT-072-DR-C-00001 & 00003 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWING 10056562-ARC-AT-051-DR-C-00001 FOR EXISTING UTILITIES LAYOUT.
6. THE DESIGN IS BASED ON THE ASSUMPTION THAT THE POSTED SPEED LIMIT IS REDUCED FROM 40mph TO 30mph.
7. RAIN GARDEN EXTENTS ARE INDICATIVE AT THIS STAGE. STORAGE VOLUMES & TECHNICAL DESIGN PARAMETERS TO BE DEFINED AT DETAILED DESIGN STAGE.

Legend

- Planning Application Boundary
- Highways Proposed Development Boundary

Proposed

- Active Travel Route
- Tactile Paving
- Vehicle Crossover Point
- Pedestrian Priority Crossing
- Native Deciduous Woodland
- Native Hedgerow
- Rain Garden
- Amenity Grassland
- Species-rich Grassland
- Shaded Species-rich Grassland
- Road Signage

Rev	Date	Description	Prod.	Chk.	Rev.	App.
P0.1	02.10.2024	For Planning	DW	HG	AZ	AZ

VALE of GLAMORGAN
BRO MORGANNWG

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ARCADIS

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Coordinating office:
Arcadis Cymru House
St Mellons Business Park,
Fortran Road
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Tel: 44 (0)29 2092 6700

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Soft Landscape Design Sheet 1 of 11

Designed: D.Watts	Signed D.Watts	Date 02/10/2024	
Produced: D.Watts	Signed D.Watts	Date 02/10/2024	
Checked: H.Gilroy	Signed H.Gilroy	Date 02/10/2024	
Reviewed: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
Approved: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	
Suitability Description: For Planning			

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Revision: P01.1

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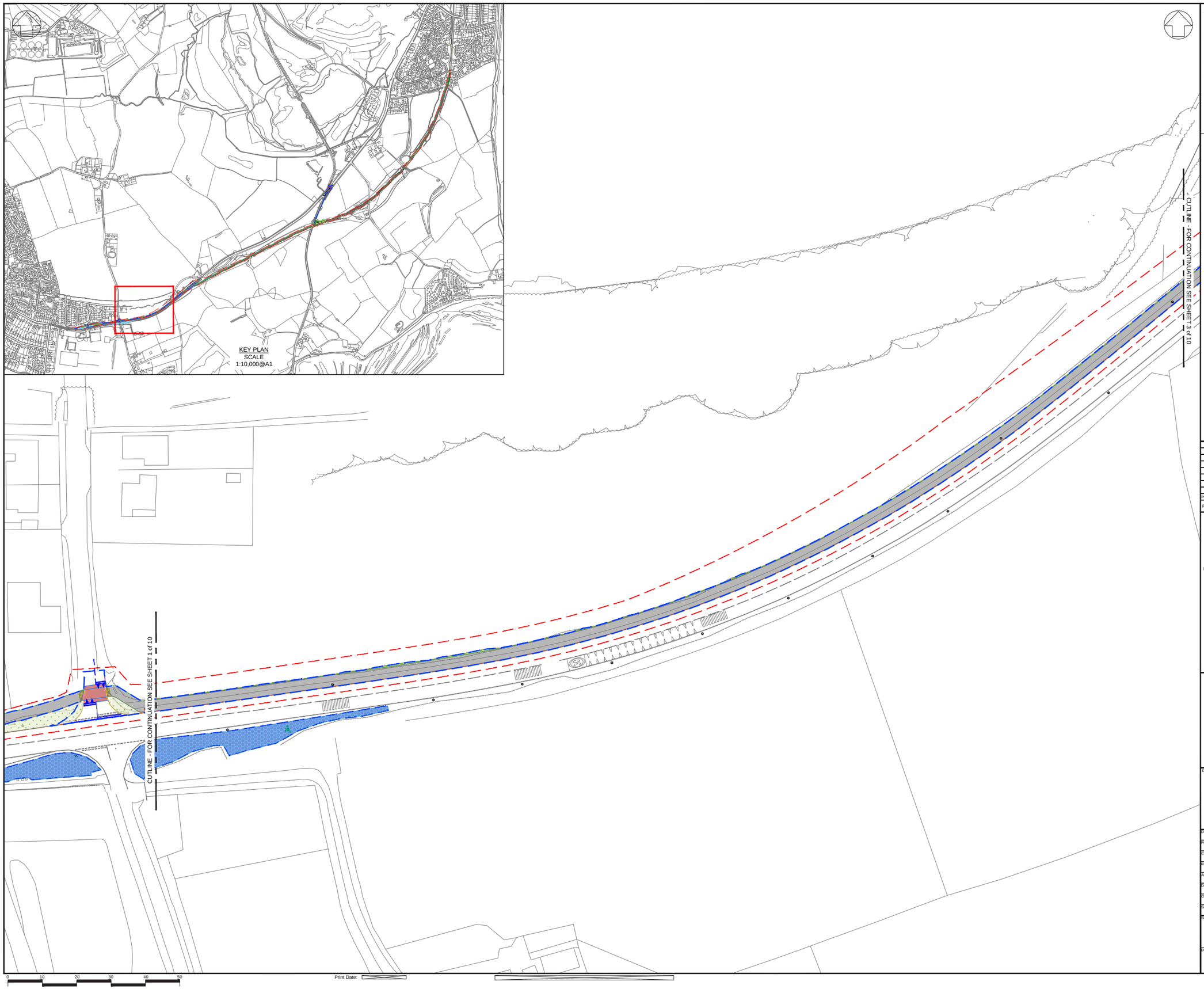

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5. REFER TO DRAWING 10056562-ARC-AT-051-DR-C-00001 FOR EXISTING UTILITIES LAYOUT.
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Soft Landscape Design Sheet 2 of 11

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Produced: D.Watts	Signed D.Watts	Date 02/10/2024	
Checked: H.Gilroy	Signed H.Gilroy	Date 02/10/2024	
Reviewed: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
Approved: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
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Suitability Description:

For Planning

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Revision:
P01.1

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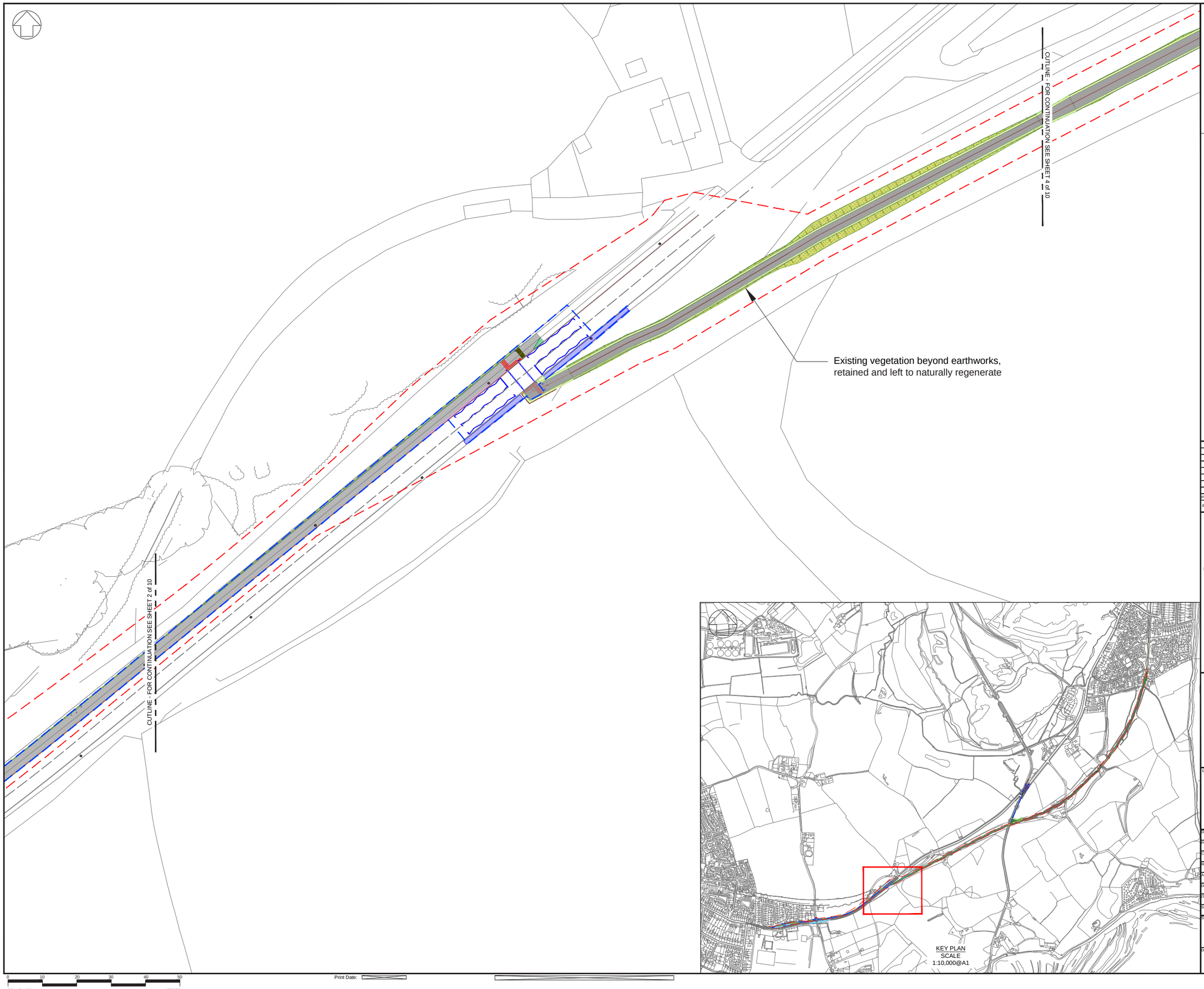

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Soft Landscape Design Sheet 3 of 11

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Revision:
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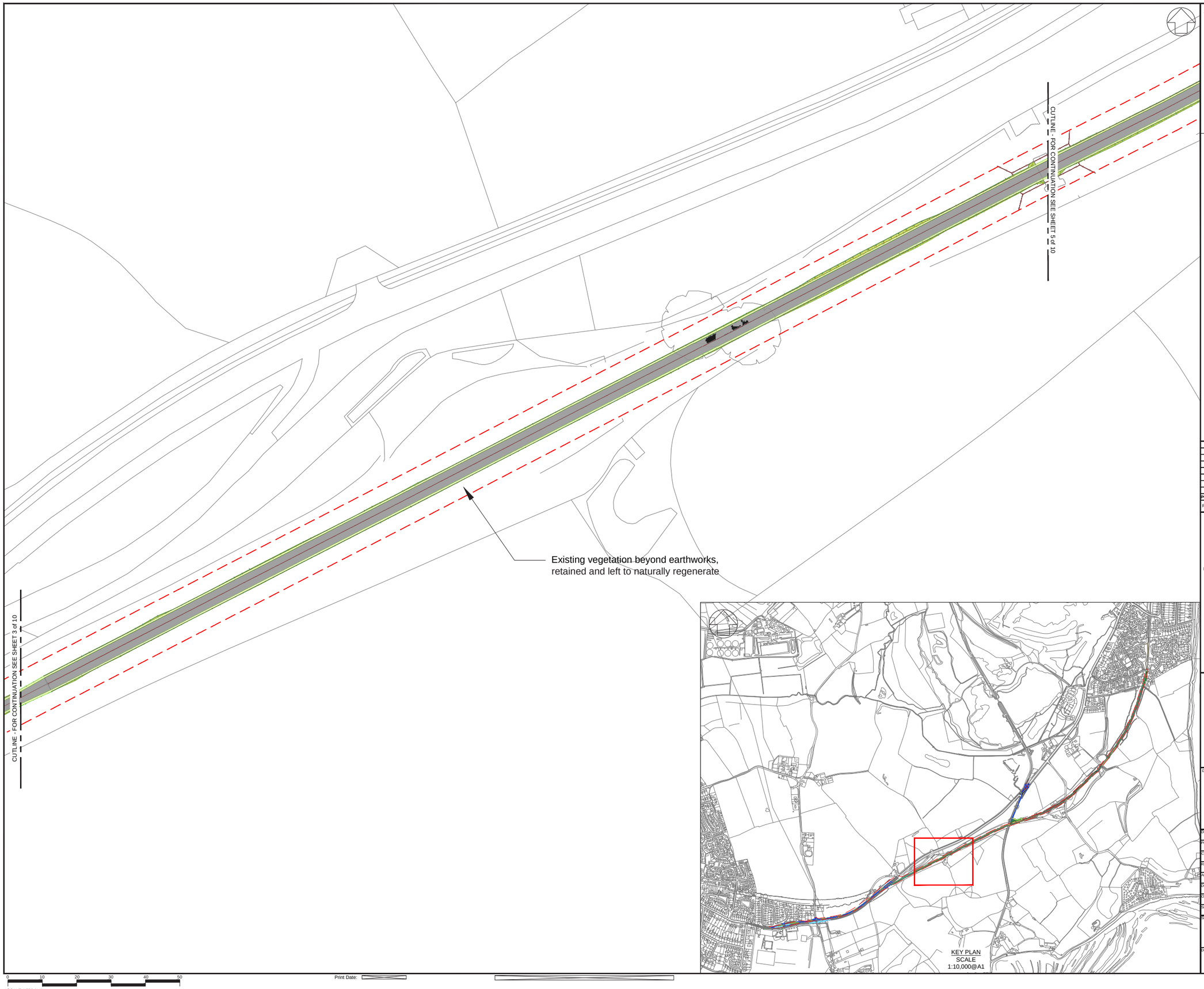

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80 Fenchurch Street
London
EC3M 4BY

Coordinating office:
Arcadis Cymru House
St Mellons Business Park,
Fortran Road
Cardiff , CF3 0EY
Tel: 44 (0)29 2092 6700

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Drawing Title:

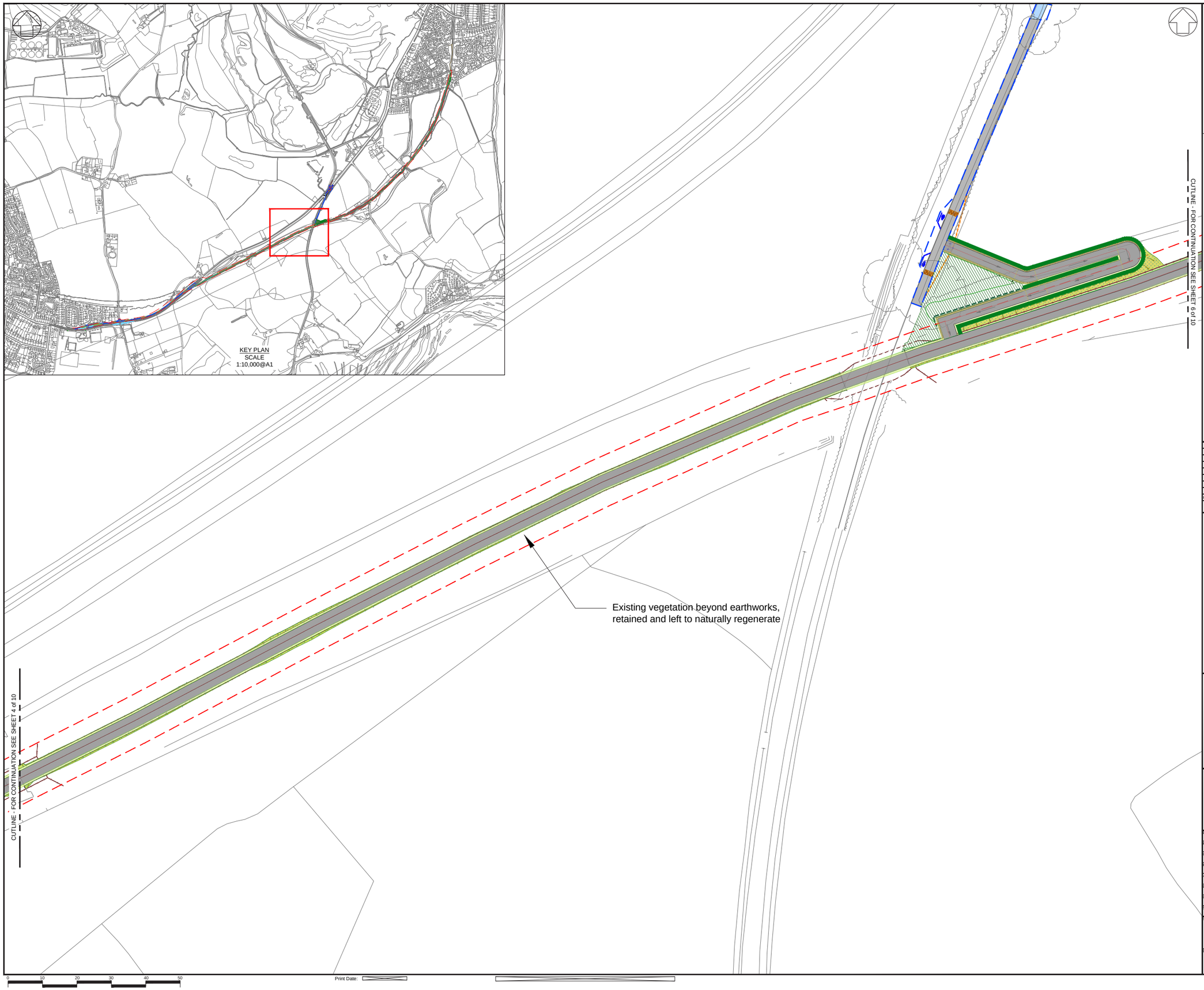
Soft Landscape Design Sheet 4 of 11

Designed: D.Watts	Signed D.Watts	Date 02/10/2024	
Produced: D.Watts	Signed D.Watts	Date 02/10/2024	
Checked: H.Gilroy	Signed H.Gilroy	Date 02/10/2024	
Reviewed: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
Approved: A.Zorlutuna	Signed A.Zorlutuna	Date 02/10/2024	
Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	

Suitability Description:
For Planning

Drawing Number: 10056562 - ARC - 300 - XX - DR - LA - 00004

Revision: P01.1



NOTES:
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3. REFER TO DRAWING 10056562-ARC-AT-110-DR-C-00003 FOR GENERAL ARRANGEMENT OVERVIEW.
4. REFER TO DRAWING 10056562-ARC-AT-072-DR-C-00001 & 00003 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWING 10056562-ARC-AT-051-DR-C-00001 FOR EXISTING UTILITIES LAYOUT.
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Legend

- Planning Application Boundary
- Highways Proposed Development Boundary

Proposed

- Active Travel Route
- Tactile Paving
- Vehicle Crossover Point
- Pedestrian Priority Crossing
- Native Deciduous Woodland
- Native Hedgerow
- Rain Garden
- Amenity Grassland
- Species-rich Grassland
- Shaded Species-rich Grassland
- Road Signage

Rev	Date	Description	Prod.	Chk.	Rev.	App.
P0.1.1	02.10.2024	For Planning	DW	HG	AZ	AZ

VALE of GLAMORGAN
BRO MORGANNWG

Project:

Sully to Cosmeston ATR

Site

Sully to Cosmeston
Cardiff

Client

Vale of Glamorgan Council
Civic Offices
Holton Rd, Barry
CF63 4RU
www.valeofglamorgan.gov.uk

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Drawing Title:

Soft Landscape Design
Sheet 5 of 11

Designed: D.Watts	Signed: D.Watts	Date: 02/10/2024	
Produced: D.Watts	Signed: D.Watts	Date: 02/10/2024	
Checked: H.Gilroy	Signed: H.Gilroy	Date: 02/10/2024	
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Approved: A.Zorlutuna	Signed: A.Zorlutuna	Date: 02/10/2024	
Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	

Suitability Description:

For Planning

Drawing Number:

10056562 - ARC - 300 - XX - DR - LA - 00005

Revision:

P01.1

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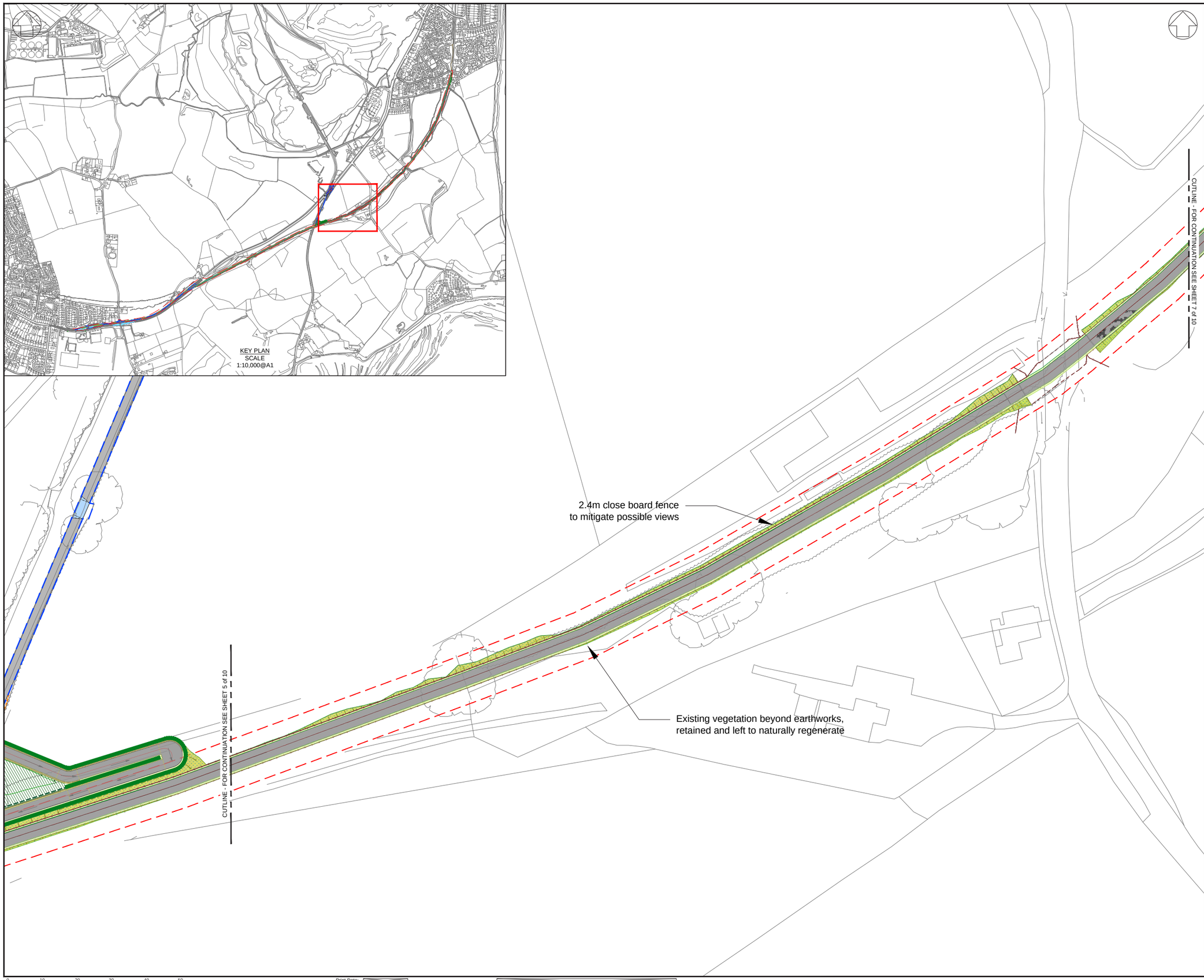
METRES

SCALE 1:500 (A1)
SCALE 1:1000 (A3)

Print Date:



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Rev	Date	Description	Prod.	Chk.	Rev.	App.
P0.1	02.10.2024	For Planning	DW	HG	AZ	AZ

VALE of GLAMORGAN
BRO MORGANNWG

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Cardiff

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Drawing Title:
Soft Landscape Design
Sheet 6 of 11

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Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	

Suitability Description:
For Planning

Drawing Number:
10056562 - ARC - 300 - XX - DR - LA - 00006

Revision:
P01.1

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SCALE 1:500 (A1)
SCALE 1:1000 (A3)
METRES

Print Date:

CUTLINE - FOR CONTINUATION SEE SHEET 8 of 10

Existing vegetation beyond earthworks, retained and left to naturally regenerate

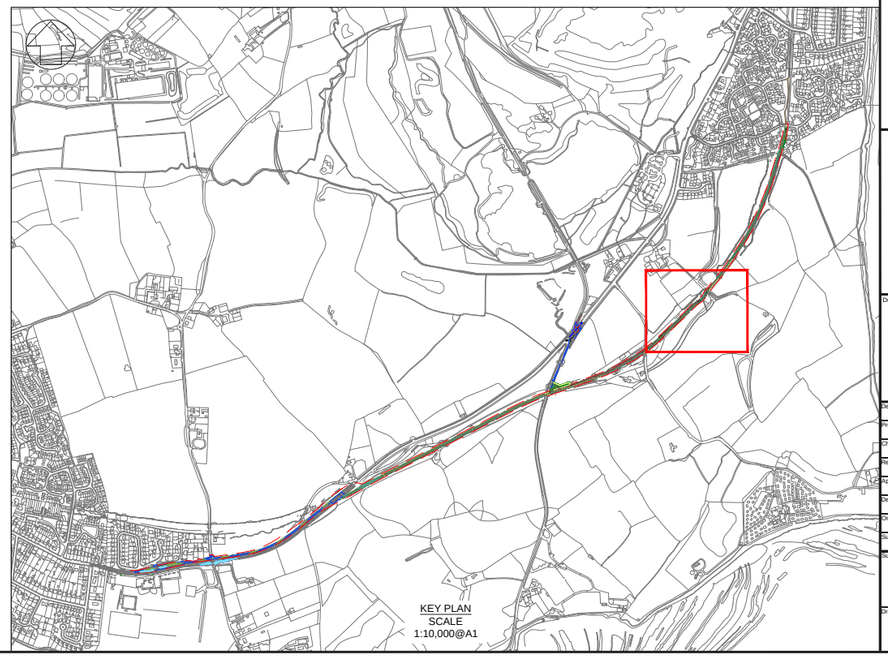
CUTLINE - FOR CONTINUATION SEE SHEET 6 of 10

0 10 20 30 40 50

SCALE 1:500 (A1)
SCALE 1:1000 (A3)

METRES

Print Date:



KEY PLAN
SCALE
1:10,000@A1

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Rev	Date	Description	Prod.	Chk.	Rev.	App.
P0.1	02.10.2024	For Planning	DW	HG	AZ	AZ

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BRO MORGANNWG

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Drawing Title:

Soft Landscape Design Sheet 7 of 11

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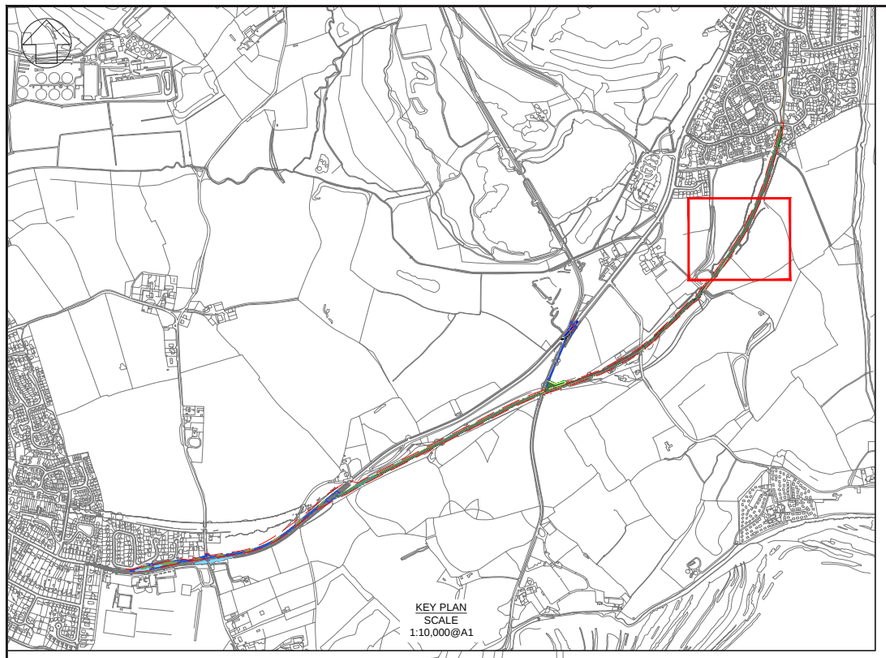
Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	

Suitability Description:

For Planning

Drawing Number:
10056562 - ARC - 300 - XX - DR - LA - 00007

Revision:
P01.1



KEY PLAN
SCALE
1:10,000@A1

CUTLINE - FOR CONTINUATION SEE SHEET 9 of 10

Existing vegetation beyond earthworks, retained and left to naturally regenerate

CUTLINE - FOR CONTINUATION SEE SHEET 7 of 10

0 10 20 30 40 50
METRES

SCALE 1:500 (A1)
SCALE 1:1000 (A3)

Print Date:

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Rev	Date	Description	Prod.	Chk.	Rev.	App.
P0.1	02.10.2024	For Planning	DW	HG	AZ	AZ

VALE of GLAMORGAN
BRO MORGANNWG

Project:

Sully to Cosmeston ATR

Site

Sully to Cosmeston
Cardiff

Client

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Drawing Title:

Soft Landscape Design
Sheet 8 of 11

Designed: D.Watts	Signed D.Watts	Date 02/10/2024	
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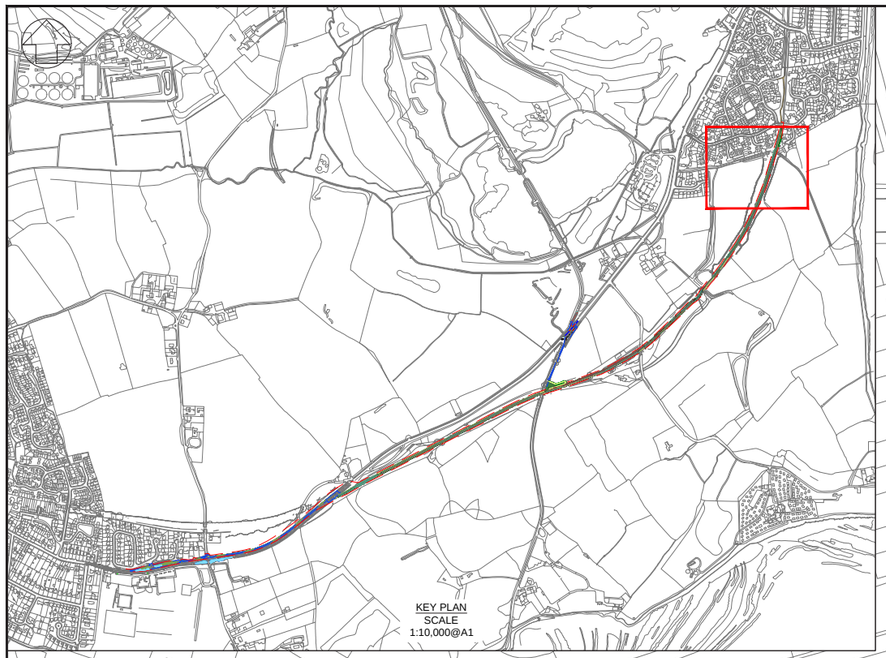
Design Stage: For Planning			
Original Size: A1	Grid: OS	Datum: AoD	
Suitability Code: S0	Scale: 1:500	Project Number: 10056562	

Suitability Description:

For Planning

Drawing Number:
10056562 - ARC - 300 - XX - DR - LA - 00008

Revision:
P01.1



CUTLINE - FOR CONTINUATION SEE SHEET 10 of 10

Existing vegetation beyond earthworks, retained and left to naturally regenerate

CUTLINE - FOR CONTINUATION SEE SHEET 8 of 10

0 10 20 30 40 50

SCALE 1:500 (A1)
SCALE 1:1000 (A3)

METRES

Print Date:

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P0.1.1	02.10.2024	For Planning	DW	HG	AZ	AZ

VALE of GLAMORGAN
BRO MORGANNWG

Project:

Sully to Cosmeston ATR

Site

Sully to Cosmeston
Cardiff

Client

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Soft Landscape Design Sheet 9 of 11

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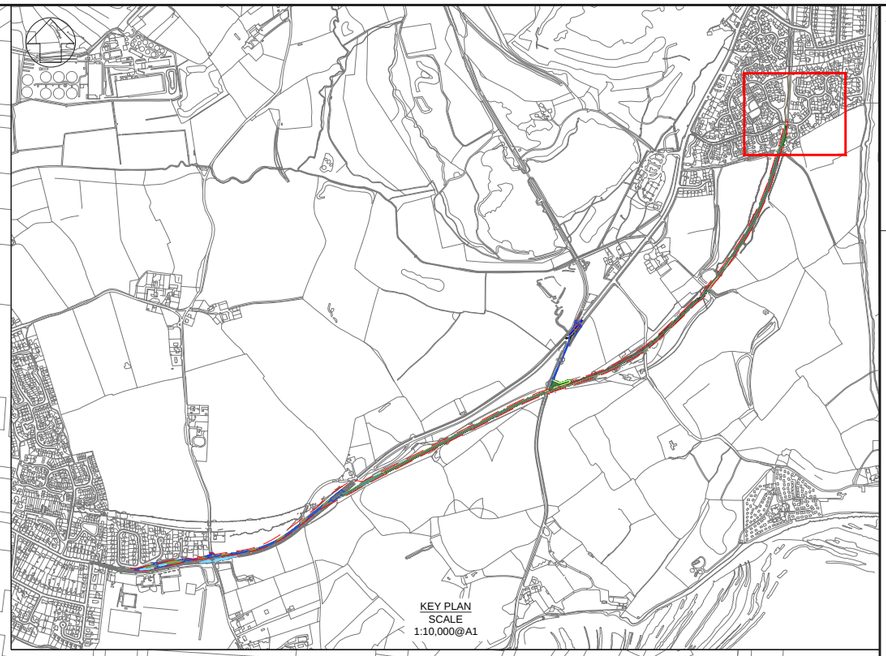
Design Stage: For Planning

Orignal Size: A1	Grid: OS	Datum: AoD
Suitability Code: S0	Scale: 1:500	Project Number: 10056562

Suitability Description: For Planning

Drawing Number: 10056562 - ARC - 300 - XX - DR - LA - 00009

Revision: P01.1



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P0.1	02.10.2024	For Planning	DW	HG	AZ	AZ

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Drawing Title:

Soft Landscape Design Sheet 10 of 11

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Design Stage: For Planning

Original Size:	Grid: OS	Datum: AoD
Suitability Code: S0	Scale: 1:500	Project Number: 10056562

Suitability Description:

For Planning

Drawing Number: 10056562 - ARC - 300 - XX - DR = LA - 000010

Revision: P01.1

0 10 20 30 40 50 METRES

SCALE 1:500 (A1)
SCALE 1:1000 (A3)

Print Date:

Proposed Plant & Grass Species:

Grasses	Sowing Rate
Emorsgate - EG22 Strong Lawn Grass Mixture (Amenity Grassland)	25g/m²
Emorsgate - EM1 Basic General Purpose Meadow Mixture (Species Rich Grassland)	4g/m²
Emorsgate - EH1 Hedgerow Mixture (Shaded Species Rich Grassland)	4g/m²

Native Woodland			
Planted at 1.5m centres			
Species	**Height cm**	**Root**	**Specification**
Acer campestre	60-80	BR	Transplant - seed raised
Betula pendula	60-80	BR	1+1; Transplant - seed raised
Corylus avellana	60-80	BR	1+2; Transplant - seed raised; branched; 3 breaks
Crataegus monogyna	60-80	BR	Transplant - seed raised
Cytisus scoparius	40-60	2L	Bushy; 5 breaks
Hedera helix	40-60	2L	Several shoots; 3 breaks
Ilex aquifolium	80-100	RB	Leader with laterals
Malus sylvestris	60-80	BR	1+1; Transplant - seed raised
Prunus avium	60-80	BR	1+1; Transplant - seed raised
Prunus spinosa	60-80	BR	1+1; Transplant - seed raised; branched; 2 breaks
Quercus robur	60-80	BR	1+2; Transplant - seed raised
Salix caprea	60-80	BR	0/1; Cutting; branched; 2 breaks
Viburnum lantana	60-80	BR	1+2; Transplant - seed raised; branched; 3 breaks

Native Hedgerow			
Planted at 0.5m centres in a double staggered row with 0.3m between rows. 5 Plants per linear m			
Species	**Height cm**	**Root**	**Specification**
Acer campestre	60-80	BR	Transplant - seed raised
Cornus sanguinea	60-80	BR	1+1; Transplant - seed raised; branched; 3 breaks
Corylus avellana	60-80	BR	Transplant - seed raised; branched; 3 breaks
Crataegus monogyna	60-80	BR	Transplant - seed raised
Euonymus europaeus	60-80	BR	1+2; Transplant - seed raised; branched; 5 breaks
Ilex aquifolium	80-100	RB	Leader with laterals
Malus sylvestris	60-80	BR	1+1; Transplant - seed raised
Prunus spinosa	60-80	BR	Transplant - seed raised; branched; 2 breaks
Rosa Canina	60-80	BR	1+1; Transplant - seed raised; branched; 3 breaks

Rain Gardens		
Species	**Root**	**Specification**
Allium 'Mount Everest'	2L	Full pot
Aquilegia vulgaris	2L	Full pot
Bergenia cordifolia	2L	Full pot
Campanula glomerata	2L	Full pot
Carex pendula	2L	Full pot
Crocosmia 'Lucifer'	2L	Full pot
Dryopteris dilatata	2L	Full pot
Dryopteris felix-mas	2L	Full pot
Eupatorium cannabinum	2L	Full pot
Helenium autumnale	2L	Full pot
Helleborus foetidus	2L	Full pot
Hosta 'Royal Standard'	2L	Full pot
Inula hookeri	2L	Full pot
Iris pseudocorus	2L	Full pot
Iris sibirica	2L	Full pot
Juncus effusus	2L	Full pot
Miscanthis sinensis	2L	Full pot
Osmunda regalis	2L	Full pot
Panicum virgatum	2L	Full pot
Rudbeckia birta	2L	Full pot
Veronicastrum virginicum	2L	Full pot
Viburnum opulus	2L	Full pot

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Drawing Title:
Soft Landscape Design
Sheet 11 of 11

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Suitability Code: S0	Scale: N/A	Project Number: 10056562

Suitability Description:
For Planning

Drawing Number:
10056562 - ARC - 300 - XX - DR - LA - 000011

Revision:
P01.1

Print Date:

Arcadis UK

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