



A9 Dualling Programme: Killiecrankie to Glen Garry
DMRB Stage 3 Environmental Statement

Non-Technical Summary

November 2017

JACOBS



Section 1: Introduction



Preface

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

Pitlochry Library

26 Atholl Road
Pitlochry
PH16 5BX
Telephone: 01796 474635

14:00 to 16:00 and 17:00 to 19:00 Wednesday
10:00 to 12:00 and 14:00 to 19:00 Thursday
14:00 to 16:00 Friday
09:00 to 12:00 Saturday

The Environmental Statement (including NTS) and draft Road Orders may also be viewed online at: <https://www.transport.gov.scot/projects/a9-dualling-perth-to-inverness/a9-killiecrankie-to-glen-garry/>

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 above. Copies of the NTS are available free of charge from the same address or by email to: info@transport.gov.scot

Any person wishing to express an opinion on the Environmental Statement should write to Transport Scotland at the address above with the statutory period for the Environmental Statement and draft Road Orders which has been extended from six to eight weeks after the advertised date to account for the festive break.

Introduction

Background

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) set out the future investment programme for transport in Scotland over two decades including the proposed upgrade of the A9. Following this review the Scottish Government's 2011 Infrastructure Investment Plan (IIP) which committed to upgrade the A9 to dual carriageway standard between Perth and Inverness by 2025. The A9 dualling programme required to achieve this was subject to a Strategic Environmental Assessment (SEA) from 2012 to 2014 to consider the overall constraints, environmental sensitivities and opportunities for enhancement. The Killiecrankie to Glen Garry project forms part of the southern section (from Pass of Birnam to Glen Garry) of the A9 dualling programme.

The Killiecrankie to Glen Garry project (referred to in this NTS and in the ES as 'the proposed scheme') comprises dualling of approximately 21.6km of the existing A9 to be achieved through a combination of widening and upgrades to the existing carriageway, and sections of localised offline works. The proposed scheme incorporates upgrades to road drainage, provision of two new bridges over the River Garry; in addition to other watercourse crossings, improvements to the footway and cycleway network, and revisions to local access. It also includes the provision of two grade separated junctions at Aldclune and Bruar/Calvine respectively.

The proposed scheme will be submitted for authorisation through the Roads (Scotland) Act 1984. If approved, it is anticipated that construction would be approximately 3 to 3.5 years.

Environmental Impact Assessment

An Environmental Impact Assessment (EIA) of the proposed scheme is required under European and UK legislation. The ES reports the findings of the EIA. The EIA has been undertaken in line with relevant guidance including the

Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment.

The purpose of EIA is to investigate the likely significant impacts 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 a summary of the ES, including key aspects of the proposed scheme and the associated beneficial and adverse impacts considered to be of particular importance.

Further details about the likely significant impacts of the proposed scheme can be found within the full text of the ES. The ES documents have been subdivided into four volumes for ease of use;

- NTS;
- Volume 1: Main Report;
- Volume 2 (Parts 1 & 2): Technical Appendices – Specialist Technical Reports; and
- Volume 3: Figures.

The EIA process provides a valuable opportunity to reduce potential environmental impacts through design refinement. Environmental constraints and issues were identified through consultation, extensive environmental surveys and technical assessments. The information gathered has informed decision-making throughout the design process, providing opportunities to address potentially significant impacts where practicable, for example by refinement of the proposed scheme design or by the incorporation of measures to avoid or reduce potential adverse impacts.

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

Section 2: The Proposed Scheme



Need for The scheme

The A9 is a strategic route linking central Scotland to the north of Scotland. It is a vital link used by both local and long distance traffic. It is a major bus route and is used by freight traffic supporting key industries, such as food and drink, tourism, oil, waste and construction. It is considered that the upgrade of the A9 to dual carriageway will help assist economic growth in the north of Scotland and improve journey times, potentially saving costs for businesses, reducing driver stress and improving safety, 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:

Study	Purpose
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.
A9 Route Improvement Strategy Study (2004)	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 (STPR) (2009)	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.
Infrastructure Investment Plan (IIP) (2011)	Commits to upgrading the A9 between Perth and Inverness by 2025.
A9 Dualling: Case for Investment (2016)	The Case for Investment outlines strong road user, community, business and planning authority support for the A9 dualling programme. In particular, the commercial businesses along the A9 corridor are strongly in favour of the A9 dualling programme and the economic benefits it will bring. The report identifies there are five key sectors most likely to benefit from the proposed scheme; food and drink, tourism, energy, life sciences and forestry.

The Scottish Government has endorsed the commitment to dual the A9 through the National Planning Framework 3 (NPF3, 2014). The Framework is a long term strategy for Scotland which identifies national developments and other strategically important development opportunities to support and help deliver sustainable economic growth. While not one of the 14 national developments that are needed to help to deliver Scotland’s spatial strategy, NPF3 states in relation to the A9 dualling:

‘The dualling of the A9 between Perth and Inverness and improvements to the Highland Mainline will provide a step change in accessibility across the rural north, increase business confidence and support investment throughout the region.’

From a local perspective, concerns regarding safety and existing traffic conditions have contributed to the need for the proposed scheme. These considerations have arisen as a result of driver frustration, a lack of safe overtaking opportunities and a high proportion of severe accidents. The A9 Dualling: Case for Investment (2016) highlights that the A9 dualling programme will positively contribute to these concerns such as reducing traffic congestion and reducing deaths on Scotland’s roads. The area surrounding the proposed scheme offers a wide range of tourist attractions and recreational activities, which are supported by the A9. Perth & Kinross Council’s (PKC) Local Development Plan seeks to enhance tourism facilities and provision, partly achieved by upgrading the A9 to dual carriageway. Furthermore, the Cairngorms National Park Economic Strategy also recognises the A9 dualling programme as an opportunity to increase connectivity and support a growing economy (Cairngorms Business Partnership, 2015).

Scheme Objectives

The aim of dualling the A9 between Killiecrankie and Glen Garry 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 STPR assessment of problems and opportunities along the existing A9 has led to the development of the A9 dualling programme objectives set by Transport Scotland, as follows:

1. To improve the operational performance of the A9 by:
 - reducing journey times; and
 - improving journey time reliability;
2. To improve safety for motorised and non-motorised users through:
 - reducing accident severity; and
 - reducing driver stress;
3. Facilitate active travel in the corridor.
4. To improve integration with Public Transport Facilities.

The EIA process facilitates these objectives to be met whilst avoiding and/or reducing environmental impacts, enhancing the environment and improving sustainability where possible. This is done through the inclusion of appropriate environmental measures, adherence to best practice during construction and measures 'embedded' into the design such as the avoidance of environmentally sensitive receptors or the inclusion of new footways to improve existing facilities and connectivity.

Alternatives Considered

The SEA carried out from 2012 to 2014 was completed in parallel with consideration of engineering constraints, issues, risks and opportunities as part of a Preliminary Engineering Support Services commission.



Photograph 1: The existing A9 at Shierglas Quarry, image from Google Streetview (2015)

Three high-level, strategic alternative dualling options were considered within the SEA including; online widening of the existing A9 carriageway; a combination of online widening and offline dualling where constraints dictated; and offline dualling via alternative routes to the existing A9. The studies identified that online widening, generally following the route of the existing A9, was the most suitable option.

The proposed scheme was initially developed as two separate projects; Killiecrankie to Pitagowan (Project 05) and Pitagowan to Glen Garry (Project 06). Both projects were subjected to a range of assessments including:

- sifting of preliminary mainline alignments - four route options were considered and assessed for each project;
- sifting of preliminary junction layouts - seven indicative options at Aldclune were considered for Project 05 and five junction options at Bruar/Calvine were considered for Project 06; and

- DMRB Stage 2 assessment of route options – four route options and two junction variants were considered for Project 05 while four route options and three junction variants were considered for Project 06.

Engineering, environmental, traffic and economic assessments were used to assess the options being considered in line with the relevant standards and guidance as set out in the DMRB. Feedback following the public exhibitions held in May and June 2015 were also considered during the route option assessment process.

The preferred route options from DMRB Stage 2 were selected as they were considered as achieving the best balance of environmental, engineering, traffic and economic impacts. For the Killiecrankie to Pitagowan project, the preferred route option consisted of predominantly northbound widening with a grade separated junction at Aldclune. For the Pitagowan to Glen Garry project, the preferred route option also consisted of predominantly northbound widening with a localised section of offline widening adjacent to Bruar/Pitagowan to accommodate a grade separated junction.

The two projects were then amalgamated to form the current proposed scheme. Amalgamating the projects provided a range of benefits such as a better earthworks balance, a more effective mitigation strategy and a more effective strategy of assessing local access arrangements.

The design of the preferred route has since been subject to ongoing design refinement informed by a range of inputs and considerations, including landowner and other stakeholder consultation, as well as the EIA.



Photograph 2: View of Glen Garry looking west from Ben Vrackie

Iterative Design Development

The DMRB Stage 3 design for the proposed scheme as assessed and reported in the ES is the result of approximately 18 months of design development of the preferred route options that were identified at DMRB Stage 2 for the sections of the existing A9 between Killiecrankie and Pitagowan and Pitagowan and Glen Garry.

The project environmental team has influenced the design based on knowledge gained through the EIA process, working closely with the engineering teams, consultees, and Transport Scotland. Through this process, the design has been iteratively updated and improved to reach the final DMRB Stage 3 design.

Some of the key design considerations during the DMRB Stage 3 design development that avoided or reduced potential impacts include avoiding loss of designated areas (e.g. River Tay Special Area of Conservation (SAC)) and avoiding the loss of ancient woodland.

Other measures embedded in the scheme include noise attenuation through the use of low noise road surfacing. The proposed scheme also includes woodland planting along the route in order to integrate the proposed scheme into the landscape and compensate for woodland loss as a result of the proposed scheme. Where planting is specified, native plant species will be used to re-establish or reinforce the character of the landscape.



Figure 1: The Proposed Scheme

The Proposed Scheme

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

The proposed scheme is located within the Cairngorms National Park, north of Pitlochry, along 21.6km of a single carriageway section of the A9, between Killiecrankie and Glen Garry. This section of the A9 is located within and in proximity to a number of environmental designations, including watercourses forming part of the River Tay SAC and the Killiecrankie Battlefield.

The proposed scheme is illustrated in Figures 1-14 of this NTS. Within the ES and the NTS references are made to chainage (shortened to 'ch', for example ch1500), which is a reference to the number of metres from the start of the proposed scheme, from south to north. The design of the proposed scheme consists of predominantly northbound widening with some localised offline sections and sections of southbound widening adjacent to Shierglas Quarry and north of Calvine.

The proposed scheme includes two grade separated junctions. A new grade separated junction at Aldclune will include merge and diverges for northbound and southbound traffic to allow access both to and from the A9. The second grade separated junction at Bruar/Calvine will also provide grade separation and all access for northbound and southbound traffic.

In addition, the proposed scheme would also involve the upgrading of a number of side roads and local accesses to enable access to the existing road network. This would include the closure of a number of direct accesses to the A9 to improve safety.

Pedestrian, cyclist and equestrian facilities would be improved where practicable to facilitate enhanced access and safety for those wishing to travel in the area surrounding the proposed scheme. A number of underpasses and provision of footpaths/cycleways are included within the design.

The proposed scheme incorporates the provision of two new bridges over the River Garry referred to as the Essangal Underbridge near Aldclune and the River Garry Underbridge near Pitaldonich. The design of the proposed scheme retains the existing A9 crossing of the River Garry at Essangal as the southbound carriageway while a new structure would mirror the existing structure for northbound traffic. Further north, the existing A9 structure crossing the River Garry at Pitaldonich would be retained for the southbound entry slip road to the dual carriageway while the proposed River Garry Underbridge would include a single span crossing over the river to carry northbound and southbound traffic.

In addition, a number of existing structures would also be replaced and/or upgraded as part of the proposed scheme. These include numerous watercourse crossings via culverts as well as a drainage design that has been developed in consultation with Scottish Environment Protection Agency (SEPA) and PKC utilising Sustainable Drainage Systems (SuDS).

Delivering the Proposals

The ES presents the results of the EIA of the proposed scheme. The design of the project may be refined further to complete the detailed design and construction by a contractor that will be procured by Transport Scotland. The Contractor that delivers the proposed scheme must meet the requirements of the EIA documented in the ES. Should the Contractor refine the design which has been assessed by this EIA, then an environmental review of those refinements will be undertaken to assess whether the residual impacts of the refinement could be greater than those reported in the ES and, as such, if additional mitigation is required.

Construction is subject to completion of the statutory process, however, for the purpose of the EIA it has been assumed that 2019 would be the earliest that construction would commence with construction taking 3 to 3.5 years with an estimated completion in 2022.

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 (pre-mitigation) 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 mitigation 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, comprehensive consultation has been carried out with numerous organisations (consultees) including PKC, Cairngorms National Park Authority (CNPA), Historic Environment Scotland (HES), SEPA and Scottish Natural Heritage (SNH). Potentially affected landowners have also been consulted. Public consultation has been undertaken at all stages of design development. Public exhibitions were held in May and June 2015 to allow the public to view and provide comment on the initial DMRB Stage 2 designs (including route and junction options). Further public exhibitions were held in March 2016, to present and seek feedback on the preferred route options from the DMRB Stage 2 assessment. During DMRB Stage 3 drop-in sessions were held in November 2016 and April 2017 as part of a programme of ongoing public engagement and consultation for the proposed scheme.

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 environmental assessments and ES reporting; and
- seek consultee input to the 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, for example 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.



Photograph 3: Blair Castle looking south towards Tulach Hill



Illustration 1: View of proposed Essangal Underbridge from Strathgarry Road (U167)

Section 3: Environmental Impacts and Mitigation



Environmental Impacts and Mitigation

The following sections summarise the likely significant impacts of the proposed scheme on the environment and also provide details of relevant mitigation measures. Full details of each assessment and the associated findings of the EIA are presented in the ES (Volume 1: Main Report).

People and Communities - Community and Private Assets

This chapter of the ES considers the impacts of the proposed scheme on community and private assets, including land and property. Current land uses in the study area include residential, commercial and industrial, and areas supporting agriculture, forestry and sporting activity. The main settlements in the study area are Killiecrankie, Blair Atholl, Bruar, Pitagowan, Struan, Calvine and Old Struan.

The development of the proposed scheme design has sought to avoid impacts on community and private assets where possible. Additional mitigation measures to reduce residual construction and operational impacts have been developed.

The proposed scheme would require the loss of approximately:

- 3ha from residential, commercial and industrial land;
- less than 1ha from a single planning application;
- 141ha of agricultural land;
- 37ha of forestry;
- less than 1ha of sporting land; and
- 20ha of other land.

With regard to impacts on properties, significant residual impacts are anticipated as a result of land-take at one residential property (1 Essangal Cottages).

Impacts of the proposed scheme for residential, commercial and industrial properties result from changes to the current access arrangement to/from

properties. Significant residual impacts have been identified as a result of change in vehicle access on six groupings of residential properties (Clunebeg, Glackmore, Garrybank, Invervack and Balnastuartach, Tomban Farmhouse and Tomchitchen) and one industrial property (Shierglas Quarry) for which one direction of travel impact is assessed as significant (beneficial) and the other is significant (adverse). The impact on business viability for the affected industrial business has been assessed as not significant.

No significant residual impacts on community land, community facilities or community severance have been identified. There are not expected to be any significant residual impacts on planning applications or development land.

Significant residual impacts have been assessed on six agricultural, forestry and sporting interests (Coille Essan, Easy Heat Systems (construction only), Land at Glackmore (construction only), House of Urrard, Pitaldonich Farm and Balnastuartach Farm) as a result of permanent land-take, loss of boundary features, disruption to field drainage system and/or disturbance to sporting activity. A significant adverse impact on likely future farm business viability is assessed at Balnastuartach Farm as a result of permanent land-take. The remaining nine agricultural, forestry and sporting interests are not expected to have significant impacts.



Photograph 4: Blair Atholl and Glen Tilt from the path to Tulach Hill, with the A9 in the foreground

People and Communities - All Travellers

This chapter of the ES assesses the impact of the proposed scheme on pedestrians, cyclists, equestrians (referred to as Non-Motorised Users or NMUs), and also on vehicle travellers in terms of changes to views from the road and driver stress.

The assessment identified outdoor areas and paths including core paths, rights of way, National Cycle Route 7 (NCR7), equestrian routes and local paths within 500m of the proposed scheme. A total of 41 paths were identified as well as 19 NMU crossing points of the existing A9. Changes to NMU journey lengths and amenity value were assessed and used to determine potential impacts on access to outdoor areas. Mitigation embedded in the proposed scheme such as underpasses and new cycleways/footways was considered in the assessment.

The proposed scheme maintains existing NMU access while providing safer passage across the A9 by removing at-grade NMU crossings of the A9. With the proposed scheme in place, significant beneficial impacts for NMUs have been identified, mainly as a result of the provision of a new NMU crossing of the River Garry as part of the River Garry Underbridge and new traffic-free segregated NMU routes and safer crossings between Blair Atholl and Bruar. In relation to adverse impacts during construction, there would be significant impacts for NMUs using 13 A9 crossing points (15 paths) due to potential diversion lengths and impacts on amenity value, and for NMUs using two paths due to impacts on amenity value. Consequently, for NMUs accessing three outdoor areas (Tulach Hill, woodlands south of Glackmore and Dalnamein Forest), there are temporary but significant residual impacts during construction.

With the proposed scheme in place there will be significant adverse impacts for NMUs using two routes at ch9800 due to increased journey length, and the existing NMU route south of the House of Bruar (ch11350) due to decreased journey length as a result of a section of the path being stopped up and decreased amenity value.

With regards to impacts on vehicle travellers; views from the road were assessed for the existing A9 and for the proposed scheme in winter of the year of opening (when mitigation planting has been implemented but has not

established) and in the summer, 15 years after opening (when the proposed planting would be reasonably established). The existing A9 runs through four different Local Landscape Character Areas (LLCAs) within the Highland Glens Landscape Character Type. Significant residual impacts are predicted during the winter year of opening where the proposed scheme passes through Glen Garry: Lower Glen LLCA and through Glen Garry: Mid Glen LLCA, due largely to the introduction of the new junctions at Aldclune and Bruar/Calvine, new large-scale cuttings and the loss of roadside planting. By the summer 15 years after opening, establishment of mitigation planting is anticipated to help reduce the impacts such that they would no longer be significant. Significant residual impacts are also predicted in winter year of opening within the Glen Garry: Upper Glen LLCA due largely to the replacement of established, well weathered and vegetated rock cuttings with larger scale and more visually prominent rock cuttings. By summer 15 years after opening, weathering and visual 'softening' of the rock cuttings with vegetation growth is anticipated to help reduce the impact such that it would no longer be significant.

Driver stress can be caused by frustration, fear of accidents and uncertainty of the route being followed. Current levels of driver stress for the A9 between Perth and Inverness during peak hours are assessed as moderate. Traffic levels are forecast to increase, and in the absence of the proposed scheme it is anticipated that higher levels of driver stress during peak hours would be experienced. However, with the proposed scheme in place driver stress would decrease when compared to the future scenario without the proposed scheme.



Photograph 5: Minor road (U521) and NCR7 from Calvine to Dalnacardoch

Geology, Soils, Contaminated Land and Groundwater

This chapter of the ES identifies and describes the existing geology, contaminated land and hydrogeology within the study area. It assesses the potential impacts of the proposed scheme on these features and outlines measures for avoiding or mitigating these impacts where possible.

The Glen Garry geological Site of Special Scientific Interest (SSSI) and Geological Conservation Review (GCR) sites present within the study area have been assessed and views expressed by SNH and British Geological Society have been taken into account. Adverse impacts on these sites, which may result from the removal of existing rock faces, are expected to be off-set by mitigation measures and enhancement opportunities the proposed scheme will provide through exposing new rock faces.

Residual impacts on groundwater flow in superficial aquifers have been assessed as significant, while impacts on bedrock aquifers and associated receptors have also been assessed as non-significant. Five groundwater fed private water supplies have been identified as being potentially impacted by the proposed scheme and the residual impact has been assessed as Neutral, taking account of the proposed mitigation measures during construction and operation which protect private water supplies and provide an alternative source should an impact be confirmed.

Significant residual impacts on the hydrogeology of three ecological receptors have also been determined; however, the habitat at these three sites is not of high quality, being relatively species poor, due to the effects of land drainage and existing road infrastructure and therefore no significant ecological losses are expected to result from these impacts.

Several potential sources of contamination have been identified within the study area (including made ground; backfilled quarries/pits; railway; storage tanks; a former rifle range and an active quarry). The residual impacts on receptors due to contaminated land are not expected to be significant following the implementation of mitigation.



Photograph 6: River Garry near Clunes Lodge

Road Drainage and the Water Environment

This chapter of the ES assesses the impacts of the proposed scheme on the surface water environment, specifically considering the attributes of hydrology and flood risk, fluvial geomorphology and water quality.

The proposed scheme is located within the River Tay catchment between the elevations of 110m and 285m AOD (Above Ordnance Datum). Within the 500m wide study area, 73 surface water features have been identified which may be affected by the proposed scheme. The majority of these are upland, fast flowing and low stream order watercourses, which feature bedrock and/or cobble and gravel substrates, and which currently feature culverted crossings associated with the existing A9. The largest watercourse within the study area is the River Garry (catchment area: 798km²), which is a dynamic upland to transitional watercourse with a predominantly cobble and gravel substrate.

The impact assessment has been informed by consultation, desk-based assessments, site walkovers and surveys. Hydraulic modelling of the three largest watercourses within the study area (River Garry, Allt Bhaic and River Bruar) has been undertaken to assess the impacts of the proposed scheme on flood risk.



Photograph 7: Allt Bhaic – view downstream towards existing A9 crossing

Significant potential impacts from the proposed scheme include increases in fluvial flood risk, alterations to flows and sediment processes within watercourses, and deterioration in water quality within receiving watercourses from construction and operational runoff.

Mitigation during construction would be delivered through a Construction Environmental Management Plan (CEMP), which would include measures for flood risk, fluvial geomorphology and water quality. A sediment management plan, storage of machinery and material outside the floodplain, adherence to guidance such as the Pollution Prevention Guidelines, and specific

management plans to manage drainage and minimise the generation of suspended sediment, are also included as measures to mitigate construction impacts.

With the implementation of mitigation measures during construction, residual impacts on the majority of receptors would not be significant. Significant residual impacts would remain during construction on both the River Garry and Allt Bhaic for hydrology and flood risk only, due to the requirement for works within the functional floodplain and the inherent risk associated.

During the operational phase, mitigation measures include the use of Sustainable Drainage Systems (SuDS), scour protection and plans to manage flood flows.

With the implementation of mitigation measures during operation, residual impacts on the majority of receptors would not be significant. Significant adverse residual impacts from flood risk are reported for the River Garry, Allt Bhaic and a small watercourse near Calvine (WF136). These adverse residual impacts from flood risk relate to localised increases in flood depths on agricultural land and a minor road (B847 at Calvine), which are locations already subject to flooding.

Beneficial residual impacts associated with flood risk are also reported for watercourses WF92, WF134 and WF136, where the risk of flooding is removed from one property near Killiecrankie (WF92) and 6 residential properties in Calvine (WF134 and WF136). In summary, due to the beneficial impacts towards residential properties, the net effect of the proposed scheme for flood risk is considered to be beneficial.

Ecology and Nature Conservation

This chapter considers the potential impacts of the proposed scheme on terrestrial and freshwater species, habitats and ecosystems. The approach to this assessment is based on the guidance provided by the DMRB and draws on the Chartered Institute for Ecology and Environmental Management's (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland.

Baseline conditions for ecological features were established through desk-based assessment, consultation and site surveys. This process identified 32 ecological features that could potentially be impacted by the proposed scheme. These included Ancient Woodland Inventory (AWI) sites and four statutory designated sites: the River Tay SAC; Tulach Hill and Glen Fender Meadows SAC; Tulach Hill SSSI; and Aldclune & Invervack Meadows SSSI. In addition, aquatic and terrestrial species and habitats that could potentially be impacted included Atlantic salmon and other fish species; mammals including otter, badger, bat and red squirrel; bird species including barn owl, black grouse and hen harrier; reptiles; and the notable plant species field gentian.



Photograph 8: Field gentian recorded south of Pitagowan

Assessment of impacts and their significance took into account the nature and magnitude of potential impacts and their consequent effects on important ecological features.

Prior to the application of mitigation, potential significant impacts on ecological features were identified for the construction and operation phases of the proposed scheme.

A hierarchical approach to mitigation was followed to address potential impacts. The primary approach has been to use the flexibility available within the early design stages to avoid significant impacts. An iterative design process has been undertaken and design principles have been discussed with SNH, SEPA and other relevant stakeholders.

Where avoidance of impacts has not been possible, mitigation to reduce significant impacts has been identified. Measures include the implementation of commitments and best working practices during the construction phase of the proposed scheme. To mitigate impacts, compensatory planting, habitat creation, mammal fencing and provision of crossing structures for mammals have been proposed during operation.

No significant residual impacts are anticipated from the construction phase of the proposed scheme. A significant residual impact from the operational phase is anticipated from the permanent loss of habitat listed on the AWI. Compensation planting is proposed however this cannot mitigate for the permanent loss of the biodiversity and intrinsic importance of AWI habitats. However, as this habitat matures, woodland corridors will grow to connect currently fragmented areas and the planting will therefore mitigate for the functions and importance of the woodland in respect of habitat connectivity and carrying capacity for other species. In the long-term, significant residual impacts are therefore predicted to reduce.

A potential beneficial impact is anticipated as a result of the proposed scheme through increased permeability of the A9 for species compared with that of the existing A9. This is expected for species including badger and otter, through provision of crossing structures which include culverts with mammal ledges and dedicated dry mammal underpasses.

Landscape

This chapter of the ES considers the potential impacts on the landscape resource resulting from the proposed scheme. The assessment has been undertaken following DMRB guidance and the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3), taking account of the results of scoping and consultation.

The assessment has confirmed baseline conditions for a study area comprising the proposed scheme and an area extending up to a distance of 5km from it. Designated landscape receptors located within the study area include the Cairngorms National Park (CNP), Loch Tummel National Scenic Area (NSA), Ben Vrackie Special Landscape Area (SLA) and Wild Land Areas (WLAs). In addition, 14 Landscape Character Areas (LCAs) and Local Landscape Character Areas (LLCAs) have been identified.

Potential impacts of the proposed scheme on these landscape receptors would arise from construction activities such as the removal of roadside vegetation, the loss of existing embankments and rock outcrops, in addition to the construction of structures and earthworks (for example the Aldclune Grade Separated Junction). Potential impacts would also arise from the operation of the additional carriageway and associated route infrastructure in addition to the changed appearance of the landscape and the associated change in the perception of the NSA and CNP.

To mitigate potential impacts, embedded, standard and project specific mitigation measures have been developed through an iterative design process. Embedded mitigation measures adopted include the careful alignment of the proposed scheme to avoid or reduce potential impacts on landscape features (particularly those which contribute to the Special Landscape Qualities (SLQs) of the National Park and the Special Qualities (SQs) of the NSA.

Specific mitigation measures include sensitive grading of all earthworks to improve integration with the surrounding landform, modifying embankment and cutting slopes to reflect and tie smoothly into existing natural landform and woodland planting along the route in order to integrate the proposed scheme into the landscape. Where planting is specified, native plant species would be used so as to re-establish or reinforce the character of the landscape. While there is a focus on planting, specific mitigation measures also include input into the design of structures, such as the Essangal Underbridge and SuDS features.

The assessment of impacts on landscape receptors has taken into consideration the above proposed mitigation measures and assessed the potential impacts of the proposed scheme in the winter of the year of opening (when planting has been implemented but has not established) and in the summer, 15 years after opening (when the proposed planting would be

reasonably established). Direct impacts resulting from the construction and operation of the proposed scheme are predicted to occur on the Pass of Killiecrankie LLCA, the Glen Garry: Lower Glen LLCA, the Glen Garry: Mid Glen LLCA and the Glen Garry: Upper Glen LLCA. These impacts would occur as a direct result of the widening of the carriageway in addition to the construction of earthworks and structures (particularly at Aldclune, Essangal, Shierglas and Bruar) which would result in a change in landcover and landform in addition to the loss of woodland.



Photograph 9: View from Tulach Hill towards Bruar/Pitgowan

In the winter of the year of opening (assumed to be 2026 as the first full year of operation for the wider A9 dualling programme) it is predicted that significant direct impacts would occur on the Pass of Killiecrankie LLCA, the Glen Garry: Lower Glen, the Glen Garry: Mid Glen and the Glen Garry: Upper Glen LLCAs. Indirect impacts as a result of the changes in the landscape and loss of landscape features in adjoining landscape character units are predicted on the Glen Garry: Blair Atholl (Settlement) LLCA, in addition to the Glen Fender, Southern Hills: South Eastern Glens, Southern Hills: South Western Glens, Highland Glens, Highland Glens with Lochs, Highland Summits and Plateaux and Drumochter Pass LCAs. These impacts are, however, not predicted to be significant.

As planting establishes and the proposed scheme becomes more integrated into the receiving landscape it is predicted that the residual impacts of the proposed scheme on the landscape character units and designated sites would reduce. As such, for the Pass of Killiecrankie, the Glen Garry: Mid Glen and the Glen Garry: Upper Glen LLCAs the residual impacts are predicted to reduce to not be significant. However, whilst it will have reduced to some extent after establishment of proposed woodland planting, the impact on the Glen Garry: Lower Glen LLCA is predicted to remain significant in summer after 15 years due largely to the impacts of the Aldclune Grade Separated Junction.

Visual

The visual assessment reported in the ES considered the degree of anticipated change on views from buildings, outdoor public areas, local roads and routes used by pedestrians, cyclists and equestrians (collectively referred to as receptors).



Photograph 10: View looking west from PKC Core Path KCKI/120 above the A9 on the lower slopes of Ben Vrackie

Built receptors are generally scattered throughout the study area, with larger clusters present at Killiecrankie, Aldclune, Blair Atholl, Pitagowan and Calvine. Outdoor receptors including roads and pedestrian or cycle routes are also spread throughout the study area. The existing A9 is a notable feature in many views across Glen Garry as it winds its way along the floor of the glen, although

established forestry plantations and mature woodland areas help to provide some screening. The topography of the area generally limits views to within Glen Garry itself, with the rising hills to the north and south helping to screen more distant views.

The design of the proposed scheme was developed through a process involving engineering, environmental and landscape specialists in order to reduce visual impacts and integrate it with the surrounding landscape. As part of the design, landscape proposals were developed to include grading out of embankment and cutting slopes to blend with existing landforms and new planting to screen the proposed scheme and help further integrate it with the surrounding landscape. The landscape design also considered opportunities to maintain or enhance open views. The effectiveness of the new planting is expected to increase over time as vegetation matures.

Visual impacts would typically occur where a receptor location is close to the proposed scheme or where open views are possible towards it. The impacts would generally be associated with physical aspects of the proposed scheme itself or with traffic. Visual impacts would be limited to some extent by the fact that the existing A9 is already visible from many locations and also due to the screening often provided by the existing built form, landform and vegetation.

People at seventy-seven (77) built receptors and 28 outdoor receptors are predicted to experience significant visual residual impacts during construction. People at seventy-four (74) built receptors and 27 outdoor receptors are predicted to experience significant visual residual impacts in the winter of the year of opening due to loss of existing roadside vegetation and the increased prominence of new road infrastructure (mainly earthworks, bridges and junctions) compared to the existing A9. The majority of the significantly affected receptors would be located around the Essangal Underbridge and Aldclune Grade Separated Junction, Blair Atholl, the Bruar/Calvine Grade Separated Junction, Dalnamein, or on open or higher ground.

By the summer, 15 years after the proposed scheme opening, mitigation planting, mostly in the form of new woodland, is predicted to have reduced the impacts of the scheme such that only 14 built receptors and eight outdoor receptors would be significantly affected.

Cultural Heritage

This chapter of the ES assesses the potential impacts of the proposed scheme on cultural heritage assets comprising archaeological remains, historic buildings and the historic landscape.

The study area extended to 200m in all directions from the footprint of the proposed scheme. Baseline conditions were established through a desk-based survey (including a review of the metal detecting survey undertaken at DMRB Stage 2), walkover surveys and targeted geophysical survey. Designated assets beyond the study area but located within 1km of the proposed scheme and within its Zone of Theoretical Visibility were included in the baseline. In total 190 cultural heritage assets were considered as part of the baseline, comprising 65 archaeological remains, 109 historic buildings, and 16 historic landscape types which included consideration of the Killiecrankie Battlefield site (Photograph 12).

Significant potential impacts during construction would be mitigated through a detailed landscape survey record on Old Faskally Cairn (Asset 331), followed by archaeological excavation. Mitigation proposed for Old Faskally Possible Structures 1 (Asset 769), Aldclune Possible Structures and Enclosures (Asset 771), Clunebeg Possible Structures and Enclosures (Asset 772) and Dalreoch Possible Structures and Enclosures (Asset 773) comprises a programme of archaeological trial trenching that will inform a programme of strip, map and samples to be undertaken in advance of construction. On completion of the assessment, analysis, publication and dissemination of the results associated with the mitigation works, no significant residual impacts are predicted to result from construction.

Potential impacts on Shierglas Farmhouse (Asset 365, Photograph 11) would be mitigated through measures to safeguard the structural integrity of the farmhouse during construction; and the undertaking of a dilapidation survey, the installation of vibration monitors in the structure to ensure compliance during the construction works to levels being maintained below an appropriate threshold, and the implementation of measures to reduce the impact of construction works when combined with quarry blasting.



Photograph 11: Shierglas Farmhouse, an example of a pre-improvement era farmhouse. Built in 1728 at the seat of the Stewarts of Strathgarry

Potential impacts on Killiecrankie Battlefield (HLT23) during construction comprise the removal of Balchroic Field Boundaries and Pits (Asset 770), that could be related to archaeological remains associated with the battle, and the potential removal of artefacts and possible unknown archaeological remains associated with the battle, evidence of which has been recorded by metal detecting surveys in 2003 and 2015. To inform the mitigation of potential impacts on buried archaeological remains associated with the battle, a programme of metal detecting and a landscape survey will initially be undertaken. The results of these surveys will be used to inform the design of a programme of archaeological trial trenching, which will then be used to inform mitigation.

Potential significant impacts on Killiecrankie Battlefield (HLT23) during operation have been identified, and these relate to the increased prominence of the proposed scheme within the battlefield landscape. This would reinforce the severance already caused by the existing A9 through the widening of the road corridor and the construction of lay-bys, SuDS and earthworks. It is not considered that the mitigation proposed, such as the grading out of earthworks to improve integration with the existing landform, will be able to reduce this overall severance effect, and the residual impact will remain significant.

To offset the impacts on the Killiecrankie Battlefield, opportunities such as the provision of increased interpretation, and/or additional research to increase the ability to understand and appreciate the battlefield will be explored with HES, the National Trust for Scotland and the Perth & Kinross Heritage Trust.

In addition to impacts on known archaeological remains, the potential for the presence of unknown archaeological remains was assessed for the study area. Archaeological recording in advance of or during construction may be required to mitigate the impact on unknown archaeological remains disturbed by the construction of the proposed scheme.



Photograph 12: View of Killiecrankie Battlefield, from minor road to Orchilmore (CNPA Core Path KCKI/109) towards existing A9, Killiecrankie and Craig Fonvuick

Air Quality

This chapter of the ES considers the potential impacts of the proposed scheme on air quality during construction and operation. The existing air quality throughout the area is characterised by the existing emissions from road traffic. Air quality modelling was undertaken to determine the potential for changes to air quality as a result of the proposed scheme, and any related impacts on local communities and 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 (PM). The potential effect of construction on ambient PM concentrations was also considered and carbon dioxide has been considered in the regional emissions assessment.

To establish local baseline air quality conditions, a project specific air quality monitoring survey along with a review of PKC 2015 Air Quality Updating and Screening Assessment and 2016 Air Quality Review and Assessment reports was undertaken.

Air quality monitoring near the proposed scheme shows that NO₂ concentrations currently meet the prescribed air quality objectives (AQOs). In addition, Defra background mapping also shows that PM concentrations currently meet the prescribed AQOs.

Impacts of the proposed scheme were assessed for the year of opening (assumed to be 2026 as the first full year of operation for the wider A9 dualling programme) using the DMRB simple assessment approach. The conclusion was that there are no significant local air quality impacts at either human exposure locations or ecosystems/designated sites. A regional emissions assessment was undertaken for the year of opening (2026) and the design year (2041). The regional assessment predicted that emissions of nitrogen oxides, nitrogen dioxide, fine particulate matter and carbon dioxide will increase with the proposed scheme. However, the increases from the proposed scheme are very low in comparison to 2014 UK (All Sector) emissions (Defra, 2014), up to 0.0058% between the opening and design year. As such, the potential impact on regional emissions are not considered to be significant.

With the implementation of appropriate dust control measures, the construction phase of the proposed scheme is not assessed to have any significant residual impacts.

Noise and Vibration

This chapter considers the potential noise and vibration impacts of the proposed scheme on noise sensitive receptors (NSR) e.g. residential properties and schools.

The noise assessment for the proposed scheme used noise modelling to identify potential noise and vibration impacts from the operation of the proposed scheme and a qualitative assessment of potential construction noise impacts. The study area and calculation area were determined using the guidance provided in the DMRB. Operational noise modelling was undertaken for all

NSR, noise sensitive committed developments and noise sensitive amenity areas within the defined calculation area which extends 600m from the proposed scheme.

As part of the assessment a baseline noise survey was undertaken at 11 identified NSR to gain an understanding of the existing noise climate within the vicinity of the proposed scheme and to inform the noise model predictions.

Measures embedded in the proposed scheme that attenuate noise include the use of low noise road surfacing and cuttings and embankments (collectively referred to as 'earthworks'). NSR specific mitigation includes a section of the existing A9 to the north of the proposed scheme to be resurfaced with a low noise road surfacing.

An indicative assessment of potential eligibility for noise insulation for all NSR under the Noise Insulation (Scotland) Regulations 1975 was also undertaken. The results indicated that no NSR would meet the eligibility requirements for noise insulation.

With the proposed scheme in place, and taking into account mitigation measures there are a total of 12 NSR in the short-term assessment (the comparison of the predicted noise levels in the year of opening with the proposed scheme in place compared to predicted noise levels without the proposed scheme in place, either at ground floor or first floor) which are considered to have a significant noise impact. The exceedances of the significant noise impact criteria are predicted to occur in the short-term only and are being caused by strategic traffic flow changes (including traffic flow volume, speed and percentage of HGVs) on the side roads (Ford Road and the B8079).

Consideration was given to providing noise mitigation, however, due to the location of these properties on side roads there was either limited space or there were gaps in property boundaries for driveways. Therefore, there was no opportunity to provide effective noise mitigation.



Photograph 13: Baseline noise monitoring equipment

Materials

This chapter of the ES presents a detailed assessment of the potential impacts associated with the use and consumption of material resources and the production and management of waste during construction of the proposed scheme. The assessment follows draft guidance set out in DMRB.

The use and consumption of material resources during construction was estimated based on the likely requirements of the DMRB Stage 3 design of the proposed scheme. By applying key material and waste management principles, the impacts on natural resources and need for permanent disposal of wastes will be minimised. In particular, this will be achieved by re-using existing soils and infrastructure, taking into consideration the environmental impacts of products during their procurement.

Proposed mitigation measures will aim to minimise materials use, maximise re-use and recycling of wastes and ensure all materials and waste are handled

according to the regulatory requirements. It is proposed that these measures will be implemented through several plans addressing different aspects of construction site management, such as a Site Waste Management Plan (SWMP) and a Construction Environmental Management Plan (CEMP).

This assessment uses Transport Scotland's Carbon Management System (CMS) to estimate the total embodied carbon emissions, measured as carbon dioxide equivalent (CO₂e), associated with material resources used for construction of the proposed scheme. The CMS indicated carbon emissions for the proposed scheme of between 84,300 and 96,900 tonnes of CO₂e (including 15% contingency) which has an impact of major magnitude (in line with DMRB significance has not been assigned to the impacts of carbon emissions for this assessment).

The waste assessment undertaken predicts that the residual impact on high sensitivity waste management facilities (i.e. operational landfills and licenced treatment facilities) is not considered to be significant.



Photograph 14: View looking west towards the A9 and Shierglas Quarry from core path near Craigharrard

Policies and Plans

This chapter of the ES considers the proposed scheme's compliance with national, regional and local planning policy.

In principle, the development of the proposed scheme is supported in planning policy, with the Scottish Government's commitment to the proposed scheme and wider improvements to the A9 outlined in the National Planning Framework 3 (2014) and various other national policy guidance documents.

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.

This policy assessment finds the proposed scheme to be compliant with the majority of relevant policies. It has identified areas of potential non-compliance with some aspects of planning policy, primarily due to the scale and nature of the proposed scheme, as well as the wording of policies not being directly relevant to large scale roads projects. The principle of a major trunk road has long been established, and physical changes are unavoidable for a development of this nature.

Potential non-compliance identified relates to landscape and visual change, community and private assets, loss of regionally designated woodland (AWI), and impacts on a nationally designated Historic Battlefield (Killiecrankie).

Potential policy conflicts need to be balanced against other environmental considerations, and in the context of the presence of the existing A9. The areas of potential non-compliance should also be viewed against the overarching benefits of the proposed scheme, such as enhancing safety for all users, improving connectivity and promoting social and regional economic opportunities. These benefits reflect the spatial strategies set out in Cairngorms National Park and Perth & Kinross Council's respective Local Development Plans.

Cumulative Impacts

This chapter of the ES considers the potential for cumulative impacts of the proposed scheme, and of the proposed scheme in combination with 'reasonably foreseeable' developments (committed developments and other major proposed development projects, including those forming part of the wider A9 dualling programme).

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 was assessed, based on the findings of the topic chapters in this ES. Significant cumulative impacts resulting from residual visual, noise, access and land-take impacts are expected on nine people/property receptors as a result of the proposed scheme. These are Clunebeg Bungalow, Clunebeg Farmhouse, Tigh Bruadar, Garrybank, Glackmore Farm, 1 Essangal Cottage, Tomchitchen, Pitaldonich, and Balnastuartach.

The combination of impacts from reasonably foreseeable developments was identified as having the potential to have a cumulative impact in terms of loss of woodland (including areas on the Ancient Woodland Inventory; AWI), material use and waste management, long distance NMU routes, the River Tay catchment, the River Tay SAC and land-take from land holdings affected by multiple A9 dualling projects. Significant cumulative impacts are expected in relation to construction impacts on NCR7 and operational impacts resulting from the loss of AWI. Further details of the expected impacts from other A9 dualling projects including their design and construction programme are required to confirm the extent of these cumulative impacts and whether they can be mitigated.

No significant cumulative impacts are expected for materials and waste, the River Tay catchment or the River Tay SAC from the other A9 dualling projects.

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Section 4: Key Environmental Features



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Legend

Design



Proposed Scheme
(DMRB Stage 3 Design)



SuDS Detention Basin (Green)
SuDS Retention Pond / Wetland (Blue)

Proposed Landscape and Ecological Mitigation



Deciduous/Riparian Woodland Planting



Mixed Woodland Planting



Scrub Planting



Individual Deciduous Tree Planting



Heath



Grassland and Visibility Splay Mix



Potential Return to Agriculture



Bat Mitigation Area (woodland to be retained) for provision of boxes



Red Squirrel & Bat Mitigation Area (woodland to be retained) for provision of boxes



Dry Mammal Underpass



Mammal Resistant Fencing



Culvert with mammal provision



Proposed Hibernacula Locations

Constraints



Gardens and Designed Landscapes (GDL)



Cairngorms National Park Boundary



Scheduled Monument (SM)



Special Areas of Conservation (SAC)



Special Protection Area (SPA)



Sites of Special Scientific Interest (SSSI)



Loch Tummel National Scenic Area (NSA)



Killiecrankie Battlefield Inventory Boundary



Blair Atholl Conservation Area

Non Motorised Users (NMU)



Embedded NMU Mitigation



Existing Public Rights of Way



Existing Core path



Existing National Cycle Route (NCR)

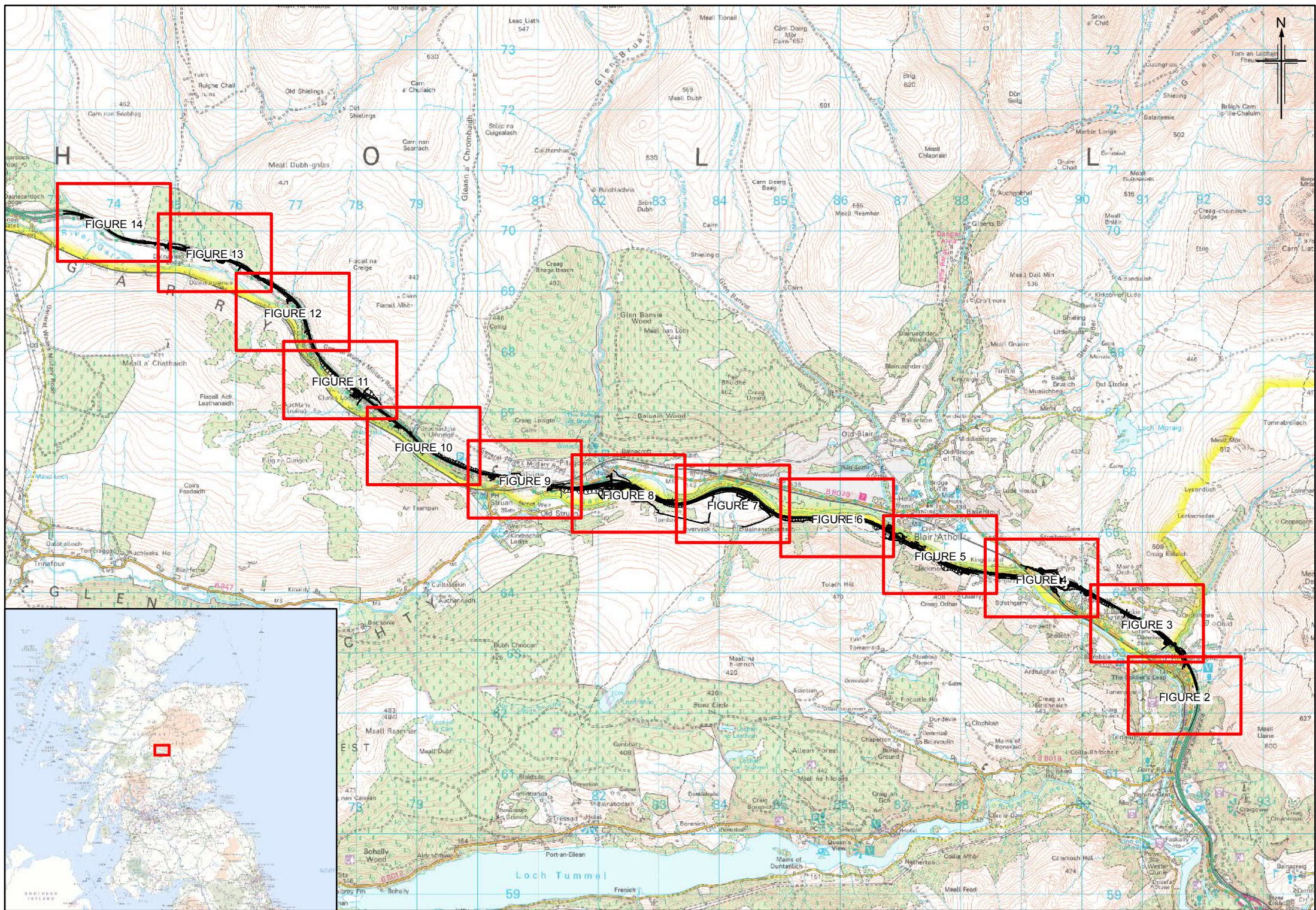


FIGURE 1 0 1 2 3 4 5 Kilometres

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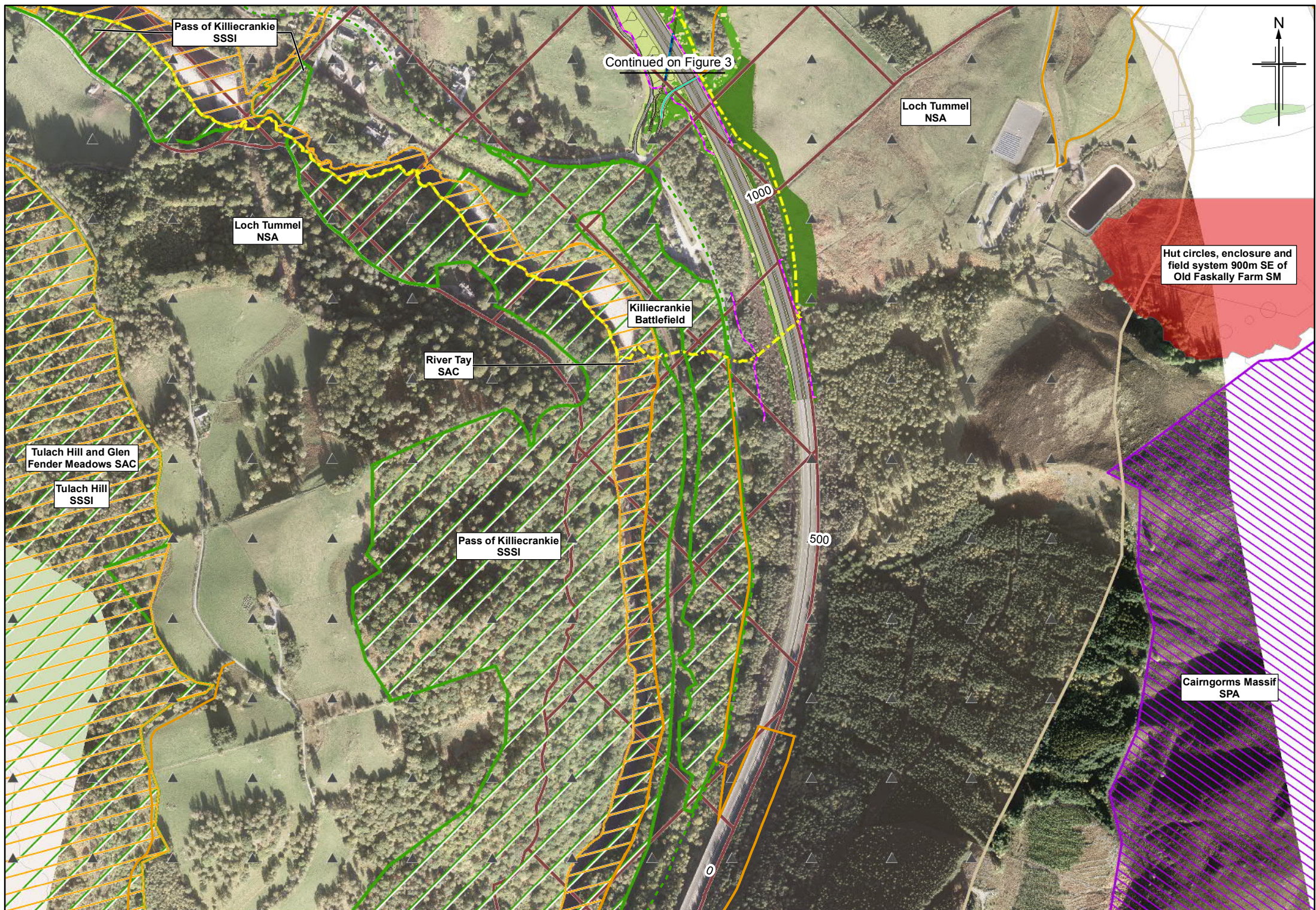


FIGURE 2 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.

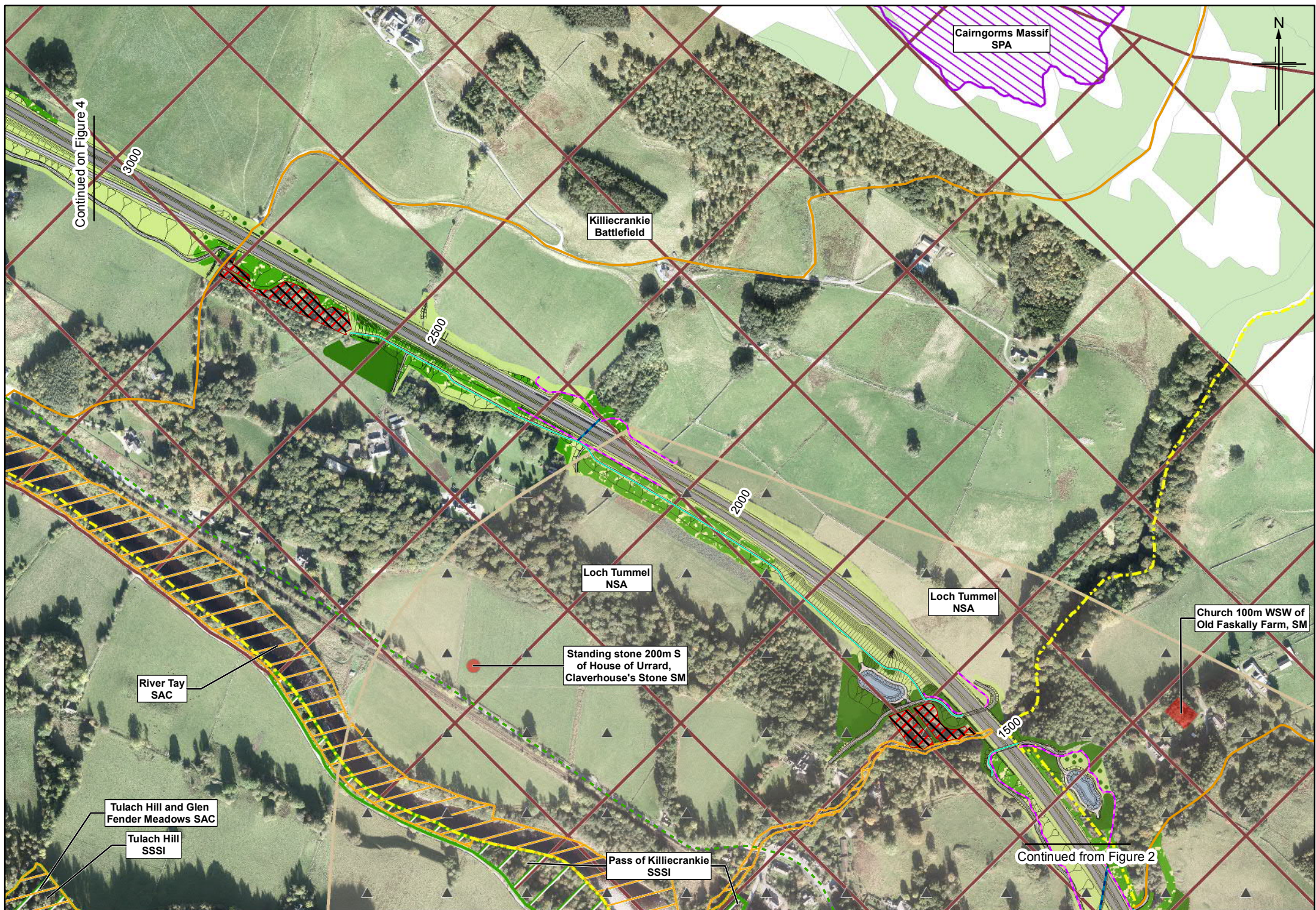


FIGURE 3 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.



Continued on Figure 5

Continued from Figure 3

Tulach Hill SSSI
Tulach Hill and Glen Fender Meadows SAC

Aldclune and Invervack Meadows SSSI

River Tay SAC

Killiecrankie Battlefield

FIGURE 4 0 0.1 0.2 0.3 0.4 0.5 Kilometres

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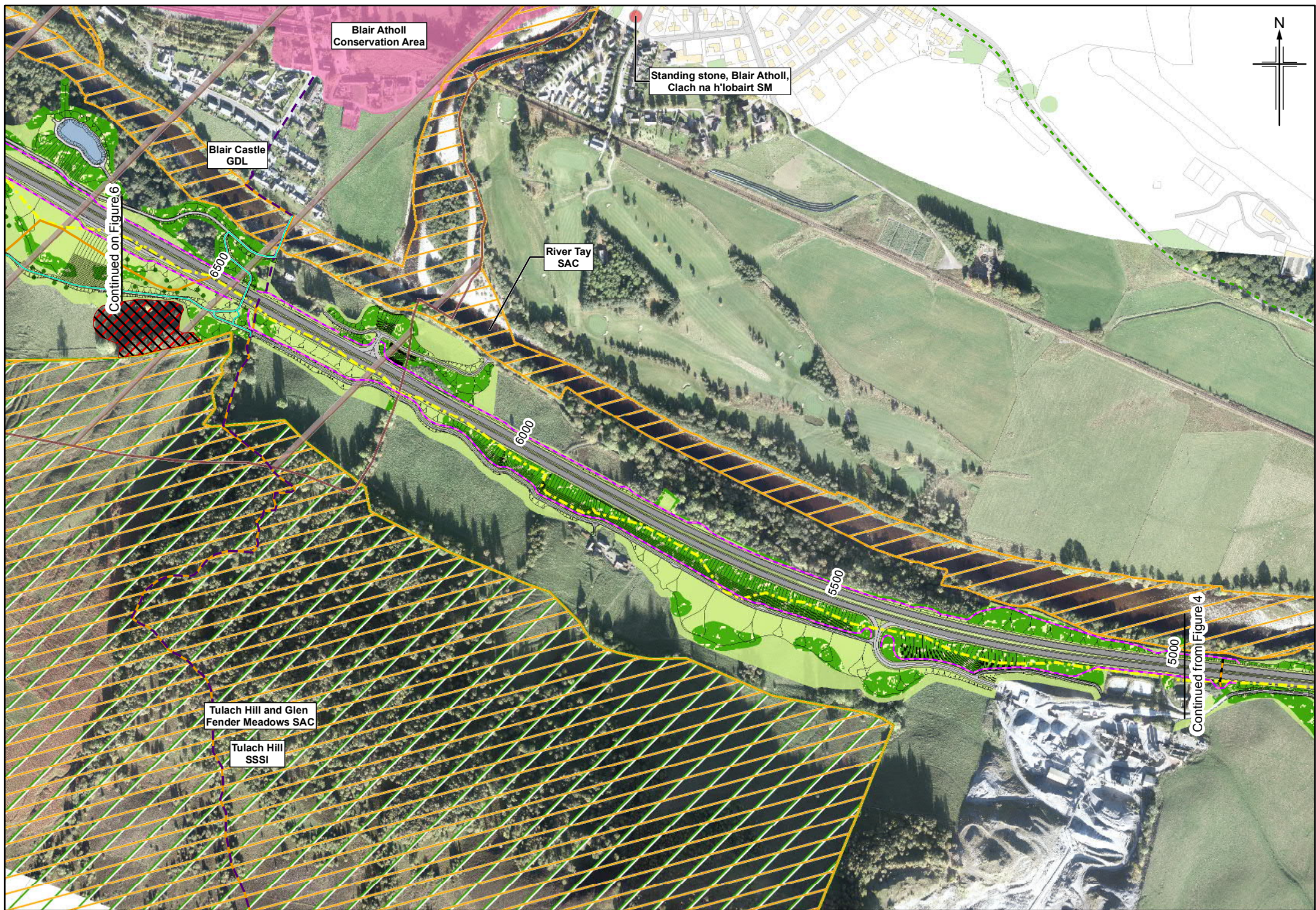


FIGURE 5 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.



Blair Castle
GDL

River Tay
SAC

Tulach Hill and Glen
Fender Meadows SAC

Tulach Hill
SSSI

Continued on Figure 7

Continued from Figure 5

FIGURE 6 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.

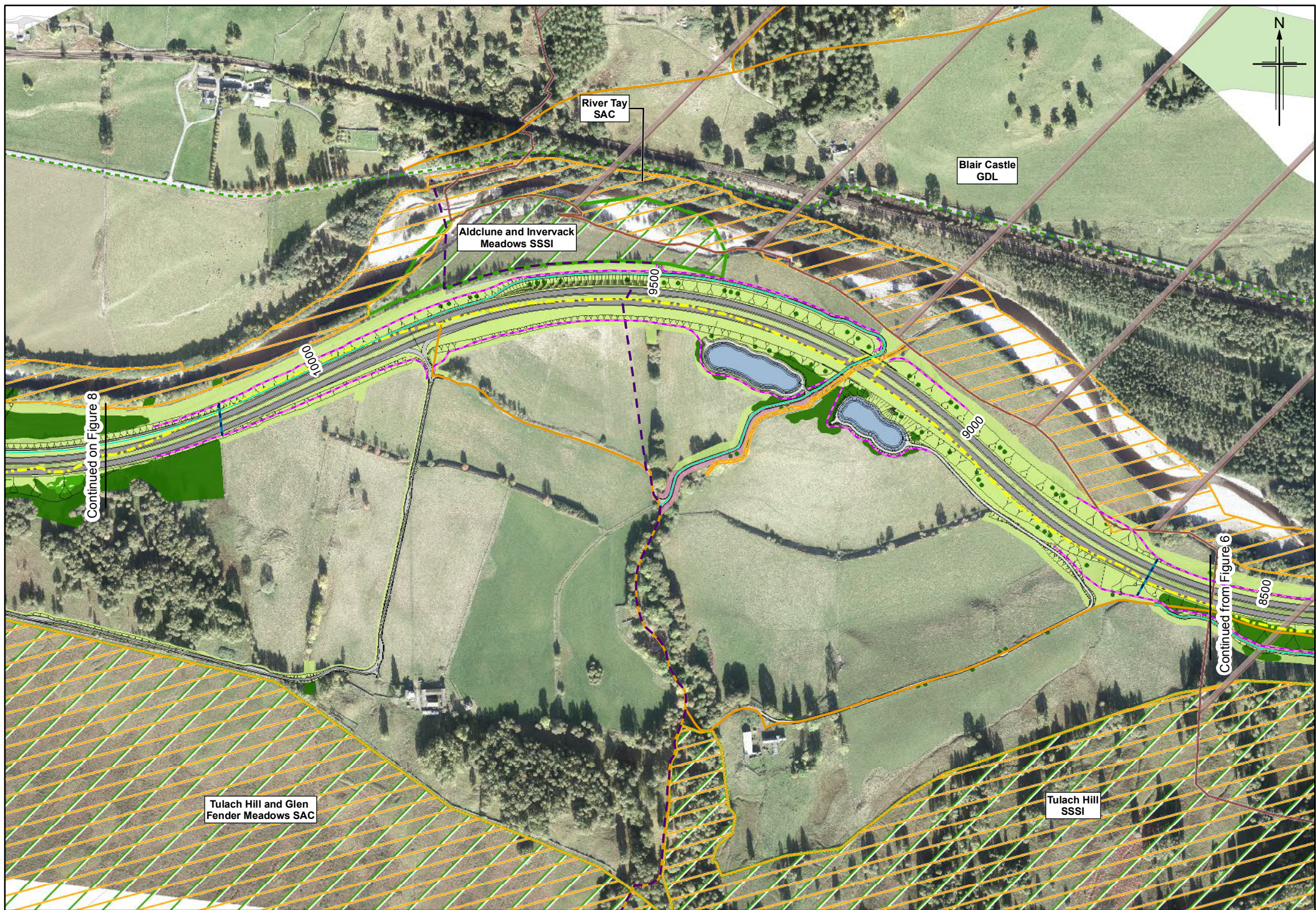


FIGURE 7 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.

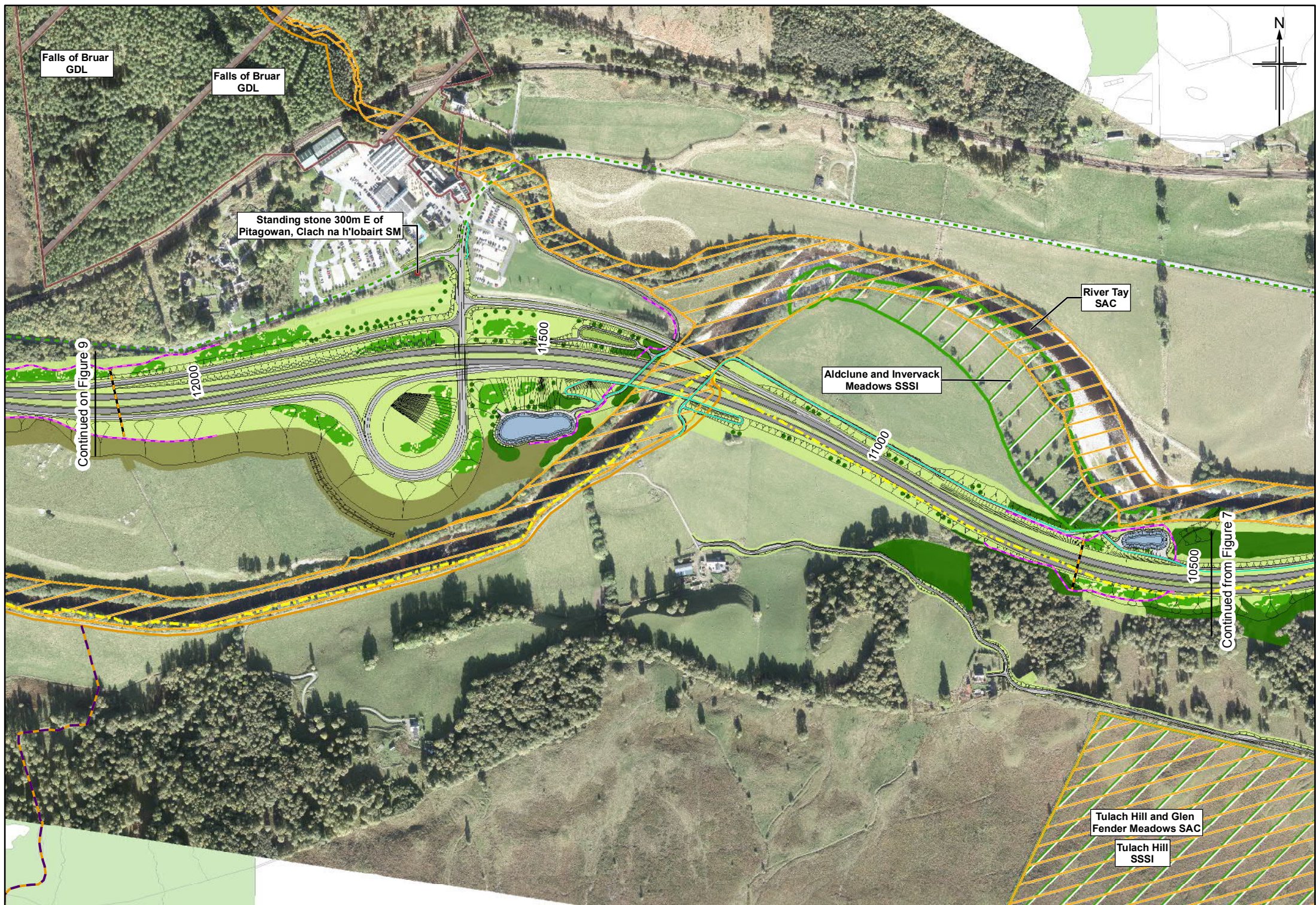


FIGURE 8 0 0.1 0.2 0.3 0.4 0.5 Kilometres Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668. Contains Public Sector Information licensed under the Open Government Licence v3.0.

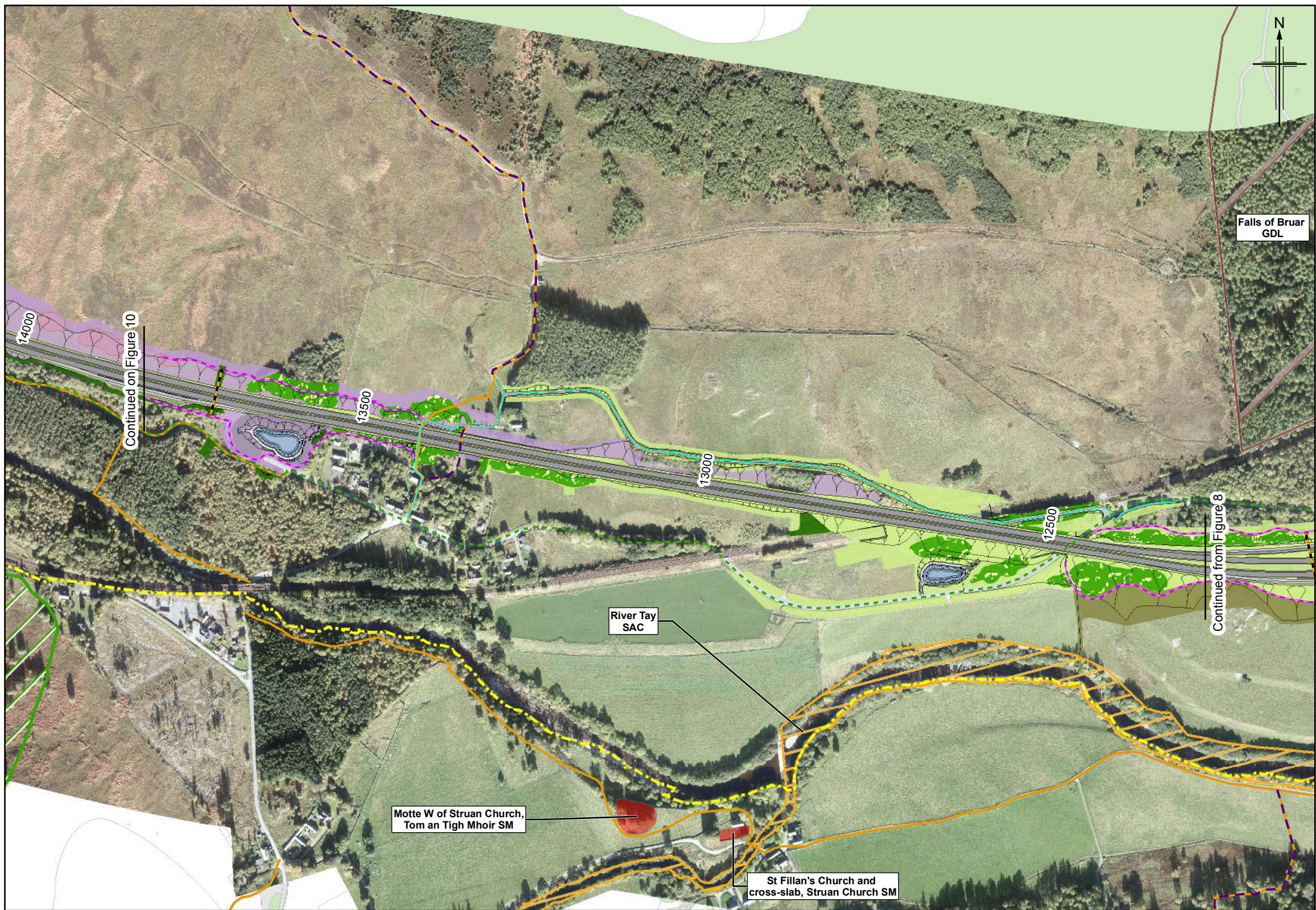


FIGURE 9

0 0.1 0.2 0.3 0.4 0.5 Kilometres

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Continued on Figure 11

15500

15000

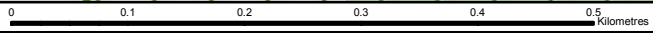
14500

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14000

Struan Wood
SSSI

FIGURE 10





Continued on Figure 12

17000

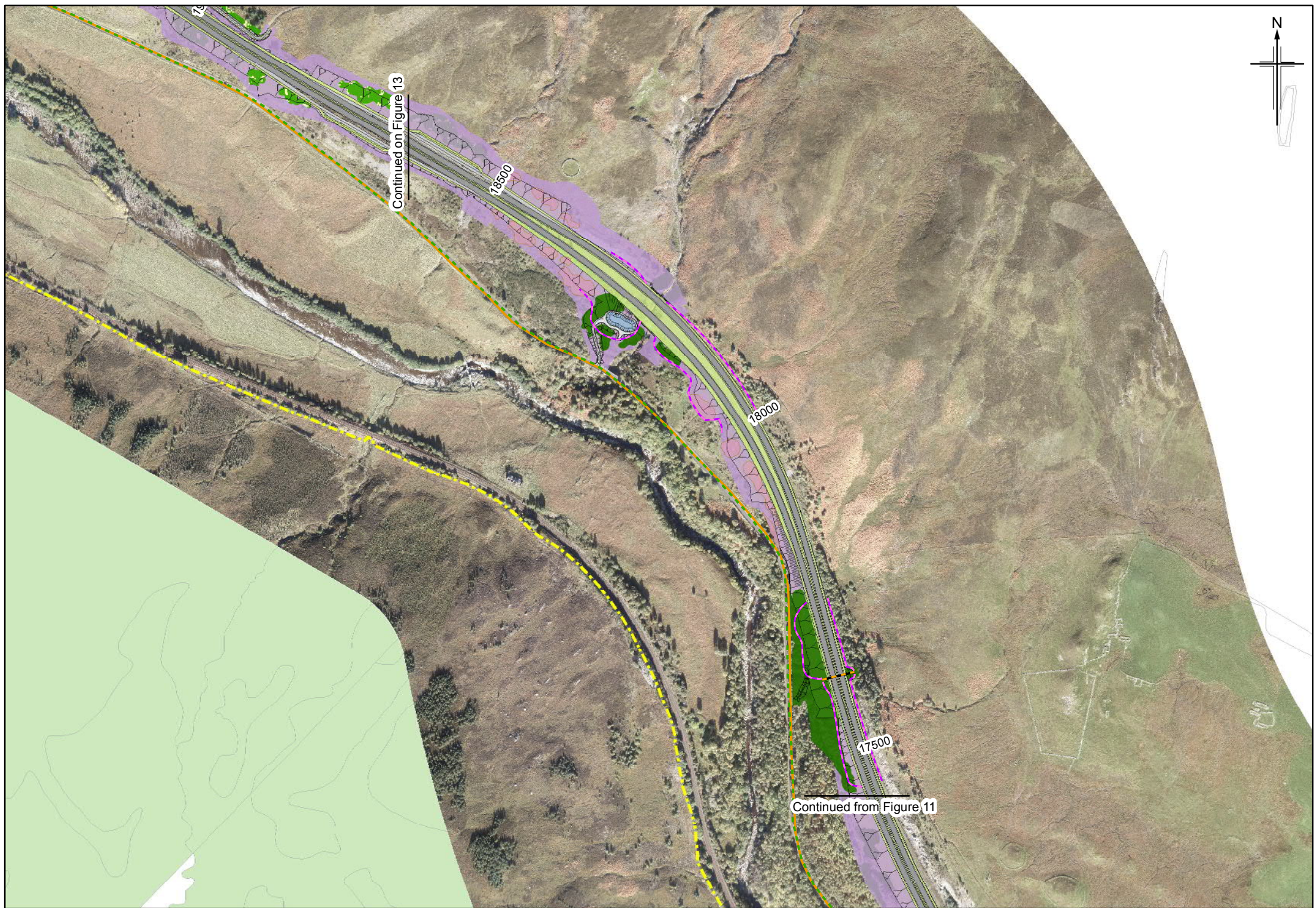
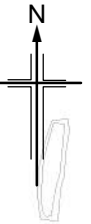
16500

16000

Continued from Figure 10

FIGURE 11





Continued on Figure 13

18500

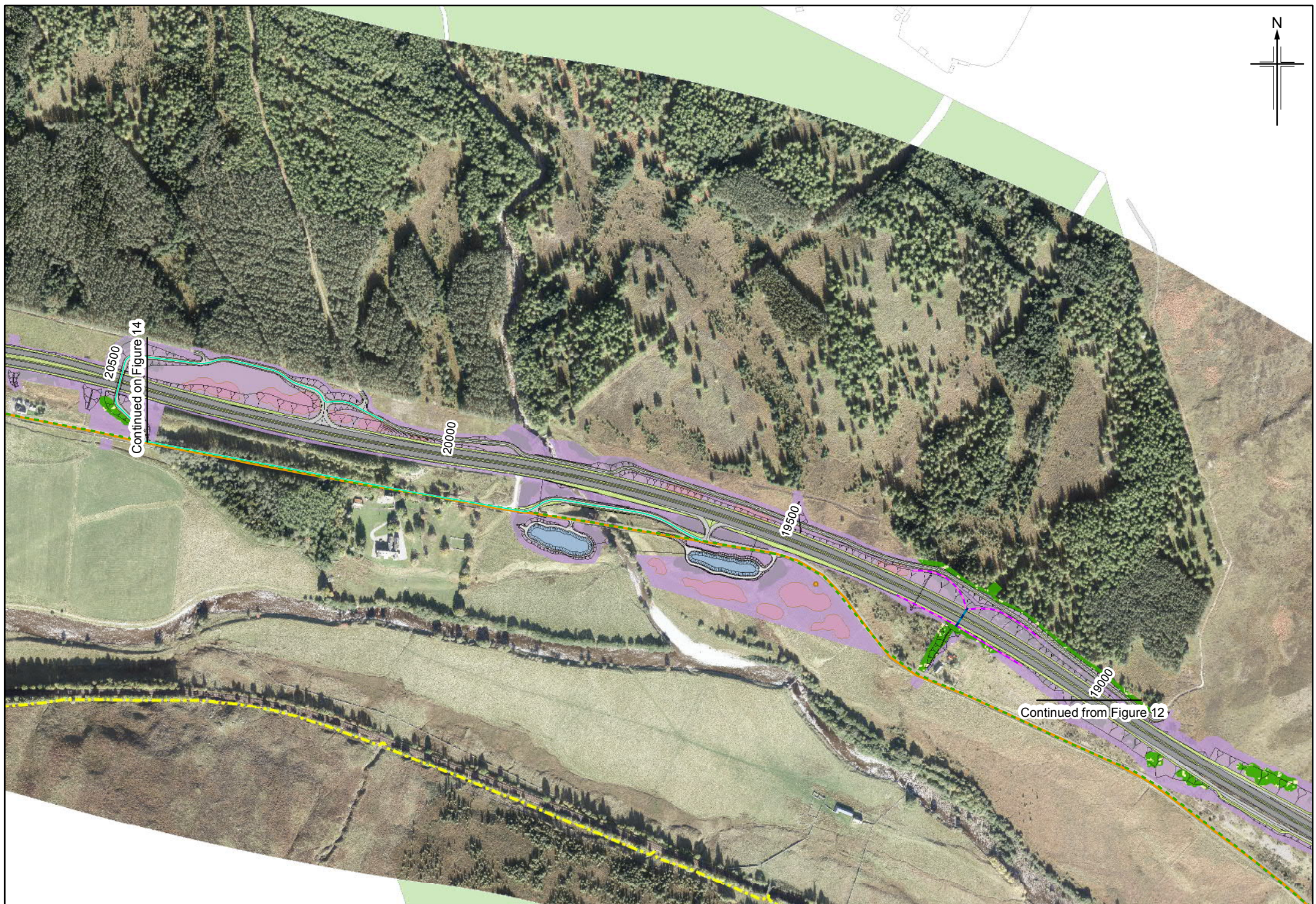
18000

17500

Continued from Figure 11

FIGURE 12





Continued on Figure 14

Continued from Figure 12

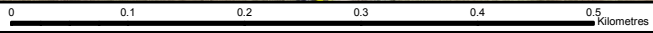
FIGURE 13



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FIGURE 14



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A9
DUALLING
PERTH TO INVERNESS
Killiecrankie to Glen Garry

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