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FIVE MILE LANE IMPROVEMENTS
PLANNING AND DESIGN & ACCESS
STATEMENT

Vale of Glamorgan Council

3512646D-HHC

Final

Five Mile Lane Improvements Planning and Design & Access Statement

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LIST OF ABBREVIATIONS

ALC	Agricultural land Classification
DAS	Design and Access Statement
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ES	Environmental Statement
EZ	Enterprise Zone
GGAT	Glamorgan Gwent Archaeological Trust
LCA	Landscape Character Areas
LDP	Local Development Plan
LED	Light Emitting Diode
LTP	Local Transport Plan
NRW	Natural Resources Wales
PIC	Personal Injury Collision
PPW	Planning Policy Wales
RIGS	Regionally Important Geological Sites
SINC	Site of Importance for Nature Conservation
SOA	Strategic Opportunity Area
SSSI	Site of Special Scientific Importance
SWTRA	South Wales Trunk Road Agency
TAN	Technical Advice Note
UDP	Unitary Development Plan
UKIC	United Kingdom Institute for Conservation
WelTAG	Welsh Transport Planning and Appraisal Guidance
WG	Welsh Government
WIIP	Wales Infrastructure Investment Plan
WSP	Wales Spatial plan

EXECUTIVE SUMMARY

The A4226 (Five Mile Lane) connects Barry at the A4050 Waycock Cross roundabout with the Sycamore Cross junction on the A48, and comprises an essential part of the highway network leading to the St Athan and Cardiff Airport Enterprise Zones. Five Mile Lane is a non-primary single carriageway A-road forming part of the local highway network within the Vale of Glamorgan Council which forms a north-south link between the A48 at Sycamore Cross and Port Road West in Barry.

The proposed Five Mile Lane Highway Improvements stem from the strategic plans of both the Welsh Government and the Vale of Glamorgan Council.

The WelTAG study undertaken by the Vale of Glamorgan Council in 2008/9 identified preferred options for the improvements to Five Mile Lane, which have been used as a basis for developing the design. The improvements to the network will improve safety, quality, reliability and resilience links development plans for the St Athan and Cardiff Airport Enterprise Zones.

The project will improve the present road to modern DMRB highway standards, addressing poor visibility, curves that are too tight and narrow width. This will be done by a combination of online improvements to Five Mile Lane and construction of a new road alignment that bypasses the more winding central section of the existing road. The Scheme will make use of the existing and already upgraded highway immediately off the A48 at Sycamore Cross and then go offline at a point about 1.5km south, following a southerly course for about 4km, before re-joining the existing road just north of the River Waycock Bridge, about 1.1km north of the Waycock Cross. Minor intersection upgrade works will also be undertaken at the junction of the A48 and Five Mile Lane at Sycamore Cross.

The proposed alignment will be constructed on a combination of earthworks and 'in cutting'. The route will be a 7.3m wide single carriageway with 1m hardstrips, making the total carriageway 9.3m wide except for the carriageway section approaching Waycock Cross junction, which will be 7.3m wide due to the absence of hardstrips. A 2.5m wide verge would be located on west side of the on-line road widening for a proposed cycleway / footpath. The Scheme will allow a 60mph speed limit to be maintained from Sycamore Cross down to the Hawking Centre, upon which it will revert to 40mph for south-bound traffic, and then 30mph on the approach to Waycock Cross.

The Scheme is subject to an Environmental Impact Assessment (EIA) and an Environmental Statement (ES) has been prepared in support of the planning application. This planning and design and access statement has been prepared to describe the Scheme, its evolution through the design process and sets out an analysis of its impacts and effects.

The Scheme has a number of specific objectives including increasing strategic connectivity, reducing the accident rate of the current highway and assisting in the economic regeneration of the wider area, specifically the Cardiff Airport and St Athan Enterprise Zones.

It is considered that the Scheme offers a number of benefits in respect of the economy, connectivity and highway safety in particular and that it complies with planning policy and the goals and objectives of the Vale of Glamorgan Council and the Welsh Government.

1 INTRODUCTION

1.1 Overview

1.1.1 This Planning and Design & Access Statement has been prepared by Parsons Brinckerhoff on behalf of the Vale of Glamorgan Council in respect of the proposed scheme to improve the A4226 Five Mile Lane west of Cardiff and north west of Barry, between Waycock Cross and Sycamore Cross (the Scheme) (see Figure 1.1).

1.1.2 The Vale of Glamorgan is working with the Welsh Government to improve links from Cardiff to Cardiff International Airport and the St Athan Enterprise Zones.

1.1.3 In the five year period from January 2009 to December 2013 there was one serious accident and eleven slight accidents recorded along Five Mile Lane, four slight accidents at Sycamore Cross and three slight accidents at Wycock Cross.

1.1.4 The route currently fails to meet appropriate highway standards for a 60mph road. In order to meet the aim to create a strategic route to the St Athan and Cardiff Airport Enterprise Zones, there is the need to undertake a number of improvements to upgrade the existing highway.

1.1.5 Vale of Glamorgan Council has endeavoured to improve safety on the road through the introduction of speed limits (which the Safety Camera Partnership enforce with a static camera), re-surfacing, improved signage, lighting, and solar powered LED cats eyes. However, the road still contains a number of sharp bends, has substandard forward visibility and is too narrow in places for two large vehicles such as farm traffic, lorries or buses to pass. Along most of its length the speed limit is 40 miles per hour and overtaking is not allowed.

1.1.6 Pedestrians, cyclists and equestrians are not catered for in the main. Those who do use the route are effectively doing so at considerable risk to themselves and others.

1.1.7 In January 2011, Soltys Brewster Consulting published an Interim Scheme Assessment Report on behalf of the Vale of Glamorgan Council, which examined the potential to improve Five Mile Lane in detail. It considered five route options.

1.1.8 Subsequently, Parsons Brinckerhoff has developed these options further to identify a preferred option which is described in Section 2 of this Report.

1.1.9 The Scheme will be subject to land acquisition through Compulsory Purchase. The anticipated land acquisition envelope (red line boundary) for both permanent and temporary land is shown on Figure 1.4. In total the Scheme requires approximately 415,600m² (41.6 ha) of land to construct the Scheme. Approximately 311,800m² (31.2 ha) of this land would be permanent land take and approximately 103,800m² (10.4 ha) required as temporary land take to enable the Scheme to be constructed i.e. areas for Site Compound and Material Storage etc.

1.1.10 The site location and Scheme alignment are shown in Figure 1.2 and the existing site layout is shown in Figure 1.3.

1.2 The Planning Application

1.2.1 The Planning Application comprises the following documents:

- Planning Statement (Section 3 of this document), which summarises the planning policies relevant to the Scheme and provides an analysis of how the Scheme responds to those policies;
- Design and Access Statement (Sections 4 and 5 of this document), which describes the Scheme and how the design has evolved;
- Environmental Statement, which presents the findings of the Environmental Impact Assessment (EIA). It considers the impacts on air quality, noise, ecology, soils and geology, cultural heritage and archaeology, community and private assets, landscape, travellers who will use the Scheme and water resources;
- Transport Assessment, which assesses the impact of the Scheme on the surrounding road network;
- Flood Risk Assessment, which assesses the impact of the Scheme in relation to flood risk.

1.2.2 The following Drawings are also submitted in support of the planning application.

- Figure 1.1 Site Location
- Figure 1.4 (A to E) Highway Alignment and Red Line Boundary
- Figure 1.5 (A to H) Landscape Proposals

1.2.3 An Environmental Impact Assessment (EIA) has been submitted in support of the Planning Application. The results of the assessment and the mitigation proposed have informed this Statement.

1.2.4 The Scheme lies within the administrative area of the Vale of Glamorgan Council, and it is therefore the determining Planning Authority.

1.3 The Proposal

1.3.1 The existing A4226 (Five Mile Lane) is a single carriageway road, in a rural location, varying in width between 6.0 and 7.3m. The route is classified and maintained as an 'A' road by the local authority.

1.3.2 Scheme requires 41.6 ha of land to construct the Scheme. About 31.2 ha of this land would be permanent land take and would form the operational footprint of the Scheme. An additional 10.4 ha is required as temporary land take to enable the Scheme to be constructed. The red line boundary for the Scheme is shown in Figure 1.4.

1.3.3 The proposals include making use of the existing and already upgraded highway immediately off the A48 at Sycamore Cross. The proposed alignment will go offline at a point approximately 1.5km from the Sycamore Cross signalised junction and follow a southerly course running parallel with the existing A4226. The proposed alignment re-joins the existing A4226 Five Mile Lane just north of the existing River Waycock Bridge.

1.3.4 The works will be undertaken by the Vale of Glamorgan Council with Welsh Government funding. Both organisations are committed to improving access to the St Athan and Cardiff Airport Enterprise Zones in order to encourage economic development and inward investment.

1.3.5

- 1.3.6 The Scheme will be 7.3m wide single carriageway with 1m hardstrips, making the total carriageway 9.3m wide except for the carriageway section approaching Waycock Cross junction, which will be 7.3m wide due to the absence of hardstrips. A 2.5m wide verge would be located on west side of the on-line road widening for a proposed cycleway / footpath. The Scheme will allow a 60mph speed limit to be maintained from Sycamore Cross down to the Hawking Centre, upon which it will revert to 40mph for south-bound traffic, and then 30mph on the approach to Waycock Cross. Street lighting will be provided on the approach to Waycock Cross only.
- 1.3.7 The route will consist of three junctions, two T-junctions and one staggered junction. All junctions will have ghost island areas, which will be DMRB compliant. This will enable through traffic to continue along the route without being hindered by right turn traffic at the junctions. Vehicles will be able to turn in both directions when leaving the junctions. Each junction will have merge and diverge tapers on and off the carriageway that will be DMRB compliant. The southbound approach to Waycock Cross will be widened to two lanes, being approximately 60m in length.
- 1.3.8 Minor improvements will also be made to the existing junction between the A48 and Five Mile Lane at Sycamore Cross. The aim of this element of the works is to provide capacity increases for the turning movements at the junction, therefore enabling the benefit of any improvements along Five Mile Lane to be maximised.
- 1.3.9 The proposals will include drainage improvement works, which are likely to require attenuation of water on land adjacent to the new alignment. The proposed alignment re-joins the existing Five Mile Lane just north of the existing River Waycock bridge. Where the alignment re-joins the Five Mile Lane mainline, it ascends at an existing gradient of 8% through Barry Woodlands Site of Special Scientific Interest (SSSI). There are no proposals to undertake wholesale amendments to the alignment through this final section into the existing Waycock Cross Roundabout. There will, however, be works undertaken to improve the drainage for the existing carriageway and potentially to re-route some statutory undertakers apparatus which is currently located on the western side of Five Mile Lane, flanking the SSSI.

1.4 Purpose of the Statement

- 1.4.1 This Planning and Design & Access Statement provides a description of the proposed Scheme and its surroundings and a review of relevant planning history. It also demonstrates the Scheme's compliance with national and local planning policy and outlines how the guidelines set out in Technical Advice Note (TAN) 12 (Design 2014) have been followed to develop the Scheme. Furthermore, this Statement outlines consultation that has been undertaken to date to inform the design of the Scheme and the Environmental Impact Assessment.

2 SITE AND SURROUNDINGS

2.1 Vale of Glamorgan

2.1.1 The Vale of Glamorgan is an attractive and productive lowland landscape on the north coast of the Severn estuary and Bristol Channel. The county is bordered by the large urban centres of Cardiff to the east and Bridgend to the west. The M4 lies to the north and the Severn estuary forms the southern boundary of the county. Approximately 85% of the Vale of Glamorgan is agricultural land. The Scheme is set within this agricultural landscape, which primarily comprises improved sheep-grazed pasture and arable land separated by well managed native hedgerows and scattered trees.

2.1.2 There are three broad visual landscape character types within the Vale of Glamorgan; the Rural Vale; the South East Developed Vale; and the Coast. The Rural Vale is further divided into the North Rural Vale and the South Rural Vale, divided by the A48 Roman Road. Five Mile Lane forms a broad boundary between two variations of the South Rural Vale connecting to Barry within the South East Developed Vale. Although the landscape has been classified into broadly homogenous units, or Landscape Character Areas (LCAs), the landscape displays the following common characteristics across the study area:

- Land cover and landscape pattern are closely related to elevation and topography;
- The main land use is pastoral agriculture; and
- Landscape trends relate to changing agricultural practices (removal of hedgerows to create larger fields or to replace with fences) and small scale infilling (new dwellings around existing farmsteads).

2.1.3 The Vale of Glamorgan is of geological interest as it is the only place in Wales where Jurassic strata can be seen on land. However, there are no geological SSSIs, RIGS or quarries within the study corridor.

2.1.4 The setting of the existing site and surrounding area is shown on Figure 1.3.

2.2 Application Site

2.2.1 The A4226 (Five Mile Lane) connects Barry at the A4050 Waycock Cross roundabout with the Sycamore Cross junction on the A48, and comprises an essential part of the highway network leading to the St Athan and Cardiff Airport Enterprise Zones. Five Mile Lane is a non-primary single carriageway A-road forming part of the local highway network within the Vale of Glamorgan, which forms a north-south link between the A48 at Sycamore Cross and Port Road West in Barry.

2.2.2 Nearby habitat includes blocks of broad-leaved woodland and hedgerows. Between the River Waycock and Waycock Cross these fall partly within the Barry Woodlands SSSI. The existing alignment bisects two such blocks of this woodland.

2.2.3 Protected species are considered likely to be in close proximity to the Scheme. These include amphibians, reptiles, birds, bats, dormice, water voles, aquatic invertebrates and the riverine habitats of the River Waycock. These species are potentially of high value.

- 2.2.4 A variety of archaeological assets and historic landscapes are located in the vicinity of the Scheme. These cultural heritage assets include a buried Roman Villa and an identified Historic Landscape Character area.
- 2.2.5 Five Mile Lane passes over the River Waycock and 50m to the west of the source of the Moulton Brook. It crosses a continuous channel of water that flows from Ffynnon Whitton Mawr into Ford Brook, and passes over/adjacent to other smaller culverted tributaries and drains within the Waycock catchment.
- 2.2.6 The existing road extends across the Waycock Valley and its associated flood risk areas. These are defined as Zones B and C2 on the Development Advice Maps associated with TAN 15 - Development and Flood Risk (July 2004). The greatest risk to the existing road occurs at the crossing over the River Waycock where approximately 500m of road is indicated to lie in Zones B and C2. Smaller areas of land adjacent to the road are indicated to lie in Zone C2, along the routes of Moulton Brook and Ford Brook.
- 2.2.7 The draft River Basin Management Plan for the Waycock indicates that it is included within the river basin District of Western Wales, in the Ogmere to Tawe management catchment. The current ecological quality in the River Waycock is 'moderate' and the predicted ecological quality for 2015 is also 'moderate' in accordance with the Water Framework Directive.
- 2.2.8 Along the route of Five Mile Road the bedrock is primarily classified as Secondary A aquifer with areas of Secondary B aquifer along the alignment of existing watercourses. Bedrock to the north of the study area by Bonvilston is classified as Secondary (undifferentiated) and Principle aquifer.
- 2.2.9 Groundwater vulnerability maps indicate that the overlying soils along Five Mile Lane have low, intermediate and high leaching potential. The soils overlying the Principle aquifer in the north of the study area are classified as having intermediate leaching potential.
- 2.2.10 There are ten consented discharges within 1km of Five Mile Lane and a large number of licensed abstractions at distances ranging from 950m to 1300m from Five Mile Lane. Most of the abstracted water in the area is used for potable water supply and for industrial and commercial purposes. The majority of licensed abstractions in the Thaw catchment area are for agricultural purposes. There are no Source Protection Zones within the study area.
- 2.2.11 An Envirocheck™ Report (obtained to inform the preliminary design and EIA) indicates that the scheme corridor is predominantly underlain by interbedded limestone and mudstone of the Lower Jurassic Porthkerry Member (Blue Lias Formation). Other limestone and mudstone formations have been identified underlying the study area, including the Gully Oolite Formation and the Lavernock Shale Formation. Superficial deposits are present locally within the study corridor, comprising glacial till in the northern section (by Sycamore Cross) and fluvial deposits comprising alluvium and alluvial fan deposits in the southern section (surrounding the route of the River Waycock).
- 2.2.12 Nearby community facilities include the Amelia Methodist Trust Farm (Whitton Rosser Farm), located to the west of Five Mile Lane. The Farm is open to the public with no admission charge. The volunteer charity supports adults with learning difficulties and disadvantaged young people. The Welsh Hawking Centre is a visitor attraction

located close to Five Mile Lane and adjacent to the Barry Woodland SSSI. Cottrell Park Golf Club lies to the north of Sycamore Cross junction.

2.2.13 The current traffic noise and vibration level experienced on the existing road network varies depending on time of day and year, and it is likely the trends found in national traffic data would be relevant and applicable on these sections of roads. The road surface is generally in good condition and the speed limit is 40mph. Farm traffic and the road geometry serves to slow traffic below the speed limit at points along Five Mile Lane. In places, hedgerows and mature vegetation help to attenuate traffic noise.

2.3 There are two public rights of way that connect with Five Mile Lane and no existing bridleways, dedicated cycle paths, or cycling facilities along the existing road.

2.4 Planning History

2.4.1 A review of the planning application history for the site on the Vale of Glamorgan Council online records database was undertaken and the following planning application results were found:

- 2008/00199/SC2 – Road improvements, Five Mile Lane (A4226), Barry.
- 2013/00144/HR – Various side road junctions along Five Mile Lane (WITHDRAWN).
- 2014/00499/SC1 – Five Mile Lane improvement, Five Mile Lane, Barry.
- 2014/00499/SC1 – Proposed highway improvement, A226 Five Mile Lane, between Sycamore Cross and to the north of Waycock cross.

2.4.2 All of these works will be complimented by the additional proposed improvements to Five Mile Lane.

2.5 Scheme Alternatives and Preferred Option

2.5.1 A previous WelTAG Stage One Assessment (Arup, March 2012) identified five route alternatives to be considered for the Scheme. These were termed the Red, Green, Purple, Blue and Orange routes. The conclusions of that assessment, with regard to each of the five route options are summarised as follows:

- Blue route – Impacts on noise, air quality and social aspects would be beneficial or moderate beneficial. Impacts on heritage would be moderate adverse due to effects around Whitton Lodge. Impacts on the Transport Planning Objectives and vehicle travellers would be moderate beneficial;
- Purple route – Similar to the Blue route but with a moderate beneficial effect on air quality only;
- Red route – Similar to Purple route but with no moderate beneficial effects;
- Orange route – Similar to Blue route but with a significant beneficial effect on noise and vibration and a neutral effect on air quality; and
- Green route – Similar to Red route, but with a significant adverse impact on the water environment.

- 2.5.2 Following on from the WelTAG Stage One assessment, Parsons Brinckerhoff were commissioned by the Vale of Glamorgan Council to undertake another WelTAG Stage One assessment in 2013. This assessment built on the previous work completed by Arup and aimed to make the best use of the existing infrastructure within the study area. There were two route corridors given consideration. They were the A4050 Port Road and the A48/A4226 Five Mile Lane. An appraisal was undertaken to establish which of the two route corridors best matched a series of transport planning objectives and assess each route corridor to WelTAG Stage One under the headings 'Economy', 'Environment' and 'Society'. Overall, the A48/A4226 Five Mile Lane performed better than the A4050 Port Road corridor. The A48/A4226 Five Mile Lane corridor performed comparatively with the Port Road corridor in terms of 'Society', slightly worse in terms of 'Environment', and significantly better in terms of 'Economy'. It also matched more of the transport planning objectives.
- 2.5.3 It was clear from the engineering analysis of Five Mile Lane that the existing route would not be adequate as it stood. The assessment therefore took into account that the route would need to be upgraded to a suitable standard for a primary Local Authority route. The appraisal was made on the basis that the improvements would be delivered as part of this option, and not addressed at some later stage.
- 2.5.4 The WelTAG Stage One Assessment (Arup, 2012) recommended that the 'Orange' route and 'Purple' routes be designed to Wide Single standard. Using the Arup engineering design as a basis, these two routes were developed further into a single carriageway option (supported by traffic figures) that made best use of the existing Five Mile Lane and took the route offline along the more constrained sections between Blackland and Grovelands Farms and at Sutton Fach Farm. The assessment concluded that a combination of the 'Orange' and 'Purple' route was the best option overall, albeit with a few minor amendments incorporated as a result of subsequent consultations with highway authorities.
- 2.5.5 The Purple, Orange and Preferred route options are shown on Figure 2.1.
- Preferred Option
- 2.5.6 The preferred option includes making use of the existing and already upgraded highway immediately off the A48 at Sycamore Cross. The proposed alignment will go offline at a point approximately 1.5km from the Sycamore Cross signalised junction and follow a southerly course running parallel with the existing Five Mile Lane, before re-joining the existing alignment, approximately 1.1km north of Waycock Cross.
- 2.5.7 The proposed alignment will be constructed on a combination of earthworks and 'in cutting'. It will be single carriageway with 1m hardstrips, making the total carriageway 9.3 metres wide (with the exception of the carriageway section approaching Waycock Cross, which will be 7.3m wide due to the absence of hardstrips). The route will include three junctions; one staggered junction and two T-junctions located approximately 2, 3 and 3.5 km northward from Waycock Cross respectively. In order to facilitate access to the farms and properties to the east of the Scheme and to provide a safe crossing for equestrian users, an overbridge will also be constructed to the north of Sutton Fach Farm, approximately 1.9km northward along the alignment from Waycock Cross. Access to plots to the west of the existing Five Mile Lane will be maintained by retaining the existing Five Mile Lane alignment as a side road for access and connective purposes.

3 PLANNING POLICY AND SCHEME JUSTIFICATION

3.1 Introduction

3.1.1 This section reviews relevant spatial planning policy for the Scheme, and examines how the statutory adopted Unitary Development Plan, emerging Local Development Plan and other policy guidance have been taken into account in developing the principle of the Scheme. It is not the intention of this assessment to address every document that could have some bearing on the Scheme, but rather to identify those matters that are particularly relevant to assessing the compatibility of the principle of the proposed project with key elements of policy or guidance.

3.1.2 Planning policy, including transport policy has been assessed at two geographical levels: national and local. This section provides a summary of relevant national and local planning policy and describes how the proposal complies with these policies.

3.1.3 Development Plan policies have largely been considered for the assessment period up to 2026. This time period corresponds with the timetable covered by the adopted and emerging Development Plan. The weight to be attached to emerging Development Plans, which are going through the statutory process towards adoption, depends on the stage of preparation – the weight will increase as successive stages are reached and upon the degree of any conflict with the existing plan.

3.2 National Planning Policy

Planning Policy Wales (PPW) (Edition 8, 2016)

3.2.1 PPW sets out the land use planning policies of the Welsh Government (WG) and is supplemented by 21 topic based Technical Advice Notes (TANs). TANs prescribe the government's policies on various planning issues that shape the preparation of development plans. The principles and objectives of TANs prescribe the overarching national guidance for specific individual environmental topics. TANs potentially relevant to the scheme include:

- TAN 5: Nature Conservation and Planning;
- TAN 6: Planning for Sustainable Rural Communities;
- TAN 11: Noise;
- TAN 12: Design;
- TAN 15: Development and Flood Risk;
- TAN 18: Transport; and
- TAN 23: Economic Development.

3.2.2 Chapter 4 of the PPW highlights the overarching aim of the Welsh Government is sustainable development. In Wales, this means enhancing the economic, social and environmental well-being and communities, achieving a better quality of life for future generations.

3.2.3 Paragraph 4.2.2 states that the planning system provides for a presumption in favour of sustainable development to ensure that social, economic and environmental issues are balanced and integrated.

- 3.2.4 Paragraph 4.4.3 (point 12 and 13) require promotion of access to employment shopping, education, health, community and sports facilities and open and green space; improvements to transport facilities and services which maintain or improve accessibility to services and facilities, secure employment and improve safety and amenity.
- 3.2.5 Paragraph 4.11.1 requires that development provides good design and goes beyond aesthetics and include the social, environmental and economic aspects of the development, including operation and management, and its relationship to its surroundings. Paragraph 4.11.9 also states that the visual appearance, its scale and its relationship to its surroundings and context are material planning considerations.
- 3.2.6 Paragraph 5.3.1 expresses the importance of statutory designated sites making a vital contribution to protecting landscape and biodiversity. The Statutory Nature Conservation Designation in close proximity of the Scheme is the Barry Woodland SSSI. Either side of the existing Five Mile Lane are designated as non-statutory designation Special Landscape Areas (SLA), which include Nant Llamcarfan (West) and Duffryn Basin & Ridge Slopes (East). This designation is detailed in Paragraph 5.3.11 and requires necessary protection to be provided.
- 3.2.7 Paragraph 5.5.2 states that development proposals should consider environmental impact, so as to avoid, wherever possible, adverse effects on the environment.
- 3.2.8 Paragraph 5.5.9 requires an EIA for those developments which fall within Schedule 1 and 2 of the Town and Country Planning (EIA) (England and Wales) Regulations 1999 (as amended). The proposed development falls with Schedule 2 and therefore requires an EIA.
- 3.2.9 Paragraph 8.5.1 requires proposals for local road schemes to provide means to examine both the need for and alignment of the route.
- 3.2.10 Paragraph 8.7.2 requires a Transport Assessment in order to access the scale of anticipated impacts of the proposed development, or redevelopment, is likely to have. A Transport Assessment has been submitted as part of this Planning Application.
- Technical Advice Note 18: Transport
- 3.2.11 Paragraph 2.1 of TAN 18 states that an efficient and sustainable transport system is a requirement for a modern, prosperous and inclusive society. Paragraph 2.2 states that the PPW and Wales Transport Strategy both aim to secure the provision of transport infrastructure and services, which improve accessibility, build a stronger economy and improve road safety.
- 3.2.12 Paragraph 2.12 requires the consideration of planning applications to take into account statutory objectives and assessments of Air Quality Managements Areas (AQMA). The proposed development does not fall within an AQMA.
- 3.2.13 Paragraph 2.13 requires reductions in road traffic and this should be assessed as part of the transport implications of planning applications.
- 3.2.14 Paragraph 5.3 requires Design and Access Statements to accompany all planning applications.
- 3.2.15 Paragraph 9.1 details applicants to submit a Transport Assessment to the local authorities as part of applications of this nature.

3.2.16 Paragraph 9.10 states that adverse impacts associated with transport infrastructure projects, on the natural, historic and built environment should be minimised.

People, Places, Future: The Wales Spatial Plan (2008)

3.2.17 The Wales Spatial Plan (WSP) was adopted by the Welsh Government in 2004 and updated in 2008. The purpose of the Wales Spatial Plan is to ensure that what is done in the public, private and third sectors in Wales is integrated and sustainable, and that actions within an area support each other and jointly move towards a shared vision for Wales and for the different parts of Wales. The Plan identifies six sub-regions in Wales but does not define these Spatial Plan Areas. The Spatial Plan area which the scheme falls under is South East Wales 'Capital Region'.

3.2.18 The WSP encompasses the elements required to deliver sustainable development. A statutory plan, it does not form part of the Development Plan framework, but provides the context and informs the preparation of both Local Development Plan and National and Regional Transport Plan.

3.2.19 The WSP identifies three Strategic Opportunity Areas (SOA) within the 'Capital Network' of South East Wales that will provide the focus for major employment led development with potential regional benefits; St Athan is identified as an SOA site.

3.2.20 Paragraph 19.17 of the WSP recognises that "improved transport for all is central to making the Capital Region work and to the regeneration of the Valleys communities". Measures to alleviate congestion and investment to tackle transport bottlenecks have been identified as key for future economic growth.

3.3 National Transport Policy

National Transport Plan (2015)

3.3.1 The National Transport Plan is a draft transport plan based on the Wales Transport Strategy published in 2010. It explains in more detail how the policies and objectives in the Strategy will be delivered.

3.3.2 The National Transport Plan focuses on different key areas, with the following most relevant to this scheme:

- Economic growth;
- Access to employment;
- Sustainable travel and safety; and
- Access to services.

Wales Transport Strategy: One Wales – Connecting the Nation (2008)

3.3.3 This document aims to "promote a sustainable development network to safeguard the environment and strengthen the economy and social life of Wales". The document is intended to feed into and inform national strategy and the Wales Spatial Plan. It sets out the outcomes and strategic priorities for the National Transport Plan and Regional Transport Plan.

3.3.4 The strategy identified different key points, with the following most relevant to this scheme:

- Integrate local public transport with any new developments
- Improve the efficient, reliable and sustainable movement of people around and within the new development

Wales Infrastructure Investment Plan (2012)

3.3.5 The WG is responsible for planning, constructing, and maintaining all of Wales' 1000 miles of Trunk Roads and 75 miles of Motorways. The Wales Infrastructure Investment Plan (WIIP) for Growth and Jobs "sets out the WG strategic investment priorities" until 2014/15.

3.3.6 The priorities relevant to the Scheme are:

- Economic growth – addressing urban congestion and improving access to key areas
- Improving inter-modal transport links
- Delivering more efficient and economical public services
- Improving the quality of the educational estate, particularly schools

Active Travel Act (2013)

3.3.7 The Active Travel Act was introduced in November 2013 and applies to all new development within Wales. For the purposes of definition, 'active' refers to walking and cycling routes. The Active Travel Act requires the Welsh Ministers and local authorities to take reasonable steps to enhance the provision made for, and to have regard to the needs of, walkers and cyclists.

3.3.8 The following point from the document is most relevant to this scheme:

- Requiring the Welsh Ministers and local authorities, in constructing and improving highways, to have regard to the desirability of enhancing the provision made for walking and cycling.

3.4 Assessment of Scheme in relation to National Policies

3.4.1 The Scheme is considered to enhance the economic well-being of communities by enhancing access to St Athan and Cardiff Airport Enterprise Zones. The Scheme is considered to enhance the environmental well-being of communities by improving traffic safety, offering an attractive alternative to vehicular traffic away from residential properties along Five Mile Lane and the A4050 through northern Barry. The Scheme offers benefit to non-vehicular users by increasing the facilities for cyclists and pedestrians. The Scheme is therefore considered to help achieve a better quality of life for future generations in terms of living conditions, connectivity and economic sustainability, and is therefore considered to comply with objectives and policies set out in chapter 4 of PPW, TAN 18, the National Transport Plan, the Wales Spatial Plan, the Wales Transport Strategy: One Wales, Connecting the Nation, the Wales Infrastructure Investment Plan and the Active Travel Act.

3.4.2 The design of the Scheme is considered to take account of the landscape features and surrounding rural character of the site and surroundings. A number of differing solutions were assessed during the design stage. The chosen design is considered to

minimise impact on landscape and biodiversity therefore complying with the objectives set out in Chapters 4 and 5 of PPW.

3.5 Local Planning Policy

3.5.1 The relevant development plans for the Scheme include:

- The Vale of Glamorgan Adopted Unitary Development Plan 1996-2011 (UDP) (2005); and
- Emerging Vale of Glamorgan Local Development Plan (LDP) Deposit Draft (2013).

3.5.2 Table 3.1 provides a summary of the relevant policies from the Vale of Glamorgan UDP and also describes how the scheme will address these policies.

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
1	<p>Environment</p> <p>The Vale of Glamorgan's distinctive rural, urban and coastal character will be protected and enhanced. Particular emphasis will be given to conserving areas of importance for landscape, ecology and wildlife, the best and most versatile agricultural land and important features of the built heritage. Proposals which enhance these areas will be favoured.</p>	<p>The Scheme is located in a rural setting, and is surrounded by agricultural land. Part of the central section of the Scheme travels offline and as a consequence, permanently requires 27.3 ha of agricultural land take of which approximately 3.5 ha is Best and Most Versatile agricultural land. The existing highway will be retained as a cycleway route and to provide access for local users.</p> <p>The Scheme is located between two Special Landscape Areas (Nant Llancafarn and Dyffryn Basin and Ridge Slopes).</p> <p>The Scheme is located in close proximity to a number of sites/ species.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
2	<p>Environment</p> <p>Proposals which encourage sustainable practices will be favoured including:</p> <ul style="list-style-type: none"> • proposals which contribute to energy conservation or efficiency, waste reduction or recycling; pollution control; biodiversity and the conservation of natural resources; • proposals which are located to minimise the need to travel, especially by car and help to reduce vehicle movements or which encourage cycling, walking and the use of public transport; • the reclamation of derelict or degraded land for appropriate beneficial use; and • proposals which improve the quality of the environment through the utilisation of high standards of design. 	<p>The Scheme will improve access and safety along Five Mile Lane. Where possible, use of materials for construction will be reduced, through reuse, recycling or reclamation.</p> <p>The Scheme will enhance cycling and pedestrian facilities by constructing dedicated infrastructure into the development and by dedicating part of the existing highway as an advisory cycle route in a safer environment.</p>
3	<p>Transportation</p> <p>Improvements to the transportation network will consist of:</p> <ul style="list-style-type: none"> • Strategic transport schemes within and adjoining the existing urban areas of the waterfront strip of Penarth, Dinas Powys, Barry and Rhoose; • Local schemes necessary for environmental and safety reasons; and • Schemes to encourage travel by cyclists and pedestrians. 	<p>The Scheme is not described as a planned improvement in the UDP, however a primary benefit of the Scheme is to deliver safety improvements. The Scheme will also deliver improved journey times between Barry and Rhoose, and the A48.</p> <p>The Scheme will improve provision for cyclists and pedestrians.</p>
12	<p>Minerals</p> <p>A sufficient stock of stone, for both aggregate and cement production, will be protected to maintain the Vale of Glamorgan's traditional share of regional supplies. In addition, the recycling of secondary aggregates and industrial wastes will be favoured and encouraged to the maximum practicable extent as substitutes for naturally occurring minerals.</p>	<p>The Scheme is not located within an area that is identified as being protected for minerals in the UDP. However, it should be noted that the area within which the Scheme is located is identified as a Minerals Safeguarding area in the Draft LDP.</p> <p>Where possible, materials used in construction will be reused, or from recycled sources, reducing the requirement for minerals to be provided from external sources, and for minerals extraction.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
13	<p>Waste Management Development proposals which encourage sustainable principles for waste disposal based on a hierarchical approach of:</p> <ul style="list-style-type: none"> • waste minimisation / avoidance; • re-use of waste; • waste re-cycling or recovery (including waste conversion to energy); and • waste disposal land fill with minimal environmental impact. <p>Will be favoured.</p>	<p>The approach to waste management will be set out in detail in a Site Waste Management Plan developed by the Principal Contractor during construction. Measures described in this plan will ensure that where possible, materials use will be minimised, through reuse, recycling or recovery.</p>
Env1	<p>Development in the Countryside Within the delineated countryside permission will only be granted for:</p> <ul style="list-style-type: none"> • Development which is essential for agriculture, horticulture, forestry or other development including mineral extraction, waste management, utilities or infrastructure for which a rural location is essential; • Appropriate recreational use; • The re-use or adaptation of existing buildings particularly to assist the diversification of the rural economy; or • Development which is approved under other policies of the plan. 	<p>The Scheme is located in the open countryside, however it is proposed that the Scheme is identified as an allocation in Draft LDP.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
Env2	<p>Agricultural Land</p> <p>The Best and Most Versatile agricultural land (Grades 1, 2, and 3a) will be protected from irreversible development, save where overriding need can be demonstrated. Non-agricultural land or land of a lower quality should be used when developments proposed, unless such land has a statutory land scape, nature conservation, historic or archaeological designation which outweighs agricultural considerations.</p>	<p>The Scheme has been designed to minimise areas of land take over Best and Most Versatile agricultural land. Of the total 27.3ha of agricultural land permanently required for the Scheme, only 3.5ha is Best and Most Versatile Agricultural Land. This area will be required to develop the offline section of the Scheme.</p> <p>There are no detailed Agricultural Land Classification surveys available for the proposed Scheme however, the provisional Agricultural Land Classification of England and Wales 1985 indicates that the area around the proposed Scheme is a mixture of Grade 3 or 4.</p> <p>DMRB Volume 11.3.6 indicates that when a Scheme would potentially result in the loss of 20 hectares or more of Best and Most Versatile agricultural land the applicant may have to consult Natural Resource Wales. However, as the quantity of land is less than 20ha, there is no need to consult Natural Resource Wales.</p>
Env4	<p>Special Landscape Area</p> <p>New development within or closely related to the following special landscape areas will be permitted where it can be demonstrated that it would not adversely affect the landscape character, landscape features or visual amenities of the Special Landscape Area:</p> <ul style="list-style-type: none"> • Ely Valley And Ridge Slopes • Lower Thaw Valley • Upper Thaw Valley • Nant Llancarfan • Cwrt Yr Ala Basin • Duffryn Basin and Ridge Slopes • Castle Upon Alun 	<p>There are two SLAs relevant to the Scheme and which are bounded by the existing Five Mile Lane; Nant Llancarfan, and Duffryn Basin and Ridge Slopes.</p> <p>Moderate Adverse effects are anticipated within the Western Rolling Ridges and Slopes landscape character area (which forms part of the Nant Llancarfan SLA) and Upper Waycock Valley landscape character area (which forms part of the Duffryn Basin and Ridge Slopes SLA) during and within the first year following construction of the Scheme. Slight Adverse effects are anticipated on this landscape character area during operation of the Scheme.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
Env11	<p>Protection of Landscape Features</p> <p>Development will be permitted if it does not unacceptably affect features of importance to landscape or nature conservation including: trees, woodland hedgerows, river corridors, ponds, stone walls and species rich grasslands.</p>	<p>The Scheme would introduce some adverse effects where it directly impacts on the landscape, although this will reduce over time. The scale of these impacts is reduced due to the existing Five Mile Lane, which provides infrastructure through the landscape setting and forms an important component of the historic context of the landscape. In addition, the landform and existing vegetation limit the visual context of the Scheme, thus reducing the overall impact on the landscape character of the area. The proposed hedgerow and woodland planting will soften the Scheme and help integrate it into the local landscape.</p>
Env12	<p>Woodland Management</p> <p>The improvement, management and extension of woodland tree cover and hedgerows, particularly of broadleaf native species, will be favoured, especially where it:</p> <ul style="list-style-type: none"> • Makes a significant improvement of the landscape, such as on derelict land, the urban fringe or in the vicinity of major road/ rail corridors and quarries; or • It helps to diversify and extend wildlife habitats; or • It add to recreational and educational opportunities. 	<p>The Scheme will result in the loss of 0.431 ha of ancient semi-natural broad-leaved woodland, 0.016 ha of broad-leaved woodland and 0.12 ha of scrub. These losses will be mitigated through the planting of a 2.8 ha area of new woodland between Middleton Plantation and Sutton Wood, which will include the movement of woodland soil across to the planting site, and another 0.371 ha area of new woodland planted adjacent to the Scheme between Ch400m and Ch500m.</p> <p>Furthermore, 538m of hedgerow will be lost during Scheme construction. This will be replaced with 6,236m of new planted hedgerow. Planting of hedgerows will be carried out using the range of tree and shrub species that are found in the existing hedgerow network.</p>
Env14	<p>National Sites of Nature Conservation Interest</p> <p>Development likely to have an adverse effect, either directly or indirectly on the conservation value of a National Nature Reserve or a Site of Special Scientific Interest will not be permitted unless there is no alternative and it can be demonstrated that the benefits arising from the development clearly outweigh the special interest of the site. If development is permitted, appropriate conditions or agreed planning obligations will be used to secure adequate compensation or mitigation measures.</p>	<p>Within 2 km of the Scheme, there are three Sites of Special Scientific Interest (SSSI). These are the Barry Woodlands SSSI, the Nant Whitton Woodlands SSSI and the Cliff Wood –Golden Stairs SSSI. The Barry Woodlands SSSI complex is bisected by Five Mile Lane and two blocks of woodland are directly affected. The Scheme will result in the loss of 0.431 ha of this woodland. This impact will be mitigated through the planting of 2.8 ha of new woodland between Middleton Plantation and Sutton Wood. Soil from the area within the SSSI that is lost to the Scheme will also be moved across to the new area to promote the rapid establishment of native ground flora. The two other woodland SSSIs will not be affected.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>Env15</p>	<p>Local Sites of Nature Conservation Significance</p> <p>Development and land use change likely to have an unacceptable effect on a local nature reserve, a regionally important geological/geomorphological site, or a site shown to be of importance for nature conservation will not be permitted unless the reasons for the proposal clearly outweigh the local importance of the site. If development is permitted, appropriate conditions or agreed planning obligations will be used to ensure the impact on nature conservation is minimised.</p>	<p>There are 58 Sites of Importance for Nature Conservation (SINC) within 2km of the Scheme. Of these, three will be directly impacted. Impacts will include the permanent loss of 0.12 ha of scrub from SINC 222 Land North East of Whitton Rosser Farm and 0.016 ha of broad-leaved woodland from SINC 220 Land South of Blacklands Farm. They will also include the temporary loss of 0.03 ha of grassland from the western edge of SINC 336 Walters Farm under a temporary licence for construction. There will also potentially be minor impacts from air pollution, dust and disturbance to these sites during construction of the Scheme. Permanent impacts will be mitigated through the planting of 0.371 ha of woodland at Ch400 to Ch500 along the Scheme alignment. This woodland will be planted with the aim of matching the composition of woodland canopy and shrub species of the original SINC and will replace the area lost.</p> <p>The 0.03 ha of grassland temporarily lost during construction would be restored and replanted upon completion of construction activities.</p>
<p>Env16</p>	<p>Protected Species</p> <p>Permission will only be given for development that would cause harm to or threaten the continued viability of a protected species if it can be clearly demonstrated that:</p> <ul style="list-style-type: none"> • There are exceptional circumstances that justify the proposals; • There is no satisfactory alternative; • Effective mitigation measures are provided by the developer. 	<p>The Scheme is predicted to result in slight adverse effects on fish (including bullhead, European eel and brown trout), skylark, yellowhammer, kingfisher, other breeding birds, commuting and foraging bats, dormice, otters and brown hare during construction. It is also predicted to result in slight adverse effects on other amphibians (i.e. not great crested newts), reptiles, skylark, commuting and foraging bats and dormice during operation of the Scheme. All other impacts on protected species will be either neutral or beneficial. The Scheme will not threaten the continued viability of any protected species.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
Env17	<p>Protection of Built and Historic Environment</p> <p>The environmental qualities of the built and historic environment will be protected. Development which has a detrimental effect on the special character appearance or setting of:</p> <ul style="list-style-type: none"> • A building or group of buildings, structure or site of architectural or historical interest, including listed buildings and conservation area; • Scheduled ancient monuments and sites of archaeological and/or historic interest; • Designed landscapes, parks or gardens of historic, cultural or aesthetic importance <p>Will not be permitted.</p>	<p>The Scheme will not directly affect listed buildings, conservation areas or historic parks and gardens and there are no Scheduled Monuments or listed buildings within the disturbance footprint of the Scheme. However, the Scheme is likely to have a Large/Very Large or Moderate/Large adverse impact upon three known below-ground heritage assets which include remains associated with Whitton Lodge Roman villa (00382s), ring ditch (04148s) and part of an extensive Iron Age/Romano-British settlement (03121s). There is high potential for hitherto unknown buried archaeology to be present within areas of new land take, as indicated by significant evidence for prehistoric and Romano-British activity in the immediate vicinity. There is also potential for an extensive burial ground with national significance. A programme of fieldwork will be implemented to inform a mitigation strategy for a final stage of more detailed archaeological investigation of significant remains.</p> <p>It is also considered that the Scheme will have a slight adverse permanent impact upon the setting of two Scheduled Monuments (GM116 and GM117), a slight/neutral adverse impact upon one Scheduled Monument (GM613) and a moderate/large adverse impact upon one Historic Landscape (HLCA010). The effects cannot be reduced through archaeological mitigation; therefore mitigation will be provided through design and screening.</p>
Env18	<p>Archaeological field evaluation</p> <p>Where development is likely to affect a known or suspected site of archaeological significance, an archaeological evaluation should be carried out at the earliest opportunity and may be required before the proposal is determined. Detailed plans would need to reflect the conclusions of the evaluation.</p>	<p>An Archaeological Watching Brief (see Appendix 7.3) and Written Scheme of Investigation (see Appendix 7.4) has been produced in response to a request from the Glamorgan Gwent Archaeological Trust (GGAT).</p>
Env19	<p>Preservation of Archaeological remains</p> <p>Where development is permitted which affects a site of archaeological importance archaeological mitigation measures will be required to ensure preservation on site or adequate recording prior to disturbance.</p>	<p>A suitable scheme of investigation and recording for buried archaeological remains has been devised in conjunction with the Planning Archaeologist at GGAT, in order that mitigation through preservation by record can be achieved.</p>

Table 3.1 Relevant Vale of Glamorgan UDP Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
Env26	<p>Contaminated land and unstable land</p> <p>Proposals for the redevelopment of contaminated land and unstable land will be permitted where the contamination and/ or instability will be removed or reduced to a level where there is no unacceptable risk to the health and safety of those living or working on the site or nearby, to flora and fauna on the site or nearby, and to the quality of the air and water on these sites or nearby.</p>	<p>Ground investigations have not identified any contamination, nor the presence of Made Ground, with the exception of the existing Five Mile Lane embankments.</p>
Env29	<p>Protection of environmental quality</p> <p>Development will not be permitted if it would be liable to have an unacceptable effect on either people's health and safety of the environment:</p> <ul style="list-style-type: none"> • By releasing pollutants into water, soil or air either on or off site; or • From smoke, fumes, gases, dust smell, noise, vibration light or other polluting emissions. 	<p>With the implementation of a sufficient design to take into account mitigation measures, there are no predicted significant residual impacts to geology, soils and hydrogeology.</p>

Vale of Glamorgan Local Transport Plan 2015 – 2030 (LTP) (2015)

- 3.5.3 The A4226 (Five Mile Lane) is identified as a Strategic Transport Corridor in the Key Diagram within the LTP. The Scheme is identified as a priority in the LTP, and is listed as an improvement for delivery within the next 5 years. The Scheme is described by the LTP as required to *'provide off line improvements to this very busy corridor to assist with access to the strategic highway network and to the airport Enterprise Zone.'*

Draft Vale of Glamorgan Local Development Plan

- 3.5.4 Vale of Glamorgan Council is currently in the process of drafting a Local Development Plan for the County. Relevant policies are described in Table 3.2 below.
- 3.5.5 Once adopted, the Local Development Plan will provide a strategic direction to future growth and development within the Vale of Glamorgan. The current Deposit Plan draft (2013) focuses on the principles of sustainable development, particularly on environmental enhancement and improving economic productivity across the region.

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>SP1</p>	<p>Delivering the strategy</p> <p>The strategy will seek to improve the living and working environment, promote enjoyment of the countryside and coast and manage important environmental assets. This will be achieved by:</p> <ul style="list-style-type: none"> i. Providing a range and choice of housing to meet the needs of all sectors of the community; ii. Promoting a range of employment sites intended to meet the needs of the Vale of Glamorgan and the wider capital region; iii. Reinforcing the role of Barry, service centre settlements and primary settlements as providers of cultural, commercial and community services; iv. Promoting sustainable transport; v. Delivering key infrastructure linked to the impacts of development; vi. Protecting and enhancing the built, natural and coastal environment; vii. Promoting opportunities for sustainable tourism and recreation; and viii. Favouring development that promotes healthy living. 	<p>The Scheme will deliver key infrastructure, and is necessary to support future development in Barry and the St Athan and Cardiff Airport Enterprise Zones.</p> <p>The Scheme will reroute Five Mile Lane across previously undeveloped countryside however, any impacts to ecology, landscape or the built environment will be mitigated or reduced to a level where there are only minor effects.</p> <p>The Scheme will increase opportunities for safer walking and cycling.</p>
<p>SP7</p>	<p>Transportation</p> <p>Sustainable transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and promote the objectives of the South East Wales Regional Transport Plan will be favoured. Key priorities for the delivery of strategic transportation infrastructure will be:</p> <p>3. Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48 (Five Mile Lane);</p> <p>Priority will also be given to schemes that improve highway safety and accessibility, public transport, walking and cycling.</p> <p>All new developments that have a direct impact on the strategic transportation infrastructure will be required to deliver appropriate improvements to the network.</p>	<p>The Scheme is being pursued by the Vale of Glamorgan Council in support of the Welsh Government's Regional Transport Plan, which identified Five Mile Lane as requiring improvements. The Scheme will deliver improvements to journey times and safety for travellers using this route.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
SP9	<p>Minerals</p> <p>The local and regional need for the provision of a continuous supply of minerals, will be achieved through:</p> <ol style="list-style-type: none"> 1. Maintaining a minimum of 10 years land bank of hard rock throughout the plan period; 2. Favouring proposals which promote the sustainable use of minerals and encourage the use of secondary and alternative resources; 3. The safeguarding of known resources of limestone, sand and gravel where these occur outside settlements, from permanent development that would prejudice their future extraction; and 4. Safeguarding wharf facilities for the landing of marine dredged sand & gravel. 	<p>The Scheme is located within a Minerals Safeguarding Area. The section of the Scheme alignment that is constructed offline will permanently sterilise the minerals resource.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>SP10</p>	<p>Built and Natural Environment Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:</p> <ol style="list-style-type: none"> 1. The architectural and / or historic qualities of individual buildings or conservation areas; 2. Historic landscapes, parks and gardens; 3. Special Landscape Areas; 4. The Glamorgan Heritage Coast; 5. Sites designated for their local, national and European nature conservation importance; and 6. Important archaeological and geological features. 	<p>The Scheme will not directly affect listed buildings, conservation areas or historic parks and gardens and there are no scheduled monuments or listed buildings within the Scheme's disturbance footprint. However, the Scheme is likely to have a Large/Very Large or Moderate/Large adverse impact upon three known below-ground heritage assets which include remains associated with Whitton Lodge Roman villa (00382s), ring ditch (04148s) and part of an extensive Iron Age/Romano-British settlement (03121s). There is high potential for hitherto unknown buried archaeology to be present within areas of new land take, as indicated by significant evidence for prehistoric and Romano-British activity in the immediate vicinity. There is also potential for an extensive burial ground with national significance. A programme of fieldwork will be implemented to inform a mitigation strategy for a final stage of more detailed archaeological investigation of significant remains.</p> <p>It is also considered that the Scheme will have a slight adverse permanent impact upon the setting of two Scheduled Monuments (GM116 and GM117), a slight/neutral adverse impact upon one Scheduled Monument (GM613) and a moderate/large adverse impact upon one Historic Landscape (HLCA010). The effects cannot be reduced through archaeological mitigation; therefore mitigation will be provided through design and screening.</p> <p>The proposal is located between two Special Landscape Areas.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>MG16 (16 ad 2)</p>	<p>Transport Proposals Land for the following transportation schemes is allocated:</p> <p>Walking and Cycling 2. A4050 Port Road to Cardiff Airport</p> <p>Highways 16. Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48</p> <p>Highway improvement works In addition, to mitigate the impact of development on the highway network, highway improvement works in the form of corridor or junction improvement schemes will be required.</p>	<p>The entire length of the A4226 (Five Mile Lane) is identified in the plan, as being allocated for 'Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48'.</p> <p>In the South, the Scheme connects to the A4050, which is also identified in the LDP Key Diagram, and policy MG16 as being subject to improvements.</p>
<p>MG17 (4 & 5)</p>	<p>Special Landscape Area The following areas are designated as special landscape areas:</p> <p>4. Nant Llancarfan; 5. Dyffryn Basin & Ridge Slopes;</p> <p>Within the special landscape areas identified above, development proposals will be permitted where it is demonstrated they would cause no unacceptable harm to the important landscape character of the area.</p>	<p>The Scheme is located on the junction between Nant Llancarfan Special Landscape Area, and Dyffryn Basin & Ridge Slopes Special Landscape Area.</p> <p>Moderate Adverse effects are anticipated within the Western Rolling Ridges and Slopes landscape character area (which forms part of the Nant Llancarfan SLA) and Upper Waycock Valley landscape character area (which forms part of the Dyffryn Basin and Ridge Slopes SLA) during and within the first year following construction of the Scheme. Slight Adverse effects are anticipated on this landscape character area during operation of the Scheme.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>MG19</p>	<p>Sites of Importance for Nature Conservation</p> <p>Development which has an unacceptable impact on Sites of Importance for Nature Conservation (SINCs) will not be permitted</p>	<p>There are 58 Sites of Importance for Nature Conservation (SINC) within 2km of the Scheme. Of these, three will be directly impacted. Impacts will include the permanent loss of 0.12 ha of scrub from SINC 222 Land North East of Whitton Rosser Farm and 0.016 ha of broad-leaved woodland from SINC 220 Land South of Blacklands Farm. They will also include the temporary loss of 0.03 ha of grassland from the western edge of SINC 336 Walters Farm under a temporary licence for construction. There will also potentially be minor impacts from air pollution, dust and disturbance to these sites during construction of the Scheme. Permanent impacts will be mitigated through the creation of 0.371 ha of woodland at location chainage 400-500 along the Scheme alignment. This woodland will be planted with the aim of matching the composition of woodland canopy and shrub species of the original SINC and will replace the area lost.</p> <p>The 0.03 ha of grassland temporarily lost during construction would be restored and replanted upon completion of construction activities.</p>
<p>MG20</p>	<p>Development In Minerals Safeguarding Areas</p> <p>Known mineral resources of sandstone, sand and gravel and limestone are safeguarded from all forms of permanent built development as shown on the proposals map.</p> <p>New development will only be permitted in an area of known mineral resource where it has first been demonstrated that:</p> <ol style="list-style-type: none"> 1. Any reserves of minerals can be economically extracted prior to the commencement of the development; or 2. Extraction would have an unacceptable impact on environmental or amenity considerations; or 3. The resource in question is of poor quality/ quantity; and 4. The development would have no significant impact on the possible working of the resource by reason of its nature or size. 	<p>The Scheme is located entirely within a Limestone Category 2 Safeguarding area. This Safeguarding Area covers much of the Vale of Glamorgan. The Scheme also runs through a Sand and Gravel Category 2 Safeguarding area.</p> <p>The section of the Scheme which travels offline will, in effect, sterilise the natural resources affected, as it will not be possible to extract them.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>MD8</p>	<p>Environmental Protection</p> <p>Development proposals will be required to demonstrate they will not result in an unacceptable impact on people, residential amenity, property and/ or the natural environment from either:</p> <ol style="list-style-type: none"> 1. Pollution of land, surface water, ground water and the air; 2. Contaminated land; 3. Hazardous substances; 4. Noise, vibration, odour nuisance and light pollution; 5. Flood risk and consequences; 6. Coastal erosion or land stability; or 7. Any other identified risk to public health and safety. <p>Where impacts are identified the council will require applicants to demonstrate that appropriate measures can be taken to minimise the impact identified to an acceptable level. Planning conditions may be imposed or legal obligation entered into, to secure any necessary mitigation and monitoring processes.</p>	<p>The impacts associated with the potential environmental effects identified in this policy are addressed in this ES. Where necessary, mitigation is proposed which will ensure any adverse effects are mitigated, and that the Environment is protected. Mitigation measures are described within each of the environmental topic chapters.</p>

Table 3.2 Draft Vale of Glamorgan Local Development Plan Policies

No.	Policy Description and Objectives	Achievement of Policy Objectives
<p>MD9</p>	<p>Historic Environment Development proposals must protect the qualities of the built and historic environment of the Vale of Glamorgan, specifically:</p> <ol style="list-style-type: none"> 1. Within conservation areas, development proposals must preserve or enhance the character or appearance of the area; 2. For listed and locally listed buildings, development proposals must preserve or enhance the building, its setting and any features of significance it possesses; 3. Within designed landscapes, historic parks and gardens, and battlefields, development proposals must respect the special historic character and quality of these areas, their settings or historic views or vistas. 	<p>The Scheme will not directly affect listed buildings, conservation areas or historic parks and gardens and there are no scheduled monuments or listed buildings within the Scheme's disturbance footprint. However, the Scheme is likely to have a Large/Very Large or Moderate/Large adverse impact upon three known below-ground heritage assets which include remains associated with Whitton Lodge Roman villa (00382s), ring ditch (04148s) and part of an extensive Iron Age/Romano-British settlement (03121s). There is high potential for hitherto unknown buried archaeology to be present within areas of new land take, as indicated by significant evidence for prehistoric and Romano-British activity in the immediate vicinity. There is also potential for an extensive burial ground with national significance. A programme of fieldwork will be implemented to inform a mitigation strategy for a final stage of more detailed archaeological investigation of significant remains.</p> <p>It is also considered that the Scheme will have a slight adverse permanent impact upon the setting of two Scheduled Monuments (GM116 and GM117), a slight/neutral adverse impact upon one Scheduled Monument (GM613) and a moderate/large adverse impact upon one Historic Landscape (HLCA010). The effects cannot be reduced through archaeological mitigation; therefore mitigation will be provided through design and screening.</p>

4 DESIGN AND ACCESS

4.1 Introduction

4.1.1 This Section forms the Design and Access Statement (DAS) for the Scheme. It explains the design for the proposed highways improvements, and the principles and context that have influenced the preferred design approach. The DAS has been written in line with the provisions of TAN 12 (Design 2014). This Statement demonstrates how the Vale of Glamorgan has considered design and access issues, and how consultation with various stakeholders has influenced the preferred design approach.

4.2 Assessment

Physical Context

4.2.1 The physical context of the site is described in Section 2 (above).

Environmental Sustainability

4.2.2 The Scheme will improve the existing highway and provide a new off-line highway. It is acknowledged that there will be environmental impacts from the Scheme. The land take required for the off-line section of the Scheme will have an impact on landscape and biodiversity. These impacts and mitigation have been assessed in the Environmental Impact Assessment and have been explained further in the accompanying Environmental Statement (ES). It is considered that these impacts are acceptable given the benefits of the Scheme as described in this report and the accompanying ES. For example, the online widening from the Welsh Hawking Centre to the Waycock roundabout on the existing Five Mile Lane will require some clearance of the adjacent Barry Woodlands SSSI and a re-grading of the adjacent land. New woodland planting will be provided to the north-west of the SSSI to mitigate the impact of the road widening on the existing woodland.

4.2.3 Highway drainage will be provided by a series of attenuation ponds located along the length of the new road.

4.2.4 The first attenuation and balancing pond will be provided to the east of the new road and approximately 50m south of the commencement point. This will outfall to a watercourse leading to the River Waycock. This will drain the first 600m of the new highway which falls in a northerly direction.

4.2.5 The next outfall ponds are located west of the new road, approximately 1.1m south of the commencement point in the vicinity of the existing Ffynon Whitton-mawr pond. This will outfall to the Ford Brook and will drain areas of new highway located approximately 500m to the north and 400m to the south.

4.2.6 Outfall ponds located west of the new road at around 1.9km from the commencement point will drain areas of new highway falling from the north. These will drain via a culvert under the existing Five Mile Lane to the Moulton Brook.

4.2.7 Ponds located west of the new road at around 3.5km from the commencement point will drain areas of new highway to the north. These ponds will outfall into an existing watercourse draining into the River Waycock. An existing watercourse to the east of

the new road will require diversion for approximately 300m and an existing culvert located beneath the existing road will require extending under the new road.

- 4.2.8 Existing ditches located either side of the length of road subject to an on-line improvement will require realignment. These will be utilised to drain the improved highway.

Movement to, from and within the development

- 4.2.9 The Scheme's aims are to improve accessibility to the Cardiff Airport and St Athan Enterprise Zones, improve safety and offer an attractive alternative to the heavily trafficked route which passes through northern Barry on the A4050. No un-controlled crossings for non-motorised users are to be provided across the proposed alignment. Access for non-motorised users will be provided via the junctions between the new and existing roads.

- 4.2.10 The scheme seeks to benefit both cyclists and pedestrians. Two cycle routes, north and south of the old road, are proposed. As there is significantly less traffic on the old road, the objective is that the road will become safer and more attractive for non-motorised vehicles. Accesses at the northern and southern ends of the old road will link it with the new road and will only be wide enough for pedestrians and cyclists.

- 4.2.8 An accommodation bridge will be constructed over the Scheme allowing a safe crossing point over the Scheme for both equestrians and pedestrians which would result in improved east west movements for both equestrians and pedestrians.

- 4.2.11 Access to nearby properties will be maintained either from new junctions or from the existing retained Five Mile Lane. In either case the new accesses are considered to be far safer for all road users than the present situation.

Character and Scale

- 4.2.9 The Scheme comprises the construction of a new 4.8km long, two lane wide single carriageway road designed to current highway standards. The new highway alignment will provide a 7.3m wide carriageway with 1m hard-strips either side of the running surface making the total carriageway 9.3 metres wide, except for the carriageway section approaching Waycock Cross junction, which will be 7.3m wide due to the absence of hardstrips. A 2.5m wide verge would be located on west side of the on-line road widening for a proposed cycleway / footpath from a point to the north of the Welsh Hawking Centre to Waycock Cross junction.

- 4.2.13 From the first ghost island junction, the road turns in a south-easterly direction, running approximately 200m north-east of and parallel to the existing road. This section runs through agricultural land on a 4m maximum height embankment. Approximately 1.1km from the new road's commencement point, a second ghost island junction provides a new 200m long link to the unclassified lane leading to Dyffryn. Immediately south of this junction, the new road crosses the unclassified lane at existing ground level requiring the lane to be stopped-up.

- 4.2.14 From the stopped-up lane, the highway alignment curves back to a southerly direction where it runs across agricultural land approximately 40m east of and parallel to the existing Five Mile Lane. This section of the new road is approximately 0.5m above existing ground level.

- 4.2.15 Between 1.9km and 2.3km from its commencement point, the proposed road widens to incorporate turning lanes for a right/left staggered ghost island junction. The road crosses the existing lane approximately 2.2m south of its commencement point at existing ground level requiring the lane to be stopped-up. The junction provides a 300m long link to Northcliff Cottage and to the unclassified lane leading to the east and to a new 300m long link to the existing Five Mile Lane and Grovelands Farm to the west. The junction is at or just below the existing agricultural land ground level but some fill earthworks are required to the north of the junction due to a depression in the existing ground.
- 4.2.16 South of the staggered junction, between 2.4km and 3.2km from its commencement point, the new road bends in a south-easterly direction. The new road crosses agricultural land north-east of Sutton Fach farm. This section of the route will be on a 1 in 16 gradient and in an earthworks cutting. A new accommodation bridge will span the cutting and new road to allow access across the road.
- 4.2.17 Between 3.2km to 3.7km from the commencement point, a straight alignment at existing ground level brings the new road back onto the existing Five Mile Lane.
- 4.2.18 Between 3.7km and 4km, the existing Five Mile Lane will be utilised.
- 4.2.19 Between a point 4km from its commencement point adjacent to the Welsh Hawking centre to the Waycock Cross roundabout the existing Five Mile Lane will be subject to online widening to improve the road.
- 4.2.20 Minor improvements are to be carried out on the approach Waycock Roundabout from the Welsh Hawking Centre. This will consist on an additional lane of traffic for approximately 75m in advance of the roundabout, on the eastern side of the proposals.
- 4.2.21 Minor improvements will also be made to the existing junction between the A48 and Five Mile Lane at Sycamore Cross. The aim of this element of the works is to provide capacity increases for the turning movements at the junction, therefore enabling the benefit of any improvements along Five Mile Lane to be maximised.
- 4.2.22 The works will consist of widening of the westbound carriageway of the A48 to provide a dedicated lane for turning left onto Five Mile Lane. In addition, the existing street furniture will be re-arranged, and the road markings amended to enable two lanes of traffic to travel westbound through the existing signalised junction.
- 4.2.23 For eastbound traffic, there will be two lanes of traffic provided through the junction on the A48 from Bonvilston heading east towards Culverhouse Cross. To enable this to be constructed, the existing bus lane will be re-aligned further towards the north side of the junction to provide sufficient lane width for traffic on the A48.
- 4.2.24 For traffic travelling north of Five Mile Lane the land destinations for traffic have been amended. It is proposed to allow both lanes of traffic to be utilised for right turning traffic (to travel eastbound on the A487). In addition to this, the existing left hand lane will also be utilised for left turning traffic.
- 4.2.25 The Scheme involves land take to the east of the existing road and will have an impact on landscape character and the appearance of the highway. These impacts are to be mitigated to an extent, and the impacts and mitigation is set out in the accompanying ES. Given the Scheme's aims and benefits in respect of increased

connectivity and highway safety the impacts of the Scheme in this respect are considered to be acceptable.

Community Safety

- 4.2.26 Personal Injury Collision (PIC) rates have been fairly constant over the 5-year period between 2009 and 2013, averaging 111.4 incidents per year within the study area. There were seven fatalities during this period, with four of these occurring in 2009. The number of serious or slight accidents has been fairly split over the period. This scheme will improve the safety of the road for all road users and nearby properties.

Access

- 4.2.27 The Scheme will have direct access onto the existing Five Mile Lane and, as one of its aims is to improve connectivity, the Scheme will provide better access to and from St Athan and the Cardiff airport. The new road will be subject to a de-restricted (60mph) speed limit from Sycamore Cross to the Welsh Hawking Centre, upon which it will revert to 40mph for south-bound traffic, and then 30mph on the approach to Waycock Cross.
- 4.2.28 In addition to providing better access for vehicular traffic, the Scheme will provide improvements for non-vehicular users. The existing road, which will be subject to light traffic flow, will provide a new north-south cycleway. At its northern end, the proposed new road verge on the west side will be surfaced to provide an unsegregated footway/cycleway link between the existing Five Mile Lane and to a proposed cycleway route which will utilise the existing roadside verge between the Sycamore Cross junction and the new cycleway. To the south a new length of unsegregated footway/cycleway will be provided running adjacent to the west side of the on-line road widening to link the existing Five Mile Lane to the Waycock Cross roundabout.
- 4.2.29 An accommodation bridge will be constructed over the Scheme allowing a safe crossing point over the Scheme for both equestrians and pedestrians which would result in improved east west movements for both equestrians and pedestrians.

Economic Context of the Scheme

- 4.2.30 The findings of the WelTAG Study identified the benefit of improving the access to the Enterprise Zones. Wales currently has seven EZs, each specialising in a specific business sector.
- 4.2.31 These EZs have national and regional significance. From a national perspective, a WG Department for Economic Science and Transport report from May 2014 indicates that, to date, the EZs have created 2,159 jobs and have safeguarded a further 2,983. This report also includes a target to create a further 1,900 jobs by the end of 2014/15 and attract a further £50 million worth of investment.
- 4.2.32 Cardiff Airport and St Athan Enterprise Zones are made up of three key areas. At present, careful consideration is being given to future investment required in property and infrastructure within the Enterprise Zones to serve the future needs of businesses.

Land Acquisition

- 4.2.33 The Scheme will require the acquisition of agricultural, private (including commercial) and other land (highways) from land owners. Along the on line improvement

woodland is to be acquired. Land is to be acquired using Compulsory Purchase powers.

Scheme Construction

- 4.2.34 The scheme is to be undertaken as a design and build contract, with the Principal Contractor programmed to commence design works early in late 2016. The construction works will commence in January 2017 and will last for a duration of approximately 12 months, with completion anticipated in January 2018.
- 4.2.35 Advance site works are anticipated to clear vegetation outside the bird nesting season and manage/manipulate habitat to aid the relocation of reptiles from the site in advance of any main construction works.
- 4.2.36 A scheme of archaeological investigative fieldwork has been devised with and approved by the Acting Archaeological Planning Manager at GGAT. This has been documented in the Written Scheme of Investigation, included within the ES, and includes a programme of combined evaluation trenching and a 'strip, map and record' exercise will be undertaken post-submission / predetermination.
- 4.2.37 Works will also be managed to minimise the impact on adjacent businesses and co-ordinated to account for any events or highway works planned by Vale of Glamorgan Council.
- 4.2.38 Phasing of the works will be developed with the appointed contractor to maintain traffic on the existing highway for as long as possible. However, it is anticipated that it will be necessary to close the road for periods of time during construction to undertake the works at the tie-ins and during the on-line improvement works.
- 4.2.39 The Scheme will be constructed via a combination of cut and fill earthworks using site won and imported material. Embankments will be formed using approximately 81,570m³ of general fill, of which approximately 50,330m³ will need to be imported. It is estimated that the remaining 31,240m³ will be site won.
- 4.2.40 Total cut for the Scheme is estimated to produce a material quantity of 62,480m³. Assuming 50% of this is suitable for engineering works, it is estimated that as a worst case, the remaining 31,240m³ will require off-site recycling or disposal. However, where possible, this material will be reused on-site for landscaping.
- 4.2.41 In addition, flexible pavement will be required which will have a granular sub-base overlain with an asphaltic running surface (i.e. blacktop). Culverts, headwalls and bridge decking will be constructed of pre-cast reinforced concrete. Wing walls and kerbing for the accommodation bridge adjacent Sutton Fach Farm will be constructed of reinforced concrete cast in situ. The bridge will be braced together with two steel girders made composite with the concrete decking.

Landscaping

- 4.2.42 Landscape mitigation elements will include planting, including broadleaf woodland, native mixed-species hedgerows, individual trees, species-rich and amenity grassland and earthworks. Several fields adjacent to the Scheme at the junction at Ch2000m will be planted with wildflower mix. Where possible, existing trees, woodland and hedgerows will be retained to provide screening.

4.2.43 Where the proposed road will connect with the existing Five Mile Lane, careful consideration of the structures and finishes will ensure that they become integrated into the landscape. Signage at the Sycamore Cross Junction will be designed to minimise the overall dimensions within required specifications.

4.2.44 Where possible, excavated materials will be reused for landscaping purposes. Verges will be reprofiled to ensure continuity and integration to the landscape, with topsoil seeded with amenity grasses to match the existing flora.

Appearance

4.2.45 The road surface will be topped with a granular sub-base overlain with an asphaltic running surface (i.e. blacktop). Culverts, headwalls and bridge decking will be constructed of pre-cast reinforced concrete. There will be sections of the Scheme where reinforced concrete is used for wing walls, kerbing and deck slabs (for example at the accommodation bridge).

4.2.46 The Scheme will also include construction of an integral single span steel composite accommodation bridge carrying a farm access road over the proposed route. It will be located immediately north east of Sutton Fach Farm, spanning the proposed road to provide the farm with access to local fields. The bridge will consist of twin steel girders braced together and made composite with a concrete deck slab. The bridge deck will comprise a 3.5m carriageway with a 0.5m verge on either side. Minimum headroom beneath the structure of 6.45m will be provided. In order to minimise the size of the approaches and abutments, the structure has been curved to facilitate additional headroom beneath. The structure will be open to provide the maximum line of sight for drivers using the proposed route, as well as increasing the aesthetic appeal of the structure. The bridge abutments will be covered with a local stone façade to ensure the structure is in keeping with the rural environment.

5 INVOLVEMENT

Informal Consultation

- 5.1.1 Informal consultation has been carried out with the Planning Department within Vale of Glamorgan Council during 2014 to identify the items to be included in the planning application for the improvements to Five Mile Lane.

Public Consultation

- 5.1.2 Land that is physically impacted by the Scheme will be subject to acquisition through Compulsory Purchase. Consultation with landholders physically affected by the Scheme was undertaken during the summer of 2014, to explain the details of the Scheme and the potential effects on their land. Consultation with affected landowners with respect to land acquisition will be ongoing until the necessary acquisitions have been made.

- 5.1.3 Welsh Government has also undertaken a number of consultations on highways improvements within the Vale of Glamorgan over the past 10 years, including one that was specific to the Scheme. Key consultations have included the following:

- 2007-2009 Welsh Government Study: Improving Access to Cardiff International Airport;
- 2012 Vale of Glamorgan Study: A4226 Five Mile Lane Proposed Improvement Scheme.

- 5.1.4 The information gathered through both these consultations, from statutory bodies, stakeholders, landowners and members of the public, was utilised to inform the WeITAG Stage 1 appraisal for the Scheme.

EIA Consultation

- 5.1.5 The Scoping Report was submitted in July 2014 to Vale of Glamorgan Council to request a Scoping Opinion. The following consultees have also been consulted regarding the EIA:

- Natural Resources Wales (NRW);
- Glamorgan Gwent Archaeological Trust (GGAT);
- Vale of Glamorgan Council (planning, environmental health, highways, ecology, drainage, landscape);
- Cadw;
- South Wales Trunk Road Agent (SWTRA).

- 5.1.6 A summary of the feedback received from the various agencies and other stakeholders that reviewed the Scoping Report developed for the Scheme is provided in Table 5.1. This feedback has been considered and addressed within the ES that accompanies this planning application.

Table 5.1 Summary of Consultation Responses Received in Scoping Opinion

Topic	Summary of Response
Noise & vibration	<p>Vale of Glamorgan Council stated that the ES should include an assessment of noise impacts as a direct consequence of traffic associated with the Scheme. In this respect, they indicated the ES should be informed by the TA and the traffic projections.</p> <p>They requested that the Welsh Hawking Centre and Barry College be included in the noise assessment for the ES.</p>
Air quality	<p>Vale of Glamorgan Council stated that the ES should include an assessment of air quality impacts as a direct consequence of traffic associated with the Scheme, along with an assessment of any potential impacts on hydrology. In this respect, they indicated the ES should be informed by the TA and the traffic projections.</p>
Cultural heritage	<p>Glamorgan Gwent Archaeological Trust (GGAT) stated they were satisfied with the methodology for undertaking the cultural heritage assessments as outlined in the Scoping Report and requested that the work be undertaken by suitably qualified professional archaeologists.</p> <p>Cadw, Ancient Monuments highlighted that while they do not oppose the methodology outlined in the English Heritage document, it should be noted that in Wales the conservation principles identified by CADW, rather than those of English Heritage, should be used in the assessment.</p> <p>Questioned why a zone of 1km wide was determined to be sufficient to identify designated monuments where the proposed works could have an impact on their setting.</p> <p>Cadw identified 5 sites (in addition to those described in the Scoping Report) within 1km of the Scheme that should be added to the list of high value sites. The following sites were identified as within the 1km zone- Coed y Cwm Ringwork, Moulton Roman Site, Castle Ringwork, Ty'n y Coed and the remains of Highlight church.</p> <p>They indicated that evidence for significant settlement surrounding the Roman Villa site is likely to be found.</p>
Nature conservation	<p>Natural Resources Wales agreed with the approach outlined in the Scoping Report (Parsons Brinckerhoff, 2014), which focused on ecology and nature conservation, but also stated that if the EIA concludes that the loss of SSSI habitat is unavoidable then it should set out an appropriate and robust mitigation package.</p> <p>They suggested conducting a bird survey given the scale of the Scheme and the presence of at least one breeding section 42 species (yellowhammer).</p> <p>They also requested an assessment be undertaken to establish whether there were likely significant effects from the Scheme on barn owls.</p> <p>They noted the intention to use survey data gathered from 2008 and 2009 and welcomed the scope of further works to review the available desk study information and update the following European Protected Species:</p> <ul style="list-style-type: none"> • Great Crested Newts; • Dormouse nest tube surveys; • Bat activity surveys; and • Bat roost inspections/tree climbing inspections. <p>They requested that the surveys are undertaken following best practice guidance and survey methodologies and that full detail is provided in the ES.</p> <p>They also requested that otters are considered in the ES.</p> <p>Vale of Glamorgan Council stated that the ES should consider the</p>

Table 5.1 Summary of Consultation Responses Received in Scoping Opinion

Topic	Summary of Response
	<p>following:</p> <ul style="list-style-type: none"> • Statutory Nature Conservation Sites (SAC, SPA, SSSIs etc.); • Non-statutory Nature Conservation Sites (SINC's); • Legally Protected Species; • UK and Local Biodiversity Action Plan Habitats and Species; and • Landscape. <p>They also requested that the ES include a detailed and comprehensive assessment of protected species that may be affected by the Scheme, including any species that occupy adjoining land, but which may use the proposed site. The assessment should include an evaluation of the population and detail any mitigation measures that will be necessary and implemented to ensure that the population is maintained.</p> <p>The Ecology Officer agreed with the recommendations made in the Scoping Report and also recommended that surveys for birds, and in particular ground nesting birds are carried out to allow the LPA to fully assess the impact and for appropriate mitigation / compensation to be designed.</p>
Landscape	<p>Vale of Glamorgan Council stated that the EIS must include a description of all the existing landscape interests within and in the vicinity of the Scheme. They suggested this could be done using CCW's LANDMAP methodology (www.landmap.ccw.gov.uk).</p> <p>They also required the ES to consider protected landscapes in the vicinity of the Scheme and suggested it is vital that the landscape and visual impact assessment utilises appropriate viewpoints to consider the impacts of the proposals on these protected landscapes. This was due to the potential for the Scheme to be visible from a wide area.</p> <p>Natural Resources Wales stated that they expect the ES to demonstrate the use of all five LANDMAP data sets for completion of the landscape and visual assessment.</p>
Road drainage & the water environment	<p>Vale of Glamorgan Council recognised that the majority of the site is outside any flood risk area but that a section of the road is in part located within Flood Zone C1 and B in an area that has known to have flooded in the past and is without significant flood defence infrastructure.</p> <p>Natural Resources Wales noted that if any changes are made to the road at locations that could affect flood storage or conveyance, they should be investigated as part of a FCA. If the EIA concludes that an FCA is to be undertaken, this should include an assessment of water features.</p>
Geology & soils	<p>Natural Resources Wales had some concerns regarding impacts from the construction and operation of the Scheme on controlled water including groundwater abstraction from licenced and private water supplies.</p> <p>They suggested that a risk assessment be undertaken to investigate the potential for land contamination along the route as there is a historic landfill to the west of the existing route at Blacklands Farm.</p> <p>They also required information on the proposed drainage from the road to be included, particularly with the use of a soak-away.</p> <p>They noted that the area around Sycamore Cross is underlain by a principal aquifer, which is sensitive to controlled water.</p> <p>They also requested that they be notified if the Scheme is likely to impact a groundwater observation borehole that is located on the grass verge of Sycamore Cross.</p>

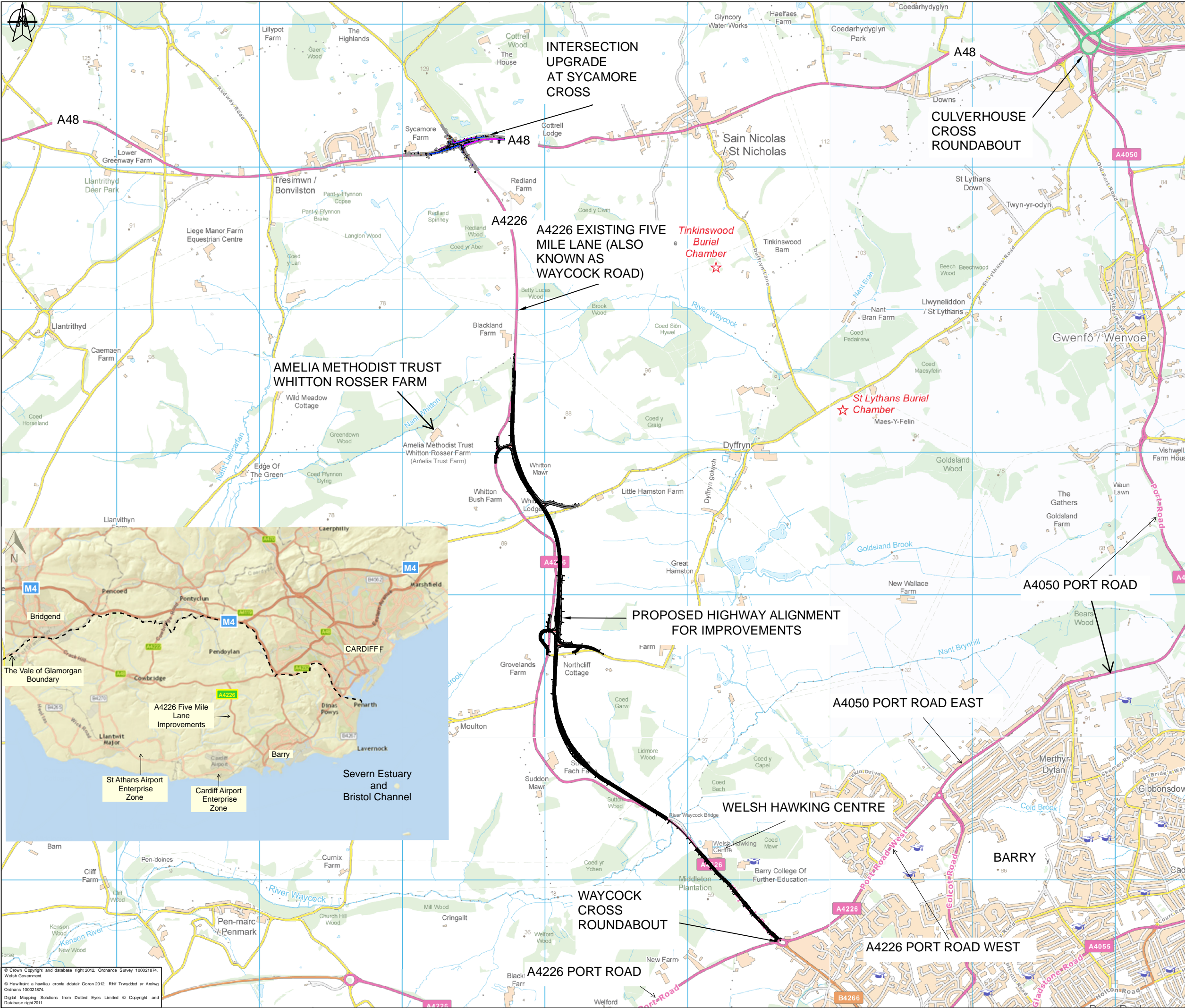
Table 5.1 Summary of Consultation Responses Received in Scoping Opinion

Topic	Summary of Response
Materials	Vale of Glamorgan Council indicated that the generation of waste from the Scheme and the potential to manage such generation within the site, and reuse and capture recyclable materials should be considered.

6 CONCLUSION**6.1 Summary**

- 6.1.1 The proposed Scheme offers economic, connectivity and highway safety benefits for all road users, the immediate surroundings and the wider South Wales area. The route has been carefully chosen to meet the requirements of the Scheme and to mitigate its effects as much as possible. The Scheme is therefore considered to have an overall beneficial impact on the wider area meeting its objectives.

Figures



- NOTES**
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Rev	Date	Description	By	Chk	App

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Site/Project: **FIVE MILE LANE IMPROVEMENTS**

Title: **SCHEME LOCATION**

Drawn: GS	Checked:
Designed: JM	Approved:
Date: 13/05/2015	Scale: 1:25000 A3
Project Number:	Sheet: 1 OF 1
Drawing Number:	Revision:

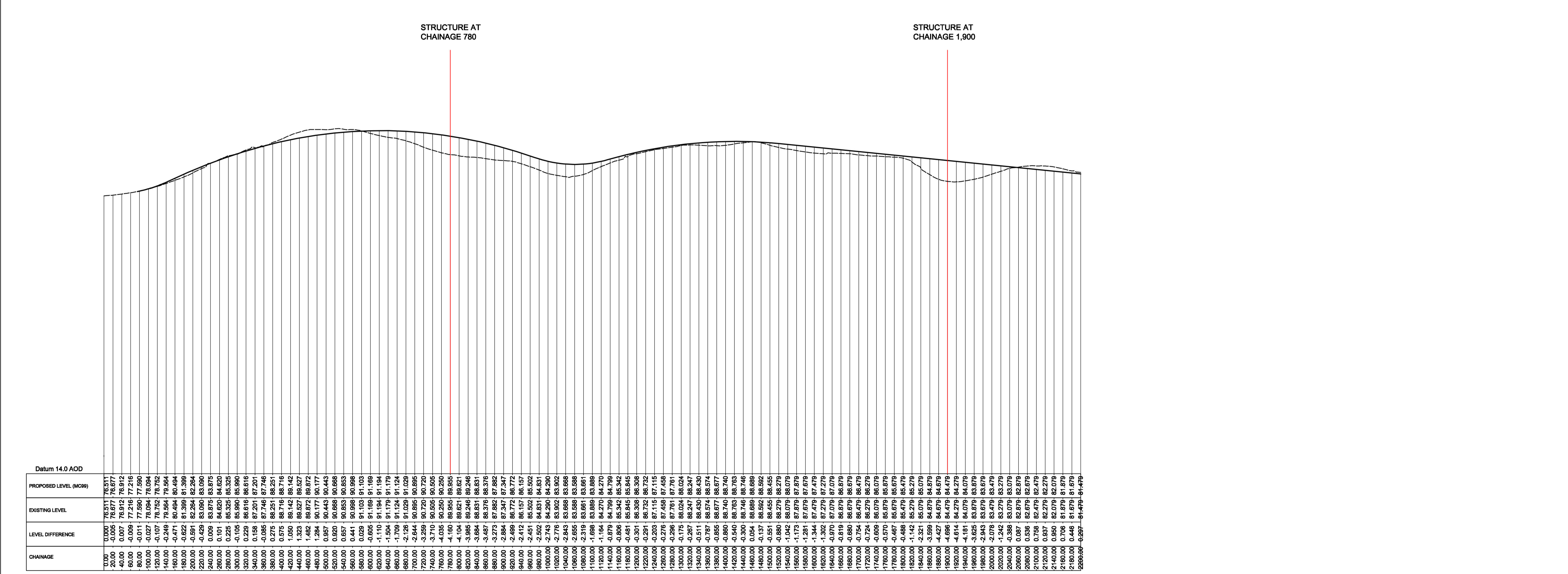
3512646D-HHC **FIGURE 1.1** -



SCALE OF PLAN 1:5,000

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SCALE H 1:5,000 V 1:500

PROPOSED LEVEL (MGR)	EXISTING LEVEL	LEVEL DIFFERENCE	CHAINAGE
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0.000	76.511	0.000	700
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Rev	Date	Description	By	Chk	App

FOR INFORMATION



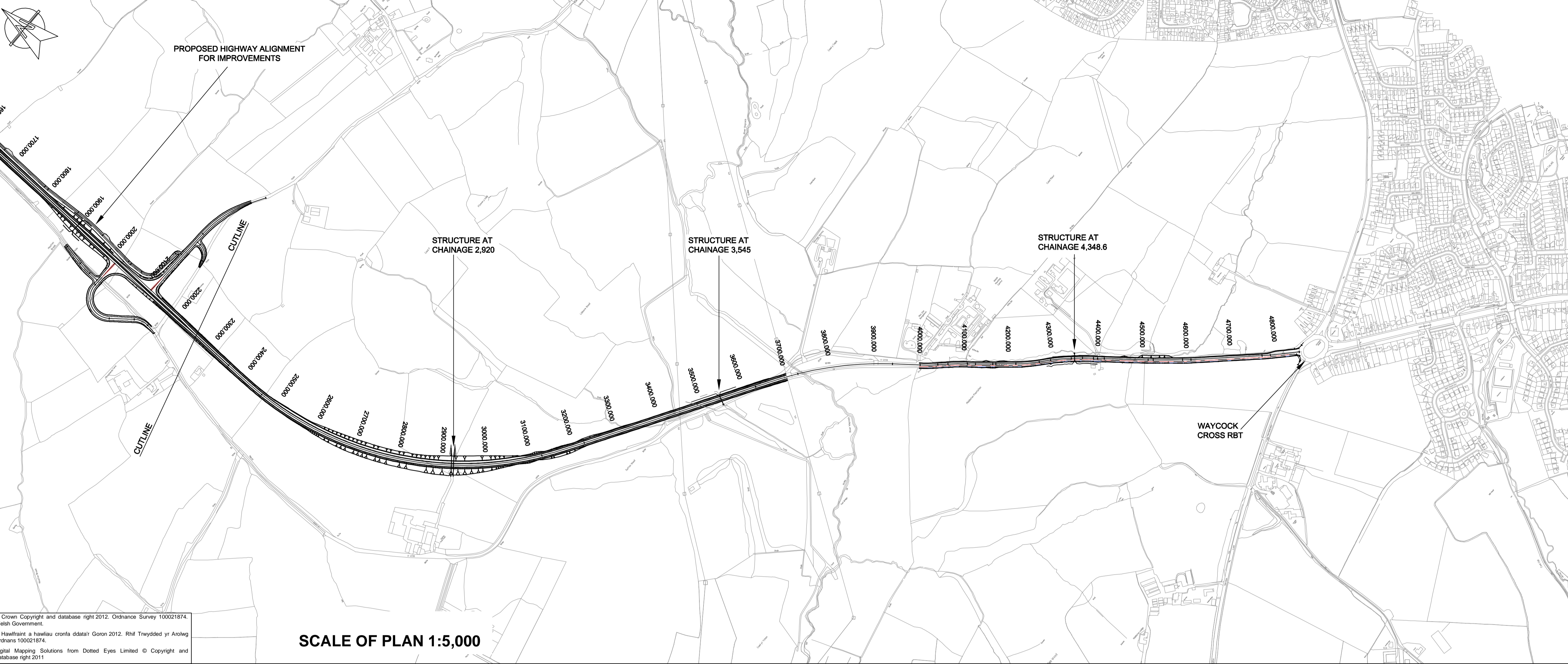
1 Capital Quarter,
Tyndal Street,
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Tel: 44-(0)2920 769200



Site/Project:
FIVE MILE LANE IMPROVEMENTS

Title:
ROUTE PLAN AND LONGITUDINAL SECTION

Drawn: IM	Checked:
Designed: IM	Approved:
Date: 16/10/2015	Scale: AS SHOWN @ A1
Project Number: 3512646D-HHC	Sheet: 1 OF 2
Drawing Number: FIGURE 1.2a	Revision: -

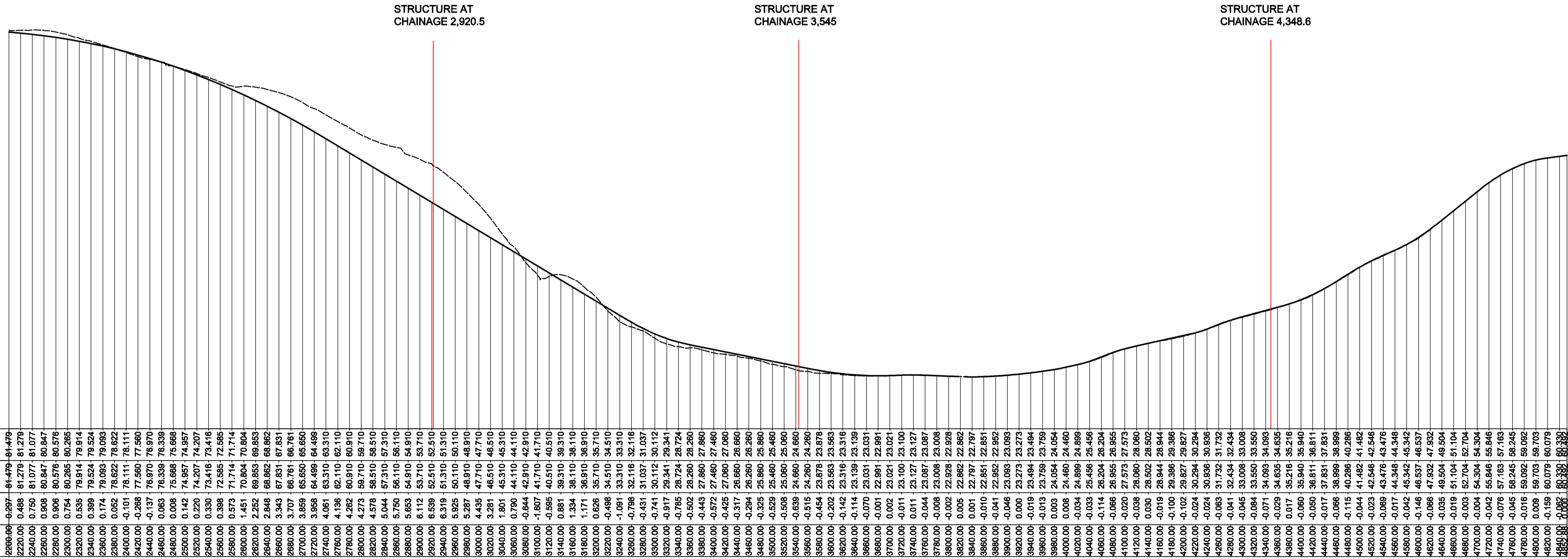


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SCALE H 1:5,000 V 1:500

PROPOSED LEVEL (MOSB)	EXISTING LEVEL	LEVEL DIFFERENCE	CHAINAGE
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2220.00	0.488	0.297	014.79
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2230.00	0.754	0.205	00.295
2230.00	0.535	0.914	79.914
2230.00	0.174	79.093	79.524
2230.00	0.052	78.622	78.093
2400.00	-0.101	78.111	78.111
2400.00	0.288	77.860	77.860
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2400.00	0.363	78.338	78.338
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2520.00	0.330	73.416	73.416
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2580.00	0.451	70.884	70.884
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2740.00	4.081	63.310	63.310
2740.00	4.138	62.110	62.110
2760.00	4.232	60.910	60.910
2760.00	4.278	59.710	59.710
2820.00	4.578	58.510	58.510
2820.00	5.044	57.310	57.310
2880.00	5.750	56.110	56.110
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2920.00	6.112	53.710	53.710
2920.00	6.539	52.510	52.510
2940.00	6.519	51.310	51.310
2940.00	6.265	50.110	50.110
2960.00	6.265	48.910	48.910
2960.00	6.265	47.710	47.710
3000.00	4.435	46.510	46.510
3020.00	3.291	45.310	45.310
3040.00	1.801	44.110	44.110
3060.00	0.790	42.910	42.910
3080.00	0.644	42.910	42.910
3100.00	-0.007	41.710	41.710
3120.00	-0.365	40.510	40.510
3120.00	-0.365	40.510	40.510
3120.00	0.041	39.310	39.310
3140.00	1.171	38.110	38.110
3160.00	0.626	35.710	35.710
3220.00	-0.488	34.510	34.510
3240.00	-1.091	33.310	33.310
3260.00	-0.431	31.037	31.037
3260.00	0.041	29.810	29.810
3280.00	0.741	28.610	28.610
3300.00	0.741	27.410	27.410
3340.00	0.745	26.244	26.244
3360.00	-0.502	25.090	25.090
3380.00	-0.443	23.860	23.860
3400.00	-0.572	22.660	22.660
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3500.00	-0.520	16.460	16.460
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3560.00	-0.515	12.860	12.860
3580.00	-0.454	11.660	11.660
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3820.00	0.025	-2.740	-2.740
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3880.00	-0.046	-6.340	-6.340
3900.00	0.000	-7.540	-7.540
3920.00	0.000	-8.740	-8.740
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3980.00	0.003	-12.340	-12.340
4000.00	0.033	-13.540	-13.540
4020.00	-0.033	-14.740	-14.740
4040.00	-0.114	-15.940	-15.940
4060.00	-0.086	-17.140	-17.140
4080.00	0.020	-18.340	-18.340
4100.00	0.038	-19.540	-19.540
4120.00	0.030	-20.740	-20.740
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4180.00	0.019	-24.340	-24.340
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4580.00	0.035	-48.340	-48.340
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4620.00	0.003	-50.740	-50.740
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4680.00	0.016	-54.340	-54.340
4700.00	0.045	-55.540	-55.540
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Rev	Date	Description	By	Chk	App

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Title:
ROUTE PLAN AND LONGITUDINAL SECTION

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Date: 16/10/2015	Scale: AS SHOWN @ A1
Sheet: 2 of 2	Revision:

3512646D-HHC FIGURE 1.2b



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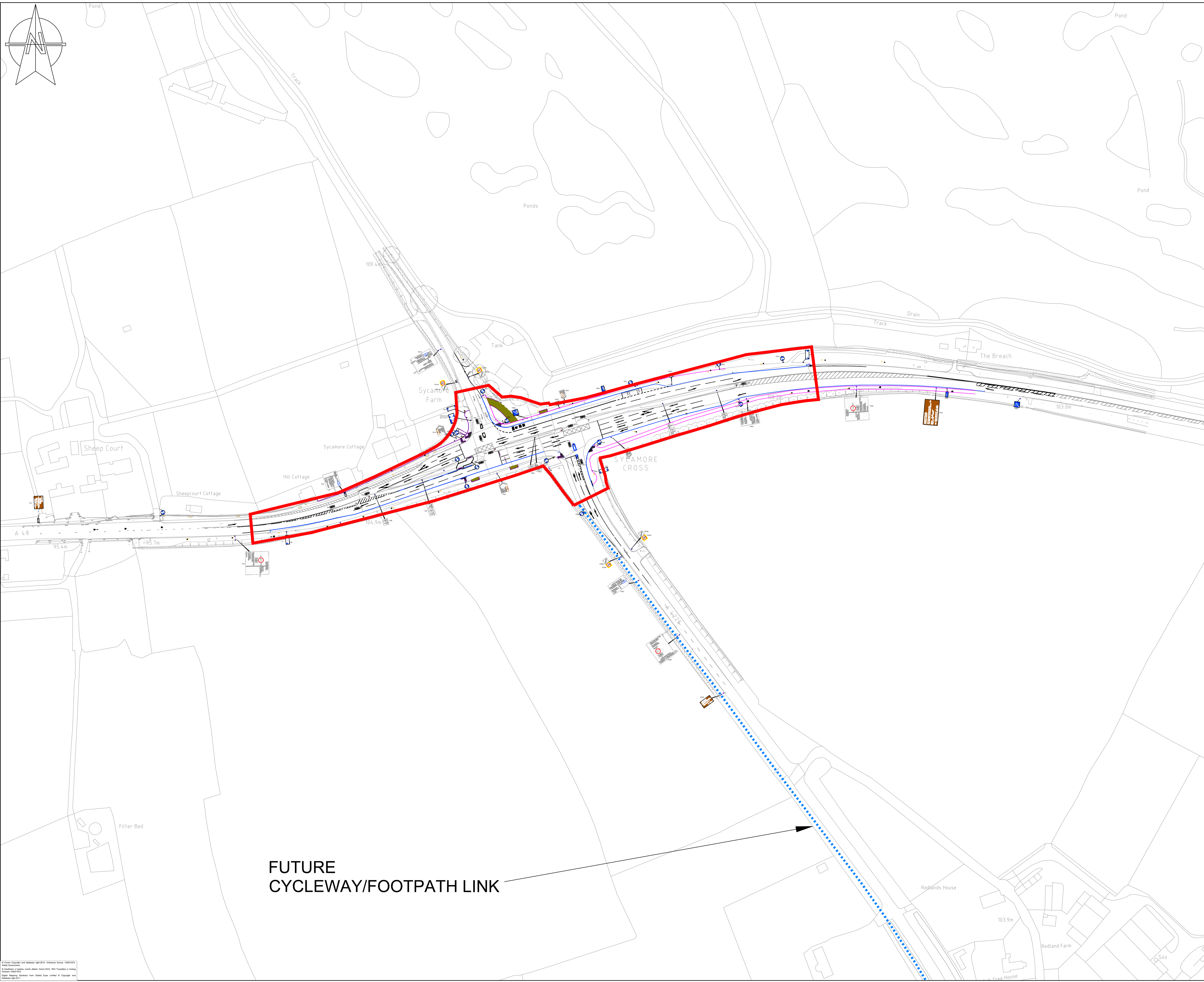


Site/Project:
FIVE MILE LANE IMPROVEMENTS

Title:
EXISTING SITE LAYOUT

Drawn: GS	Checked:
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Date: 13/05/2015	Scale: 1:25,000 A3 Sheet: 1 OF 1
Project Number: 3512646D-HHC	Drawing Number: FIGURE 1.3
Revision: -	

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FUTURE CYCLEWAY/FOOTPATH LINK

NOTES

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KEY

- RED LINE BOUNDARY
- PROPOSED ACCOMMODATION BRIDGE
- PROPOSED HIGHWAY ALIGNMENT
- PROPOSED CYCLEWAY/FOOTPATH
- PROPOSED BRIDLEWAY (EQUESTRIAN ROUTE)
- GRADE 3a AGRICULTURAL LAND
- SITE COMPOUNDS/MATERIAL STORAGE
- FUTURE CYCLEWAY/FOOTPATH LINK

Rev	Date	Description	By	Chk	App
2	26.02.16	RED LINE BOUNDARY UPDATED	IM	SC	JE
1	22.05.15	AMENDMENTS TO DRAWING, KEY AND TITLE CHANGED	IM	JE	JE

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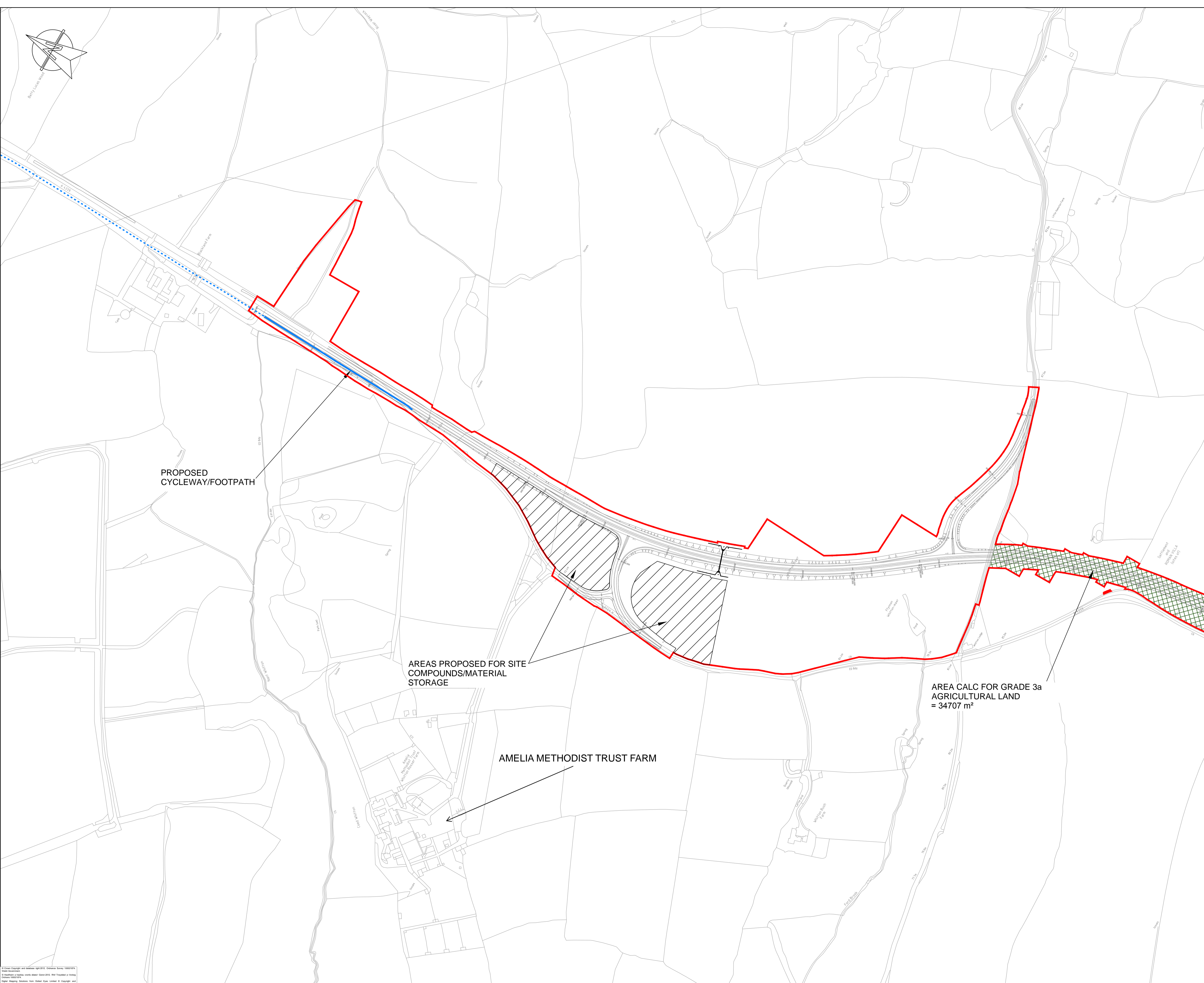
Client: **VALE OF GLAMORGAN BRD MORGANNWLG**

Site/Project: **FIVE MILE LANE IMPROVEMENT SCHEME**

Title: **SYCAMORE CROSS PROPOSED WORKS AND RED LINE BOUNDARY**

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Designed: IM	Approved: JE
Date: 26/02/2016	Scale: 1:1250 A1 Sheet: 1 OF 4
Project Number: 3512646D-HHC	Drawing Number: Figure 1.4A 2

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KEY

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- PROPOSED HIGHWAY ALIGNMENT
- PROPOSED CYCLEWAY/FOOTPATH
- PROPOSED BRIDLEWAY (EQUESTRIAN ROUTE)
- GRADE 3a AGRICULTURAL LAND
- SITE COMPOUNDS/MATERIAL STORAGE
- FUTURE CYCLEWAY/FOOTPATH LINK

Rev	Date	Description	By	Chk	App
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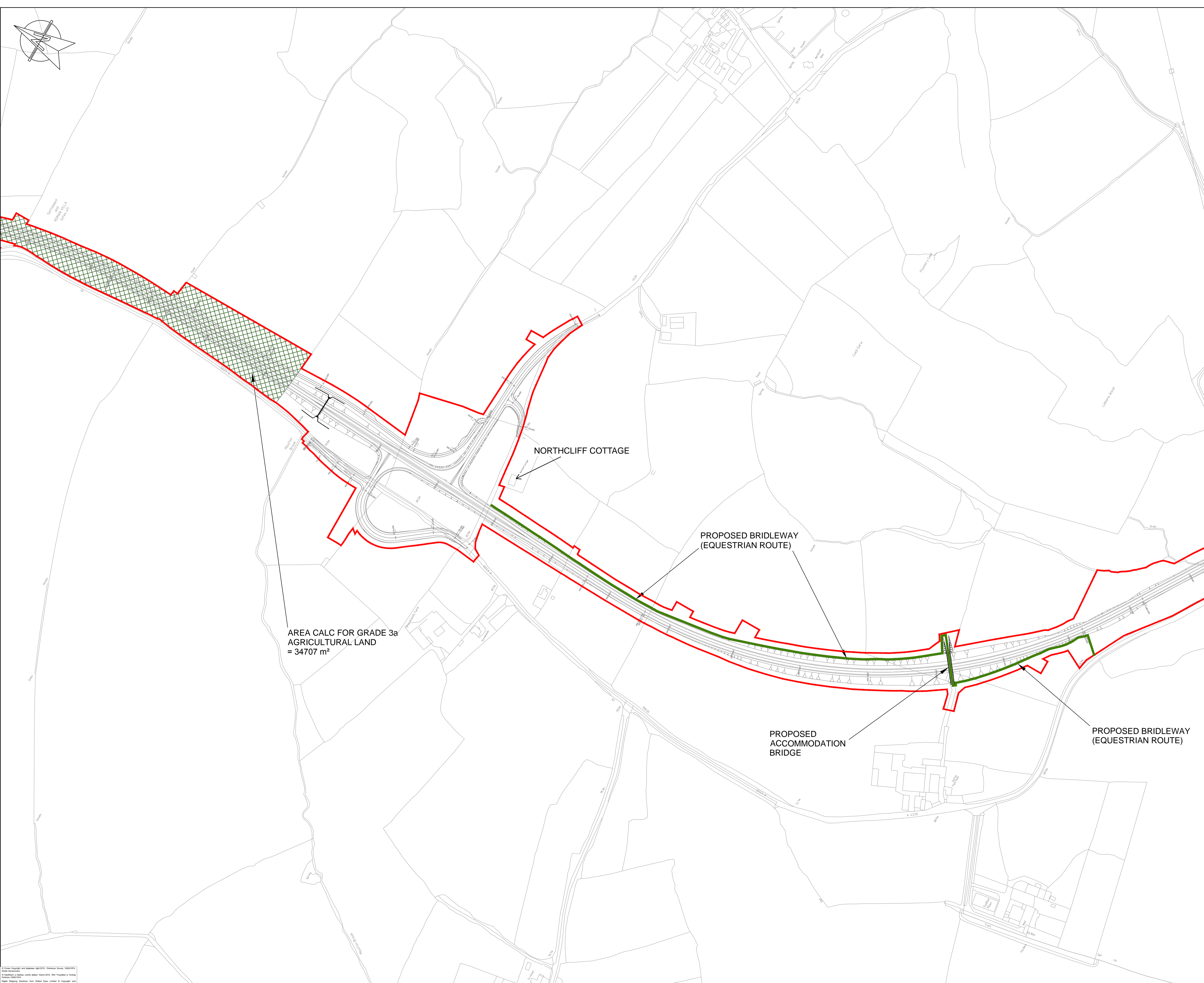
Client: **VALE OF GLAMORGAN**
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Site/Project: **FIVE MILE LANE IMPROVEMENT SCHEME**

Title: **HIGHWAY ALIGNMENT AND RED LINE BOUNDARY**

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Project Number: 3512646D-HHC	Drawing Number: Figure 1.4B 2

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KEY

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- PROPOSED ACCOMMODATION BRIDGE
- PROPOSED HIGHWAY ALIGNMENT
- PROPOSED CYCLEWAY/FOOTPATH
- PROPOSED BRIDLEWAY (EQUESTRIAN ROUTE)
- GRADE 3a AGRICULTURAL LAND
- SITE COMPOUNDS/MATERIAL STORAGE
- FUTURE CYCLEWAY/FOOTPATH LINK

Rev	Date	Description	By	CHK	App
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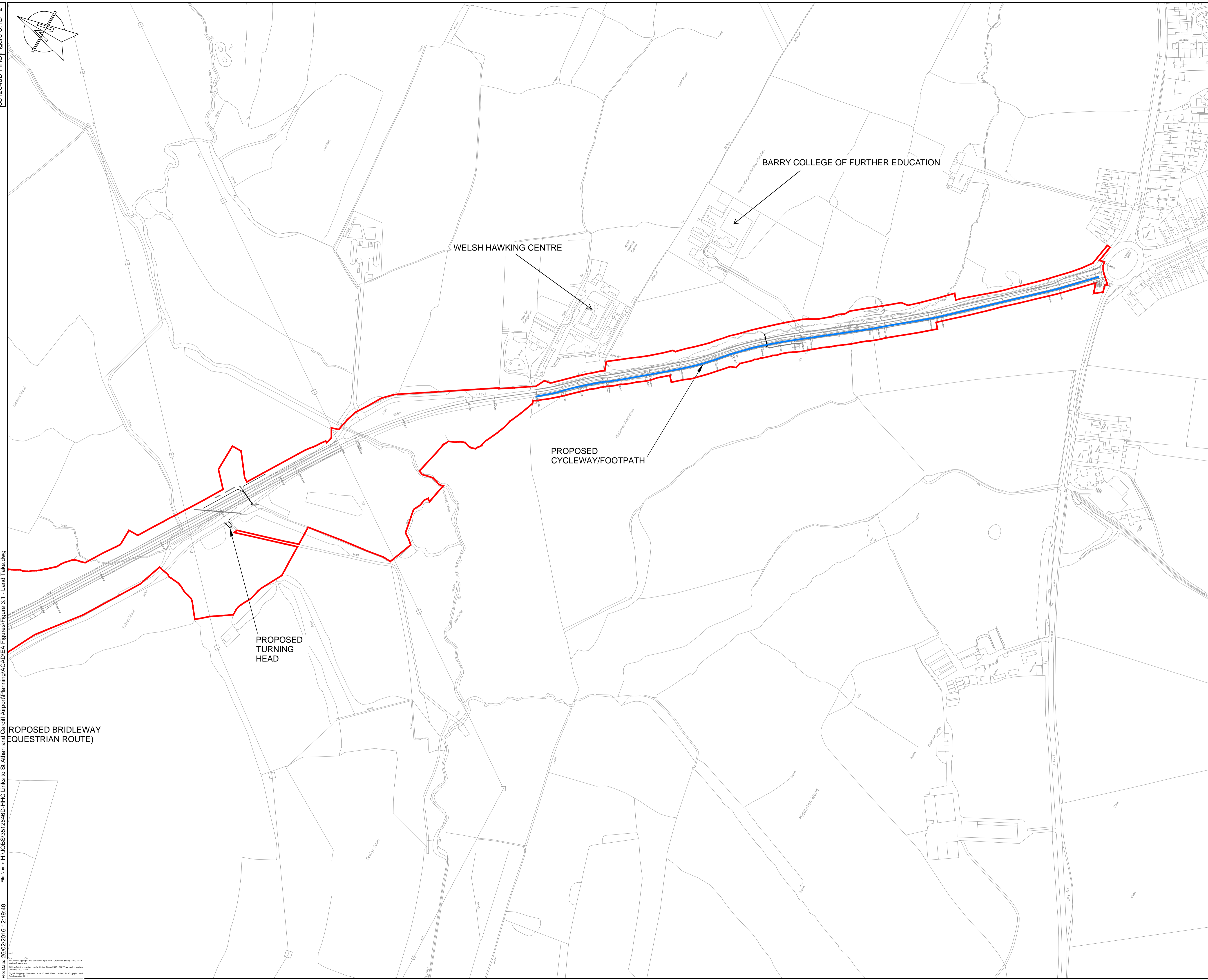
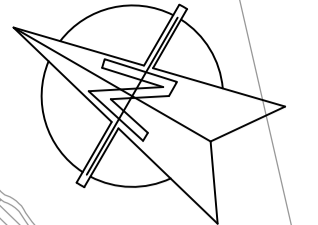
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Title: **HIGHWAY ALIGNMENT AND RED LINE BOUNDARY**

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Project Number: 3512646D-HHC	Drawing Number: Figure 1.4C 2


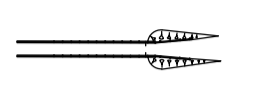
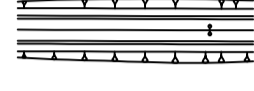


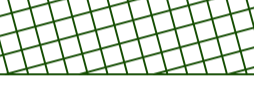


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KEY

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-  PROPOSED HIGHWAY ALIGNMENT
-  PROPOSED CYCLEWAY/FOOTPATH
-  PROPOSED BRIDLEWAY (EQUESTRIAN ROUTE)
-  GRADE 3a AGRICULTURAL LAND
-  SITE COMPOUNDS/MATERIAL STORAGE
-  FUTURE CYCLEWAY/FOOTPATH LINK

Rev	Date	Description	By	CHK	App
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FIVE MILE LANE IMPROVEMENT SCHEME

HIGHWAY ALIGNMENT AND RED LINE BOUNDARY

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KEY

- RED LINE BOUNDARY
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- PROPOSED HIGHWAY ALIGNMENT
- PROPOSED CYCLEWAY/FOOTPATH
- PROPOSED BRIDLEWAY (EQUESTRIAN ROUTE)
- GRADE 3a AGRICULTURAL LAND
- SITE COMPOUNDS/MATERIAL STORAGE
- FUTURE CYCLEWAY/FOOTPATH LINK

Rev	Date	Description	By	Chk	App
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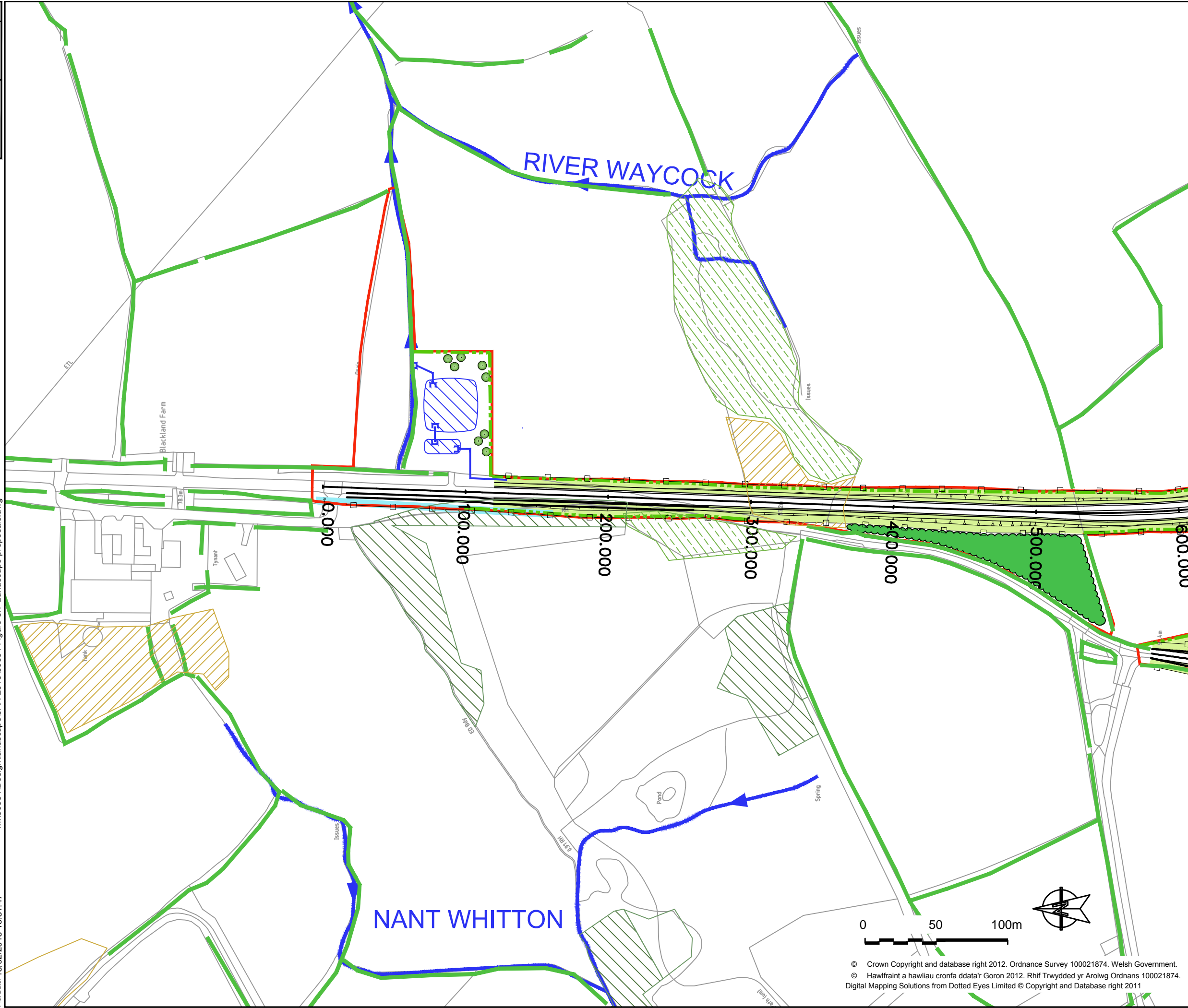
Site/Project: **FIVE MILE LANE
IMPROVEMENT SCHEME**

Title: **SYCAMORE CROSS
PROPOSED WORKS
AND RED LINE
BOUNDARY**

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3512646D-HHC Figure 1.4E 2

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	On Embankment
	In Cutting
	Fence line
	Mammal Pipe
	Equestrian Route
	Indicative location of cycle route
	Attenuation Pond
	Existing Scrub
	Existing Ancient Woodland
	Existing Woodland
	Existing Hedgerow
	Proposed Native Woodland
	Proposed Native Hedgerow
	Proposed Individual trees
	Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
	Amenity grass for verges and visibility splays

Rev	Date	Description	By	Chk	App

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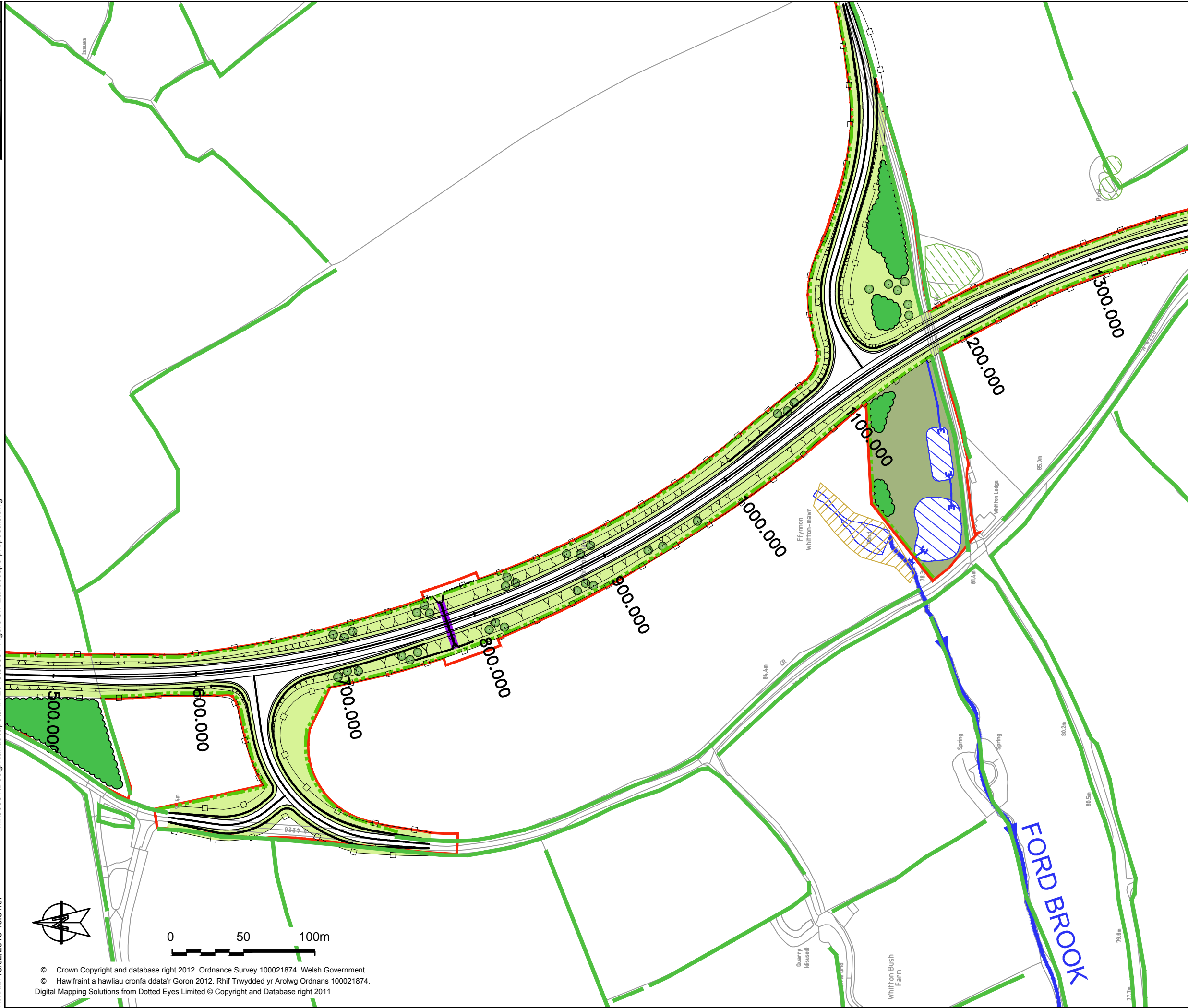
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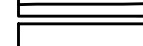
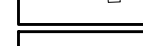












Title:
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-  On Embankment
-  In Cutting
-  Fence line
-  Mammal Pipe
-  Equestrian Route
-  Indicative location of cycle route
-  Attenuation Pond
-  Existing Scrub
-  Existing Ancient Woodland
-  Existing Woodland
-  Existing Hedgerow
-  Proposed Native Woodland
-  Proposed Native Hedgerow
-  Proposed Individual trees
-  Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
-  Amenity grass for verges and visibility splays

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Project Number: 60654	Drawing Number: Figure 1.5B



	On Embankment
	In Cutting
	Fence line
	Mammal Pipe
	Equestrian Route
	Indicative location of cycle route
	Attenuation Pond
	Existing Scrub
	Existing Ancient Woodland
	Existing Woodland
	Existing Hedgerow
	Proposed Native Woodland
	Proposed Native Hedgerow
	Proposed Individual trees
	Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
	Amenity grass for verges and visibility splays

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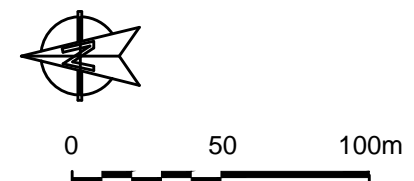
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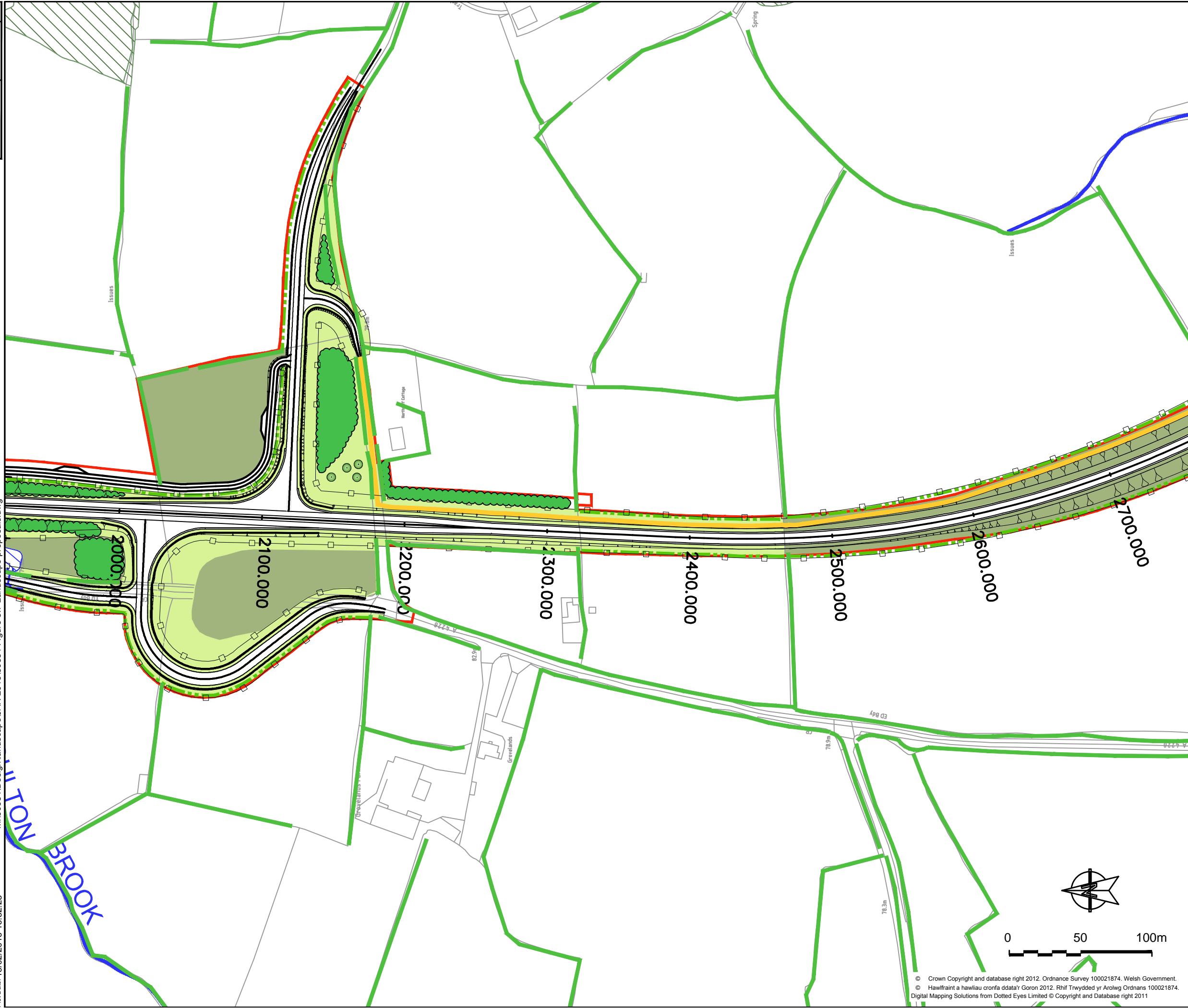
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Title:
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	On Embankment
	In Cutting
	Fence line
	Mammal Pipe
	Equestrian Route
	Indicative location of cycle route
	Attenuation Pond
	Existing Scrub
	Existing Ancient Woodland
	Existing Woodland
	Existing Hedgerow
	Proposed Native Woodland
	Proposed Native Hedgerow
	Proposed Individual trees
	Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
	Amenity grass for verges and visibility splays

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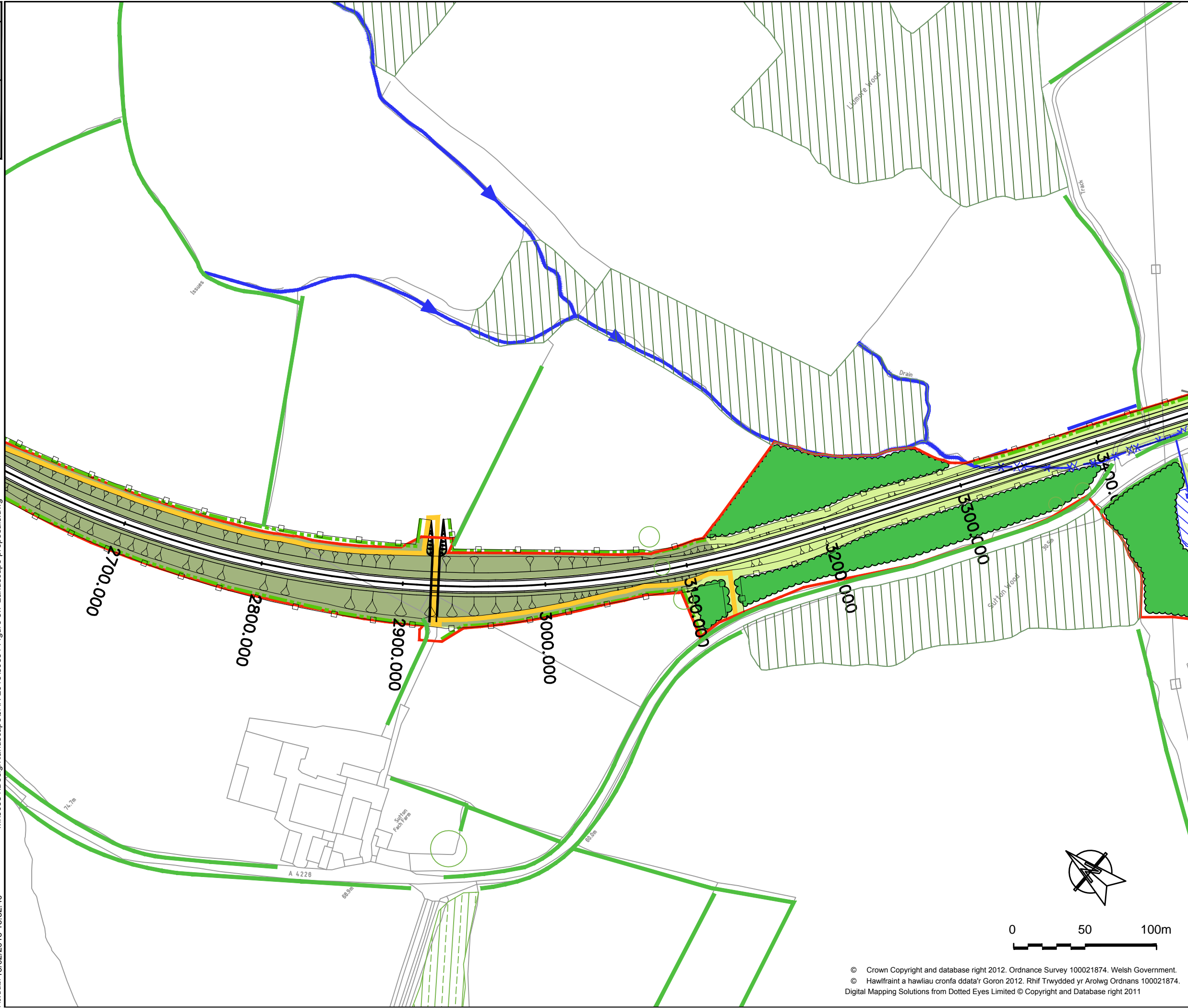
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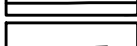
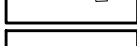












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-  Fence line
-  Mammal Pipe
-  Equestrian Route
-  Indicative location of cycle route
-  Attenuation Pond
-  Existing Scrub
-  Existing Ancient Woodland
-  Existing Woodland
-  Existing Hedgerow
-  Proposed Native Woodland
-  Proposed Native Hedgerow
-  Proposed Individual trees
-  Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
-  Amenity grass for verges and visibility splays

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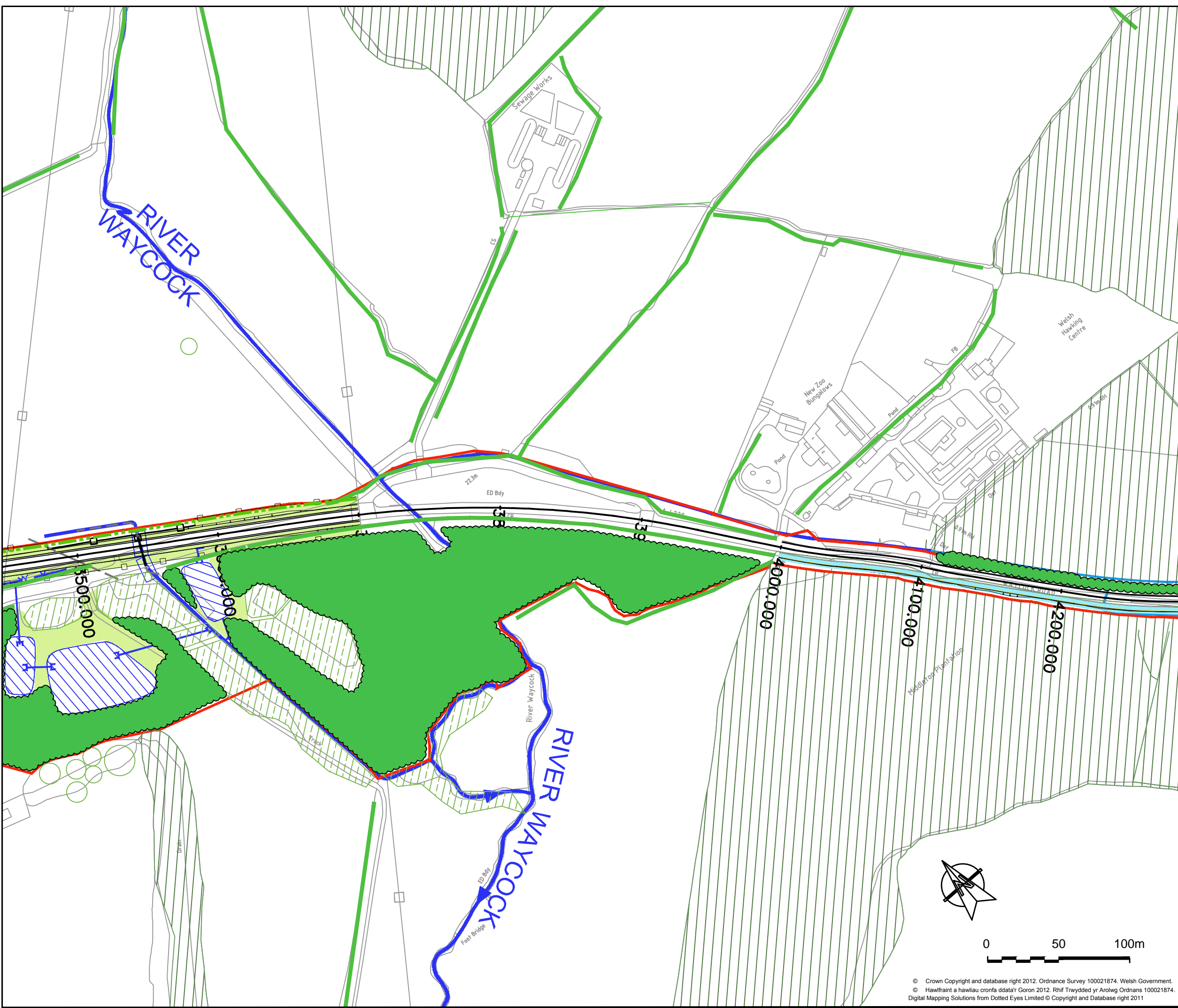
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60654 **Figure 1.5E**

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	Mammal Pipe
	Equestrian Route
	Indicative location of cycle route
	Attenuation Pond
	Existing Scrub
	Existing Ancient Woodland
	Existing Woodland
	Existing Hedgerow
	Proposed Native Woodland
	Proposed Native Hedgerow
	Proposed Individual trees
	Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
	Amenity grass for verges and visibility splays

Rev	Date	Description	By	Chk	App

PARSONS BRINCKERHOFF
 Kings Orchard
 1 Queen Street, Bristol
 BS2 0HQ
 Tel: 44-(0)117-930-6200

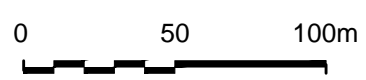
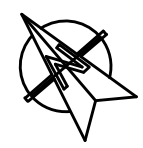
Client: **VALE of GLAMORGAN**

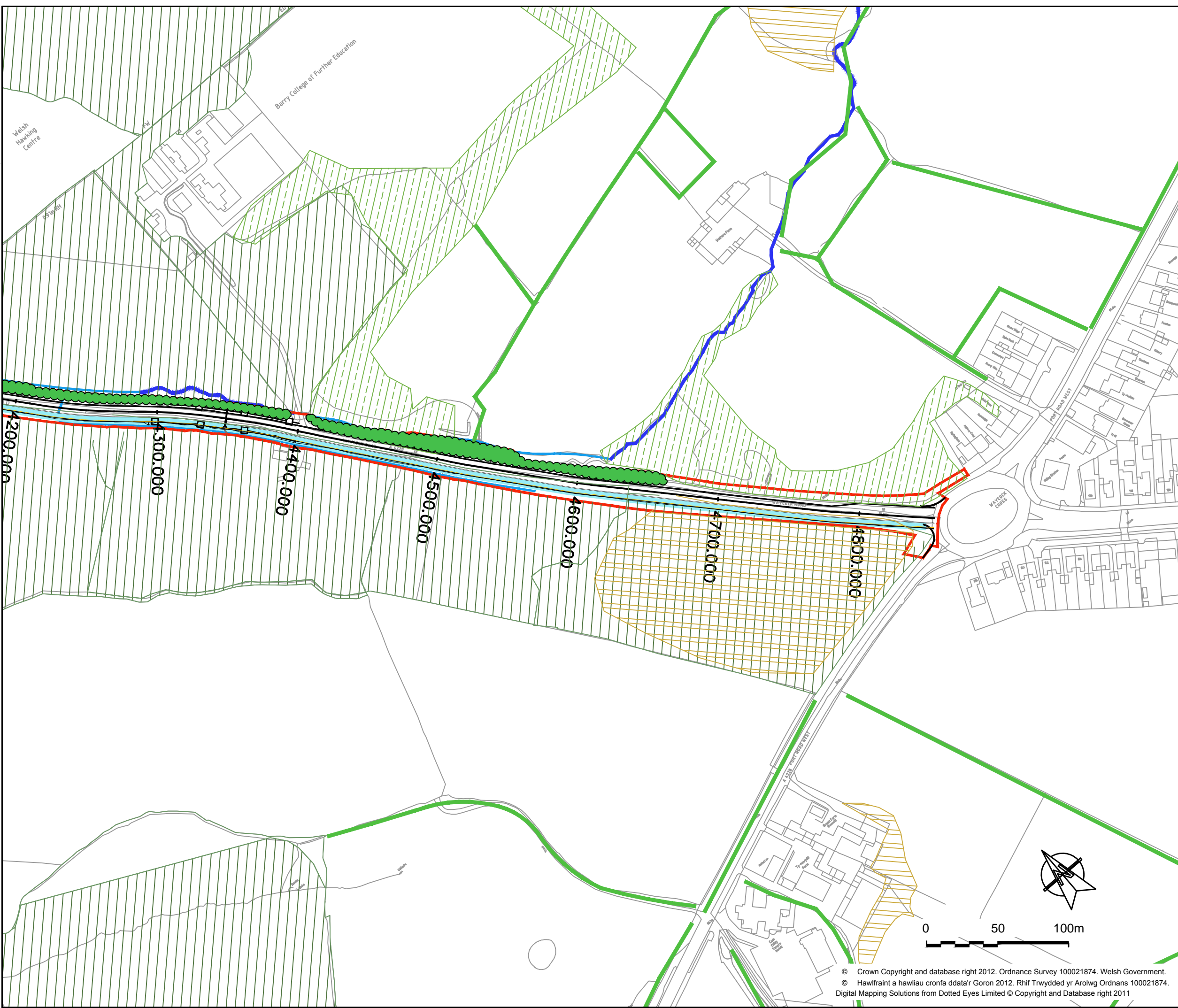
BRO MORGANNWG

Site/Project:
FIVE MILE LANE IMPROVEMENTS

Title:
LANDSCAPE PROPOSALS

Drawn: SF	Checked: JW
Designed: EMK	Approved: JW
Date: 16/02/2016	Scale: 1:2500 A3 Sheet: 6_OF_8
Project Number: 60654	Drawing Number: Figure 1.5F





	On Embankment
	In Cutting
	Fence line
	Mammal Pipe
	Equestrian Route
	Indicative location of cycle route
	Attenuation Pond
	Existing Scrub
	Existing Ancient Woodland
	Existing Woodland
	Existing Hedgerow
	Proposed Native Woodland
	Proposed Native Hedgerow
	Proposed Individual trees
	Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
	Amenity grass for verges and visibility splays

Rev	Date	Description	By	Chk	App

PARSONS BRINCKERHOFF
 Kings Orchard
 1 Queen Street, Bristol
 BS2 0HQ
 Tel: 44-(0)117-930-6200

Client: **VALE of GLAMORGAN**

BRO MORGANNWG

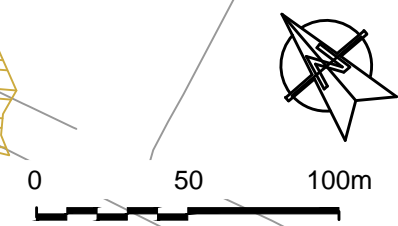
Site/Project:
FIVE MILE LANE IMPROVEMENTS

Title:
LANDSCAPE PROPOSALS


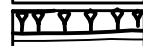
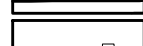
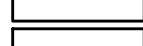












Drawn: SF	Checked: JW
Designed: EMK	Approved: JW
Date: 16/02/2016	Scale: 1:2500 A3 Sheet: 7_OF_8
Project Number:	Drawing Number: Revision:

60654	Figure 1.5G
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-  On Embankment
-  In Cutting
-  Fence line
-  Mammal Pipe
-  Equestrian Route
-  Indicative location of cycle route
-  Attenuation Pond
-  Existing Scrub
-  Existing Ancient Woodland
-  Existing Woodland
-  Existing Hedgerow
-  Proposed Native Woodland
-  Proposed Native Hedgerow
-  Proposed Individual trees
-  Areas of species rich grassland excluding: verges, roundabouts and visibility splays.
-  Amenity grass for verges and visibility splays

Rev	Date	Description	By	Chk	App

PARSONS BRINCKERHOFF
 Kings Orchard
 1 Queen Street, Bristol
 BS2 0HQ
 Tel: 44-(0)117-930-6200

Client: **VALE of GLAMORGAN**

BRO MORGANNWG

Site/Project: **FIVE MILE LANE IMPROVEMENTS**

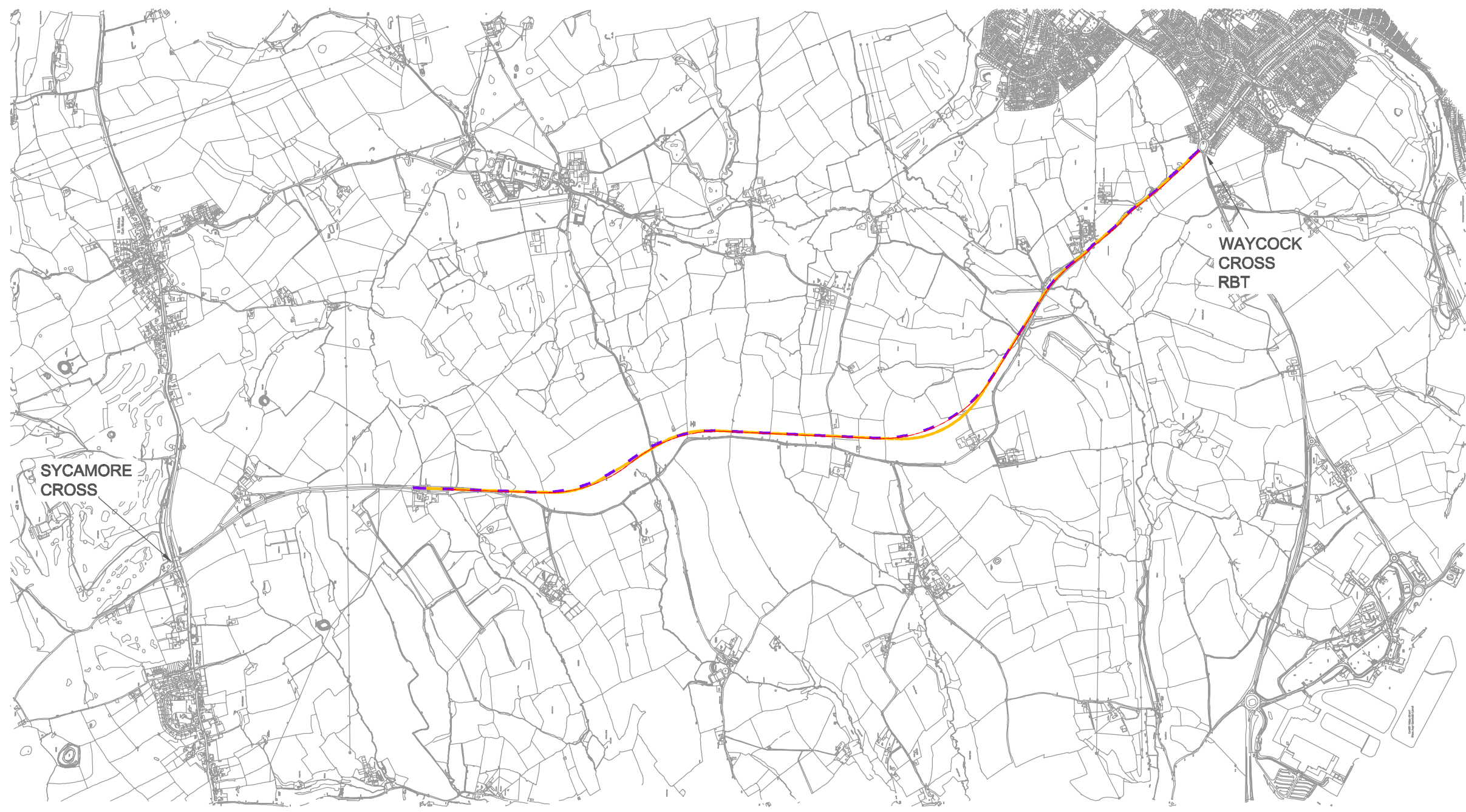
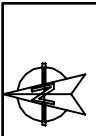
Title: **LANDSCAPE PROPOSALS**

Drawn: SF	Checked: JW
Designed: SF	Approved: JW
Date: 16/02/2016	Scale: 1:2500 A3 Sheet: 8_OF_8
Project Number:	Drawing Number: Revision:

60654	Figure 1.5H
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 2. DO NOT SCALE FROM THIS DRAWING, USE FIGURED DIMENSIONS ONLY.
 3. ALL MEASUREMENTS ARE METRES UNLESS OTHERWISE STATED.

KEY

	PREFERRED OPTION
	PURPLE OPTION
	ORANGE OPTION

Rev	Date	Description	By	Chk	App

FOR INFORMATION

PARSONS BRINCKERHOFF
 29 Cathedral Road
 Cardiff
 CF11 9HA
 Tel: 44-(0)29-2082-7000
 Fax: 44-(0)29-2082-7001

Client:

Site/Project: **FIVE MILE LANE IMPROVEMENTS**

Title: **ROUTE OPTIONS**

Drawn: GS	Checked:
Designed: JM	Approved:
Date: 13/05/2015	Scale: 1:25,000 A3 Sheet: 1 OF 1
Project Number:	Drawing Number: Revision:

3512646D-HHC **Figure 2.1** -

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