



A9 Dualling: Luncarty to Pass of Birnam Environmental Statement

Non-Technical Summary

March 2014



Non-Technical Summary

PREFACE

This document is the Non-Technical Summary (NTS) of the Environmental Statement for the A9 Dualling: Luncarty to Pass of Birnam project. Copies of the Environmental Statement and the draft Road Orders are available to view during normal office hours at the following locations:

Transport Scotland

Major Transport Infrastructure Projects (MTRIPS)
Buchanan House
58 Port Dundas Street
Glasgow
G4 0HF

Telephone: 0141 272 7100

08.30 to 17.00 Monday to Thursday
08.30 to 16.30 Friday

Stanley Post Office

2-4 Percy Street
Perth
Perthshire
PH1 4LU

Telephone: 01738 828 206

09:00 to 17:00 Monday, Tuesday, Thursday, Friday
09:00 to 13:00 Wednesday
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AK Bell Library

York Place
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PH2 8EP

Telephone: 01738 444 949

09:30 to 17:00 Monday, Wednesday, Friday
09:30 to 20:00 Tuesday, Thursday
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Bankfoot Church Centre

Tullielbelton Road
Bankfoot
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Telephone: 01738 827 952

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The Environmental Statement (including this Non-Technical Summary) and draft Road Orders may also be viewed online at www.transportscotland.gov.uk/road/projects/A9-Luncarty-to-Pass-of-Birnam

A bound paper copy of the Environmental Statement may be purchased at a cost of £150 or in DVD format at a cost of £10 by writing to Transport Scotland at the address on Page 1 of this NTS. Copies of this Non-Technical Summary (NTS) are available free of charge from the same address.

Any person wishing to make representation to the Environmental Statement should write to Transport Scotland at the address Page 1 of this NTS. Formal representations are invited within six weeks of the advertised date of publication of the Environmental Statement.

INTRODUCTION

Background

This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES) for the A9 Dualling: Luncarty to Pass of Birnam project. The project is proposed by Transport Scotland, an agency of the Scottish Government.

The A9 Trunk Road forms a strategic link on Scotland's Transport Network, linking the Scottish Highlands and Central Scotland, and is vital to supporting the growth and development of the economy in the north of Scotland. A Strategic Transport Projects Review in 2009 (STPR) and the Scottish Government's 2011 Infrastructure Investment Plan (IIP) include for upgrading of the A9 to dual carriageway standard between Perth and Inverness by 2025. The programme of individual projects to achieve this has been subject to Strategic Environmental Assessment (SEA) in 2013 to consider the overall constraints, environmental sensitivities and opportunities for enhancement. The Luncarty to Pass of Birnam project is the southernmost section of dualling proposed as part of the A9 Dualling programme.

The Luncarty to Pass of Birnam project (referred to in this NTS and in the ES as 'the proposed scheme') comprises dualling of approximately 9.5km of the A9, just north of Perth. The dualling will be achieved through a combination of widening and upgrades to the existing A9 carriageway. The proposed scheme incorporates upgrades to road drainage, improvements to the footway and cycleway network, and revisions to local access. It also includes the provision of a new junction for Tullybelton/Stanley and upgrading of the existing Bankfoot Junction. The proposed scheme is illustrated on Figures 1-5 of this NTS.

The proposed scheme will be submitted for authorisation through the Roads (Scotland) Act 1984. Once approved, it is anticipated that construction will start in 2017 and be completed in 2019.



Traffic on single carriageway section of the existing A9, near Luncarty

Environmental Impact Assessment

An Environmental Impact Assessment (EIA) of the proposed scheme is required under European and UK legislation. The Environmental Statement (ES) reports the findings of the EIA work carried out on the proposed scheme.

The purpose of EIA is to investigate the likely effect of the proposed scheme on the biological, physical and historical environment, as well as on members of the public and on current or planned future use of the environment. This NTS presents the key issues identified in the ES, including beneficial and adverse impacts considered to be of particular importance.

The EIA process provides a valuable opportunity to reduce potential environmental impacts through design refinement. The EIA process has included consultation, environmental surveys and technical assessments. The information gathered has informed decision-making throughout the design process, providing opportunity to address potentially significant impacts where practicable, for example by refinement of route alignment or by the incorporation of measures to avoid or reduced potential adverse impacts.

A summary is provided in this NTS. Further details about the A9 Dualling: Luncarty to Pass of Birnam proposals and their impacts can be found within the full text of the Environmental Statement.



Mill Dam Site of Special Scientific Interest, (SSSI) near the northern extent of the proposed scheme

Need for the Scheme

The A9 is a vital strategic route linking the Scottish Highlands and central Scotland. The link is a major transport route connecting Perth and Inverness. The A9 supports freight traffic across a range of key industries and is also used to provide tourist access to locations, such as Perthshire and the Highlands. The upgrade of the A9 to a dual carriageway is expected to assist economic growth in the north of Scotland. Part

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of this economic growth is supported by improved journey times, potentially saving costs for businesses and making the north of Scotland a more attractive short-break tourism destination.

The need for the A9 Dualling has been identified across a number of studies. The A9 Route Action Plan and Route Strategy (1995-97,1996) encouraged improvements such as carriageway dualling, junction improvements and overtaking lanes to improve safety and relieve driver stress. The later A9 Route Improvement Strategy Study (2004) then aimed to identify a route improvement scheme for the Perth to Blair Atholl section of the A9. Part of the emerging strategy was to undertake a programme of upgrading between Perth and Pitlochry.

The Strategic Transport Projects Review (2009) was undertaken to define the most appropriate strategic investments in Scotland's national transport network between 2012 and 2022. A number of targeted improvements were identified, including, full dualling of the A9 between Perth and Inverness to reduce accidents and improve journey time reliability. The Scottish Government's National Planning Framework 2 (NPF2, 2009) sets out strategic development priorities for Scotland to 2030, promoting sustainable economic growth. In relation to trunk roads, this specifically includes the A9.

These studies pre-date, and are considered within, the Infrastructure Investment Plan (IIP) (December, 2011). The IIP committed to upgrading the A9 between Perth and Inverness by 2025.

Local context considerations that contribute to the need for the proposed scheme include concern regarding existing traffic conditions and safety. These considerations have arisen from a result of driver frustration, a lack of safe overtaking opportunities and a high proportion of severe accidents.



Example local accesses onto the existing A9 and local paths used by pedestrians to cross the A9

Scheme Objectives

The aim of dualling the A9 between Luncarty and Pass of Birnam is to improve the operational performance and level of service of this section of the A9, building on the objectives set for the A9 Dualling as a whole. The proposed scheme objectives are to:

1. Improve operational performance and level of service by:
 - reducing journey times; and
 - improving journey time reliability.
2. Improve safety for motorised and non-motorised users by:
 - reducing accident severity; and
 - reducing driver stress.
3. Facilitate Active Travel in the corridor.
4. Improve integration with public transport facilities.
5. Mitigate the environmental impact of the new works and, where possible, examine opportunities for enhancing the environment and improving sustainability in design and construction.
6. Achieve value for money for both tax payers and transport users.

Of particular relevance to the EIA process is the objective in relation to mitigating environmental impacts, enhancing the environment and improving sustainability. The proposed scheme addresses this objective through the inclusion of appropriate measures to avoid and/or reduce impacts. This includes adherence to best practice during construction, in addition to measures 'embedded' into the design such as new footways and cycleways to improve existing facilities and connectivity.

Alternatives Considered

The context for dualling of the A9 was established in studies undertaken between 1995 and 2009, which included a Route Action Plan (RAP), a Route Improvement Strategy Study (RISS) and the Strategic Transport Projects Review (STPR).

The Stage 2 Strategic Planning Study undertaken by Atkins in 2009 rejected offline options for widening due to excessive costs and because of the potential adverse impacts on the local environment. Four options were considered at this stage. It was stated that each of these options would provide a compact grade-separated junction (variable heights) for access to Stanley, Tullybelton and Luncarty. The route options considered were primarily online, with the variability between options arising from the avoidance of properties and alternative access and link locations.

Engineering, environmental, traffic and economic assessments were used to assess the options being considered and identified Option 3B as the preferred route. However, Transport Scotland did not make any formal announcement due to the limited public consultation that been undertaken at that time. In addition, Transport Scotland was awaiting the outcome of STPR, part of which was considering the dualling of the A9 Trunk Road. In January 2012, Transport Scotland held a public exhibition, presenting two route options from the Strategic Planning Study and a number of comments regarding these options were received from members of public.

Jacobs was commissioned by Transport Scotland in August 2012 to undertake an assessment of the preferred route, progress the engineering design, and publish an Environmental Statement and draft Scheme Orders.

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Prior to commencing assessment, Jacobs undertook a review of comments received from the public exhibitions to establish whether these could be addressed by amending the previously identified preferred route, Stage 2 Option 3B. Following discussions with Transport Scotland, revisions to the preferred design were assessed and a Stage 2 Addendum Report was completed early in 2013.

This refined design, referred to as 'Option 3B Addendum', provided slightly increased separation and reduced land-take for properties in close proximity to the A9. It was considered likely to result in marginally lower environmental impacts than the previous preferred option (Stage 2 Option 3B) in terms of disruption during construction, landscape and visual aspects, existing land use, traffic noise and vibration. However, marginal increased drainage and water environment effects were anticipated, due to a slight overall increase in cuttings.

The refined design (Option 3B Addendum) was taken forward as the preferred route and was presented at public exhibitions held in June 2013. The design has been subject to ongoing design refinement informed by a range of inputs and considerations, including environment.



Garry Burn, A9 Luncarty to Pass of Birnam

The Proposed Scheme

An outline road design and alignment have been developed for the proposed scheme, which is referred to as the 'Stage 3 design'. This design will be used by the selected contractor to prepare a detailed design for construction of the proposed scheme.

The proposed scheme is located just north of Perth along 9.5km of the existing single carriageway section of the A9 between Luncarty and the Pass of Birnam. This section of the A9 is located within close proximity to a number of environmental designations, including watercourses forming part of the River Tay Special Area of Conservation (SAC) which are crossed by the existing road.

The proposed scheme is to widen the existing carriageway to provide a dual carriageway over the length of this section of the A9, and will utilise the existing carriageway where practicable to reduce impacts and minimise disruption to road user. The proposed scheme can generally be split into two sections of 2.2km and 7.3km. For the shorter southernmost section the existing carriageway would be widened to the west. For the remaining northernmost section of 7.3km the existing carriageway would be widened to the east. The dual carriageway would comprise two 3.65m wide lanes in each direction with 1m wide hardstrips, 2.5m verges, and a 2.5m wide central reservation to separate northbound and southbound traffic.

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The proposed scheme will provide a new junction for Tullybelton/Stanley and upgrade the existing Bankfoot Junction. In addition, the proposed scheme will involve the upgrading of a number of side roads and local accesses to enable access to the existing road network. This will include the closure of a number of direct accesses to the A9 improving safety.

Facilities for pedestrians and cyclists are also a feature of the proposed scheme, which will provide improved access and safety for pedestrians, cyclists and equestrians wishing to travel between the villages of Luncarty and Bankfoot. A new combined footway/cycleway will enable travel north from Luncarty on the eastern side of the A9 to the Tullybelton/Stanley Junction. From here the A9 can be safely crossed using proposed crossing points and then a new 940m long footway/cycleway linking to the existing core path network to enter Bankfoot from the south. The proposed scheme also includes three overbridges which maintain and enhance access (through improved safety) for a number of existing paths.

A number of cuttings and embankments are required to accommodate the proposed scheme. In addition to the structures explained in the previous paragraph, a number of existing structures will be replaced and/or upgraded as part of the proposed scheme, including culverts at Shochie Burn and Ordie Burn, and a new (replacement) crossing of the Ordie Burn to the west of the Tullybelton/Stanley Junction.

The estimated duration of the proposed scheme's construction activities is 22 months, with construction anticipated to start in January 2017.

Delivering the Proposals

The Environmental Statement presents the results of the EIA of the proposed scheme, as summarised above. The design of the project may be refined but will still be deemed to comply with the Environmental Statement provided that such refinements incorporated in the design will be subject to environmental review to ensure that residual impacts will be no worse than those reported in the Environmental Statement.

Overview of the Environmental Impact Assessment Process

The EIA has been undertaken as an integral part of the design process, informing decisions on the proposals as they were developed. Environmental constraints and issues were identified and incorporated into the decision-making process throughout. Information gathered through the extensive surveys undertaken for the proposed scheme was used in the assessment.

The aims of the environmental assessment are to:

- gather information about the environment, identify environmental constraints and opportunities which may influence, or be affected by the proposed scheme;
- identify and assess potential environmental impacts;
- identify and incorporate into the proposed scheme design, features and measures to avoid, reduce or offset adverse impacts, and where possible enhance beneficial effects; and
- assess the proposed scheme's residual impacts (those remaining after measures are implemented to avoid or reduce potential impacts).

Impacts were assessed by comparing the existing situation (the baseline conditions) to the conditions that would occur with the proposed scheme in place.

Consultation and Scoping

As part of the design development and assessment process, a comprehensive consultation exercise was carried out with approximately 25 organisations (consultees) including Perth & Kinross Council, Historic Scotland, SEPA and Scottish Natural Heritage (SNH). In addition, potentially affected landowners were also consulted. Public exhibitions were held in June 2013 as part of a programme of ongoing public engagement and consultation for the A9 Dualling.

The purpose of the consultation was to:

- ensure that statutory consultees, other bodies with a particular interest in the environment, and members of the public were informed of the proposals and provided with an opportunity to comment;
- collate baseline information regarding existing environmental site conditions;
- obtain input to the identification of potential impacts and the development of appropriate mitigation;
- inform the scope of the assessments being undertaken; and
- seek consultee input to the proposed scheme design.

The project team has worked closely with all the key stakeholders to develop a proposed scheme that aims to reduce the overall environmental impact by avoiding sensitive features and through careful design. Stakeholder feedback was reviewed by the project team and incorporated into the assessment and design process where appropriate.



Existing road drainage treatment pond (SUDS), alongside the A9 at Bankfoot Junction

IMPACTS OF THE PROPOSALS

Community and Private Assets

The main settlements along this section of the A9 are Luncarty in the south and Bankfoot in the north. The study area contains land used for agricultural, forestry, residential, commercial, community, development and recreational purposes. The majority of residential properties, commercial premises and community facilities in the study area are located in the settlements of Luncarty and Bankfoot. In addition, located along the length of the proposed scheme are farmhouses, farm businesses and scattered residential properties.

The proposed scheme would require the acquisition and demolition of one property, and approximately 70 hectares of land-take which includes land identified as 'prime quality' in agricultural use. Significant impacts on three agricultural businesses were identified, however, all three farms remain viable. Where land-take is required, landowners will be compensated financially in accordance with the District Valuer's assessment.

To meet safety and design standards, many of the existing direct accesses to the A9 would be closed with the proposed scheme in place, which will affect access routes to/from some properties. Significant residual impacts on three properties were identified as a result of access changes and the length of the resulting diversion required with the proposed scheme in place. However, it is considered that the new routes will be significantly safer than the existing accesses directly off the A9.

It is anticipated that local businesses and those in the wider region of Perth & Kinross may benefit from improvements in safety and journey time as a result of the proposed scheme. Community land-take is minimal and is not considered significant.

The assessment also considers the potential for future development in the area. The proposed scheme is not considered to materially affect current planning applications or strategic development zones, though it is recognised that the development zones may benefit from improvements in A9 safety and journey times.

The development of the proposed scheme design has sought to avoid sensitive land and buildings. Additional measures to reduce potential impacts identified include reinstatement of access and measures such as signage for diversions to reduce disturbance during the construction period.

Geology, Contaminated Land and Groundwater

The proposed route is underlain by several types of soil and other material, including mixtures of clay, silt, sand and gravel and glacial till. The solid geology (rock) of Devonian Old Red Sandstone underlies the study area and the entire study area lies to the south of the Highland Boundary Fault. No sites of geological value are present within the study area.

Two biological Sites of Special Scientific Interest (SSSI) (Cairnleith Moss and Mill Dam) and an unnamed pond are located in the study area and have been identified as supporting habitats that rely on groundwater supply (known as Groundwater Dependent Terrestrial Ecosystems), however, impacts on these sites are not considered significant. The River Tay Special Area of Conservation (SAC) was also assessed and is not considered to be at risk from changes to groundwater.

Several potential sources of contamination have been identified within the study area. These may require specific measures to be taken during construction. For example, procedures for working with potentially contaminated soils and appropriate waste management. However, taking into account the measures proposed to reduce impacts no significant adverse impacts have been identified.

The assessment also considered the impacts on below ground water in aquifers and private water supplies. A number of private water supplies, springs and wells are present and sourced from aquifers. The proposed scheme would have no significant impacts on the aquifers and on groundwater abstractions, following the implementation of measures to protect these during construction and operation.

Road Drainage and the Water Environment

There are several environmentally sensitive watercourses within the study area. The largest of these are the Shochie Burn and Ordie Burn which are crossed by the existing A9, and the Garry Burn which runs alongside it south of Bankfoot. These watercourses are tributaries of the River Tay and share its designation as an SAC and as identified salmonid waters. The proposed scheme will result in existing culverts requiring extended and a number of new watercourse crossings being required.

Modelling of the Shochie Burn, Ordie Burn and Garry Burn was undertaken to assess the capacity of the existing crossings structures and to inform the design of the proposed scheme and also to assess any changes to existing areas at flood risk. Agricultural land is being acquired to accommodate flood water during a flood event at locations where the proposed scheme encroaches into areas identified as part of existing floodplains.

Measures will be implemented to reduce the potential for adverse impacts on the water environment during construction, including best practice construction and pollution control measures. Following the implementation of these measures identified potential construction impacts are assessed as 'not significant'.

The proposed scheme also includes measures to reduce impacts during the operational phase. These will include Sustainable Drainage Systems (SUDS) to treat runoff before it reaches watercourses via the drainage system, such as features that provide filtering of water and temporary storage basins for runoff.

Due to the inclusion of the proposed drainage system the vast majority of residual impacts during operation are not significant. The only exception is Gelly Burn (north) where assessment of water quality indicated that it would potentially not meet design/assessment standards due to very low flow and dilution within the watercourse. Mitigation measures for this watercourse have been discussed and agreed with SEPA and are considered to be appropriate.



Electrofishing surveys, Garry Burn

Ecology and Nature Conservation

There are three ecologically designated sites within the study area - the River Tay SAC, Cairnleith Moss SSSI and Mill Dam SSSI. Arable land and other types of farmland comprise the majority habitat types within the ecology study area together with smaller areas of semi-natural habitats represented by wetland, grassland, woodland and freshwater habitats. Some of these are valuable habitat supporting protected species, including; bats, breeding birds, red squirrel, otter and water voles.

Potential impacts relate to aspects including loss of habitat (such as tree removal), disturbance and pollution risk during construction, and the effects of widened road in terms of preventing movement of species between different areas.

Mitigation measures to reduce or offset potential impacts on ecology include:

- creation/enhancement of habitats through replacement planting, and maintenance of existing habitats;
- provision of replacement bat boxes;
- otter-proof fencing;
- dry mammal underpasses (large pipes) alongside watercourse culverts.

The proposed scheme design also includes overbridges and underpasses, including an enhanced design bridge at Gelly Wood, which will have planting on verges. These structures may provide additional safe connectivity between each side of the A9.



Nesting birds within woodland habitats, A9 Luncarty to Pass of Birnam

The provision of the mitigation will ensure there are no significant residual impacts on ecological receptors during construction or operation of the proposed scheme. The measures proposed to reduce impacts are illustrated on Figures 1-5 of this NTS.

Landscape

The study area is located in the Central Lowlands at the eastern edge of Glenalmond and to the south of the Grampian Highlands, within the lower lying farmland west of the River Tay. The terrain typically slopes in a south-easterly direction and is characterised by floodplains, moss lands and undulating hillsides. The Gardens and Designed Landscapes of Murthly Castle, Battleby and Scone Palace are located in the study area. Land use in the study area is primarily agriculture and forestry, with a number of small settlements.

The existing landscape is described and classified into areas of distinctive character which assist in the assessment of the sensitivity of the landscape and the development of mitigation proposals. Potential impacts include changes to the landscape pattern and character, and are assessed for both the winter year of opening (when all replacement planting will be in place but not yet fully matured and effective) and during

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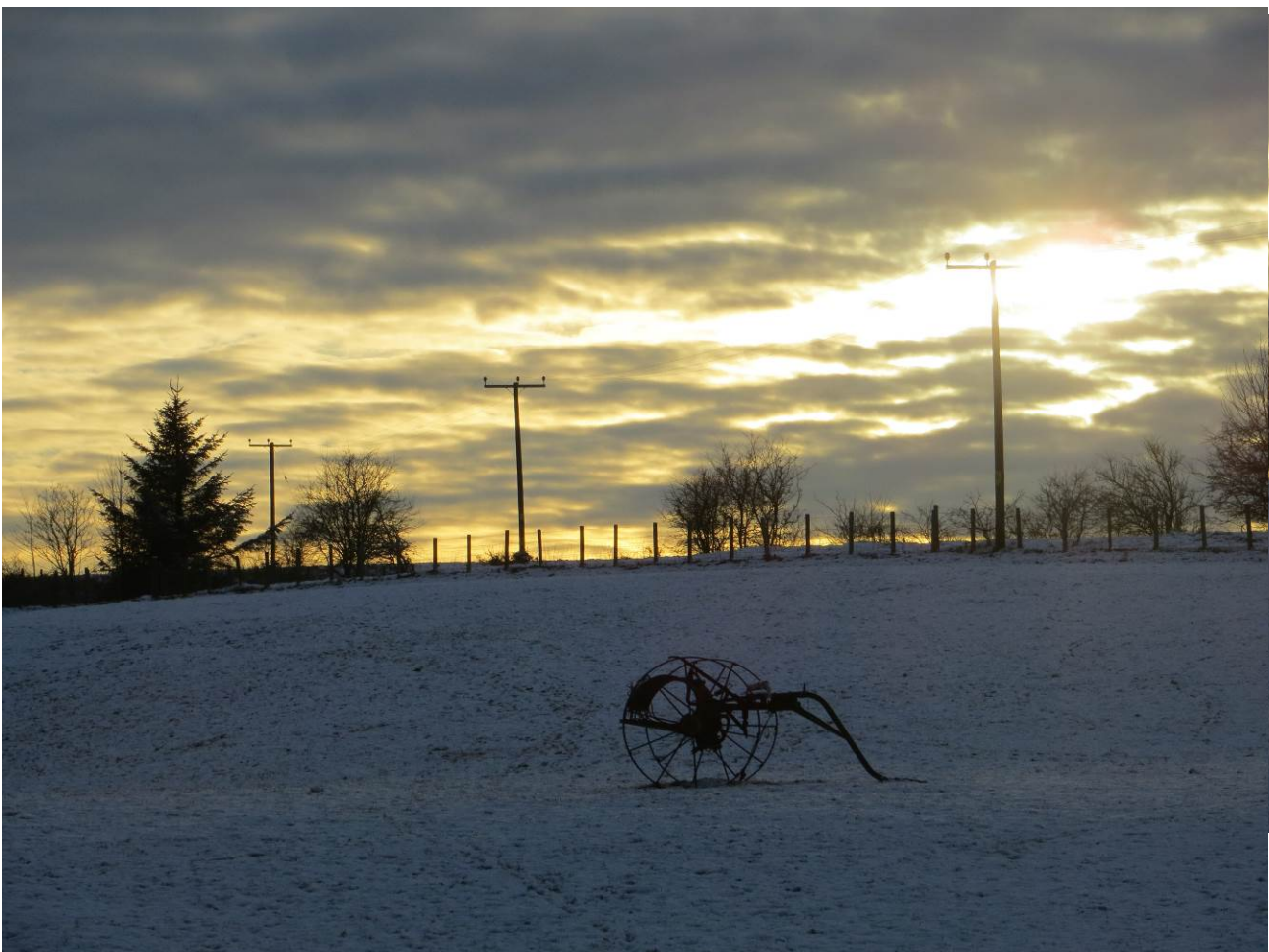
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the summer 15 years after opening (when mitigation planting has become established and contributes to screening). Visual impacts are closely linked to this, and are explained in the next section of this NTS.

The majority of landscape mitigation is achieved through input to the design and planting proposals. Measures include appropriate grading of earthworks, and planting to provide screening and improve the fit within the surrounding landscape.

Significant impacts are anticipated during the winter year of opening for one landscape character type, though this will become not significant over time as landscape planting establishes. Once the planting has become fully established, no significant landscape impacts are predicted, due to the route alignment on the line of the existing road corridor and the sensitive design of the dualling proposals. The main changes which will result are from proposed embankments and cuttings, and loss of mature or established planting. These impacts will be highest at the Tullybelton/Stanley Junction, where alterations to the landscape topography are greatest, and the Muir of Thorn/Gelly Wood where small areas of woodland will be lost.



Typical agricultural landscape, A9 Luncarty to Pass of Birnam

Visual

The visual assessment considered the degree of anticipated change the proposed scheme will have on local receptors such as houses, footpaths and outdoor spaces.

In Luncarty, views from a number of properties close to the existing A9 are limited by mature shelterbelt woodland at the edge of the village, the rolling topography and high embankments for the railway. Several the western edge of the village gain more open views to the west due to their slightly elevated position. At

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the northern end of the village a small cemetery located on the high ground gains views and to the south-west of the village a farm and a small group of houses at the edge of Battleby House Estate gain limited views across the surrounding area, due to screening provided by mature trees and by the rolling topography in the foreground. To the north of Luncarty there are several scattered properties and farms situated along the route of the existing A9. The existing road is partially screened by a belt of mature scrub woodland.

In Bankfoot, the majority of dwellings have attractive views across rolling farmland. The existing A9 is screened from most properties, by a small hill at the eastern edge of the village and a deep cutting. Some properties at the southern end of the village gain views of the A9 as it emerges from the cutting, and at the southern end of the village the Perthshire Visitor Centre and Scottish Liqueur Centre are popular visitor attractions and have open views of the A9. North of Bankfoot, a series of footpaths run through the forestry plantations on Murthly Estate, and have some open views across the surrounding farmland.

The proposed scheme design includes measures such as planting to screen views of the proposed scheme, or replace areas of woodland that will need to be removed during construction. The landscape design also considered views of the surrounding experience by drivers on the A9, including opportunities to maintain or enhance open views. The landscape and visual planting proposals are illustrated on Figures 1-5 of this NTS.

Visual impacts of the proposed scheme include views of new structures, traffic, and moving headlights. It is predicted that Marlehall, Beach Lea House, Rosevale House, Ladner; Newmill Cottages (2 dwellings); and Newmill would experience significant impacts during the winter year of opening, but the establishment of the mitigation planting would reduce these to not significant over time. No other significant impacts are predicted.

Cultural Heritage

Cultural heritage sites include archaeological remains, historic buildings, gardens and designed landscapes.

The assessment identified 81 archaeological remains, 35 historic buildings, and nine historic landscape types, dating from the Neolithic period to the recent past. Potential impacts were identified in relation to aspects such as changes to the setting of cultural heritage sites, or the requirement to remove existing features (such as remains of previous settlements).

To reduce potential impacts, a programme of archaeological evaluation is proposed comprising trial trenching, geophysical and earthwork survey, and if required this would be followed by archaeological recording in advance of or during construction. Archaeological recording may include for example, archaeological earthwork survey, historic building recording and photographic survey. The landscape planting proposed will also reduce potential impacts on the settings of cultural heritage assets.

After mitigation, residual impacts during construction are not considered significant.



Standing Stones, A9 Luncarty to Pass of Birnam

Air Quality

The existing air quality throughout the area is characterised by the existing emissions from road traffic. Air quality modelling has been undertaken to determine potential for changes to air quality as a result of the proposed scheme, and any related effects on local communities or designated ecological sites.

The assessment used air quality monitoring and modelling to consider the following pollutants emitted from vehicles: nitrogen oxides, nitrogen dioxide and fine particulate matter. The existing nitrogen dioxide and fine particulate matter concentrations within the study area meet Perth & Kinross Council's prescribed Air Quality Objective thresholds.

Local air quality assessments considered 24 representative sensitive properties and in terms of ecological designations; Cairnleith Moss SSSI, the River Tay SAC and Mill Dam SSSI. Modelling was used to predict pollutant concentrations at the year of proposed scheme opening (2019). A regional air quality assessment was also undertaken for the year of opening (2019) and the design year, 15 years after opening (2034). Potential for air quality effects during construction was also considered.

With the implementation of appropriate dust control measures, the construction phase of the proposed scheme is not predicted to cause any significant impacts. Assessments concluded that there are no significant local air quality impacts during operation. The regional assessment predicted some increase emissions of nitrogen oxide and nitrogen dioxide due to traffic increase over time, however, these are not considered to be significant.



Agricultural land, A9 Luncarty to Pass of Birnam

Noise and Vibration

This section of the A9 passes through a generally rural area, where the noise environment is largely dominated by road traffic noise on the existing A9 and connecting side roads.

The assessment used noise monitoring and modelling to consider potential noise and vibration impacts associated with the proposed scheme. The proposed scheme includes low noise road surfacing, and a noise barrier is proposed at one property (Broompark Cottage) to mitigate for potential noise increase. With the proposed scheme in place, no receptor will experience significant adverse short-term noise impacts or major noise increases. In addition, 85 dwellings and two other sensitive receptors will experience moderate noise benefits with 22 dwellings and one other sensitive receptor experiencing major noise benefits in the short-term. Far more dwellings and other sensitive receptors experience decreases in noise level than increases in noise level, with only three properties subject to a perceptible noise increase in the short term.

In the long-term with the proposed scheme in place, no receptor will experience perceptible noise increases, and 47 dwellings and two other sensitive receptors are predicted to experience long-term perceptible benefits for daytime noise.

Predictions of construction noise were made using a noise model, assuming worst-case conditions. Potential for significant noise impacts during construction are predicted for a number of the closest properties to the proposed scheme, particularly during noisier activities such as the earthworks and carriageway surfacing phases. However, given that much of the construction work is conducted at multiple, temporary locations along the proposed route, the duration of impacts for the majority of receptors will be restricted to limited periods when the works are closest to these properties. Mitigation measures will be taken to further reduce construction phase impacts, for example through a proactive approach by the contractor, community liaison and implementing best practice and an appropriate mitigation strategy.

Vibration predictions from the earth compaction works during construction indicate that those closest properties to such works are likely to be exposed to perceptible levels of vibration. The potential for cosmetic damage from compaction activities close to sensitive receptors is highlighted based on worst-case assumptions. Mitigation measures and monitoring are proposed for periods when compaction activities are undertaken close to sensitive receptors.

Effects on All Travellers

There are a number of paths and cycle routes with the study area, including core paths, rights of way, National Cycle Routes, equestrian routes and local paths. The section of the A9 being considered is predominantly a single carriageway road, with the exception of the dualled section in the north adjacent to Gelly Wood and from south of the A9/B9099 junction at Luncarty. Within the study area there are five main junctions and several minor access roads located along the existing A9. Where views from the road are available, they are predominantly across the surrounding rolling agricultural landscape with clusters of trees around farm buildings and boundary lines, with more distant views to the rising hills to the west.

Potential impacts of the proposed scheme on pedestrians, cyclists and equestrians (referred to in the Environmental Statement as Non-Motorised Users or NMUs) were assessed. This considered changes to journey lengths and amenity value, and access to the outdoors. The assessment took into account elements of the design such as the new shared footway and cycleway provisions, which form part of the proposed scheme to accommodate use by pedestrians, cyclists and equestrians as shown on NTS Figures 1-5.

With the proposed scheme in place, significant beneficial impacts for pedestrians, cyclists and equestrians have been identified in the assessment as a result of the provision of overbridges, additional footways and cycleways. These will maintain existing usage, and also provide safer and more efficient access across the A9 within the study area. Generally, journey lengths would not be significantly affected, with the exception of a core path near to East Mains, where a significant impact is predicted as a consequence of increased journey length (albeit the alternative route proposed is safer than the existing route). Overall, residual

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impacts of the proposed scheme on pedestrians, cyclists and equestrians during operation are considered to be beneficial.

This assessment also considered vehicle travellers in relation to changes to views from the road. Vehicle travellers would continue to experience the same scenic views of the surrounding rolling farmland interspersed along the wooded road corridor. The proposed scheme would result in a very minor increase in the sections of the road without open views, but changes are not considered significant.

For vehicle travellers, driver stress can be caused by frustration, fear of a potential accident and route uncertainty. Current levels of driver stress for the existing A9 during peak hours between Luncarty and Pass of Birnam, are considered to be Low to Moderate. Over time, due to a forecast increase in traffic levels on the road network, higher levels of driver stress during peak hours are anticipated, however, with the proposed scheme in place, driver stress would either remain the same or decrease.



Core path through Gelly Wood

Materials

The amount of material required for the proposed scheme has been estimated and the range of materials wastes likely to be generated described. Potential impacts associated with the use of material resources and the management of waste during the construction of the proposed scheme were considered.

By applying key material and waste management principles, the impacts on natural resources and need for permanent disposal of wastes will be reduced. In particular, this would be achieved by re-using existing soils and infrastructure, taking into consideration the environmental impacts of products during their purchase, and sourcing materials from local suppliers.

The potential for impacts on materials or waste disposal facilities is related to the performance of the contractor during completion of the construction works, with impacts, for example, likely to occur as the result

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of unplanned, accidental occurrences, such as spillages, or as a result of failure of management systems. The risk of such events occurring would be managed and reduced through the development and application of several plans addressing different aspects of construction site management, including a Construction Environmental Management Plan, Site Waste Management Plan and Materials Management Plan.

With these plans in place, the potential for effects on material resources is considered not to be significant. The construction of the proposed scheme is expected to give rise to small-scale impacts only, mainly relating to the temporary storage and movement of materials and wastes during construction. There would also be a slight depletion of natural resources through the extraction of primary aggregates (sands and gravels).

Policies and Plans

The principle of development of the proposed scheme is established and generally supported in national, regional and local planning policy. The Government's commitment to the proposed scheme and wider improvements to the A9 is outlined in the National Planning Framework 2.

The proposed scheme also supports regional transport policy objectives as part of a wider strategy to assist in providing enhanced connectivity to deliver prosperity and connect communities across the region.

The assessment has identified where potential impacts associated with the proposed scheme could result in potential non-compliance with aspects of policy. The proposed measures to address potential impacts have been identified in the specialist environment assessment chapters of the Environmental Statement, and are summarised in this non-technical summary. Taking this into account the proposed scheme is considered to be overall compliant with national, regional and local planning policies.





Cumulative Assessment

The cumulative assessment provides an overview of the combined impacts of the proposed scheme and also includes impacts from other proposed developments. Potential for cumulative impacts due to the combined effect of a number of different environmental impacts of the proposed scheme on a single receptor/resource were assessed, based on the findings of the environmental topic chapters as summarised in this NTS. However, no significant cumulative impacts were identified.

The likely longer term upgrade of the full route of the A9 from Perth to Inverness was identified as having the potential to have a cumulative impact in terms of impacts on traffic volumes and the potential consequent environmental impacts that may be experienced. This was therefore incorporated into the relevant environmental assessments undertaken, which used the higher traffic data assuming the full A9 dualling. No other committed nationally important or major developments were identified that may contribute to a cumulative impact in combination with the proposed scheme.

Legend






Proposed Scheme

-  Proposed Scheme (DMRB Stage 3 Design)
-  Cutting
-  Embankment
-  Detention Basin






Proposed Vegetation Type

-  Deciduous Woodland
-  Mixed Woodland
-  New Pond
-  Species Rich Grassland
-  Shrub/Scrub Planting
-  Scattered Trees
-  Hedge
-  Drystone Wall
-  Indicative Locations of Bat Mitigation
-  Otter Fencing

Constraints

-  Site of Special Scientific Interest (SSSI)
-  River Tay Special Area of Conservation (SAC)
-  Scheduled Monument (SM)
-  Gardens and Designed Landscape (GDL)
-  Ancient Woodland Inventory

Non Motorised Users (NMU)

-  Embedded NMU Mitigation
-  Perth and Kinross Core Path
-  Right of Way
-  Undesignated Local Path
-  National Cycle Network (NCR 77)

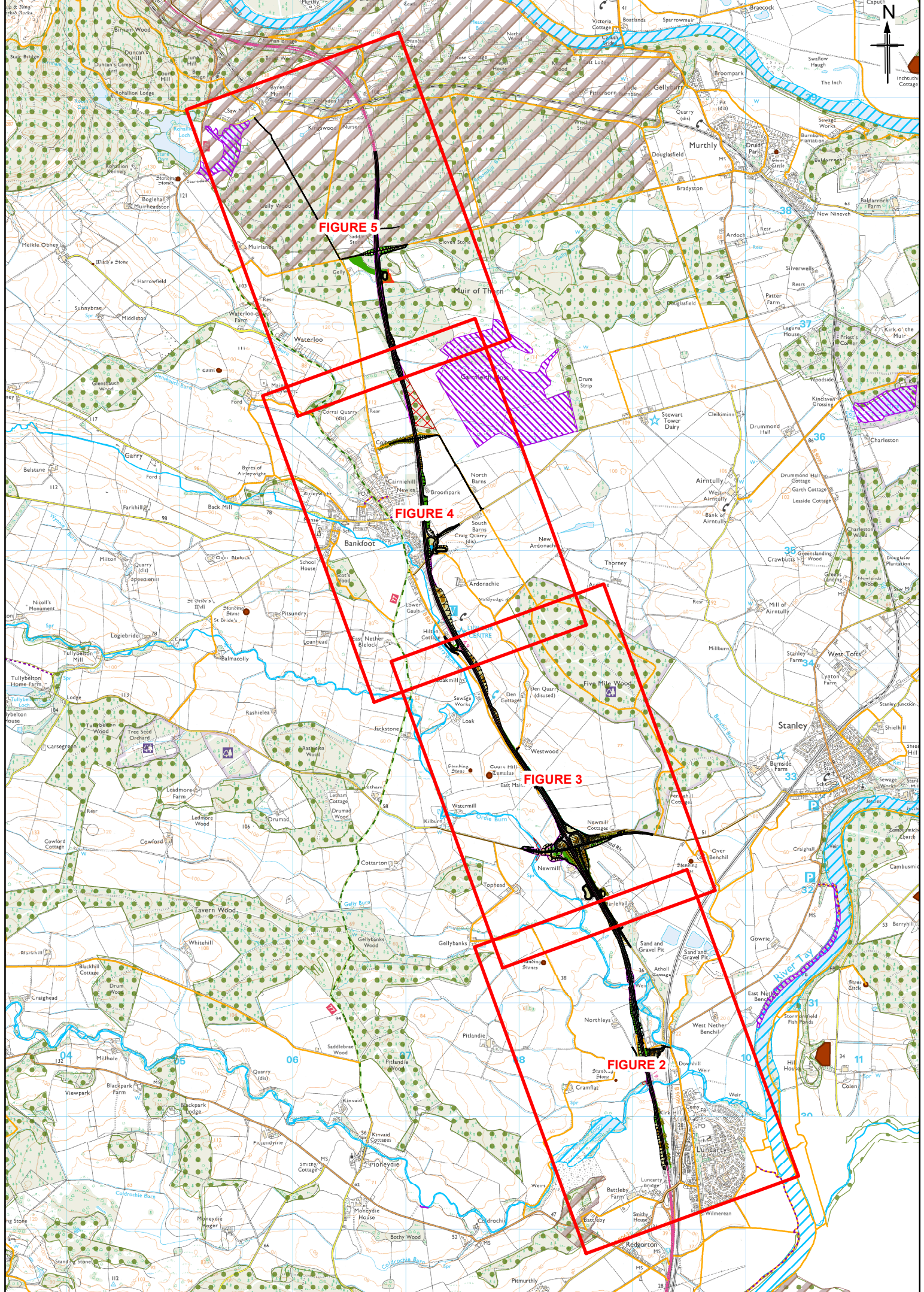


FIGURE 1 0 0.225 0.45 0.9 1.35 1.8 2.25 Kilometres

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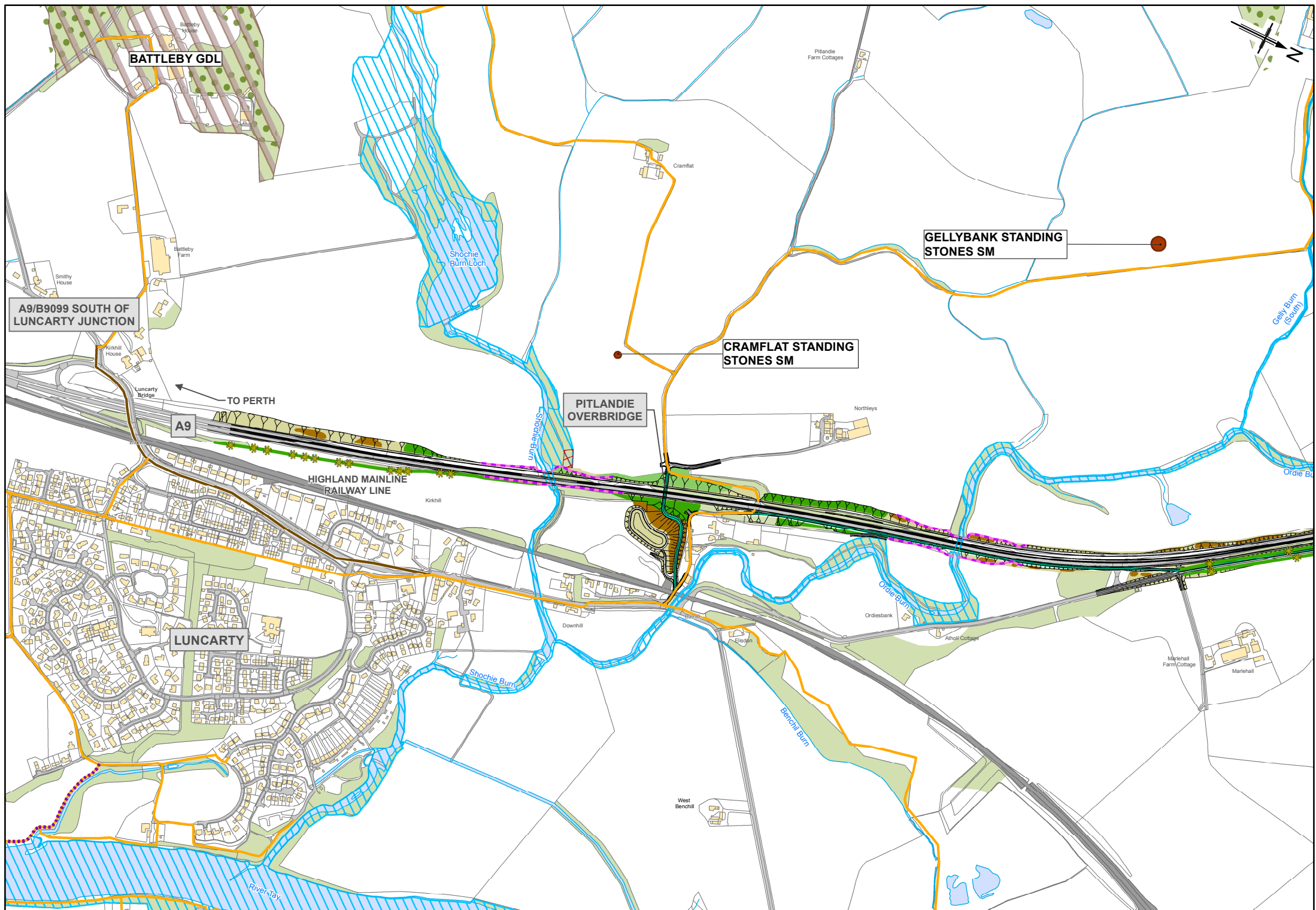


FIGURE 2

0 0.05 0.1 0.2 0.3 0.4 0.5 Kilometres

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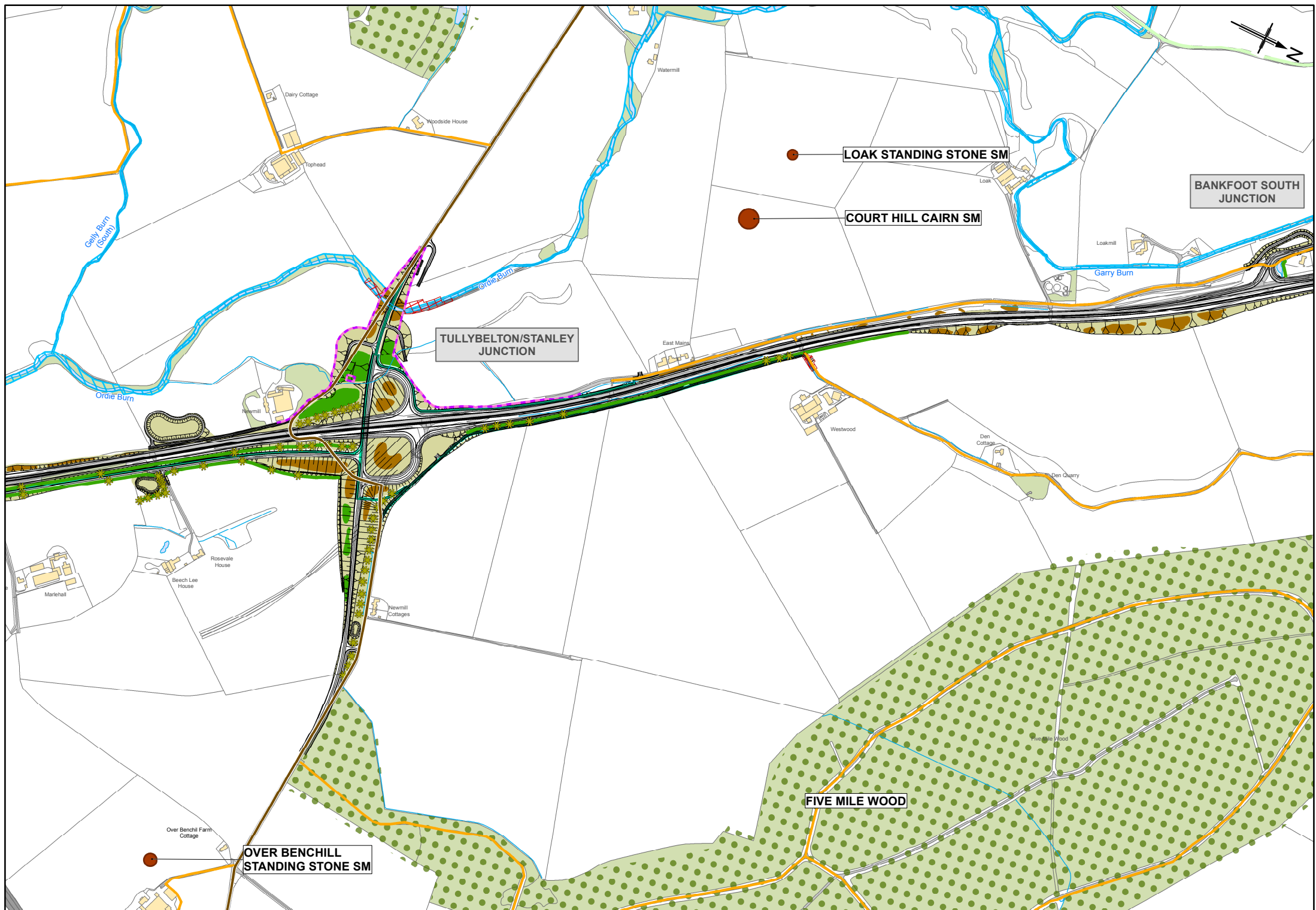


FIGURE 3

0 0.05 0.1 0.2 0.3 0.4 0.5 Kilometres

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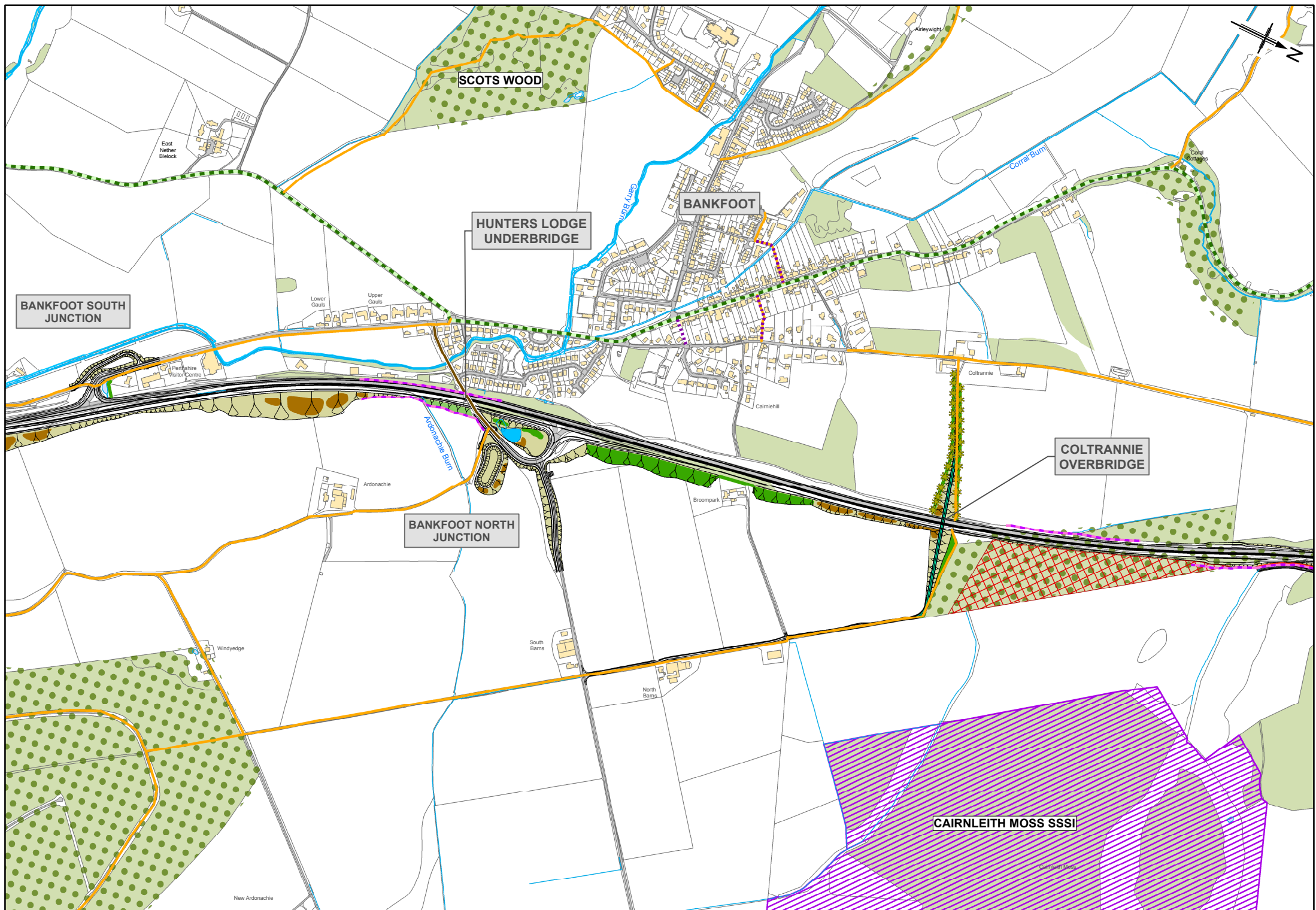
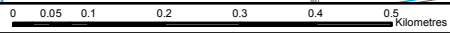


FIGURE 4



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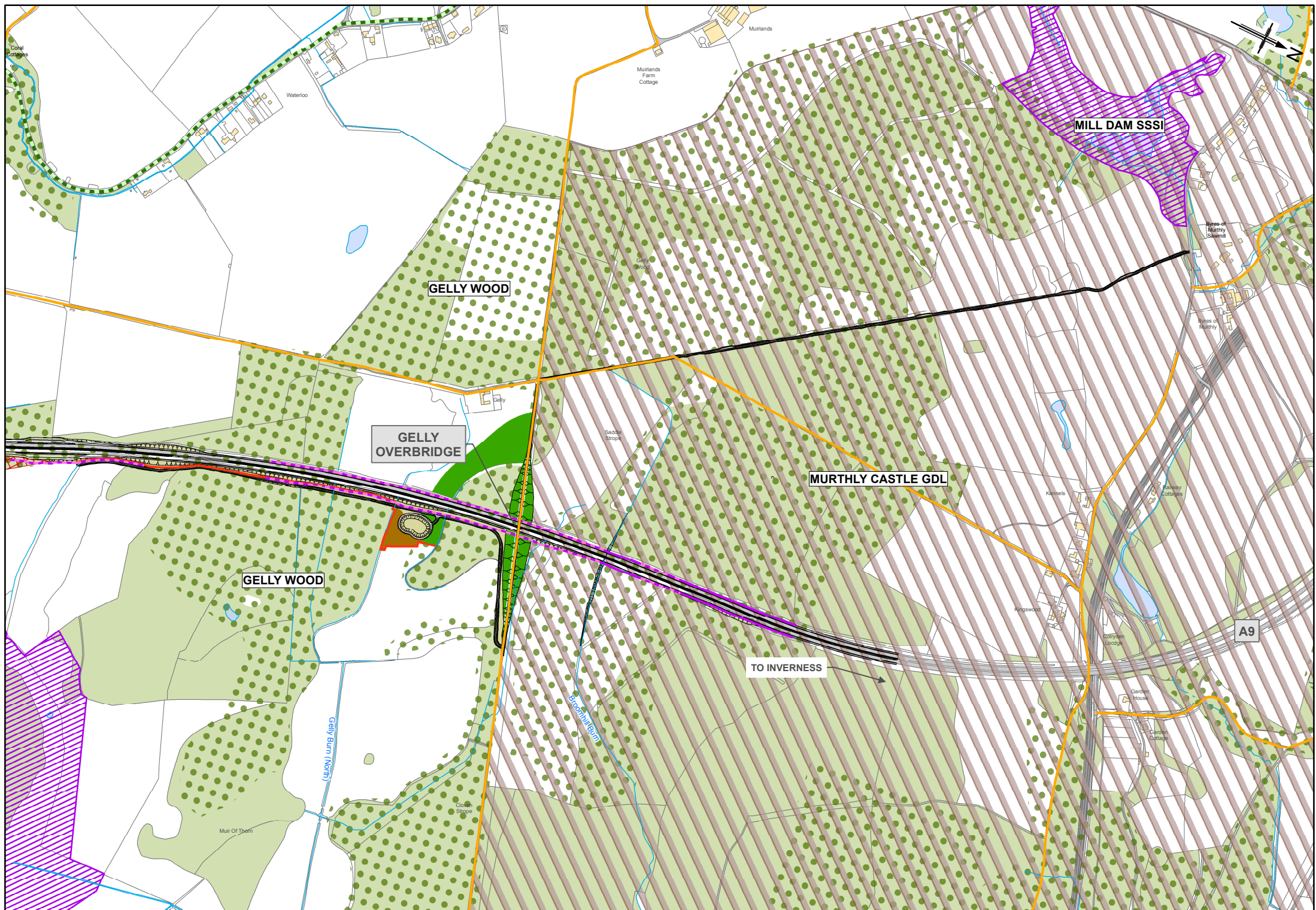
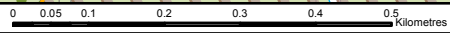


FIGURE 5



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