TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

A9/A96

Inshes to Smithton scheme

Environmental Impact Assessment Report

Non-Technical Summary

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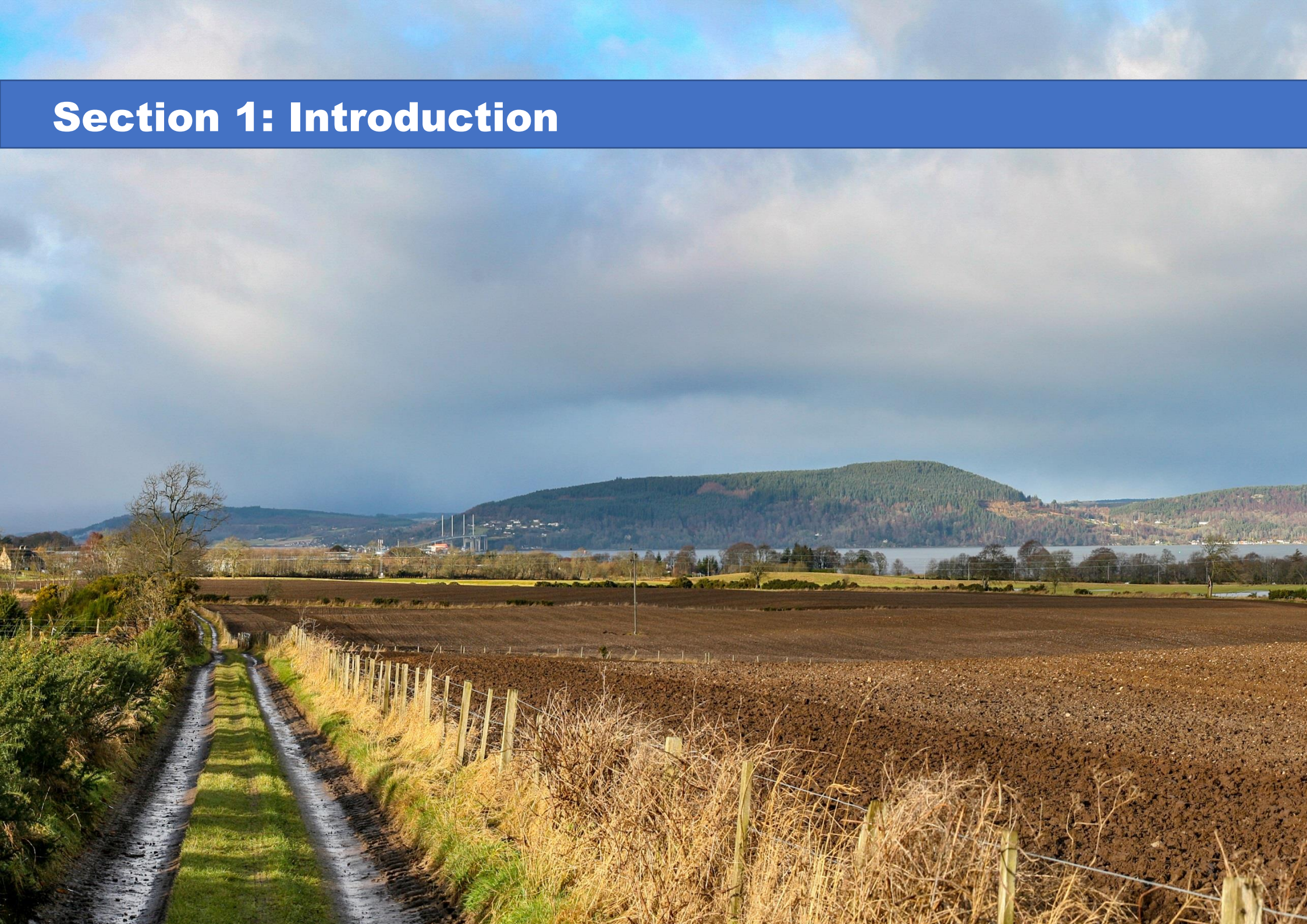
Section 1: Introduction



Preface

This document is the Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) for the A9/A96 Inshes to Smithton scheme. The project is proposed by Transport Scotland, an agency of the Scottish Government. Copies of the EIAR and the draft Road Orders are available to view during normal office hours at the following locations:

Inverness Library
Farraline Park
Inverness
IV1 1NH

Tel: 0146 323 6463

The Highland Council Headquarters
Glenurquhart Road
Inverness
IV3 5NX

Tel: 0134 988 6606

Culloden Library
Keppoch Road
Culloden
Inverness
IV2 7LL

Tel: 0146 379 2531

Inshes Library
Inshes Road
Inverness
IV2 3RF

Tel: 0146 372 5928

Transport Scotland
Major Projects
Buchanan House
58 Port Dundas Street
Glasgow
G4 0HF

Tel: 0141 272 7100

The EIAR (including NTS) and draft Road Orders may also be viewed online on the Transport Scotland website:

https://www.transport.gov.scot/projects/a9a96-inshes-to-smithton

A bound paper copy of the EIAR 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: a9a96-inshes-smithton@transport.gov.scot

Any person wishing to make representation on the EIAR should write to Transport Scotland at the address provided above. Formal representations are invited until 25 October 2019.

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Introduction

Background

The Strategic Transport Projects Review published in 2009 (STPR) sets out the Scottish Government's transport investment priorities over the coming decades. The STPR identified that effective transport is key to supporting the delivery of Scotland's Economic Strategy. The STPR proposals included the provision of a new road connecting the A96 and A9 south of Inverness which would provide relief at Raigmore Interchange. It also recommended proposals to improve the A9 corridor including improving the operational effectiveness of the A9 as it approaches Inverness.

In January 2017, the £315 million Inverness and Highland City-Region Deal was signed. Central to the Deal is improving access to and within communities. The Deal aims to improve connectivity through investment in transport including the development of the A9/A96 Inshes to Smithton scheme.

The A9/A96 Inshes to Smithton scheme (hereafter referred to as the proposed scheme) is interdependent with other projects and plans being progressed by The Highland Council, as well as being dependent on the proposed A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme. As part of the Inverness and Highland City-Region Deal, the Highland Council will improve the local road network at Inshes to provide the infrastructure needed to support development in the local area.

The proposed scheme is illustrated in Figures 1-7 of this NTS. The proposed scheme comprises approximately 3.2km of new single carriageway (mainline and side roads), to improve the road network between the existing A9 and A96. The proposed scheme also incorporates:

- a lane gain/lane drop arrangement on the A9 southbound carriageway, forming a third lane between Raigmore Interchange and Inshes junction;
- two at-grade roundabouts;
- local road diversions, the provision of new means of access and access for maintenance purposes;
- two principal structures comprising one crossing of the A9 and one of the Highland Main Line Railway;
- 12 culverts, including ten culvert crossings and two flood relief culverts;
- the provision of approximately 7.3km of new paths for pedestrians and cyclists (referred to as Non-Motorised Users or NMUs) which have been developed collaboratively with The Highland Council to complement the Inverness East Development Brief; and
- utility works.

The proposed scheme will be submitted for authorisation through the Roads (Scotland) Act 1984. Once approved, the overall construction duration of the proposed scheme is anticipated to be approximately two years.

Environmental Impact Assessment

An Environmental Impact Assessment (EIA) of the proposed scheme is required under European and UK legislation. The EIAR 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 EIAR, 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 EIAR. The EIAR documents have been subdivided into four volumes for ease of use:

- NTS;
- Volume 1: Main Report;
- Volume 2: Technical Appendices; 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 with landowners, statutory consultees and other stakeholders, environmental surveys and technical

assessments. The information gathered has informed decision-making throughout the iterative 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 environmental 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.

2017 EIA Regulations

The A9/A96 Inshes to Smithton EIA was undertaken in line with the Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the 2017 EIA Regulations), which amended the Environmental Impact Assessment (Scotland) Regulations 1999.

There are a number of key changes to the 2017 EIA Regulations, as compared to the 1999 EIA Regulations, including to the content of the EIAR and a wider scope of environmental topics are now to be considered. These additional topics are:

- Climate (e.g. greenhouse gas emissions and impacts relevant to adaption);
- Major Accidents and Disasters; and
- Population and Human Health.

Each of these topics have either been considered and addressed as part of the EIA process and reported in the EIAR, or were scoped out from further assessment during the scoping process, as follows:

Climate Change

Flooding effects including consideration of climate change predictions, is considered within Chapter 13 (Road Drainage and Water Environment). Climate factors are also considered in Chapter 7 (Air Quality). No separate assessment of the proposed scheme on climate factors was undertaken for the EIA.

Major accidents and/or disasters

The proposed scheme is not anticipated to result in greater risk of major accidents or disasters during construction or operation and is not located within a geographical region that is subject to natural disasters. It is considered that there will be no significant adverse effects resulting from the proposed scheme on the environment which could result from the vulnerability of the proposed scheme to risks of major accidents or disasters. As no impacts are expected in relation to major accidents or disasters as a result of the proposed scheme, the topic was not considered within the EIA.

Population and Human Health

The potential effects of the proposed scheme on population and human health are covered in Chapter 7 (Air Quality), Chapter 8 (Noise and Vibration), Chapter 12 (Geology, Soils, Contaminated Land and Groundwater), Chapter 15 (People and Communities: Community and Private Assets) and Chapter 16 (People and Communities: All Travellers). No separate assessment of the proposed scheme on population and human health was undertaken for the EIA.

Further information on how the 2017 EIA Regulations have been addressed can be found in Chapter 5 (Overview of Assessment Process) of the EIAR.

Need for the Scheme

The need for the proposed scheme has been identified within several national strategies and policy frameworks. The proposed scheme is specifically supported within the STPR and contributes towards the Scottish Government's overall objectives to provide an efficient, safe and integrated transport system to act as a key enabler for sustainable economic growth.

The Highland-wide Local Development Plan (HwLDP) (The Highland Council, 2012) and the Inner Moray Firth Local Development Plan (IMFLDP) (The Highland Council, 2015) reflect national policy in relation to delivering sustainable economic growth and developing an efficient, safe and integrated transport system. The IMFLDP recognises the infrastructure constraints to economic growth and makes specific reference to the proposed scheme, connecting the A9 to the A96, as being a major infrastructure requirement for the development of the Inverness to Nairn Growth Area.

The Inverness to Nairn Growth Area includes the area to the east of Inverness (Inverness East). This is a key area for mixed use and residential development, and to support its future growth the Inverness East Development Brief was adopted in June 2018. The Brief includes the proposed scheme within its indicative masterplan.

The Inverness and Highland City-Region Deal represents an important delivery mechanism for the region's economic vision and for sustainable and inclusive economic growth. The Deal specifically supports the proposed scheme to *'improve the operation of the network for longer distances and local journeys, providing relief to the A96 east of Inverness and the Raigmore junction.*'

The proposed scheme will improve the strategic road network in the area, improving its operation for longer distance and local journeys. The proposed scheme will complement the increased capacity of the A96 when the proposed dualling is complete and improve efficiency of journey times on the local road network.

Scheme Objectives

The objectives for the proposed scheme are:

- to encourage more effective use of the road network hierarchy and thereby improve the operation of the network for longer distance and local journeys;
- to contribute to The Highland Council's Development Plan aims for development east of the A9, and to complement the benefits arising from the dualling of the A96;
- to improve safety for motorised and non-motorised users (NMUs) where the trunk and local road network interact; and
- to maximise opportunities for active travel and public transport connections arising from the road infrastructure improvements.

The EIA process facilitates the achievement of these objectives considering the need to avoid and/or reduce environmental impacts, enhance the environment and improve sustainability where possible. This is through the inclusion of appropriate environmental measures, adherence to best practice during construction and measures 'embedded' into the design.

Alternatives Considered

Transport Scotland examined the wider context of the A9/A96 through the A9/A96 Connections Study and looked at challenges, opportunities and issues concerning traffic between Inshes, Raigmore and Longman junctions to develop a potential solution to the congestion and journey time reliability issues at these three junctions. The study was carried out in line with Scottish Transport Appraisal Guidance which considers all modes of transport. The outcomes of the A9/A96 Connections Study were presented at public exhibitions in Spring 2014, where two options were identified as the best performing options. Transport Scotland appointed Jacobs to take forward the options assessment process on the A9/A96 road connection between Inshes and Smithton, further developing upon the outcome of the A9/A96 Connections Study. Nine sub options were developed as part of the options assessment and following a sifting exercise, three options each with an 'A' and 'B' variant were progressed for further assessment.

Engineering, environmental, traffic and economic assessments were undertaken for the three options with an 'A' and 'B' variant and these were presented to local communities in August 2016 for consultation and feedback. The preferred option was then presented to the public in October/November 2017. Further refinement on the early design and assessment work of the preferred option and its 'A' and 'B' variant and the outcome of the preferred variant assessment was presented to the public at a series of drop in sessions in May 2018.

Since publication of the preferred option, the proposed scheme has been subject to ongoing design development informed by a range of considerations, including landowner and other stakeholder consultations, and the EIA.

Section 2: The Proposed Scheme

The Proposed Scheme

An outline design has been developed for the proposed scheme. This outline design would be used by the future selected contractor to prepare a detailed design for construction of the proposed scheme.

The proposed scheme is illustrated in Figures 1-7 of this NTS.

The proposed scheme commences to the west of the A9, with a new overbridge running parallel and to the south of the existing Inshes Overbridge, which will accommodate two lanes of traffic in each direction of travel. The proposed scheme connects to The Highland Council's Inshes Junction Improvements – Phase 2 to the west of the new overbridge.

A lane gain/lane drop arrangement on the A9 southbound carriageway between Raigmore and Inshes junctions is included as part of the proposed scheme.

A new single carriageway commences where the existing Caulfield Road North meets Culloden Road. The Caulfield Road North approach to Culloden Road would be widened. A new single carriageway is provided which travels in a north-easterly direction to a new roundabout in the vicinity of Cradlehall.

The proposed Cradlehall Roundabout is a four-arm roundabout connecting the proposed scheme to the existing local road network. Access to Inverness Campus and Cradlehall would be locally realigned. The proposed scheme then crosses over the Highland Main Line Railway, shown in Photograph 1, via a new overbridge (the Cradlehall Railway Bridge) and connects to a second new roundabout.

The proposed Eastfield Way Roundabout is a four-arm roundabout and provides a connection to the Inverness Retail and Business Park, as well as a field access to the east. The proposed scheme then continues to the east of Ashton Farm and ties-in to the grade-separated A96 Smithton Junction, to be delivered as part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme.

Facilities for NMUs are an integral feature of the proposed scheme, consisting of approximately 5.3km of new shared use path, 1.3km of new footway and 0.7km of new cycleway, to facilitate safe pedestrian and cycle travel.

Photograph 1: Highland Main Line Railway looking east from the existing NMU crossing

The drainage design for the proposed scheme has been developed in accordance with Sustainable Drainage Systems (SuDS) guidance and through consultation with the Scottish Environment Protection Agency (SEPA), which is the regulator for flood risk and activities that may impact the water environment, and The Highland Council.

Delivering the Proposals

The EIAR presents the results of the EIA of the proposed scheme. The design of the proposed scheme may be refined further as part of 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 EIAR. 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 scope or scale of residual impacts of the refinement could be greater than those reported in the EIAR and if additional mitigation is required. In this situation, additional information would then be

published for public consultation and comment and further consideration by Transport Scotland, in accordance with the EIA Regulations.

Construction is subject to completion of the statutory process; however, for the purpose of the EIA it has been assumed that 2021 would be the earliest that construction would commence.

Overview of the EIA 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, a comprehensive consultation exercise was carried out with numerous organisations (consultees) including The Highland Council, 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 and public engagement events were held in June 2014, August 2016, October/November 2017, and May 2018.

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

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 including relevant details of mitigation. Full details of each assessment and the associated findings of the EIA are presented in the EIAR (Volume 1: Main Report).

Air Quality

The existing air quality throughout the area is primarily 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 for the proposed scheme used air quality monitoring and modelling to consider the following pollutants emitted from vehicles: nitrogen oxides, nitrogen dioxide and fine particulate matter. Modelling was used to predict pollutant concentrations at the assessment year of the proposed scheme opening. A regional air quality assessment was also undertaken to determine the potential air quality impacts of the proposed scheme upon the wider area. The potential for air quality impacts during construction was also considered.

With the implementation of dust mitigation measures, the construction phase of the proposed scheme is not predicted to cause any significant impacts.

The operational assessment indicates that there are no exceedances of the relevant Air Quality Objectives predicted to occur. The contribution to total emissions from the proposed scheme for the opening and design years is predicted to be very small in the context of published national road transport emissions. The air quality impact of the proposed scheme on a local and regional level is considered to be not significant.

Noise and Vibration

The current noise environment is predominantly influenced by the existing local road network and the existing A9 and A96. A baseline noise survey was undertaken to gain an understanding of the existing noise climate within the area surrounding the proposed scheme.

The noise assessment for the proposed scheme used noise monitoring and modelling to identify potential noise and vibration impacts associated with the proposed scheme from both construction and operation. Representative receptors included residential properties and other sensitive locations (e.g. schools and hospitals) which were identified and used for the modelling.

Photograph 2: Baseline noise monitoring equipment

The operational noise assessment indicates that some properties in the vicinity of the proposed scheme would experience an increase in noise levels. A significant impact is predicted at Culloden House Care Home (a committed development under construction) and 11 residential properties. Specific mitigation measures have not been proposed for these properties, as the increase is a result of increased traffic on the nearby local roads, and not from road traffic on the proposed scheme directly.

During the construction phase, it is anticipated that any potentially significant adverse impacts associated with construction of the proposed scheme are unlikely to arise and any that do would be short-term in nature. Examples of mitigation measures that will be implemented to reduce construction phase impacts, include community liaison and communication, adoption of best practice working methods, and on-site monitoring to ensure the mitigation measures are followed.

Landscape

The proposed scheme is located in an area largely contained by the Aberdeen to Inverness Railway Line to the north, Barn Church Road to the north-east, Culloden Moor to the east, the city of Inverness to the west and Drumossie Moor to the south. The surrounding area contains the newly constructed designed landscape of Inverness Campus, high quality farmland, and retail and educational facilities. Settlements within the study area include the city of Inverness to the west and the suburbs/hamlets of Inshes, Cradlehall, Resaurie, Smithton, Westhill and Culloden to the south and east. Potential impacts of the proposed scheme on landscape would arise from construction activities such as the removal of vegetation, and changes to the landform as well as the construction of structures and earthworks. Landscape effects could also arise from the operation of the proposed scheme and its impact on the character of the landscape.

The landscape assessment concluded there would be a significant residual impact on the Inverness Campus due to the introduction of the road, earthworks, structures and lighting on the edges of the Campus; however, this impact would decrease over time. There would also be a significant residual impact on the farmed landscape as a result of the introduction of a major development into a relatively undeveloped landscape. As planting establishes and the proposed scheme becomes more integrated into the landscape it is predicted that the impacts on the agricultural landscape would reduce.

A large area of land surrounding the proposed scheme is allocated to the development land category within the adopted local development plan. Should the land be developed as planned, the baseline landscape and the impacts of the proposed scheme within this area would be likely to change. The area would likely become more urban in nature as the aspirations of the Inverness East Development Brief are fulfilled.

Photograph 3: The study area looking north-west towards Black Isle and Moray Firth

Visual

The visual assessment looked at the change the proposed scheme would have upon the visual amenity and views experienced by people from buildings, outdoor public areas, local roads, railways and routes used by pedestrians, cyclists and equestrians.

The features of the landscape limit views from the south-east beyond Westhill, from the south beyond Milton of Leys and from the Moray Firth coast immediately north of the Aberdeen to Inverness Railway Line. Potential views of the proposed scheme from Inverness are mostly screened by built features, vegetation and landform. Some residential and commercial properties to the east and south-east of the A9 may experience views of the proposed scheme. Users of local roads, paths and railways may also experience an impact on their visual enjoyment of the area as a result of the proposed scheme.

Construction activities associated with road schemes generally result in temporary adverse visual impacts. The proposed scheme is likely to result in impacts on visual amenity during construction. Potential impacts during operation include alteration of views and distraction from the landmarks of the area due to the introduction of various elements of the proposed scheme; increased presence of artificial lighting during the hours of darkness; changed appearance of land-form due to new soft cuttings, embankments and bridges, and alteration to vegetation patterns and field patterns by tree loss and stripping of groundcover vegetation and topsoil, followed by reinstatement and new planting.

The design of the proposed scheme alignment and drainage has been developed and refined with the aim of reducing visual impacts. Lighting, where essential, has been selected to minimise impacts on the night sky and mitigate intrusiveness from spillage, glare and reflection.

The mitigation proposals include retention of existing trees and vegetation where possible, new planting of woodland, tree avenues and individual trees, with hedgerow planting and seeding adjacent to the proposed scheme. They have been developed in order to replace trees lost during construction, provide screening where appropriate, to enhance biodiversity and to reflect and enhance local landscape character. By the time the planting is established, the landscape mitigation would reduce the total number of significant impacts on views from individual built receptors from 82 to 38 residual impacts.

The proposed scheme is within an area where large-scale development is planned, with the existing agricultural land becoming more urbanised as the city of Inverness expands to the east. These new developments would experience a degree of visual impact from the proposed scheme depending on how close they are to it. However, impacts would likely be influenced and reduced by planting undertaken for mitigation as part of these new development proposals.

Ecology and Nature Conservation

The ecology assessment considers the potential impacts of the proposed scheme on terrestrial and freshwater species, habitats and ecosystems. Baseline conditions for ecological features were established through desk-based assessment, consultation and site surveys. This process identified ecological features that would potentially be impacted by the proposed scheme. These included five protected areas close to the proposed scheme, designated for particular species, habitat or ecological features. These are:

- Moray Firth Special Area of Conservation (SAC);
- Inner Moray Firth Special Protection Area (SPA);
- Moray Firth proposed Special Protection Area (pSPA);
- Inner Moray Firth Wetland of International Importance (Ramsar); and
- Longman and Castle Bays Site of Special Scientific Interest (SSSI).

Aquatic and terrestrial species and habitats that could potentially be impacted included wintering birds, bats, breeding birds, barn owl, otter, badger, freshwater fish and macroinvertebrates.

The ecological assessment concluded that a temporary significant adverse residual impact would be predicted for bats and breeding birds due to loss and break-up of woodland as a result of the proposed scheme. However, once planting is established, no significant residual impacts are predicted.

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. An ecologist will be appointed to provide advice during construction and ensure that mitigation measures are applied appropriately. During operation, ecological planting, habitat creation, mammal fencing, and provision of crossing structures are proposed to mitigate potential impacts.

Geology, Soils, Contaminated Land and Groundwater

The assessment considers the potential impacts of the proposed scheme on existing geology, contaminated land and hydrogeology in the surrounding area. Baseline conditions were established through desk-based assessment, consultation and ground investigation.

The proposed scheme is underlain by superficial deposits primarily composed of alluvium, tidal deposits, raised marine deposits, glaciofluvial deposits and glacial till. The underlying bedrock is composed of Old Red Sandstone. Several potential sources of contamination were identified within the study area (including made ground, the existing A9 and A96 trunk roads, the Highland Main Line Railway and small scale industrial/economic activities). In addition, private water supplies (PWS) and surface water features were identified and documented.

Mitigation measures will be employed to reduce potential impacts, for example: consultation with the local authority and SEPA; further site investigations; appropriate waste management procedures; landowner consultation; following pollution prevention guidelines; and appropriate storage of excavated soils on site. No significant residual impacts are anticipated after the implementation of the proposed mitigation.

Road Drainage and the Water Environment

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 have been assessed. The impact assessment was informed by consultation, desk-based assessments, site walkovers and surveys. Hydraulic modelling of the two largest watercourses within the study area (Cairnlaw Burn and Scretan Burn) and several other minor watercourses was undertaken.

The proposed scheme is located within the catchment areas of the Scretan Burn and Cairnlaw Burn. The water features within the area are generally heavily modified, featuring multiple culverts through urban areas and straightened (drainage) channels where crossing agricultural land.

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. Good practice guidance during construction will be adhered to. Specific management plans to manage drainage and minimise the generation of suspended sediment are included as measures to mitigate construction impacts. With the implementation of mitigation measures described above during construction, impacts on all fluvial geomorphology, flood risk and water quality would be reduced to not significant.

Photograph 4: Inshes Burn watercourse

During the operational phase, mitigation measures incorporated into the proposed scheme design include the use of Sustainable Drainage Systems, flood relief culverts, a flood storage area, ground re-profiling, bank raising, morphological improvements and scour protection. Following the implementation of mitigation there is no increase in flood risk predicted to land areas outwith the proposed scheme boundary. Localised increases in flood depths are predicted within the proposed scheme boundary for four watercourses due to the proposed mitigation aimed at removing increased flood risk as a result of the proposed scheme elsewhere.

No significant residual impacts are predicted on fluvial geomorphology or water quality during operation.

Cultural Heritage

There are a number of cultural heritage assets in the area surrounding the proposed scheme, including archaeological remains, historic buildings and the historic landscape. Baseline conditions were established through a desk-based study and walkover survey, geophysical survey, and aerial imagery analysis.

The design development process and key design developments have avoided or reduced potential impacts on cultural heritage assets, such as the alignment of the proposed scheme to avoid severing the two Scheduled Areas of a Scheduled Monument, the location of which is shown on Figure 5. The Scheduled Monument comprises a ring ditch and three pit circles identified from aerial photographs and interpreted as the remains of an unenclosed prehistoric settlement. Potential impacts on the Scheduled Monument during construction and operation include accidental damage as a result of nearby construction activities, and severance of this cultural heritage asset from other prehistoric archaeological remains identified nearby. The proposed scheme would change the Scheduled Monument's setting by introducing noise and visual intrusion, as well as changing the features of the landscape to the east of this cultural heritage asset.

Before mitigation, the potential for significant impacts during construction was identified on a number of archaeological remains of possible prehistoric date. Archaeological excavation is proposed to mitigate and thereby reduce the significance of these impacts, the design of which would be informed by archaeological trial trenching.

All cultural heritage mitigation will include a programme of assessment, reporting, analysis, publication and dissemination of results which reflect the value of the cultural heritage assets affected.

Photograph 5: Location of Scheduled Monument (Asset 14 – ring ditch and pit circles), looking south

People and Communities - Community and Private Assets

The proposed scheme is located within the greater Inverness area and the main local communities relevant to the proposed scheme are Raigmore, Inshes, Cradlehall, Resaurie, Westhill, Smithton and Culloden. Current land uses include residential, commercial and industrial property, community land and facilities, development land and planning applications, and land supporting agriculture and sporting activity.

The proposed scheme would require land-take of approximately:

- 5ha of commercial and industrial land;
- 23ha of agricultural land;
- 2ha of other land.

The proposed scheme design has sought to avoid impacts on community and private assets, where feasible. Mitigation measures to reduce residual construction and operational impacts have been developed. No significant impacts are expected as a result of the proposed scheme on residential, commercial and industrial property.

The community severance assessment determined that an increase in journey distance on a local path that provides access to Cradlehall and Inverness College UHI (University of the Highlands and Islands) and bus stops would have a significant residual impact as a result of the proposed scheme. Users of a core path linking local communities of Smithton and Cradlehall to Inverness Retail and Business Park are also expected to experience significant residual impacts. However, the proposed scheme is also expected to provide a significant beneficial impact, by way of relief from existing severance along Tower Road for vehicles and pedestrians accessing community facilities and services within the local community.

Significant residual impacts have been identified at one agricultural and sporting interest as a result of permanent land-take and severance of fields. Mitigation ensures that access to farm buildings, farm infrastructure and fields is maintained.

People and Communities - All Travellers

Potential impacts of the proposed scheme on NMUs was assessed, as well as impacts 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 Routes, equestrian routes and local paths close to the proposed scheme. Changes to NMU journey lengths and amenity value were assessed and used to determine potential severance impacts on access to the outdoors. The assessment took into account the mitigation built into the proposed scheme design, such as new shared use paths and crossings, that address the need to maintain access for NMUs along and across roads directly affected by the new road infrastructure. The baseline for the assessment also included the paths embedded in the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme.

The proposed scheme includes approximately 7.3km of new NMU paths (for pedestrians and cyclists), including a grade-separated path south of the proposed Eastfield Way Roundabout to provide a link to local paths connecting to the Inverness Retail and Business Park and the Inverness Campus.

During construction, temporary significant impacts are anticipated on journey length and amenity value for one core path (IN08.10, shown on Figures 2-7), four local paths, and National Cycle Network Route 1, due to diversions and general construction activities. Mitigation measures will help to reduce impacts on NMUs.

Photograph 6: Local Path 5 looking north-west towards the Inverness Retail and Business Park

Views from the road were assessed on roads and paths surrounding the proposed scheme as non-significant following the establishment of mitigation planting. Mitigation measures have been developed which considers the nature and sequence of views which would be experienced by travellers.

According to the descriptive scale within the DMRB, driver stress, as a function of traffic flows and speed, would be described as high for the proposed scheme due to the low traffic speeds and the two roundabouts introduced by the proposed scheme. It is considered that other aspects of the design, including appropriate signage, may contribute to reducing driver stress during operation by achieving high levels of operational reliability and reducing driver frustration.

Materials

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

The potential for impacts on materials or waste disposal facilities is related to the performance of the contractor during completion of the construction works. Any excess materials or waste sent off site could have an impact on the available waste management infrastructure and resources. The risk of such impacts occurring would be managed and reduced through the development and application of several plans addressing different aspects of construction site management, such as a Construction Environmental Management Plan (CEMP) and a Site Waste Management Plan (SWMP).

The magnitude of the proposed scheme's carbon emissions during both the construction and operation phases is estimated to be minor. All impacts on materials and waste are not predicted to be significant.

Policies and Plans

The principle of development of the proposed scheme is supported in planning policy with the aims and objectives reflected in national policy guidance.

The proposed scheme 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 largely identifies compliance with the majority of relevant polices. It has identified areas of potential non-compliance with some aspects of planning policy relating to proximity and impacts to cultural heritage assets. This is primarily due to the scale and nature of the proposed scheme.

The proposed scheme has been refined through an iterative process, and mitigation measures are proposed to address the potential impacts as outlined in the EIA topics. The mitigation commitments reduce potential impacts of the proposed scheme where a potential policy conflict has been identified.

The areas of potential non-compliance should also be balanced against the overarching benefits of the proposed scheme, such as alleviating traffic pressure on the trunk road network, contributing to The Highland Council's Development Plan aims for development east of the A9, complementing the benefits arising from the dualling of the A96, improving safety, and maximising active travel and public transport opportunities.

Cumulative Impacts

The cumulative assessment provides an overview of the combined environmental impacts of the proposed scheme and addresses impacts arising from other proposed developments.

No significant cumulative impacts are expected as a result of the combined environmental impacts of the proposed scheme during construction or operation, provided appropriate mitigation is implemented through the CEMP.

The potential for cumulative impacts resulting from the proposed scheme in combination with committed developments was reviewed. A number of the potential significant adverse cumulative impacts are anticipated and are related to the planned urban expansion at Inverness East as established in the IMFLDP and Inverness East Development Brief. The proposed scheme is key to delivering the infrastructure required to support the development of the area.

It is further acknowledged that, depending on the detailed design for the other developments in the area, additional cumulative impacts are possible. Conversely, it may be possible to mitigate construction impacts through coordination and refinement of the construction programmes, but these are not known at this stage.

Legend

- Proposed Scheme
- Cutting
- Embankment
- SuDS Drainage Channel / Swale
- SuDS Wetlands
- Carriageway
- Access
- A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
- Shared Use Path for NMUs
- Segregated Cyclist and Pedestrian Path
- Proposed Footway
- Culvert
- Watercourse
- Waterbody
- Buildings
- Existing Woodland
- Existing Vegetation to be Retained

Constraints

- Scheduled Monument

Proposed Mitigation

- Scrub Woodland
- Woodland Planting
- Grassland
- Wetland Grass
- Individual Trees
- Hedgerows

Non Motorised Users

- Core Path
- National Cycle Network Route

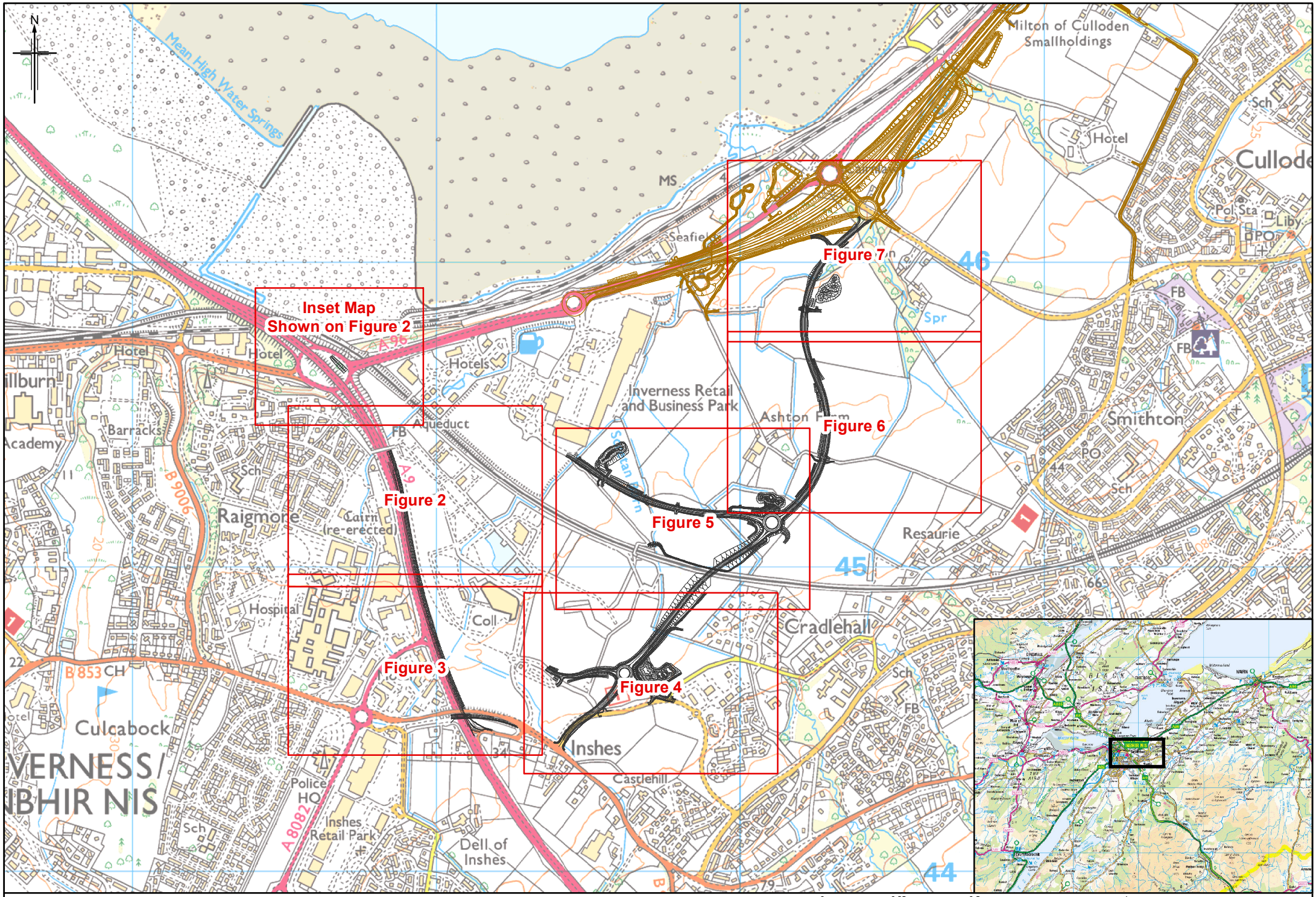

FIGURE 1

SCALE: 1:15,000

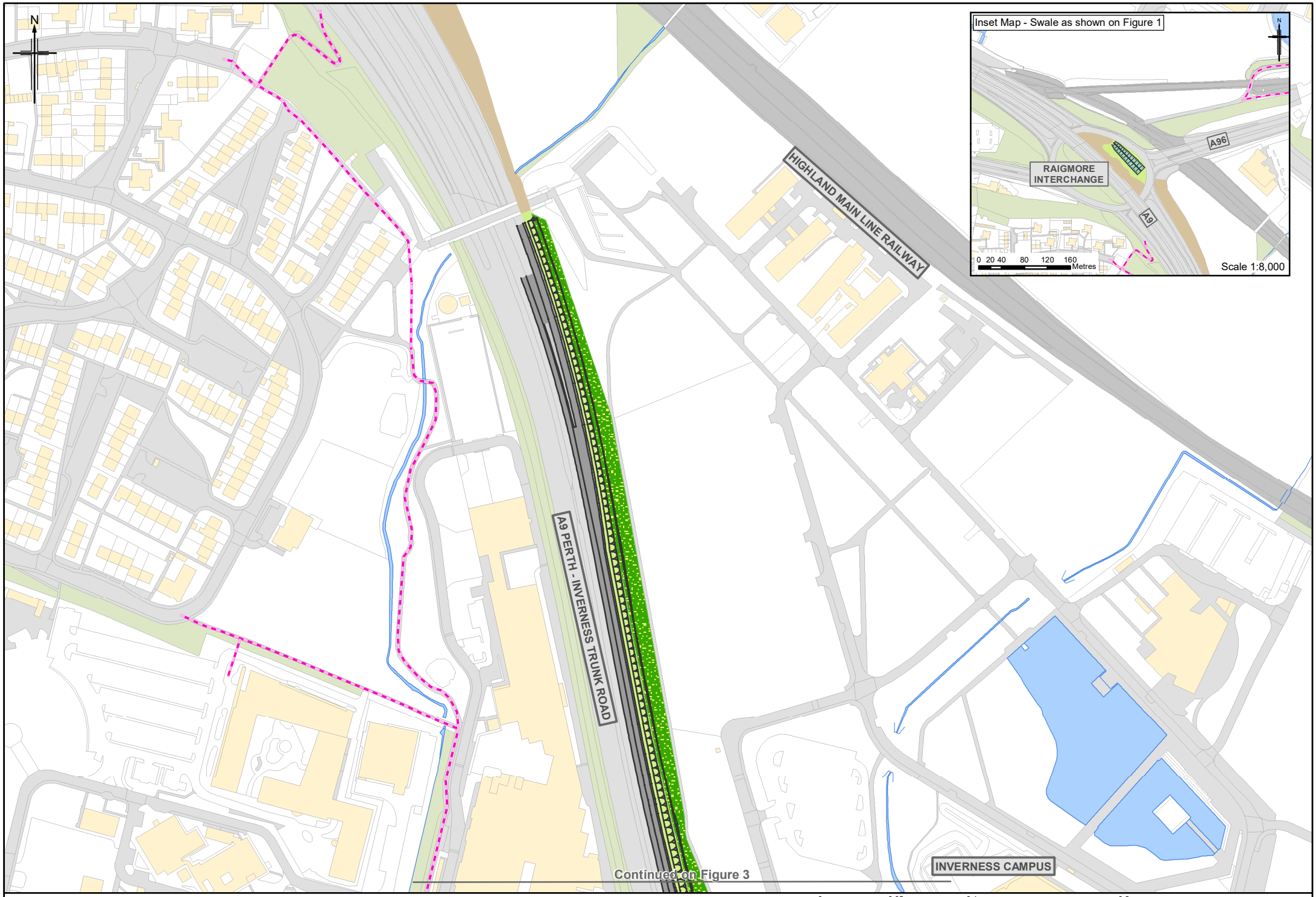

FIGURE 2

SCALE: 1:3,000

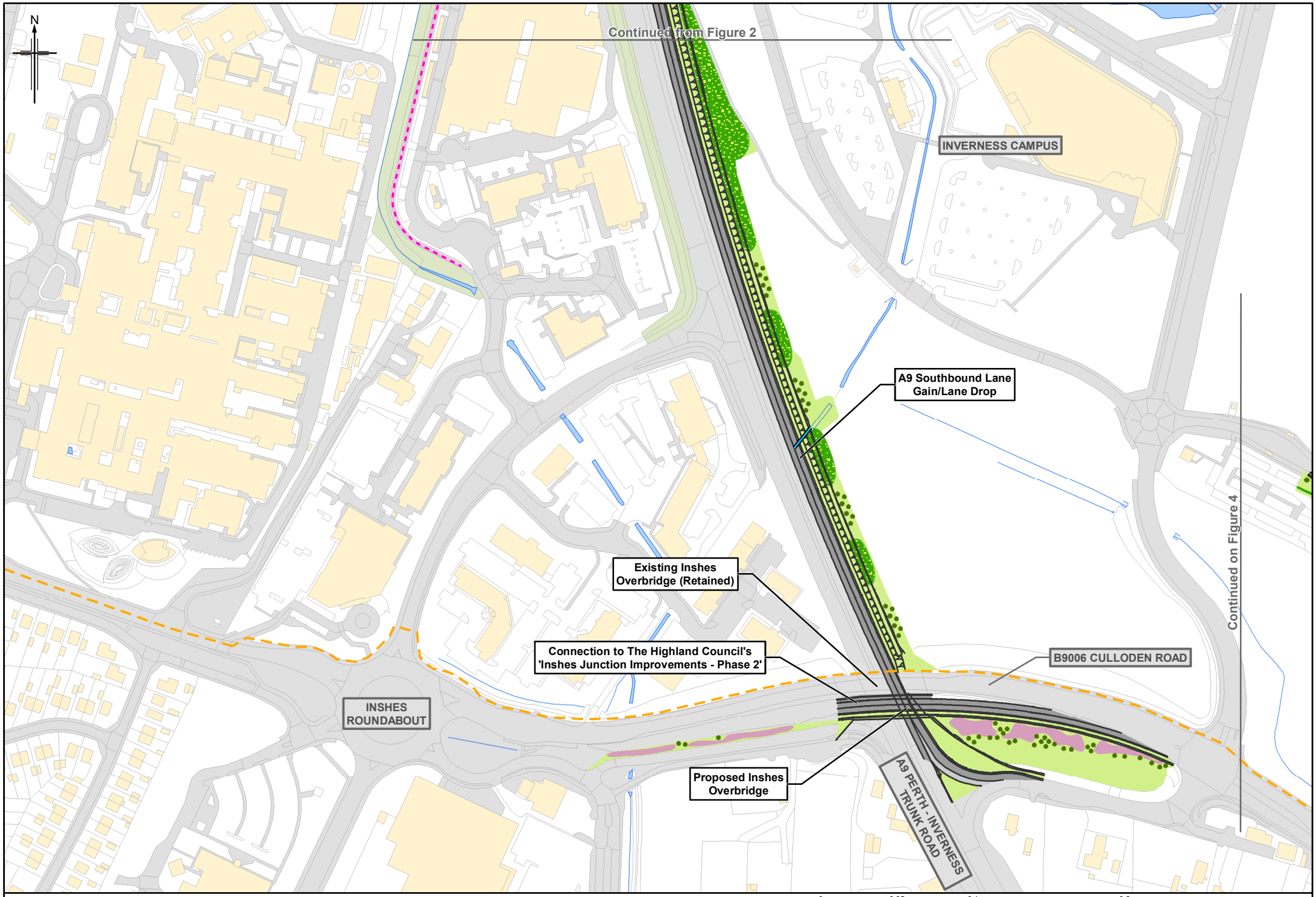

FIGURE 3

SCALE: 1:3,000

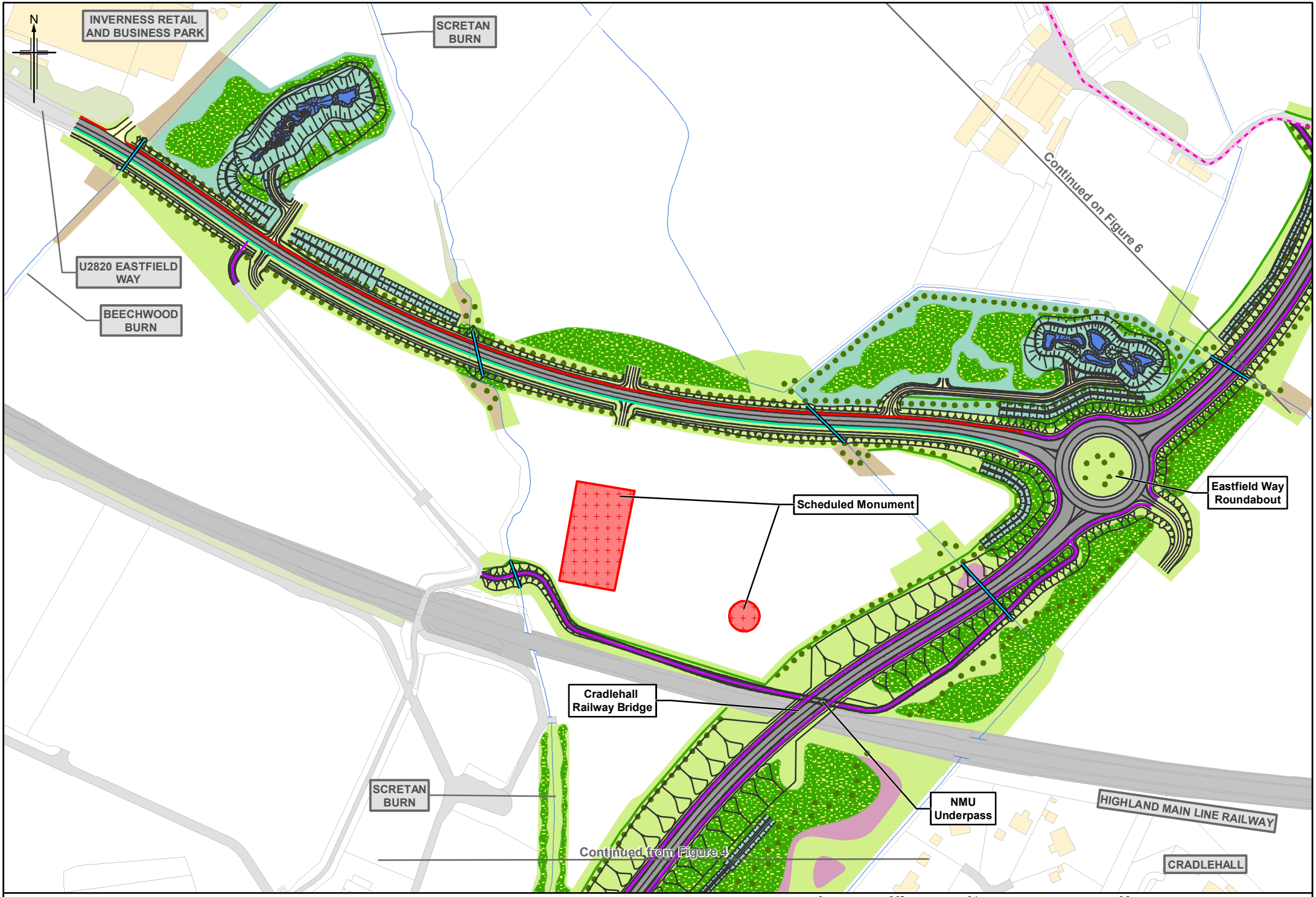

FIGURE 5

0 0.05 0.1 0.2 Kilometres

SCALE: 1:3,000

FIGURE 4

0 0.05 0.1 0.2 Kilometres

SCALE: 1:3,000

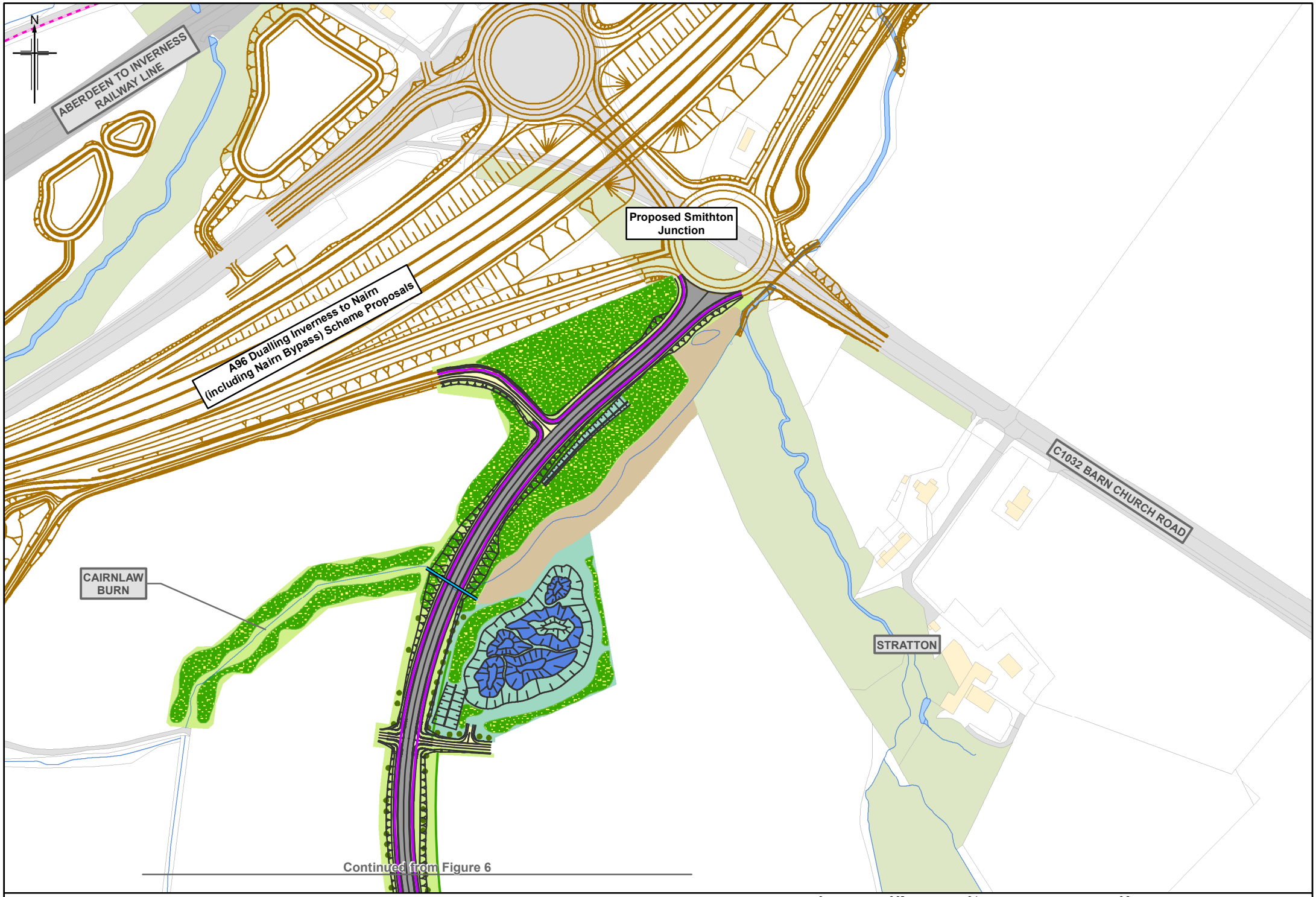

FIGURE 7

0 0.05 0.1 0.2 Kilometres

SCALE: 1:3,000

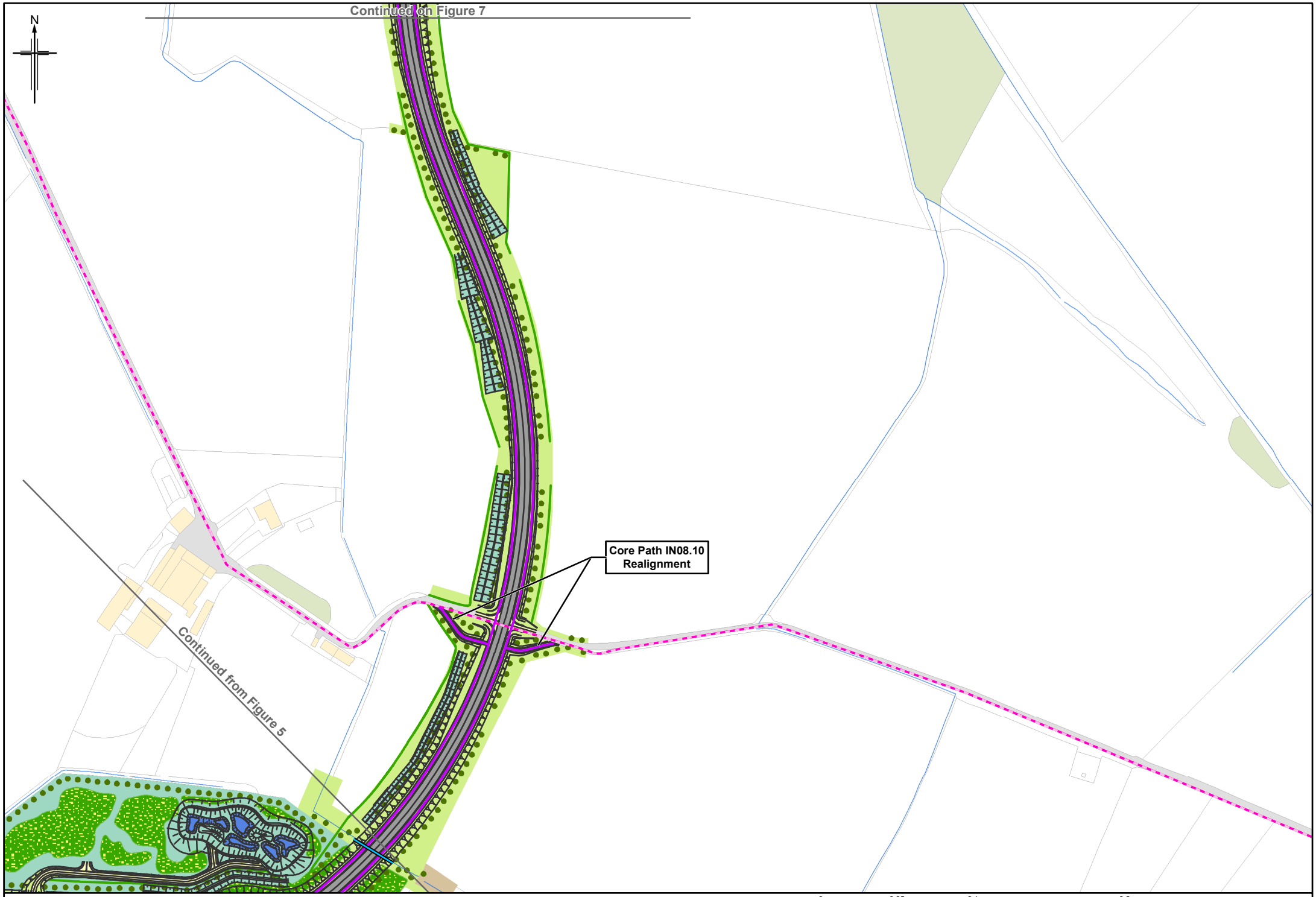

FIGURE 6

SCALE: 1:3,000

TRANSPORT SCOTLAND
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JACOBS