12 Landscape

12.1 Introduction

12.1.1 This chapter identifies and describes the existing landscape receptors within the identified study area of the Proposed Scheme.

12.1.2 The assessment of landscape receptors concerns direct anticipated changes to the landscape including impacts to designated landscapes, to the landscape character, and considers the Special Qualities of the landscape as defined by the Cairngorms National Park Authority (CNPA).

12.1.3 Landscape character assessment is the systematic description and analysis of the elements and features, such as landform, vegetation cover, settlement, land use and transport pattern present in the landscape which together make up the pattern or sense of place.

Study Area

12.1.4 The study area for the landscape assessment extends to 10km, as set out in the SEA and as shown in Figure 12.1. It gives a wider landscape context which it is considered best reflects the scale of the landscape in the context of the Cairngorms National Park (CNP), Cairngorms National Scenic Area (CNSA), Wild Land, and the regional Landscape Assessments.

12.1.5 Based on the nature of the Proposed Scheme it is considered that potential landscape impacts are likely to occur within 5km. The extent of this study area was determined by desk studies and field survey and selected in conjunction with The Cairngorms National Park Authority (CNPA), Scottish Natural Heritage (SNH) and The Highland Council (THC) through methodology adopted via the Landscape Forum.

12.2 Approach and Methods

12.2.1 The assessment approach was informed with guidance from the DMRB Stage 2 Methodology[i] Interim Advice Note[ii] (IAN) 135/10 and Guidelines for Landscape and Visual Impact Assessment (GLVIA3)[iii].

12.2.2 Information from the A9 Dualling Programme SEA: Strategic Landscape Review and Fitting Landscapes: securing more sustainable landscapes, Transport Scotland 2014 was used to support this assessment.

12.2.3 A more detailed assessment than would normally be considered at DMRB Stage 2 has been undertaken given the iconic nature of the route and the sensitivity of the landscape through which the Proposed Scheme passes. A bespoke methodology has been developed through the A9 Dualling Environmental Steering Group (Landscape Forum) with involvement of the consultation bodies – CNPA, SNH and The Highland Council and includes consideration of the Special Qualities of the Cairngorms National Park. This will be further developed at DMRB Stage 3.

12.2.4 The assessment was undertaken by two Chartered Landscape Architects and comprised of desk study, field surveys and consultation. Site surveys were undertaken in May, 2015 and in February and April, 2016 and helped to gain an understanding of the landscape context and to supplement information gathered during the desk study.

12.2.5 At DMRB Stage 2 the focus is on a comparative assessment between the Proposed Scheme Options and on providing information to inform the selection of a preferred route. Therefore, for example, temporary landscape impacts during construction (for which very little information is available during DMRB Stage 2 and which are likely to be similar for all Proposed Scheme Options) will not normally be considered in any detail except where a Proposed Scheme Option would result in relatively more major rock cuts.

12.2.6 The assessment has considered the impact of the Proposed Scheme Options in the winter of year 1 and the summer of year 15 in line with DMRB guidance.

12.2.7 The impacts of the Proposed Scheme Options have been assessed with mitigation in year 15.

Baseline Data Collection

12.2.8 The first stage of the assessment is to determine the baseline against which the magnitude of change can be assessed.

12.2.9 Baseline conditions are those which exist when the desk study and site surveys are being undertaken. They include future forces for change, if relevant, such as felling and restocking of forestry, or new built development.

12.2.10 A desk study was carried out to review existing maps and data. The guidance in the following documents were integral to the approach to the methodology:

- A9 Dualling Programme Strategic Environmental Assessment (SEA), Environmental Report. Appendix F: Strategic Landscape Review[iv].

12.2.11 In addition to the above the following information resources were reviewed as part of the assessment:

- The Highland Council Development Plan[v];
- Historic Environment Scotland Inventory of Gardens and Designed Landscapes on line resource[vi];
- Cairngorms National Park Landscape Character Assessment. Cairngorms National Park Authority in partnership with British Geological Society[vii];
- Cairngorms National Park Landscape Character Assessment 1996[viii];
- Cairngorms National Park Authority and Scottish Natural Heritage, 2008 Wildness Study in the Cairngorms National Park[ix];
- Special Qualities of the Cairngorms National Park. Cairngorms National Park Authority[x];
- Cairngorms National Park Authority. 2015. Cairngorms National Park Local Development Plan[xi].
- Richards, J. 1999. Inverness District Landscape Character Assessment. Scottish Natural Heritage Review. No. 114[xii];
- Turnbull Jeffrey Partnership. 1998. Moray and Nairn Landscape Assessment. Scottish Natural Heritage Review. No. 101[xiii];
- Aerial Photography;
- Geographical Information Systems (GIS) datasets; and
- Ordnance Survey (OS) maps.

Consultation

12.2.12 Consultation was undertaken throughout the DMRB Stage 2 process with CNPA, SNH and THC through the A9 Dualling Environmental Steering Group (Landscape Forum) which was established as part of the A9 Dualling Programme. This has included consultation which contributed to the approach to the assessment and methodology.

Assessment of Impacts

12.2.13 In accordance with GLVIA3, the assessment has considered the sensitivity of the landscape receptor, the magnitude of impact of the Proposed Scheme upon it, and resulted in a determination of the significance of impact of the Proposed Scheme on the landscape resource.

12.2.14 The landscape assessment considered designated landscapes and landscape character. In addition it has considered the Special Qualities of the Cairngorms National Park.

12.2.15 Preliminary road drainage design proposals have been developed for each of the Mainline Alignment Options. For the landscape impact assessment reference is made to drainage features only where they might impact on the landscape resource in terms of the specific landscape designation or the key characteristics of the landscape in relation to landscape character. Please refer to Chapter 10: Road Drainage and the Water Environment for information and associated drainage location drawings in Figures 7.1 to 7.3.

12.2.16 The A9 Dualling Programme Environmental Design Guide describes enhanced lay-bys as variously containing one or more of the following elements – attractive parking, a short walk, benches, a viewpoint, toilets, or a commercial facility. Enhanced laybys have still to be further developed and will be considered in DMRB Stage 3. Therefore within the Stage 2 assessment, reference is made to these only where they might impact on the landscape resource in terms of the specific landscape designation or the key characteristics of the landscape in relation to landscape character.

12.2.17 In accordance with GLVIA3 the assessment of sensitivity is based on consideration of value and susceptibility of the landscape resource.

Value

12.2.18 GLVIA3 describes value as *'the relative value that is attached to different landscapes by society'.* A review of existing landscape and landscape related designations was undertaken, although it is also recognised that reason for the designation may not be applicable for the entire area of the designation. An overall judgement of high, medium or low was determined using professional judgement.

Table 12.1: Landscape Value for Designated Landscapes

Value	Description
International/national	International and/or national landscape/landscape-related designations e.g. World Heritage Sites, National Parks, National Scenic Areas, Historic Environment Scotland Inventory of Gardens and Designed Landscapes.
Regional/Local	Regional/Local landscape/landscape-related designations e.g. Regional Scenic Areas, Areas of Great Landscape Value (AGLV), Special Landscape Areas (SLA) or other similar terminology as set out in local policy and guidance documents.

	Regional or Local landscape/landscape related designations which, at the site specific scale are not robust or of a quality reflecting the wider designation, but which may still hold great local amenity value.

12.2.19 Establishing value to non-designated areas requires examination of individual elements of the landscape. The criteria, set out in Table 12-2 was used to determine value and an overall judgement of high, medium or low was determined using professional judgement.

Table 12.2: Landscape Value for Non-designated Landscapes

Rating	Description
Landscape Quality	A measure of the physical state of the landscape, its intactness and condition of landscape elements.
Scenic Quality	Landscapes that appeal primarily to the visual senses.
Rarity	The presence or rare elements or features in the landscape or the presence of a rare Landscape Character Type.
Representativeness	Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
Conservation or Cultural Interest	The presence of features of wildlife, earth science or archaeological or historical and cultural interest which add to the value of the landscape.
Recreational Value	Evidence the landscape is valued for recreational activity where experience of the landscape is important.
Perceptual Aspects	A landscape valued for its perceptual qualities, notably wildness and/or tranquillity.
Associations	Landscapes associated with artists, writers, or events in history that contribute to perceptions to the natural beauty of the area.

Susceptibility

12.2.20 GLVIA3 describes susceptibility as 'the ability of the landscape receptor … to accommodate the proposed development without undue consequences for the maintenance of the baseline situation …' The criteria in Table 12.3 below was used to determine susceptibility.

Table 12.3: Landscape Resource Susceptibility Criteria

Susceptibility	Criteria
High	Little ability to accommodate the Proposed Route Option without undue consequences.
Medium	Some ability to accommodate the Proposed Route Option without undue consequences.
Low	Substantial ability to accommodate the Proposed Route Option without undue consequences.

Sensitivity

12.2.21 In accordance with GLVIA3, sensitivity was assessed by considering landscape value and susceptibility and has been assigned levels of high, medium and low as set out in Table 12.4 below.

Table 12.4: Landscape Sensitivity Criteria

Sensitivity	Criteria
High	Landscape or landscape elements of particular distinctive character, highly valued and considered susceptible to relatively small changes. Landscapes which by nature of their character and value would struggle to accommodate change of the type proposed.
Medium	Landscape of moderately valued characteristics considered reasonably tolerant of change. Landscapes which by nature of their character and value would be able to partly accommodate change of the type proposed.
Low	Landscape of generally low valued characteristics considered potentially tolerant of substantial change. Landscapes which by nature of their character and value would be able to accommodate change of the type proposed.

Magnitude of Impact

12.2.22 In accordance with GLVIA3, the magnitude of landscape impact was derived from the size or scale, geographical extent, duration and reversibility of the change on the landscape resource and is set out in Table 12.5 below.

Table 12.5: Magnitude of Impact Description

Magnitude of Impact	Description
High	Noticeable change to a wide area of the landscape or intensive change to a limited area of the landscape.
Medium	Change to a relatively wide area of the landscape or noticeable change to a limited area of the landscape resource
Low	Slight change to the wider area of the landscape or slight/no change to a limited area of the landscape resource.
Negligible/None	No perceptible change to the landscape resource.

Significance of Impact

12.2.23 The significance of impact has been determined using professional judgement by considering the sensitivity of the landscape resource and the magnitude of impact upon it in relation to the Proposed Scheme Options.

Table 12.6: Impact Significance Description

Significance	Description
Substantial	The Proposed Scheme would be at considerable variance with the character (including quality and/or value) and/or special qualities of the landscape receptor, degrade or diminish the integrity of a range of characteristic features or elements or damage a sense of place resulting in an adverse impact. The Proposed Scheme would enhance the character (including quality and/or value) and/or special qualities of the landscape receptor, create an iconic high quality feature and/or series of elements or enable a sense of place to be created or enhanced resulting in a beneficial impact.
Moderate	The Proposed Scheme would conflict with the character (including quality and value) and/or special qualities of the landscape receptor, have an adverse impact on characteristic features or elements or diminish a sense of place resulting in an adverse impact.

Significance	Description
	The Proposed Scheme would improve the character (including quality and value) and/or special qualities of the landscape receptor, enable the restoration of characteristic features and elements partially lost or diminished by inappropriate management or development or enable some sense of place resulting in a beneficial impact.
Slight	The Proposed Scheme would not quite fit the character (including quality and value) and/or special qualities of the landscape receptor, be at variance with characteristic features and elements or detract from a sense of place resulting in an adverse impact. The Proposed Scheme would complement the character (including quality and value) and/or special qualities of the landscape, maintain or enhance characteristic features and elements and enable some sense of place to be restored resulting in a beneficial impact.
Negligible/None	The Proposed Scheme would maintain the character and/or special qualities of the landscape receptor, blend in with characteristic features and elements and enable a sense of place to be retained.

Limitations of the Assessment

12.2.24 Preliminary drainage features have been developed for mainline options at DMRB Stage 2. Detailed drainage features and enhanced laybys detail is not available at Stage 2 and will be considered at DMRB Stage 3.

12.3 Baseline Conditions

12.3.1 The landscape resources considered in the assessment are shown in Figures 12.1 and 12.2 Landscape Designations and Figure 12.3 Landscape Character.

12.3.2 The study area comprises the Cairngorms National Park uplands and lowlands, and the upland landscape of the Inverness, and Moray to Nairn regional landscape character assessments. Landscape/Landscape Related Designations are set out below.

Landscape Designations

National Park

12.3.3 Over half of the study area lies within the Cairngorms National Park. The CNPA has identified Landscape Character Areas, and additionally, the Special Qualities of the Park.

12.3.4 The Special Qualities of the National Park differ from landscape character in that they *'individually or combined, give rise to an area's outstanding scenery'* and a stronger emphasis has been placed on assessing why the landscape is special. However potential overlap with the key characteristics associated with the Landscape Character Assessments for the study area remains. As there is some overlap between the Special Qualities of the CNP and the Landscape Character Areas, the CNP Special Qualities have been considered within the narrative but not allocated a significance ranking. The Special Qualities that are considered to be most relevant to the study area are:

- The harmony of complicated curves;
- Steep glens and high passes;
- Broad, farmed straths;
- Dark and venerable pine forest;

- Light and airy birch woods;
- Dominance of natural landforms;
- Extensive tracts of natural vegetation;
- Wild land/wildness;
- Dark skies;
- The dominance of natural sounds; and
- Attractive and contrasting textures.

12.3.5 The Special Qualities are considered in more detail as they relate to each specific Landscape Character Area through which the A9 route passes.

National Scenic Areas (NSA)

12.3.6 The Cairngorm Mountains NSA (CMNSA) lies to the southeast of the study area, within the CNP. The existing A9 runs immediately adjacent to the NSA to the north of the existing Aviemore South junction. The CNPA has determined the special qualities of the NSAs that lie within the CNP as part of the Special Qualities of the CNP.

Special Landscape Areas (SLA)

12.3.7 The Drynachen, Lochindorb and Dava Moors SLA lies to the northeast of the study area. Key characteristics of the SLA are:

- High rolling moorland with gentle gradients;
- Valued heather moorland;
- Homogenous character;
- Sense of spaciousness and tranquillity reinforced by wide views and a sparse human presence; and
- Isolated fragments of native pine-birch woodland emphasise the dominance of the horizontal dimension and generally unbroken skyline.

Gardens and Designed Landscapes

12.3.8 The Kinrara Garden and Designed Landscape lies to the east of Loch Alvie in the south of the study area (see Figure 12.1).

12.3.9 Kinrara GDL is summarised in the Historic Environment Scotland Inventory as ‘An outstanding example of late 18th century picturesque landscape design which makes a significant contribution to the scenic qualities and nature conservation values in Strathspey’.

12.3.10 The Doune of Rothiemurchus Garden and Designed Landscape lies east of the Kinrara Garden and Designed Landscape in the south of the study area (see Figure. 12.1).

12.3.11 The Doune of Rothiemurchus GDL is summarised in the Inventory as ‘A designed landscape of outstanding historical value that was informalised in the 19th century by parkland designed in accordance with picturesque principles’.

12.3.12 The Inshriach Nursery Garden and Designed Landscape is located approx.3 miles southwest of Aviemore. It is summarised in the Inventory as *‘An alpine plant nursery of international renown’.*

Wild Land

12.3.13 There are two areas of Wild Land within the study area. The attributes against which Wild Land is set are summarised as:

- High rolling moorland with gentle gradients;
- Perceived naturalness of land cover;
- Absence of modern human artefacts;
- Rugged and challenging nature of the terrain; and
- Remoteness.

12.3.14 The Monadhliath Wild Land area lies partially within the western part of the study area, although it extends extensively westwards outwith the study area (see Figure 12.1).

12.3.15 The Cairngorms Wild Land area lies partially within the south-eastern part of the study area, although it extends across the Cairngorms Massif eastwards outwith the study area (see Figure 12.1).

Ancient Woodland

12.3.16 Ancient Woodland distribution is extensive along the valleys and straths within the study area and absent from the more elevated mountainous areas as can be seen in Figure 12.2.

Landscape Character

Topography and Landform

12.3.17 The existing A9 lies within the Strath of the River Spey with the Monadhliath Mountains to the west, the Cairngorms Massif to the east, and the Strathdearn Hills to the north. Craigellachie and Tor Alvie are particularly prominent for the southern sections of the route. The River Dulnain crossing is elevated above the strath. The A9 also bridges the Highland Mainline Railway (HML) and former A9 at Slochd Beag. At Slochd Pass the highest point of the Dalraddy to Slochd section, the A9 passes between rocky outcrops before emerging into the Southern Uplands moorland.

Land Use

12.3.18 Woodland is a key landscape element in the context of policy woodland associated with the designed landscapes to the east of Loch Alvie and the extensive conifer plantations and mixed woodland that align the A9. To the south there are numerous lochs, lochans and the River Spey. The interplay of farmland, designed landscapes and woodland makes for a rich tapestry of land use.

Landscape Features

12.3.19 Loch Alvie with the picturesque Alvie Parish Church provides a key feature to the south, with the Tor Alvie providing additional interest. The rocky birch covered outcrop of Craigellachie near Aviemore is a local landmark. The River Spey and Dulnain are key landscape features. Key built features include the Duke of Gordon's Monument on Tor Alvie, and the Slochd Mhuic Viaduct. At The Slochd the Soldier's Head – a natural feature of the weathered rock face – is a key point of interest. Detractors are limited but those which feature are the numerous elevated communications masts near Slochd.

Settlements

12.3.20 The main settlements are Aviemore – a key tourist destination, and Carrbridge which is located at the crossing of the River Dulnain.

Landscape Character

12.3.21 Review of the suite of the published regional landscape assessment documents, and the CNP Landscape Character Assessment informed the consideration of the key characteristics of the landscape resource.

12.3.22 The CNP Landscape Character Assessment 2009 indicates that the Landscape Character Areas through which the A9 runs are all lowland areas but are partially overlapped with upland areas along the western side of the A9 as indicated in Figure 12.3. This reflects the 'transition area' where highland meets lowland within Strathspey. The CNP have mapped these separately, but for the purposes of this assessment they are included in one Figure and the transition area has been 'hatched' for clarification.

12.3.23 Landscape Character Areas through which the A9 does not run are included in terms of context but have not been assessed given the limited visibility and the nature of the project – the dualling of an existing road.

12.3.24 The Landscape Character Areas through which the A9 runs have been fully assessed in terms of impacts upon them and include:

- Badenoch: Loch Alvie to Inverdruie;
- Strathspey: Inverdruie to Pityoulish;
- Strathspey: Pityoulish to Boat of Garten;
- Strathspey: Dulnain Strath;
- The Slochd; and
- Southern Uplands

The Landscape Character Areas through which the A9 runs have been fully assessed in terms of value (all are considered to be of high value due to the array of landscape and landscape-related designations associated with them), susceptibility and sensitivity in line with the methodology.

Badenoch: Loch Alvie to Inverdruie LCA (CNP Landscape Assessment 2009)

12.3.25 The LCA is judged to be of medium sensitivity due to its association with a high value landscape, alongside some ability to accommodate the change associated with the A9 Dualling Proposals – given the existing infrastructure corridor (A9, railway and B9152) without undue adverse impact on the LCA.

12.3.26 Key characteristics of the LCA include:

- Steep sided, densely wooded outcrop hills;
- Irregularly shaped, steep sided hills; and
- Diverse vegetation cover.

12.3.27 Special Qualities of the CNP most relevant to the LCA include:

- Broad farmed straths;

- Renowned rivers;
- Beautiful lochs;
- Parkland and policy woodland; and
- Focal cultural landmarks (Duke of Gordon's Monument).

Strathspey: Inverdruie to Pityoulish LCA (CNP Landscape Assessment 2009)

12.3.28 The LCA is judged to be of low sensitivity. Although being within a high value landscape, it is considered that given the existing infrastructure corridor (A9, railway and B9152) and the proximity of the town of Aviemore there is substantial ability to accommodate the change associated with the A9 Dualling Proposals without undue adverse impact upon the LCA.

12.3.29 Key characteristics of the LCA include:

- Steep craggy wooded slopes;
- Wide meanders of the River Spey; and
- The town of Aviemore.

12.3.30 Special Qualities of the CNP most relevant to the LCA include:

- Broad farmed straths;
- Renowned rivers;
- Dominance of natural landforms;
- Light and airy birch woodlands;
- Distinctive planned towns; and
- Vernacular buildings.

Strathspey: Pityoulish to Boat of Garten LCA (CNP Landscape Assessment 2009)

12.3.31 The LCA is judged to be of low sensitivity. Although being within a high value landscape, it is considered that given the existing infrastructure corridor (A9, railway and A95) and the density of woodland cover there is substantial ability to accommodate the change associated with the A9 Dualling Proposals without undue adverse impact upon the LCA.

12.3.32 Key characteristics of the LCA include:

- Undulating terrain;
- Steep wooded slopes;
- Lochs & lochans; and
- Conifer woodland fringed with Birch.

12.3.33 Special Qualities of the CNP most relevant to the LCA include:

- Dark and venerable pine forests;
- Attractive and contrasting textures; and
- Beautiful lochs.

Strathspey: Dulnain Strath (CNP Landscape Assessment 2009)

12.3.34 The LCA is judged to be of medium sensitivity. Although being within a high value landscape, it is considered that given the existing infrastructure corridor (A9, railway) there is some ability to accommodate the change associated with the A9 Dualling Proposals without undue adverse impact upon the LCA.

12.3.35 Key characteristics of the LCA include:

- Broad flat floodplain narrowing at A9 crossing;
- Commercial/managed pine woodlands; and
- Development of Carrbridge.

12.3.36 Special Qualities of the CNP most relevant to the LCA include:

- Strong juxtaposition of contrasting landscapes;
- A landscape of layers from inhabited straths to remote uninhabited uplands; and
- Focal cultural landmarks (bridges).

The Slochd LCA (CNP Landscape Assessment 2009)

12.3.37 The LCA is judged to be of medium sensitivity. Although being within a high value landscape, it is considered that given the existing infrastructure corridor (A9, railway and A95) and the landscape detractors (communications masts) there is some ability to accommodate the change associated with the A9 Dualling Proposals without undue adverse impact upon the LCA.

12.3.38 Key characteristics of the LCA include:

- Deep, steep sided gorge, a dramatic pass (previously widened to accommodate A9);
- Western hills covered with conifer woodland;
- Northern hills covered with heather moorland;
- Regularly shaped 18th/19th Century fields;
- Properties tucked below A9 in gorge; and
- Drama upon entry to the National Park from the north through a narrow pass – contrast between enclosure of gorge and exposure of the basin.

12.3.39 Special Qualities of the CNP most relevant to the LCA include:

- Landscapes both cultural and natural;
- Dominance of natural landforms;
- Layers of receding ridgelines; and
- Dramatic historical routes.

Southern Uplands LCA (Inverness District Landscape Assessment 1999)

12.3.40 The LCA is judged to be of low-medium sensitivity. Although being in close proximity to high value landscape, it is considered that given the existing infrastructure corridor (A9, railway, A95) and the nearby landscape detractors (communications masts) there is substantial ability to accommodate the change associated with the A9 Dualling Proposals without undue adverse impact upon the LCA.

12.3.41 Key characteristics of the LCA include:

- Large scale, smooth rounded hills;
- Heather moorland;
- Occasional rocky outcrops;
- Sense of remoteness;
- Coniferous plantations with linear edges; and
- 'Cuttings and embankments tend to appear particularly visible within this landscape due to the general smoothness of its surface'.

12.3.42 As the Special Qualities have been defined for the CNP, and the Southern Uplands LCA lies outwith the CNP, Special Qualities are not identified here.

12.4 Potential Impacts

12.4.1 The assessment of landscape receptors concerns anticipated changes to the landscape such as impacts to designated landscapes and to the landscape character. The Special Qualities of the landscape as defined by the Cairngorms National Park Authority (CNPA) have also been considered within the narrative.

12.4.2 ZTVs for the mainline and junction options (Figure 13.4 – 13.9) were used to determine where there is theoretical visibility of the landscape. Where no visibility or relatively limited visibility exists for the Landscape Character Areas and the Landscape/Landscape Related Designations these landscape resources have been scoped out and not assessed further. The remaining relevant landscape resources have been assessed during operation.

12.4.3 Although potential impacts can occur during construction, these are considered temporary in nature. In accordance with the methodology impacts during construction have not been assessed at DMRB Stage 2. All the Proposed Scheme Options will have similar construction impacts including:

- removal of vegetation to facilitate works;
- resulting bare earth due to removal of vegetation and earthworks;
- changes in landform due to earthworks, including temporary soil storage areas;
- vehicle activity due to excavation, earthmoving and construction;
- construction of bridges and other structures;
- site compound areas, storage of materials and lighting to facilitate work during hours of darkness; and
- traffic management systems.

Operation

12.4.4 Potential impacts for each of the Proposed Scheme Options are described during operation in the winter of year 1 and the summer of year 15. The visual impacts associated with the Proposed Scheme Options include (but are not limited to):

- removal of vegetation to facilitate works;
- removal of existing vegetation which affords screening;

- changes in landform due to the formation of cuttings, embankments and bridge structures;
- the addition of elements of the structures such as overpasses, underpasses and associated slip roads to form new junction layouts at Aviemore South, Granish and at Black Mount;
- changes to landscape patterns due to the addition of elements to aid reinstatement, including new or additional planting;
- addition of engineering controls such as retaining walls and structures;
- moving traffic and HGVs; and
- vertical elements including lighting of underpasses and underbridges associated with potential junctions, and signage.

Impacts on Landscape/Landscape Related Designations

12.4.5 Impacts on Landscape/Landscape Related Designations with theoretical visibility have been described in Table 12.7 below.

12.4.6 The Cairngorms National Park extends outwith the study area, and while it is a high value landscape it is considered that the existing infrastructure corridor, including the HML, the A9, B9152, and A95 render its susceptibility to dualling to be moderate to low, and its sensitivity to the dualling to be low for the designation overall. In terms of a more detailed assessment of the designation, consideration of the Cairngorms National Park landscape character areas through which the A9 passes has been undertaken as part of this assessment.

12.4.7 Proposed drainage features, are not considered to have a likely significant impact on landscape/landscape -related designations due to the relative distance most of the designations lie from the mainline. However, consideration has been given to the Cairngorm Mountains NSA given that its western extent aligns, for a limited length, with the A9 mainline.

Table 12.7: Potential Impacts on Landscape/Landscape Related Designations from Mainline Route Options

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Cairngorm Mountains National Scenic Area (CMNSA) (approx. chainage 0-8000) **From south of Kincraig to Aviemore and extensive outwith the study area. NSA's western boundary runs parallel to A9 with the A9 and CMNSA overlapping for approx. 200m.**			
Value: High **Susceptibility: Medium-Low** **Sensitivity: Medium**			
1	The widened road corridor would result in the road alternating between cutting and embankment, and loss of roadside vegetation alongside Loch Alvie. Embedded mitigation includes proposed relaxation of slope gradients of 1:4 to better integrate with landscape fit. The CMNSA and A9 run parallel north of the existing Aviemore South junction. Given the pinch point of the A9, HML and B9152 south of Aviemore, engineering solutions would be required and would have an adverse impact in views from the open areas to the western extremes of the CMNSA. A proposed retention pond at ch. 3550 northbound is not considered to have an impact on the CMNSA. However, Magnitude of impact is considered low for the overall designation for WY1 and SY15. While impact significance would be locally moderate in winter of year one at this location, views from the CMNSA are generally restricted within the study area due to the woodland cover and the built environment of Aviemore so that the wider impact is considered to be slight.	Significance Slight	Significance Slight
1A	As above though the embankment is slightly further west as option 1A aligns the road away from the Kinakyle property. Therefore locally marginally better from the CMNSA at this point, but overall magnitude of impact and impact significance is the same as Option 1. From the CMNSA east of Aviemore visibility would be restricted by the built environment of Aviemore and woodland cover.	Significance Slight	Significance Slight
2	Although Option 2 would result in the embankment south of Aviemore being further away from the CMNSA, for the western fringe of the NSA along Loch Alvie to Aviemore the findings of magnitude of impact and impact significance at WY1 and SY15 are the same. From the CMNSA east of Aviemore visibility would be restricted by the built environment of Aviemore and woodland cover.	Significance Slight	Significance Slight

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Drynachen, Lochindorb and Dava Moors Special Landscape Area (SLA) (approx. chainage 23300-25000) Located to the northeast of the study area along the CNP boundary. Extends outwith the study area.			
Value: Medium Susceptibility: Low Sensitivity: Low			
1	The SLA has virtually no views to the A9 mainline so that magnitude of impact is Low for WY1 and SY15 and impact significance negligible/none.	Significance Negligible/None	Significance Negligible/None
1A	N/A (Option 1A does not extend to this section of the route).	Significance N/A	Significance N/A
2	The SLA has virtually no views to the A9 mainline. Magnitude of impact is Low for WY1 and SY15 and impact significance negligible/none.	Significance Negligible/None	Significance Negligible/None
Kinrara Garden and Designed Landscape (GDL) (approx. chainage 0-3000) Contained within the study area east of Loch Alvie.			
Value: High Susceptibility: Medium-Low Sensitivity: Medium			
1	The widened road corridor would result in the road alternating between cutting and embankment, and loss of roadside vegetation alongside Loch Alvie. . Embedded mitigation includes proposed relaxation of slope gradients of 1:4 to better integrate with landscape fit. Given the heavily wooded land cover of the GDL and around the fringes of Loch Alvie and the A9 verge views are restricted though mainline changes would be perceptible from the top of Tor Alvie. Magnitude of impact is Low for WY1 and SY15 and impact significance slight.	Significance Slight	Significance Slight
1A	Very similar to Option 1. Magnitude of impact is Low for WY1 and SY15 and impact significance slight.	Significance Slight	Significance Slight
2	Very similar to Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance slight.	Significance Slight	Significance Slight

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Doune of Rothiemurchus Garden and Designed Landscape (GDL) (approx. chainage 200-4300)			
Value: High Susceptibility: Medium - Low Sensitivity: Medium-Low			
1	Visibility is restricted by the heavily wooded nature of the area of the GDL of both Doune of Rothiemurchus and Kinrara and Tor Alvie outcrop so that the mainline widening, including earthworks and loss of vegetation is considered to have a magnitude of impact of low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
1A	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
2	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
Monadhliath Wild Land Area (approx. chainage Not Applicable) Extensive outwith the study area.			
Value: High Susceptibility: Medium Sensitivity: Medium			
1	There would be some visibility from the summit and north-easterly slopes of Cnoc Fraing. From this distance the changes from mainline widening is considered not to be significant. Therefore magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
1A	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
2	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Cairngorms Massif Wild Land Area (approx. chainage Not Applicable)			
Value: High Susceptibility: Medium Sensitivity: Medium			
1	From Creag Dhubh, Carn Eilrig, and Geal-Charn the widening near Loch Alvie will be perceptible. Given the distance, the changes are not considered to be significant. Therefore magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
1A	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
2	As for Option 1. Magnitude of impact is low for WY1 and SY15 and impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None

12.4.8 Potential impacts on the landscape and landscape-related designations from junction options are considered in Table 12.8 below. Slope gradient is universal at 1:3 for all junction options. This will be considered further at DMRB Stage 3.

Table 12.8: Potential Impacts on Landscape/Landscape Related Designations from Junction Options

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
Cairngorm Mountains National Scenic Area (CMNSA) (approx. chainage 0-8000)			
Value: High Susceptibility: Medium-Low Sensitivity: Medium			
A02	Theoretical visibility is largely limited to the northern extent of the CMNSA within the study area and the open elevated areas of the Cairngorm Mountains in the southeast of the study area. Actual visibility in the northern extent of the CMNSA is limited by extensive heavy woodland cover, although from the HML near Aviemore South junction, and from the top of Tor Alvie, the junction would be visible. A proposed	Significance Slight	Significance Slight

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
	retention pond at ch. 3550 northbound is not considered to have an impact on the CMNSA. The magnitude of impact is medium for WY1 and SY15 and impact significance slight.		
A09	Theoretical visibility is similar to A02. Magnitude of impact is medium for WY1 and SY15. The diamond layout would appear to fit the landscape's linear infrastructure corridor better than the cloverleaf, so that the impact significance in relation to local landscape fit (i.e. close range visibility from the CMNSA) is less than for A02 – Slight-moderate. Overall for the CMNSA it is considered to be slight.	Significance Slight	Significance Slight
A18	Theoretical visibility is similar to A02. Magnitude of impact is medium for WY1 and SY15. Option A18 has a similar impact significance to A09 in close range visibility from the CMNSA. However, it is assumed that from elevated areas of visibility, from the Cairngorm Mountains to the south of the study area, that the 'splayed' layout would mimic the natural forms of Loch Alvie. Therefore, from the CMNSA with visibility, this option is considered to have the least impact of the Aviemore South junction options – Slight to Negligible - with mitigation planting in summer of year 15.	Significance Slight	Significance Slight – Negligible.
C18	From the elevated in open areas of Craigowrie and Creag Phitiulais the Granish junction would potentially be visible. The diamond layout of Option C18 would appear to fit the infrastructure corridor which includes the A95, B9152 and HML. Magnitude of impact is low for WY1 and SY15. From these summits the localised impact significance is considered to be slight in winter of year 1, but for the CMNSA as a whole, by summer of year 15 it is considered to be slight to negligible.	Significance Slight	Significance Slight - negligible
C21	Theoretical visibility is similar to C18. Magnitude of impact is low for WY1 and SY15. From those elevated summits the C21 option would fit slightly less well than C18 given the introduction of the half dumbbell cloverleaf. However, impact significance is still considered to be locally moderate in winter of year 1, but for the CMNSA as a whole, slight. This could reduce to slight-negligible with sensitive design and planting at summer of year 15.	Significance Slight	Significance Slight- negligible
C31	As for C18. Magnitude of impact is low for WY1 and SY15 and impact significant is slight in WY1 and slight-negligible in SY15.	Significance Slight	Significance Slight-Negligible
C34	As for C21. Magnitude of impact is low for WY1 and SY15 and impact significant is slight in WY1 and slight-negligible in SY15.	Significance Slight	Significance Slight-negligible
D02, D03, D07, D12, D13, D51	Given the distance from the CMNSA and limited visibility, the magnitude of impact is low for WY1 and SY15 and the impact significance slight on the CMNSA for all Black Mount Options.	Significance Negligible/None	Significance Negligible/None
Drynachen, Lochindorb and Dava Moors Special Landscape Area (approx. chainage 23300-25000)			

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
Value: Medium Susceptibility: Low Sensitivity: Low			
A02, A09, A18	No visibility, therefore not assessed further.	Significance N/A	Significance N/A
C18, C21, C31, C34	No visibility, therefore not assessed further.	Significance N/A	Significance N/A
D02	Limited visibility from within the SLA. The open elevated areas of Carn nam Bain Tighearna and Carn Glas Choire would have views of the Black Mount junction. From here, the diamond layout of D02 would align with the curves of the HML and A95 to reflect the contours of the landscape. Magnitude of impact is low on the designation for WY1 and SY15. However, impact significance would be locally moderate introducing an additional man-made element of overbridge to the landscape. For the SLA as a whole it is considered to have a slight impact significance.	Significance Slight	Significance Slight
D03	Visibility is similar for all Black Mount junction options – see D02. Magnitude of impact is low and impact significance is slight.	Significance Slight	Significance Slight
D07	Visibility is similar for all Black Mount junction options – see D02. The half quadrants 2 & 4 design would introduce built elements which cause tension with the contours of the landscape and its existing infrastructure. This is considered to be difficult to mitigate with planting and would be locally high in terms of magnitude of impact upon the SLA. For the SLA as a whole however, the magnitude of impact is considered to be low for WY1 and SY15 and the impact significance slight.	Significance Slight	Significance Slight
D12	Visibility is similar for all Black Mount junction options– see D02. Magnitude of impact is low and impact significance is slight.	Significance Slight	Significance Slight
D13	Visibility is similar for all Black Mount junction options – see D02. Changes as for D02. Magnitude of impact is low and impact significance is slight.	Significance Slight	Significance Slight
D51	Visibility is similar for all Black Mount junction options –see D02. The half cloverleaf 2 & 4 design would introduce built elements which cause tension with the contours of the landscape and its existing infrastructure. This is considered to be difficult to mitigate with planting and would be locally high in terms of magnitude of impact upon the SLA. For the SLA as a whole however, the magnitude of impact is considered to be low for WY1 and SY15 and the impact significance slight.	Significance Slight	Significance Slight

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
Kinrara Garden and Designed Landscape (GDL) (approx. chainage 0-3000)			
Value: High Susceptibility: Medium Sensitivity: Medium			
A02	Visibility is limited for the GDL due to the heavy woodland cover associated with the GDL and the fringes of Loch Alvie. Views to the Aviemore south junction area are visible from Tor Alvie summit where A02 would introduce tension in terms of the introduction of half clover leaf quadrants, which would not align with the landform and the infrastructure corridor (including the HML and B9152). In rare, open and/or elevated views of the junction, this would be a high-medium magnitude of impact for WY1 and SY15. Impact significance would be substantial in WY1 but moderate in SY15.	Significance Substantial	Significance Moderate
A09	Visibility is similar to A02. The diamond layout would appear to fit the landscape's linear infrastructure corridor better than the clover leaf, so that the impact in relation to local landscape fit is less than for A02. However, the junction would still introduce an additional man-made structure with associated overbridge in views from the GDL. Magnitude of impact low-medium for WY1 and low for SY15 and impact significance is considered to be moderate for WY1 and slight-moderate for SY15.	Significance Moderate	Significance Slight -Moderate
A18	Visibility is similar to A02. However, it is assumed that from elevated areas of visibility, that the 'splayed' layout would mimic the natural forms of Loch Alvie. Therefore, from areas of the GDL with visibility this option is considered to have the least impact of the Aviemore South junction options. However, the junction would still introduce an additional man-made structure with associated overbridge in views from the GDL. Magnitude of impact low for WY1 and SY15 and impact significance is moderate for WY1 and slight for SY15.	Significance Moderate	Significance Slight
C18, C21, C31, C34	Given the distance from the GDL and limited visibility, all Granish junctions are considered to have a magnitude of impact of low for WY1 and SY15 and an impact significance of negligible/none.	Significance Negligible/None	Significance Negligible/None
D02, D03, D07, D12, D13, D51	Given the distance from the GDL and limited visibility, all Black Mount Options are considered to have a potential magnitude of impact of low for WY1 and SY15 and an impact significance of negligible/none.	Significance Negligible/None	Significance Negligible/None
Doune of Rothiemurchus Garden and Designed Landscape (GDL) (approx. chainage 200-4300)			
Value: High Susceptibility: Medium -Low Sensitivity: Medium - Low			

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
A02	Visibility from the GDL would be limited by the heavy woodland cover associated with the Doune of Rothiemurchus and Kinrara GDLs, the Tor Alvie outcrop, and distance, so that from elevated areas such as Ord Ban there would be views towards the A02 option. A02 would introduce tension in terms of the introduction of half clover leaf quadrants, which would not align with the landform and the infrastructure corridor (including the HML and B9152). Where open and/or elevated views of the junction might exist, this is assumed to be a medium magnitude of impact in WY1 and low for SY15. Impact significance is considered to be moderate in WY1 and moderate – slight in SY15.	Significance Moderate	Significance Slight-Moderate
A09	Visibility is similar as A02. The diamond layout would appear to fit the landscape's linear infrastructure corridor better than the clover leaf, so that the impact in relation to local landscape fit is less than for A02. The magnitude of impact is considered to be low-medium for WY1 and low for SY15. Impact significance is considered to be moderate for WY1 and slight – moderate for SY15.	Significance Moderate	Significance Slight-Moderate
A18	Visibility is similar as A02. However, it is assumed that from elevated areas of visibility, that the 'splayed' layout would mimic the natural forms of Loch Alvie. Therefore, from areas of the GDL with visibility this option is considered to have the least impact of the Aviemore South junction options. Magnitude of impact is assumed to be low for WY1 and SY15 and impact significance slight-moderate for WY1 and Slight for SY15.	Significance Slight-Moderate	Significance Slight
C18, C21, C31, C34	Given the distance from the GDL and limited visibility, all Granish junction options are considered to have a magnitude of impact of negligible/none for WY1 and SY15 and an impact significance of negligible/none.	Significance Negligible/None	Significance Negligible/None
D02, D03, D07, D12, D13, D51	Given the distance from the GDL and limited visibility, all Black Mount Options are considered to have a magnitude of impact of negligible/none for WY1 and SY15 and an impact significance of negligible/none.	Significance Negligible/None	Significance Negligible/None
Monadhliath Wild Land Area (approx. chainage Not Applicable)			
Value: High **Susceptibility: Medium** **Sensitivity: Medium**			
A02, A09, A18	The ZTV indicates no visibility from the Monadhliath Wild Land Area, therefore it has not been assessed further.	Significance N/A	Significance N/A
C18 C21, C31, C34,	The ZTV indicates no visibility from the Monadhliath Wild Land Area, therefore it has not been assessed further.	Significance N/A	Significance N/a

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
D02. D03, D07, D12, D13, D51	The ZTV indicates visibility is limited to the summit and north-eastern slopes of Cnoc Friang. Given the distance, all Black Mount junction options are not considered to have a potential significant impact either from this location, or for the Monadhliath Wild Land Area as a whole. The magnitude of impact is low for WY1 and SY15 and the impact significance is negligible/none.	Significance Negligible/None	Significance Negligible/None
Cairngorms Massif Wild Land Area (approx. chainage Not Applicable)			
Value: High Susceptibility: Medium Sensitivity: Medium			
A02, A09, A18	Theoretical visibility is largely limited to the western extent of the Wild Land Area within the study area specifically the open elevated areas of the Cairngorms Mountains in the southeast of the study area. Actual visibility is likely to be reduced by woodland on the slopes. Given the distance, it is not considered that any of the Aviemore South junction options would result in a significant impact. Magnitude of impact is low for WY1 and SY15 and impact significance is slight.	Significance Slight	Significance Slight
C18, C21, C31, C34,	Theoretical visibility is largely limited to the western extent of the Wild Land Area within the study area specifically the open elevated areas of the Cairngorms Mountains in the southeast of the study area. Actual visibility is likely to be reduced by woodland on the slopes. Given the distance from the Granish Junction it is not considered that any of the Granish junction options would result in a significant impact. Magnitude of impact is low for WY1 and SY15 and impact significance is slight.	Significance Slight	Significance Slight
D02, D03, D07, D12, D13, D51,	Theoretical visibility is largely limited to the western extent of the Wild Land Area within the study area specifically the open elevated areas of the Cairngorms Mountains in the southeast of the study area. Actual visibility is likely to be reduced by woodland on the slopes. Given the distance from the Black Mount Junction it is not considered that any of the Black Mount junction options would result in a significant impact. Magnitude of impact is low for WY1 and SY15 and impact significance is considered to be negligible/none.	Significance Negligible/None	Significance Negligible/None

Impacts on Landscape Character

12.4.9 Impacts of the mainline options on the Landscape Character Areas with theoretical visibility through which the A9 runs have been described in Table 12.9 below.

12.4.10 Drainage features are considered only where they may have a potentially significant impact. However, this will be assessed in more detail at DMRB Stage 3.

Table 12.9: Potential Impact on LCAs from Mainline Options

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Badenoch: Loch Alvie to Inverdruie LCA (approx. chainage 0-4900)			
Value: High **Susceptibility: Medium** **Sensitivity: Medium**			
1	Embedded mitigation includes the proposal for relaxation of slope gradients to 1:4 to better integrate the A9 with the landscape at Loch Alvie. Formation of new embankments associated with southbound widening would, however, result in loss of roadside vegetation. Where the road remains in cutting or where mitigation planting is factored in, the change is considered not to be significant beyond 15years. However, there is opportunity to open up views to Loch Alvie – one of the special qualities of the LCA and the potential for an enhanced lay-by at approx. chainage 1200 may facilitate this. This needs to be balanced with screening from the GDLs and the Loch Alvie area. For the area between Loch Alvie and the northern extent of the LCA at the pinch point between the A9, the B9152 and the HML, engineering solutions such as retaining walls would be visible from the east. The Craigellachie outcrop would remain a key characteristic as will the birch woodland cover, so that overall the magnitude of impact is considered to be medium in WY1 and low for SY15 and the impact significance change is locally moderate but is considered to be slight-moderate for the LCA as a whole in WY1 and slight for SY15.	Significance Slight-moderate	Significance Slight
1A	As for Option 1. Rock cuts are likely for northbound widening along the eastern fringe of the Craigellachie NNR which may have an adverse impact on the local landscape character including from protection measures such as netting during construction. The magnitude of impact is considered to be medium in WY1 and low for SY15 and the impact significant slight-moderate for WY1 reducing to slight for SY15.	Significance Slight-moderate	Significance Slight
2	As for Option 1. Rock cuts are likely for northbound widening along the eastern fringe of the Craigellachie NNR which may have an adverse impact on the local landscape character including protection measures such as netting during construction. A proposed retention pond at ch. 3550 northbound will be visible as roadside vegetation will be removed. The magnitude of impact is considered to be medium in WY1 and low SY15 and the impact significance slight-moderate in WY1 reducing to slight in SY15.	Significance Slight-moderate	Significance Slight
For all options the special qualities will not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
Strathspey: Inverdruie to Pityoulish LCA (approx. chainage 4900-8000)			
Value: High **Susceptibility: Medium-Low**			

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Sensitivity: Medium-Low			
1	For the LCA which lies west of the A9, changes from mainline widening would be largely restricted by the topography, the built environment of Aviemore and both conifer and mixed woodland cover combined. The LCA is wooded around much of Coylumbridge and the western slopes of Creag Phitiulais. Within Aviemore embankments would encroach on High Range House and Macdonald Hotel complex and again at Avanside, Milton and Burnside, where embankments would result in loss of woodland and intervening vegetation. Embedded mitigation includes relaxation to 1:4 slope gradient at chainage 7500 to better integrate with the landscape. Between chainage 5100-5300 there is a cluster of drainage features (detention basins) which would result in some loss of Ancient Woodland at Craigellachie and have a localised impact on the character to the west of the A9 in this area. Locally changes are limited to the road corridor, but for the LCA overall would barely be perceptible. The magnitude of impact is considered to be low for WY1 and SY15. The impact significance is considered to be slight.	Significance Slight	Significance Slight
1A	Between chainage 5100-5300 there is a cluster of drainage features (detention basins) which would result in some loss of Ancient Woodland at Craigellachie and have a localised impact on the character to the west of the A9 in this area. For the LCA overall the changes to embankment profiles and loss of localised vegetation would barely be perceptible due to topography and both conifer and mixed woodland cover. The magnitude of impact is considered to be low for WY1 and SY15. The impact significance is considered to be slight.	Significance Slight	Significance Slight
2	Option 2 would align the embankment northbound resulting in loss of woodland, including some ancient woodland, associated with Craigellachie NNR – the light and airy birch woodlands are a special quality of the CNP. The LCA is wooded around much of Coylumbridge and the western slopes of Creag Phitiulais. This option would also directly impact upon Loch Puladdern. Between chainage 5100-5300 there is a cluster of drainage features (detention basins) which would result in some loss of Ancient Woodland at Craigellachie and, combined with some potential rock cuts between ch. 5500-6700, would have a localised impact on the character to the west of the A9 in this area. Locally high magnitude of impact for the Craigellachie NNR but low for the LCA as a whole for WY1 and SY15. The impact of significance is considered to be slight.	Significance Slight	Significance Slight
For all options the special qualities will not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
Strathspey: Pityoulish to Boat of Garten LCA (approx. chainage 8000-15100)			
Value: High **Susceptibility: Low** **Sensitivity: Low**			
1	Changes to the area from Granish to Avie Lochan are concerned mainly with the loss of Ancient Woodland associated with road widening. At Avie Lochan the loch and the contrasting textures of broadleaf woodland and pastoral land use are	Significance	Significance

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
	special qualities. Any engineering solution that may be required at the pinch point between the HML and the A9 at Laggantygown would not be considered to have a significant impact on the wider LCA due to the location between two embankments. Between chainage 10600-10900 a drainage feature may have a localised impact on this special quality. The magnitude of change is considered to be low for WY1 and SY15. The assumed significance of impact with sensitive design of planting and landform is assumed to be slight.	Slight	Slight
1A	N/A (Option 1A does not extend to this section of the route).	Significance N/A	Significance N/A
2	Option 2 is similar but with more extensive loss of Ancient Woodland north of Avie Lochan to the west of the A9.Between ch.10400-11700 at Laggantygown predominantly northbound widening would occur. Potential rock cuts at ch. 10800 and between ch. 14050 =14300 could have a localised impact on the LCA. Localised magnitude of impact is medium for Avie Lochan area. Between chainage 10600-10900 a drainage feature may have a localised impact on this special quality. The extensive embankments in these localised areas, while not being adverse in relation to landscape fit, would result in loss of Ancient Woodland. Magnitude of impact is considered to be low for WY1 and SY15. The assumed level of impact with sensitive design of planting and landform is assumed to be slight.	Significance Slight	Significance Slight
For all options the special qualities will not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
Strathspey: Dulnain Strath (approx. chainage 15100 – 17500)			
Value: High **Susceptibility: High** **Sensitivity: Medium**			
1	Option 1 would introduce mainline widening southbound over the open Dulnain Strath. This would increase the embankment and loss of some Ancient Woodland southbound. Magnitude of impact is considered to be medium in WY1 and low for SY15. The juxtaposition from enclosed woodland to open strath would not be impacted significantly. Appropriate design of the structure is likely to reduce the level of impact significance from locally moderate to slight for the LCA as a whole, given its extent eastwards.	Significance Slight	Significance Slight
1A	N/A (Option 1A does not extend to this section of the route).	Significance N/A	Significance N/A
2	Option 2 would introduce mainline widening over the open Dulnain Strath which would increase the extent of embankments northbound and result in a greater amount of Ancient Woodland loss than Option 1. The juxtaposition from enclosed woodland to open strath would not be impacted significantly. The magnitude of impact is considered to be	Significance Slight	Significance Slight

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
	medium for WY1 and low for SY15. Appropriate design of the structure is likely to reduce the level of impact significance from locally moderate to slight. For the LCA as a whole, given its extent eastwards, the impact significance is judged to be slight.		
For all options the special qualities will not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
The Slochd LCA (approx. chainage 17500 – 23600)			
Value: High **Susceptibility: Medium-High** **Sensitivity: Medium-High**			
1	For the section through Baddengorm Woods there would be localised loss of Ancient Woodland. Option 1 southbound between Black Mount and Slochd Beag would result in some tree loss. At the Slochd Pass rock cuts and reformed embankments would comprise the main impact. Southbound widening is constrained by a deep sided valley at Slochd Mor which is likely to require engineering solutions in the form of a retaining structure or viaduct solution of approx. 400m length. However, impacts are visually restricted by the topography. The magnitude of impact is considered to be medium for WY1 and low for SY15.The impacts on the dominant natural landforms which are a special quality of the CNP must be considered. The ZTV indicates views are extensive across this LCA. Given the lack of tree cover, impacts which are judged to be moderate in year 1, will likely remain so in year 15.	Significance Moderate	Significance Moderate
1A	N/A (Option 1A does not extend to this section of the route).	Significance N/A	Significance N/A
2	For the section through Baddengorm Woods there would be localised loss of Ancient Woodland. Option 2 would result in slightly greater loss of trees and wider embankment northbound between Black Mount and Slochd Beag than does Option 1. It is important that any mitigation retains open views of the mountains to the south which offer the layers of receding ridgelines which is a special quality of the CNP. From ch. 20000 only southbound widening is being considered. At the Slochd Pass rock cuts and reformed embankments would comprise the main impact. The magnitude of impact is considered to be medium for WY1 and low for SY15. The impacts on the dominant natural landforms which are a special quality of the CNP must be considered. The ZTV indicates views are extensive across this LCA. Given the lack of tree cover, impacts which are judged to be moderate in WY1, will likely remain so in SY15.	Significance Moderate	Significance Moderate
For all options the special qualities will not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
Southern Uplands LCA (approx. chainage 23600-25030)			

Route Option	Description	Impact Winter Year 1	Impact Summer Year 15
Value: Medium Susceptibility: Medium-Low Sensitivity: Medium - Low			
1	At the Slochd Pass rock cuts and reformed embankments would comprise the main impact. The magnitude of impact is considered to be low for WY1 and SY15. Views are limited to the higher open areas of Beinn Bhreac within the LCA, which is extensive. Given the lack of tree cover, impacts which are judged to be slight at WY1, would likely remain so at SY15.	Significance Slight	Significance Slight
1A	N/A (Option 1A does not extend to this section of the route).	Significance N/A	Significance N/A
2	At the Slochd Pass rock cuts and reformed embankments would be the main impact. The magnitude of impact is considered to be low for WY1 and SY15. Views are limited to the higher open areas of Beinn Bhreac for this LCA, which is extensive. Given the lack of tree cover, impact which are judged to be slight at WY1, will likely remain so at SY15.	Significance Slight	Significance Slight

12.4.11 Impacts of junction options for the LCAs in which a junction is located have been described in Table 12.10 below. Slope gradient is universal at 1:3 for all junction options. This will be considered further at DMRB Stage 3.

Table 12.10: Potential Impact on LCAs from Junction Options

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
Badenoch: Loch Alvie to Inverdruie LCA (approx. chainage 0-4900)			
Value: High Susceptibility: Medium Sensitivity: Medium			
A02	The LCA is heavily wooded especially to the east of the LCA (ancient woodland and policy woodland), although there are views towards the junction from open elevated areas. The junction lies central in the LCA and surrounded by elevated areas where the half clover leaf quadrants will cause a tension within the landscape in relation to landscape fit – given the infrastructure corridor (including HML and B9152) are linear in format. There would be some loss of woodland along the corridor which may make the road more perceptible in the landscape –	Significance Substantial	Significance Moderate

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
	but also potentially open up views to Loch Alvie (beautiful lochs being one of the Special Qualities of the CNP). The magnitude of impact is considered to be medium in WY1 and low for SY15. The impact significance is judged to be substantial in WY1 and moderate in SY15.		
A09	As above but the diamond format of A09 is a better landscape fit in the infrastructure corridor. The magnitude of impact is considered to be medium in WY1 and low for SY15. The impact significance is judged to be substantial in WY1 and moderate in SY15.	Significance Substantial.	Significance Moderate
A18	As above but the 'splayed' design of A18 mimics the shores of Loch Alvie and aligns with the existing infrastructure corridor. The magnitude of impact is considered to be low-medium for WY1 and low for SY15. The impact significance is judged to be moderate in WY1 and slight-moderate in SY15.	Significance Moderate	Significance Slight-Moderate
The character from the features such as Loch Alvie and the Duke of Gordon's Monument on Tor Alvie would not be adversely impacted by any of the Aviemore South junctions. It is possible that these features might be more of a focus.			
Strathspey: Pityoulish to Boat of Garten LCA (approx. chainage 8000-15100)			
Value: High **Susceptibility: Low** **Sensitivity: Low**			
C18	The junction lies to the southern extent of the LCA. The addition would remove Ancient Woodland in this area, and reform the hummocky topography to the immediate east of the junction, but mirrors other infrastructure in the area including the HML, A95, B9152 and Speyside Way in terms of landscape fit. The LCA is extensive so that although the magnitude of impact at a localised level is medium, for the LCA as a whole the magnitude of impact is low. The significance of impact is judged to be slight at WY1 reducing to slight-negligible at SY15.	Significance Slight	Significance Slight - negligible
C21	The half dumbbell clover leaf would remove a greater extent of Ancient Woodland to the west than C18. The loop introduces a design feature that creates a tension in the landscape in terms of the landscape fit. The LCA is extensive so that although the magnitude of impact at a very localised level is medium, for the LCA as a whole the magnitude of impact is low and the impact significance is slight at WY1 reducing to slight-negligible at SY15.	Significance Slight	Significance Slight-negligible
C31	As for C18. The magnitude of impact is considered to be low for WY1 and SY15 and the impact significance slight-negligible.	Significance Slight	Significance Slight - negligible
C34	As for C21. The magnitude of impact is considered to be low for WY1 and SY15 and the impact significance slight- negligible.	Significance Slight	Significance

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
			Slight - negligible
For all options the special qualities would not be significantly adversely affected though this will be considered when greater design detail is available at DMRB Stage 3.			
The Slochd LCA (approx. chainage 17500 – 23600)			
Value: High **Susceptibility: Medium - High** **Sensitivity: Medium - High**			
D02	The junction is central in the LCA, which is not extensive, and for much of it there would be views to the Black Mount junction due to the topography and general low levels of tree cover. D02 would result in some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape. The magnitude of impact is considered to be high in WY1 and medium at SY15. With embedded mitigation in place the impact significance would potentially reduce from substantial to moderate for the wider LCA.	Significance Moderate - Substantial	Significance Moderate - Substantial
D03	As for D02 but with a less extensive footprint. The magnitude of impact is considered to be medium-high in WY1 and medium in SY15. With embedded mitigation in place the impact significance is considered to be moderate over the wider LCA.	Significance Moderate-substantial	Significance Moderate
D07	The junction is central in the LCA, which is not extensive, and for much of it there would be views to the Black Mount junction due to the elevated topography and general low levels of tree cover. D07 would result in some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape. The half clover leaf quadrants 2 & 4 would add a complexity to a relatively simple landscape and potentially detract from the dominance of the natural landform, which is a Special Quality of the CNP for this area. The magnitude of impact is considered to be high in WY1 and medium in SY15. The impact significance is considered to be substantial for WY1 and SY15.	Significance Substantial	Significance Substantial
D12	As D02. The magnitude of impact is considered to be high in WY1 and medium in SY15. The impact significance is considered to be substantial for WY1 and SY15.	Significance Moderate - Substantial	Significance Moderate - Substantial
D13	As D03. The magnitude of impact is considered to be medium- high in WY1 and medium in SY15. The impact significance is considered to be substantial for WY1 and SY15.	Significance	Significance Moderate

Junction Option	Description	Impact Winter Year 1	Impact Summer Year 15
		Moderate-substantial	
D51	As D07. The magnitude of impact is considered to be high in WY1 and medium in SY15. The impact significance is considered to be substantial for WY1 and SY15.	Significance Substantial	Significance Substantial
The Special Qualities this will be considered when greater design detail is available at DMRB Stage 3.			

Impacts Common to All Mainline Alignment Options

12.4.12 This section summarises the impacts on the landscape character and landscape designations which would be common to all mainline options. All options would include the introduction of a wider carriageway with associated loss of Ancient Woodland, loss of existing roadside vegetation, the re-alignment of part of General Wade's Military Road at chainage 24,200 and NCR7 at chainage 20,600 near Black Mount and chainage 23,600 at Slochd. All options would involve changes to landform, including embankments and cuttings, and exposure of new rock, most obviously at Slochd Beag and at Slochd.

12.4.13 Potential impacts have been considered here only where they are anticipated to be significant (i.e. moderate or above).

12.4.14 Potential moderate impact on The Slochd LCA in winter of year 1 and remaining at summer of year 15 due to rock cuts associated with widening at the Pass.

12.4.15 Potential slight-moderate impact on the Badenoch: Loch Alvie to Inverdruie LCA arising from all mainline options in the winter of year 1 due to potential engineering solutions between the A9 and the B9152 south of Aviemore. This would reduce to slight impact in summer of year 15.

Impacts Specific to Mainline Alignment Options

12.4.16 No potential significant impacts (i.e. moderate and above) for the landscape character or the landscape designations were identified for any of the mainline options.

Impacts Common to Junction Options

12.4.17 No potential significant impacts have been found to be common to all the junction options.

Impacts Specific to Aviemore South Junction Options

Impacts Specific to Junction Option A02

12.4.18 Potential substantial impact in winter of year 1 and potential moderate impact in summer of year 15 for Option A02 on the Kinrara Garden and Designed Landscape due to the tensions of the design option layout in relation to best landscape fit.

12.4.19 Potential moderate impact in the winter of year 1 and potential slight-moderate impact in the summer of year 15 for Option A02 on the Doune of Rothiemurchus Garden and Designed Landscape due to the introduction of a man-made structure with associated overbridge in views from parts of the GDL.

12.4.20 Potential substantial impact in the winter of year 1 and potential moderate impact for Option A02 for Badenoch: Loch Alvie to Inverdruie LCA due to the tensions of the design option layout in relation to best landscape fit.

Impacts Specific to Junction Option A09

12.4.21 Potential moderate impact in the winter of year 1 and potential slight – moderate impact in the summer of year 15 for Option A09 on the Kinrara Garden and Designed Landscape due to the introduction of a man-made structure with associated overbridge in views from parts of the GDL.

12.4.22 Potential moderate impact in the winter of year 1 and potential slight – moderate impact for Option A09 on the Doune of Rothiemurchus Garden and Designed Landscape due to the introduction of a man-made structure with associated overbridge in views from parts of the GDL.

Impacts Specific to Junction Option A18

12.4.23 Potential moderate impact in the winter of year 1 due to the introduction of a man made element including overbridge in views from Kinrara GDL. However, this would reduce to slight impact in the summer of year 15.Impacts Specific to Granish Junction Options

Impacts Specific to Granish Junction Options

12.4.24 No potential significant impacts were found to be specific to any of the Granish Junction Options.

Impacts Specific to Black Mount Junction Options

12.4.25 Potentially significant impacts specific to Black Mount junction options are indicated below.

Impacts Specific to Junction Option D02

12.4.26 Potential moderate – substantial impact at winter of year 1 and summer of year 15 for D02 on The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape.

Impacts Specific to Junction Option D03

12.4.27 Potential moderate – substantial impact at winter of year 1 reducing to moderate impact for D03 on The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape.

Impacts Specific to Junction Option D07

12.4.28 Potential significant impact in the winter of year 1 and the summer of year 15 for D07 on The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape. The half clover leaf quadrants 2 & 4 will add a complexity to a relatively simple landscape and potentially detract from the dominance of the natural landform.

Impacts Specific to Junction Option D12

12.4.29 Potential moderate – substantial impact for D12 in both the winter of year 1 and the summer of year 15 on The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape.

Impacts Specific to Junction Option D13

12.4.30 Potential moderate-substantial impact for D13 in the winter of year 1 and potential moderate impact in the summer of year 15 on The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape.

Impacts Specific to Junction Option D51

12.4.31 Potential substantial impact in the winter of year 1 and the summer of year 15 for D51 for The Slochd LCA due to some loss of Ancient Woodland to the eastern extent of the junction, introduction of an overbridge and slip roads which, given the open character of the landscape to the south, would add an additional man-made feature to the landscape. The half clover leaf quadrants 2 & 4 will add a complexity to a relatively simple landscape and potentially detract from the dominance of the natural landform.

12.5 Potential Mitigation

12.5.1 Embedded mitigation has been considered in the context of slope alignment, slope profiling and minimising encroachment on ancient woodland in relation to achieving best landscape fit in relation to the mainline options. A universal 1:3 slope gradient has been applied to junction options for DMRB Stage 2. Detailed mitigation has not been developed as part of the DMRB Stage 2 assessment but will be included at Stage 3.

Mitigation during Construction

12.5.2 During construction mitigation measures could potentially include (but not be limited to):

- Careful selection of construction site compound locations. For example, utilising existing screening, or by the use of temporary screening measures to reduce the impact upon visual receptors;
- Programming the works to reduce disruption – keeping to the defined works schedule and to permissible working hours;
- Ensuring efficient traffic management is in place to minimise disruption to A9 users and NMUs in the vicinity;
- Promoting the importance of best practice in relation to maintaining a litter and debris free construction site compound; and
- Minimising the use of artificial lighting and promotion of the use of directional lighting to reduce the impact on visual receptors.

Mitigation during Operation

12.5.3 During operation visual mitigation measures could potentially include (but not be limited to):

- Retaining existing intervening vegetation wherever possible to act as a screen and to enhance the experience of views;
- Planting to mitigate trees lost – including appropriate use of native species to promote biodiversity;
- Careful consideration of design and materials used for engineering solutions such as retaining walls;

- Incorporation of sensitive slope profiling to reduce the magnitude of change in the visual receptor experience or to enhance the experience of the view; and
- Incorporation of naturalistic edges to road drainage features to improve their visual appearance.

12.6 Summary of Route Option Impacts

12.6.1 This section presents the summary of the DMRB Stage 2 potential route option impacts for mainline widening and junction locations and includes embedded mitigation and consideration of potential mitigation.

12.6.2 The impacts of the Proposed Scheme Options have been assessed with mitigation in the summer of year 15 where screening, fencing and species planting have been assumed to have been introduced.

12.6.3 As the detail of proposed mitigation is not available at DMRB Stage 2, the residual impacts summarised are tentative and will be developed at DMRB Stage 3 and potential significant impacts, in the context of the EIA Regulations, have been identified.

12.6.4 Differentiators have been highlighted between Proposed Route Options to be further considered as part of the identification of a Preferred Route Option at DMRB Stage 3.

12.6.5 Only landscape resources where at least one mainline option is likely to result in significant impact (moderate significance or greater) at year 15 have been included in the summary table below.

Table 12.11: Summary of Impacts Mainline Alignment Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
Landscape Character and Landscape Designations	All LCAs and all Landscape Designations	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are impacts considered more than general these have been discussed in the narrative for specific landscape receptors. Not a differentiator.
Operational Phase Impacts						
Landscape Character and Landscape Designations	The Slochd LCA	Impact on dominant natural landforms	Moderate	N/A (Option 1A does not extend to the Slochd LCA)	Moderate	Due to the impact on dominant natural landforms arising from rock cuts and reformed embankments in an area where screening from planting is not generally suitable, and the aim is to retain the feeling of natural landform, the impacts would be moderate (assuming embedded mitigation and sensitive rock cuts are realised) for all available mainline options. Not a differentiator.

Table 12.12: Summary Impacts of Aviemore South Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Construction Phase Impacts						
Landscape Character and Landscape Designations	All LCAs and all Landscape Designations	N/A	N/A	N/A	**N/A**	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are impacts considered more than general these have been discussed in the narrative for specific landscape receptors. Not a differentiator.
Operational Phase Impacts						
Landscape Character and Landscape Designations	Kinrara GDL	Landscape fit	Moderate	Slight - Moderate	Slight	Although all Options would introduce man-made elements including an overbridge in some views from the GDL, A02 would be more adverse in terms of landscape fit. Differentiator.
Landscape Character and Landscape Designations	Doune of Rothiemurchus GDL	Landscape fit	Moderate	Slight - Moderate	Slight	Although all Options would introduce man-made elements including an overbridge in some views from the GDL, A02 would be more adverse in terms of landscape fit. Differentiator.
Landscape Character and Landscape Designations	Badenoch: Loch Alvie to Inverdruie LCA	Landscape fit	Moderate	Moderate	Slight-Moderate	Although all Options would introduce man-made elements including an overbridge in some views from the GDL, A02 would be more adverse in terms of landscape fit. Differentiator.

Table 12.13: Summary of Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Construction Phase Impacts							
Landscape Character and Landscape Designations	All LCAs and all Landscape Designations	N/A	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are impacts considered more than general these have been discussed in the narrative for specific landscape receptors. Not a differentiator
Operational Phase Impacts							
		N/A	N/A	N/A	N/A	N/A	

Table 12.14: Summary of Black Mount Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)						Comparative Appraisal
			Black Mount Junction Options (Route Section 9)						
			Option D02	Option D03	Option D07	Option D12	Option D13	Option D51	
Construction Phase Impacts									
All Landscape Character and Landscape Designations	All LCAs and all Landscape Designations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator.
Operational Phase Impacts									
Landscape Character and Landscape Designations	The Slochd LCA	Impact on dominant natural landforms	Moderate – Substantial	Moderate	Substantial	Moderate - Substantial	Moderate	Substantial	Although all Options would introduce an overbridge, and result in some loss of Ancient Woodland, options with clover leaf quadrants would be more adverse in terms of landscape fit. Differentiator.

12.7 Scope of DMRB Stage 3 Assessment

12.7.1 Upon the confirmation of a preferred route alignment and junction options a detailed DMRB Stage 3 assessment would be required, the aim of this would be to refine the assessment undertaken at DMRB Stage 2, taking into account any changes to the design. The assessment will involve:

- An update and refinement of the baseline studies, using information from DMRB Stage 2 assessment;
- Consultation with stakeholders in refining the methodology, sensitivities and assessment;
- Development of detailed and specific mitigation proposals;
- A detailed assessment of the preferred route, identifying the predicted impacts and their significance on the visual receptors of the study area;
- Illustrations to explain the findings of the assessment; and
- A statement as to the significance of the residual impact.

---

[i] Highways Agency. Design Manual for Roads and Bridges.
[ii] Interim Advice Note 135/10, (2010). Landscape and Visual Effects Assessment.
[iii] Landscape Institute and the Institute of Environmental Management and Assessment. (2013). Guidelines for Landscape and Visual Impact Assessment.
[iv] Transport Scotland. (2014). A9 Dualling Strategic Environmental Assessment (SEA) Environmental Report Addendum. Appendix F: Strategic Landscape Review Report.
[v] The Highland Council. (2012). Highland-wide Local Development Plan.
[vi] Historic Environment Scotland. Inventory of Gardens and Designed Landscapes.
[vii] Grant, A. (2009) for the Cairngorms National Park Authority and British Geological Society. Cairngorms Landscape Character Assessment.
[viii] Turnbull Jeffrey Partnership. (1996). Cairngorms Landscape Character Assessment.
[ix] Cairngorms National Park Authority and Scottish Natural Heritage. (2008). Wildness Study in the Cairngorms National Park.
[x] Cairngorms National Park Authority. (2010). Special Qualities of the Cairngorms National Park.
[xi] Cairngorms National Park Authority. (2015). Cairngorms National Park Local Development Plan.
[xii] Richards, J. (1999). Inverness District Landscape Character Assessment. Scottish Natural Heritage Review. No. 114
[xiii] Turnbull Jeffrey Partnership. (1998). Moray and Nairn Landscape Assessment. Scottish Natural Heritage Review. No. 101

13. Visual

13.1. Introduction

13.1.1. This chapter identifies and outlines the existing visual receptors within the identified study area of the Proposed Scheme. Potential impacts are identified and broad mitigation measures suggested for the Proposed Scheme Options.

13.1.2. The assessment of visual receptors concerns anticipated changes to the view and/or visual amenity experienced by a diverse range of receptors (including, but not limited to, settlements, buildings, sequential routes (such as roads, paths, railway and cycle routes, and outdoor recreational spaces).

13.1.3. A separate assessment of the effects of the Proposed Scheme Options on the views experienced by vehicle travellers on the A9 is considered in Chapter 17 (Effects on All Travellers); therefore views from the A9 have not been considered further within the Visual chapter.

Study Area

13.1.4. A Zone of Theoretical Visibility (ZTV) has been prepared for the existing A9 to show the theoretical visibility of the road and of high vehicles to 4.5m on it, as shown in Figure 13.1. Comparative ZTVs have been compiled for each of the Proposed Mainline Route Options and each of the Proposed Junction Options (Figures 13.4-13.9). The ZTVs were based on a bare earth model and do not, therefore, take into consideration land use cover such as buildings and vegetation, which were considered during field survey assessments.

13.1.5. Based on the nature of the Proposed Scheme it is considered that potentially significant visual impacts are most likely to occur within 5km and this is represented by the location of Viewpoints (Figure 13.2). The extent of the wider study area (10km) was determined by desk studies and field survey and considers the ZTV extent of elevated areas. The study area and associated viewpoints were selected in consultation with The Cairngorms National Park Authority (CNPA), Scottish Natural Heritage (SNH) and The Highland Council (THC).

13.2. Approach and Methods

13.2.1. The assessment approach was informed with guidance from the DMRB Stage 2 Methodology Interim Advice Note (IAN) 135/10[i] and Guidelines for Landscape and Visual Impact Assessment (GLVIA3)[ii].

13.2.2. A more detailed assessment than would normally be considered at DMRB Stage 2 has been undertaken given the iconic nature of the landscape through which the Proposed Scheme passes. A bespoke methodology has been developed through the Landscape Forum with involvement of the consultation bodies – CNPA, SNH and THC and includes consideration of the Special Qualities of the CNP. This will be further developed at DMRB Stage 3.

13.2.3. The assessment was undertaken by two Chartered Landscape Architects and comprised of desk study, field surveys and consultation. Photographs were undertaken at Viewpoint locations (Figure 13.3) to support assessment.

13.2.4. Site surveys were undertaken in May 2015, and in February and April 2016 and helped to gain an understanding of visual context and to supplement information gathered during the desk study. The surveys were taken from accessible public highway and public footpaths; access to private properties was not obtained. The weather conditions during the survey were dry and predominantly clear.

13.2.5. The ZTVs have been used to assist in establishing the potential direction and extent of theoretical views to and from visual receptors as a result of the Proposed Scheme. Actual visibility was checked for key receptors during site surveys.

13.2.6. At DMRB Stage 2 the focus is on a comparative assessment between the Proposed Scheme Options and on providing information to inform the selection of a preferred route. Therefore, for example, temporary visual impacts during construction (for which very little information is available during DMRB Stage 2) and which, are likely to be similar for all Proposed Scheme Options will not normally be considered in any detail except where a Proposed Scheme Option would result in relatively major rock cuts.

13.2.7. The assessment has therefore considered the effect of the Proposed Scheme Options in the winter of year 1 and the summer of year 15 in line with DMRB guidance.

13.2.8. The impacts of the Proposed Scheme Options have been assessed with embedded mitigation in year 15 where screening of the different Proposed Scheme Options using earth bunds, fencing and planting have been assumed to have been introduced. Only significant impacts remaining post mitigation in the summer of year 15 have been taken forward to the Summary of Route Option Impacts.

Baseline Data Collection

13.2.9. The first stage of the assessment is to determine the baseline against which the magnitude of impact can be assessed.

13.2.10. Baseline conditions are those which exist when the desk study and site surveys are being undertaken. They include future forces for change, if relevant, such as felling and restocking of forestry, or new built development which may affect the view.

13.2.11. A desk study was carried out to review existing maps and data. The guidance in the following documents were integral to the approach to the methodology:

- A9 Dualling Programme Strategic Environmental Assessment (SEA), Environmental Report. Appendix F: Strategic Landscape Review.[iii]

13.2.12. In addition to the above the following information resources were reviewed as part of the assessment:

- The Highland Council Development Plan;[iv]
- Cairngorms National Park Local Development Plan, 2015[v];
- Cairngorms National Park Landscape Character Assessment, 2009. Cairngorms National Park Authority in partnership with British Geological Society[vi];
- Cairngorms National Park Landscape Character Assessment, 1996. Cairngorms National Park Authority[vii];
- Richards, J. 1999. Inverness District Landscape Character Assessment. Scottish Natural Heritage Review. No. 114[viii];
- Turnbull Jeffrey Partnership. 1998. Moray and Nairn Landscape Assessment. Scottish Natural Heritage Review. No. 101[ix];

- Aerial Photography;
- Geographical Information Systems (GIS) datasets; and
- Ordnance Survey (OS) maps.

Consultation

13.2.13. Consultation has been undertaken throughout the DMRB Stage 2 process with CNPA, SNH and THC through the Landscape Forum which was established as part of the A9 Dualling Programme.

Assessment of Impacts

13.2.14. In accordance with GLVIA3, the assessment has considered the sensitivity of the visual receptor, the magnitude of impact of the Proposed Scheme Options upon it, and resulted in a determination of the significance of impact of the Proposed Scheme Options on the visual resource.

13.2.15. For clarity, where possible, visual receptors were grouped into clusters at DMRB Stage 2 to reflect the similar views of the Proposed Scheme Options (Table 13.6). Any changes in views from identified receptors were compared with the existing views and influence of the A9.

13.2.16. The visual assessment considered viewpoints representative of different types of visual receptor (for example - residents, users of the Highland Mainline Railway (HML), walkers and cyclists), specific viewpoints selected to represent visitor attractions, or cultural associations, and viewpoints selected to demonstrate specific issues which may include restricted visibility.

13.2.17. In addition, accessibility, the viewpoint distance, direction and elevation, the nature of the viewing experience (static or sequential), and the view type (panorama or glimpses) were considered.

13.2.18. Preliminary road drainage design proposals have been developed at DMRB Stage 2. Reference is made to these only where there is a view towards them from a Viewpoint. It doesn't necessarily follow that this would increase the level of impact. However, even where the impact does not increase, or is already substantial, the addition of the feature may have an additional effect and this has been noted. A more detailed assessment will be undertaken at DMRB Stage 3.

13.2.19. Enhanced laybys have still to be further developed and will be considered in DMRB Stage 3. Therefore within the Stage 2 assessment, reference is made to these only where there is a view towards them from a Viewpoint. It doesn't necessarily follow that this would increase the level of impact. However, even where the impact does not increase, or is already substantial, the addition of the feature may have an additional effect and this has been noted.

Visual Sensitivity

13.2.20. The sensitivity of the visual receptor takes account of the value of the receptor and the susceptibility of the receptor to the specific change proposed (as per GLVIA 3).

Value

13.2.21. Value can be related to the hierarchy of designation - for example, the value attached to particular views in relation to heritage assets, or through planning designations. Value

attached to views can also be expressed through published or interpretive material. Table 13.1 shows the criteria for assessing value of the view.

Table 13.1: Value of Viewpoints

Value	Criteria
High	Viewpoints within, or where the focus of the viewpoint is looking towards international and/or national landscape/landscape-related designations e.g. World Heritage Sites, National Parks, National Scenic Areas, Historic Environment Scotland's Inventory of Gardens and Designed Landscapes. Or where the view forms part of the experience associated with a popular visitor attraction or has an important cultural association.
Medium	Viewpoints within, or where the focus of the viewpoint is looking towards regional/local landscape/landscape-related designations e.g. Regional Scenic Areas, Areas of Great Landscape Value (AGLV), Special Landscape Areas (SLA) or other similar terminology as set out in policy and guidance documents. Or where the view forms part of the experience at a moderately popular visitor attraction or has a local cultural association.
Low	Viewpoints within, or where the focus of the viewpoint is looking towards regional or local landscape/landscape related designations which at the site specific scale are not robust or of a quality reflecting the wider designation but which may still hold great local amenity value. Or where the viewpoint is not associated with a tourist attraction or has little/no cultural association.

Susceptibility

13.2.22. Susceptibility relates to how each receptor/group of receptors is affected by a specific proposal (in this case the Proposed Scheme Options) at a specific viewpoint. Susceptibility is mainly a function of:

- the occupation or activity of people experiencing the view at particular locations; and
- the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.

13.2.23. The criteria (as set out in GLVIA3) is set out in Table 13.2.

Table 13.2: Visual Receptor Susceptibility Criteria

Susceptibility	Criteria
High	Residents. People engaged in outdoor recreation whose interest is likely to be focused on the landscape. Visitors to heritage assets and other attractions where views are important to the experience. Communities where views contribute to the landscape setting enjoyed by residents. Travellers on scenic routes where awareness of views is likely to be high.
Medium	Travellers on road, rail or other transport routes where travel involves regular scenic awareness of views. People at their place of work whose focus may be on the setting or surroundings as part of their work.
Low	People engaged in outdoor sport or recreation which does not depend on appreciation of views. People at their place of work whose focus is not normally on the setting or surroundings.

Sensitivity

13.2.24. Value and Susceptibility help to inform the Sensitivity. Table 13.3 shows the criteria used to determine sensitivity.

Table 13.3: Visual Receptor Sensitivity to Change

Sensitivity	Criteria
High	Receptors where the value of the view is high and the change experienced to the view is considerable given the nature of the activity and the likely expectation of the viewer.
Medium	Receptors where there is value attached to the view and there is a change experienced to the view, but this change is not likely to be critical to the experience of the receptor.
Low	Receptors where there is little value attached to the view or where the receptors are not sensitive to changes in the view.

Magnitude of Impact

13.2.25. The magnitude of Visual impact was derived from size or scale, geographical extent, duration and reversibility of the proposal on the visual receptors, as set out in GLVIA3. These factors help inform the magnitude of the visual impact as shown in Table 13.4.

Table 13.4: Visual Receptor Magnitude of Impact

Magnitude	Criteria
High	Noticeable and/or long term change to a broad view of the landscape or intensive change to a specific view of the landscape.
Medium	Change to a relatively broad view of the landscape or noticeable change to a specific view of the landscape. Change in the medium to long term.
Low	Slight change to the broad view of the landscape or slight/no change to a specific view of the landscape. Change generally occurring within the short term.

Significance of Impact

13.2.26. The significance of visual impact has been determined using professional judgement through consideration of the sensitivity of the visual receptor and the magnitude of impact upon it arising from the Proposed Scheme Options (Table 13.5). This approach relies on a robust and transparent narrative based on the available guidance (GLVIA3).

Table 13.5: Significance of Visual Impact Criteria

Level of Impact	Criteria
Substantial	The Proposed Scheme would cause major deterioration to a view or loss of a view from a highly sensitive receptor, and would constitute a major discordant element in the view. The Proposed Scheme would lead to a major improvement in the view form a highly sensitive receptor.
Moderate	The Proposed Scheme would cause obvious deterioration to a view from a moderately sensitive receptor, perceptible damage to a view from a more sensitive receptor. The Proposed Scheme would cause obvious improvement to a view from a moderately sensitive receptor, or a perceptible improvement to a view from a more sensitive receptor.
Slight	The Proposed Scheme would cause limited deterioration to a view from a receptor of medium sensitivity or cause greater deterioration to a view from a receptor of low sensitivity. The Proposed Scheme would cause limited

Level of Impact	Criteria
	improvement to a view from a receptor of medium sensitivity or would cause greater improvement to a view from a receptor of low sensitivity.
Negligible/None	Little/no perceptible change in the view.

13.2.27. Visual effect will be considered significant where it is moderate or above. Divisions between assessment impacts are not absolute and combined levels may be recorded.

Limitations of the Assessment

13.2.28. The surveys were taken from accessible public highway and public footpaths, access to private properties was not obtained. Therefore the views assessed from the representative Viewpoints are similar to those that might be experienced by residents and not actual views experienced from the properties.

13.2.29. Preliminary road drainage design proposals have been developed at DMRB Stage 2. Drainage features and enhanced laybys detailed design will be undertaken at DMRB Stage 3.

13.3. Baseline Conditions

Visual Receptors

13.3.1. The number of visual receptors are limited by the topography and intervening vegetation and primarily consist of residential receptors associated with settlements, clustered into groups along the route, or outdoor receptors including those utilising recreational routes.

Viewpoints

13.3.2. Following desk study a draft list of viewpoints was developed. The study area and associated viewpoints were selected in consultation with CNPA and THC. Their comments, in conjunction with field study, resulted in a finalised list of viewpoints.

13.3.3. Fifty five viewpoints were identified in the study area, which are considered to represent a range of visual receptors within the study area - residential receptors, recreational receptors and users of road, rail and designated walking and cycle routes. Receptors identified within the study area have varying degrees of visibility of the existing A9 road corridor and descriptions of the receptors and associated viewpoints are outlined in Table 13.6., including their value, susceptibility and sensitivity. Representative Viewpoints and Receptor Types with associated photographs are represented in Figure 13-3.

13.3.4. Visual receptors are generally limited to residents on the edge of towns or in residential clusters along the existing A9, and recreational receptors using designated paths and cycle routes. From many residential receptors, there are existing views of the A9, with most, though not all, having existing views screened, partially screened or softened by existing vegetation. Those with existing screening have been assessed where it is anticipated that the existing screening may be removed/reduced as part of the Proposed Scheme.

13.3.5. It is to be noted that, for some receptors (see Table 13.6), high value and high susceptibility can result in a sensitivity rating of medium/high. This can occur where there is value attached to the view – which may be high given the setting within the CNP – but the change experienced to the view is not likely to be critical to the receptor.

Residential Receptors

13.3.6. The viewpoints discussed below have been allocated individual ratings for value, susceptibility and sensitivity in Table 13.6.

Aviemore (Viewpoints 22, 25, 26, 27, 28, 29)

13.3.7. Aviemore is located predominantly to the east of the existing A9 along the B9152. The settlement extends eastwards beyond the Highland Mainline railway (HML) and towards the River Spey and comprises of Victorian architecture interspersed with more modern commercial buildings, and recreational buildings including the youth hostel and various motel/hotel complexes. It is accessed from the A9 to the south and north of the town as well as from the B9152 running roughly parallel and the B970 which connects the town to Glenmore Forest Park in the east, and northeast to Abernethy. The extent of the settlement for the purposes of this assessment has been determined from the Cairngorms National Park Local Development Plan, 2015.

13.3.8. Views from Aviemore towards the A9 are largely restricted to receptors on the western fringe of the town and at Burnside, a relatively new residential development to the west of the existing A9 where intervening vegetation has not yet matured. The A9 is generally screened by intervening vegetation, though traffic movement is evident intermittently.

Carrbridge (Viewpoints 41, 42, 46)

13.3.9. Carrbridge is a small village located to the east of the existing A9 at a crossing point of the River Dulnain, a tributary of the River Spey. The settlement aligns westwards along Station Road, southward along the B9153 and to the north side of the river Dulnain along the A938. The A938 connects the town with Grantown-on-Spey to the east and Tomatin to the northwest, and Aviemore can be reached along the B9153. The extent of the settlement for the purposes of this assessment has been determined from the Cairngorms National Park Local Development Plan, 2015.

13.3.10. Views towards the A9 are largely restricted to receptors located along the valley floor and lower slopes due to extensive woodland and forestry in the vicinity of Carrbridge. The focus of the view is the River Dulnain and the railway viaduct of the HML; the latter is located to the immediate east of the existing A9 crossing.

Other Residential Properties (Viewpoints 1, 2, 3, 4B, 5, 7, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 30, 31, 32, 33, 34, 35, 36, 40, 43, 44, 45, 51)

13.3.11. Residential properties and farmsteads are located on lower hill slopes following the strath and river valleys. They are accessed from the existing A9, B9152, B9153, A938 and A95. The area is a popular destination for recreational users and some of these property clusters include holiday letting accommodation. For the purposes of this assessment hotels are considered commercial and recreational rather than residential.

13.3.12. Views from receptors to the south, west and north of Aviemore, and between Aviemore and Carrbridge are generally restricted due to the A9 being in cutting, or intervening vegetation. However, some receptors such as those at Lag na Cualach have more open views particularly in winter. Generally views from receptors within the strath at Carrbridge are more open due to the lack of intervening vegetation on the valley floor.

Where views of the existing A9 are visible, they are screened by intervening vegetation and appear backclothed against woodland covered hills.

Non-Residential (Commercial and Recreational) Receptors

Roads (Viewpoints 3, 5, 7, 12, 17, 31, 37, 42, 43, 45, 46, 47, 48, 49, 51)

13.3.13. The viewpoints representing roads may also represent residential or recreational receptors. This does not include the A9, which is assessed separately in the Views from the Road section within the Effects on All Travellers chapter (Chapter 17).

13.3.14. The B9152 tapers in from the east side of Loch Alvie to run roughly parallel to the A9 north of Loch Alvie to a 'pinch point' where it lies between the A9 and the HML south of Aviemore. It continues through Aviemore before joining the A95 north of the town at Granish junction. For most of this section of its route is within woodland or within the town of Aviemore.

13.3.15. Views from the B9152 are open intermittently at Alvie Bridge, and to the north of Aviemore at Sluggangranish. Views to the A9 are restricted to the Aviemore South junction area where the focus of the view is the birch woodland covered outcrop of Craigellachie. Between Kinveachy and Carrbridge the A9 remains largely within woodland.

13.3.16. Views from the A95 are largely restricted by ancient and broadleaf woodland and roadside vegetation, though there are more open areas at Granish junction and Avie Lochan.

13.3.17. The A938 to the north of Carrbridge has some elevated intermittent views towards the A9 before disappearing into Baddengorm Wood. Station Road has close range views running as it does beneath the A9 Dulnain Bridge crossing. The minor road between Black Mount and Slochd has filtered views to the A9.

Rail (Viewpoints 17, 38, 39, 50, 52)

13.3.18. The viewpoints representing rail may also represent residential or recreational receptors.

13.3.19. The HML tapers in from the east side of Loch Alvie to run roughly parallel to the A9 as they both follow the edge of the Craigellachie outcrop before the HML veers slightly eastwards into the station in the town of Aviemore. It travels through Aviemore and around the east side of Avie Lochan before running in close proximity to the A9 in the woodland between there and Carrbridge. It crosses the River Dulnain and then follows the Blackmount plantation before crossing to the west side of the A9 at Slochd Beag and running parallel to the west of the A9 northwards out of the study area.

13.3.20. Views from the HML are generally restricted by woodland until the approach to Slochd Beag where the dramatic rocky pass is a feature of the view. However there are elevated views at the River Dulnain crossing. There is some intervisibility to the A9 south of Aviemore, at Laggantygown, at the River Dulnain crossing where the A9 and HML bridges run parallel and at Slochd.

Cyclists (Viewpoints 47, 48, 49, 51, 53)

13.3.21. National Cycle Route 7 (NCR7) runs along the east side of Tor Alvie towards and through Aviemore before roughly following the Speyside Way route to Boat of Garten. Here it runs westwards to Kinveachy before heading north to Carrbridge. North of Carrbridge it runs through Baddengorm Woods before running parallel to the A9 at Black Mount and through the Slochd Pass.

13.3.22. Views are restricted by Tor Alvie, and woodland vegetation (policy and riparian woodland) to the south of Aviemore, and then by the built form of Aviemore. Views north of Aviemore views are restricted by the HML embankment. Between Kinveachy and Slochd Beag views to the A9 are restricted by woodland (ancient woodland and conifer plantation) with the exception of the open views over the Strath at Dulnain. Dramatic views from the NCR7 occur at Slochd Beag and through the Slochd Pass.

Walkers (Viewpoints 6, 8, 9, 16, 17, 23, 24, 25, 28, 32, 42, 43, 51, 54)

13.3.23. The entire area is rich in Core Paths, Rights of Way, and waymarked long distance and local walks. These have been assessed separately within Chapter 17 (Effects on All Travellers). Those selected here are those considered to be representative of cultural, or recreational receptors, or select elevated viewpoints through consultation with statutory consultees.

13.3.24. Views from elevated locations such as Creag Ghliannean, Burma Road, Creagan Gorm and the Craigellachie NNR Viewpoint generally have distant views of the A9 which are partially screened or not the focus of the view. The Duke of Gordon's Monument has more perceptible views, particularly of the Aviemore South junction options.

Other Recreational Receptors (Viewpoints 1, 6, 7, 22, 25)

13.3.25. The area has numerous recreational receptors of many diverse types. These tend to be clustered around Aviemore and Carrbridge.

13.3.26. Elevated or slightly elevated viewpoints such as Duke of Gordon's Monument, and the horse riding stables at Easter Delfour, and the three storey Rowan Tree Hotel have some visibility of the A9, although this is not the focus of the view. Others like the High Range House and Macdonald Hotel holiday complexes have close range views.

13.3.27. Table 13.6 sets out the viewpoints representative of the visual receptors, and indicates their sensitivity. The location of the visual receptors and viewpoints can be seen in Figure 13.2.

13.3.28. The assessment has considered the effect of the Proposed Scheme Options in the winter of year 1 and the summer of year 15 in line with DMRB guidance.

Table 13.6: Viewpoint Location and Sensitivity

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
1	Minus 0 683m East	Easter Delfour Residence (and horse riding stables)	Residential, recreational	High	Medium	Medium
2	Minus 0 260m West	Dalraddy Farm	Residential	High	High	High
3	100 960m West	Croftgowan cluster	Residential	High	High	High
4A	800 295m West	Alvie Church	Recreational (Ecclesiastical)	Med	High	Medium
4B	800 575m West	Alvie Manse	Residential	High	High	High
5	700 875m Northwest	Kinrara Croft, Loch Alvie	Residential	High	High	Medium
6	N/A 1.5km Northwest	Duke of Gordon's Monument on Kinrara DLS	Recreational (walkers)	High	Medium	Medium
7	1600 894m West	Rowan Tree Hotel cluster, Loch Alvie	Residential, Recreational	High	Medium	Medium
8	N/A	Creag Ghliannean Hill	Recreational (walkers)	High	Medium	Medium

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
	1.9km East					
9	N/A 1.7km Southeast	Burma Road (Right of Way)	Recreational (walkers)	High	Medium	Medium
10	1650 233m Southeast	Ballinluig, west of Loch Alvie	Residential	High	High	High
11	2200 19m West	Druim Mhor, Loch Alvie	Residential	High	High	High
12	2950 235m West	Railway Cottages northeast of Loch Alvie	Residential	High	High	High
13	3000 66m Southeast	Lynwilg Farm	Residential	High	High	High
14	3200 180m Southeast	Oak Cottage, Lynwilg	Residential	High	High	High
15	3350 191m East	Lynwilg House	Residential	High	High	High
16	N/A 8.76km West	Creagan Gorm hill	Recreational walkers (within Glenmore Forest Park)	High	Medium	Medium

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
17	3500 68m West	B9152, south of Aviemore	Walkers Speyside Way Extension, users of Highland Mainline Railway	High	High	High
18	4300 10m West	Kinakyle	Residential	High	High	High
19	4550 15m West	Birch View, south of Aviemore	Residential	High	High	High
20	4600 19m East	Lag na Cualach, west of A9 south of Aviemore – cluster A	Residential	High	High	High
21	4730 24m East	Lag na Cualach, west of A9 south of Aviemore – cluster B	Residential	High	High	High
22	4950 43m West	High Range House/Motel cluster	Residential and commercial	High	High	High
23	N/A 862m East	Viewpoint Craigellachie Red Trail NNR	Recreational (walkers)	High	High	Med/High
24	5600 461m East	Reservoir, Craigellachie Yellow Trail NNR	Recreational (walkers)	High	High	Med/High
25	5500 172m West	MacDonald Hotel, Aviemore	Recreational	Medium	Medium	Medium

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
26	7200 78m West	Cluster, east of A9 incl Black Grouse Cottage and Avanside	Residential	High	High	High
27	7350 119m West	Milton, Aviemore	Residential	High	High	High
28	7460 20m West	Aviemore Orbital	Recreational (walkers)	Medium	Medium	Medium
29	7260 83m East	Burnside, west of A9	Residential	High	High	High
30	7720 140m West	Auchentoul/ Ardarroch cluster, nr. Granish	Residential	High	High	High
31	7900 249m West	Granish Farm	Residential	High	High	High
32	8430 158m West	Stand-alone property at Granish junction & General Wade's Military Road	Residential; Recreational - walkers	High	High	Medium
33	8490 20m West	Red Stag Lodge	Residential	High	High	High
34	10050 72m West	Avielochan cluster incl. Birch Cottage	Residential	High	High	High

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
35	10250 60m West	Avielochan Farm	Residential	High	High	High
36	10250 227m West	Avielochan cluster, at Lochside	Residential	High	High	Medium
37	10850 140m Southwest	A95 south of Laggantygown	Users of A95	Medium	Medium	Medium
38	10900 185m West	Highland Mainline bridge at Laggantygown	Rail users	High	High	High
39	12450 14m West	Track between HML bridge and A9 at Knock of Kinveachy	Rail users	High	High	High
40	12500 33m East	Kennels & Keeper's Cottage, nr. Kinveachy	Residential/Commercial	High	High	High
41	16400 82m West	Carrbridge Station Buildings (footbridge)	Rail users (crossing footbridge)	Medium	Medium	Medium
42	16550 27m West	Broom Cottage, Ellan (east of A9)	Residential	High	High	High
43	16550 17m Northeast	Ellan cluster, west of A9	Residential	High	High	High

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
44	16800 754m Northeast	Feith Mhor Hotel, Sludden	Residents, Recreational (walkers)	High	High	High
45	16950 225m East	Dalrachney Beag at Dulnain crossing	Residential	High	High	High
46	17000 240m West	Bogroy Road. Carrbridge	Residential	High	High	Medium
47	15800 100m South-Southeast	Old A9 at Blackmount, nr Bogroy	Road user, walkers, National Cycle Route 7	Medium	Medium	Medium
48	21700 18m South-Southwest	Old A9 at Slochd Beag 1	Road user, walker, National Cycle Route 7	Medium	Medium	Medium
49	21800 23m Northeast	Old A9 at Slochd Beag 2	Road user, walker, National Cycle Route 7	High	High	High
50	22100 190m North	Slochd Mhuic Viaduct	User of Highland Mainline Railway	High	High	Medium
51	22500 13m East	Rynaclarsach, north of Ski Centre	Residential, National Cycle Route 7	High	High	High

VP No.	Approx. Chainage, Distance (to nearest point of A9) and Direction of View to A9	Representative Viewpoint	Receptor Type	Value	Susceptibility	Sensitivity
52	23300 180m Northeast	Elevated track west of NCR7 south of Slochd	Recreational (walkers)	Medium	Medium	Medium
53	23700 20m East	Cycle path at Slochd outwith CNP	Recreational, walkers and National Cycle Route 7	Medium	Medium	Medium
54	24400 121m Southwest	General Wade's Military Road at Slochd Summit	Recreational –, views to Geological Conservation Review (GCR) site	Medium	Medium	Medium

13.4. Potential Impacts

13.4.1. This section describes the potential impacts at construction and operation in the absence of mitigation, which will be developed as part of the DMRB Stage 3 assessment. Embedded mitigation to include alignment, slope profiling, and minimising the loss of ancient woodland wherever possible has been considered and incorporated through the design options within this assessment.

Construction

13.4.2. Although potential impacts could occur during construction, these are considered temporary in nature. In accordance with the methodology, impacts during construction have not been assessed at DMRB Stage 2. All the Proposed Scheme Options would have similar construction impacts including:

- removal of vegetation to facilitate works;
- resulting bare earth due to removal of vegetation and earthworks;
- changes in landform due to earthworks, including temporary soil storage areas;
- vehicle activity due to excavation, earthmoving and construction;
- construction of bridges and other structures;
- site compound areas, storage of materials and lighting to facilitate work during hours of darkness; and
- traffic management systems.

Operation

13.4.3. Potential impacts for each of the Proposed Scheme Options are described during operation in the winter of year 1 and the summer of year 15.

13.4.4. The visual impacts associated with the Proposed Scheme Options during operation include (but are not limited to):

- removal of vegetation to facilitate works;
- removal of existing vegetation which affords screening;
- changes in landform due to the formation of cuttings, embankments and bridge structures;
- the addition of underpasses and new junction layouts at Aviemore South, Granish and at Black Mount;
- changes to landscape patterns due to the addition of elements to aid reinstatement, including new or additional planting;
- moving traffic and HGVs; and
- vertical elements including lighting of underpasses (which will be considered in detail at DMRB Stage 3 based on required underpass dimensions and anticipated users) and underbridges associated with potential junctions, and signage.

13.4.5. Impacts on visual receptors for each of the Proposed Scheme Options is set out in Table 13.7 below:

Table 13.7: Potential Impacts of Mainline Options on Viewpoints

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
1. Easter Delfour cluster Viewpoint on track in front of Easter Delfour house & stables looking east Approx. chainage -0 High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	N/A	WY1 Low SY15 Low WY1: Neg/None SY15: Neg/None	Views are restricted by intervening distance, topography and vegetation. The focus of the view is to Cairngorm mountains.	For both options changes are likely to be restricted to construction activity.
2. Dalraddy Farm cluster Viewpoint on track to north/northwest of cluster looking west Approx. chainage 0 High sensitivity	*Magnitude* *Significance*	WY1 Medium SY15 Low WY1: Slight SY15: Neg/None	N/A	WY1 Medium SY15 Low WY1: Slight SY15: Neg/None	Views are restricted from one residential property by intervening topography and vegetation. The other property has views predominantly north and south. From the track, vehicle movement and a recent bare embankment from A9 works is clearly visible. The focus of the view is to the rocky hills to the west.	For both options construction would be visible. Although there would be loss of roadside vegetation, other intervening vegetation would remain so that changes to the view will be minor. Assuming sensitive design for the potential Dalraddy southbound enhanced layby there should not be an adverse impact from this.
3. Croftgowan cluster Viewpoint on B9152 looking west Approx. chainage 200	*Magnitude*	WY1 Low SY15: Low	N/A	WY1 Low SY15: Low	Comprises of a cluster of three residences -Croftgowan, Railway Cottages, and Hillview. Access was not possible to rear of Croftgowan but it is assumed views exist toward the A9 from the rear.	For both options there would be Increased visibility of the A9 due to loss of intervening vegetation and formation of embankments. Bare earth embankments would be partially screened in winter and more fully screened in

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity	*Significance*	WY1: Slight SY15: Neg/None		WY1: Slight SY15: Neg/None	The latter two residences face toward the A9. Views from Railway Cottages are restricted by garden planting and an outbuilding but may include restricted views across the B9152 to the A9. Hillview has views across the B9152 toward Dalraddy Farm and beyond to the A9. Traffic movement on the A9 is visible, though restricted in extents of the view by intervening vegetation. The focus of the view is the hills to the west.	summer by the tree band in the middle distance. The hills would remain the focus of the view.
4a Alvie Parish Church Viewpoint within high level of graveyard towards A9 Approx. chainage 900 Medium sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	N/A	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	Views are across the graveyard and Loch Alvie, with the Craigellachie outcrop to the west and Tor Alvie to the east. The focus of the view is Loch Alvie with the broadleaf woodland sheltering scattered properties.	Viewpoint was selected due to Aviemore South junction option (see Table 13.8). For both mainline options views would be largely restricted to construction activity. The focus of the view would remain Loch Alvie.
4b Alvie Manse (southwest view) Approx. chainage 900	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1:	N/A	WY1: Medium SY15: Low WY1:	Views restricted to north and south by topography and conifers. The focus of the view is Loch Alvie with the A9 largely in cutting or screened by trees around Loch Alvie, so that only glimpses of high sided vehicles are possible.	Both options would have increased visibility of the A9 due to loss of intervening vegetation and formation of embankments. The focus of the view would remain Loch Alvie.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity		Moderate SY15: Slight		Moderate SY15: Slight		
5. Kinrara Croft cluster, Loch Alvie Viewpoint from B9152 looking west. Approx. chainage 1200 High sensitivity	*Magnitude* *Significance*	WY1 Low SY15: Low WY1: Slight SY15: Neg/None	N/A	WY1 Low SY15: Low WY1: Slight SY15: Neg/None	Views are over the B9152 and Loch Alvie. Some high sided vehicles on A9 are visible in centre of view though the road is screened by cutting and bands of conifers on the western shores of Loch Alvie. The focus of the view is Loch Alvie and the hills beyond.	Although construction activity would be visible, views of A9 will be limited as it would remain in cutting or screened by intervening vegetation. Loch Alvie would remain the focus of the view.
6. Duke of Gordon's Monument, Kinrara Designed Landscape Viewpoint at the monument atop Tor Alvie Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainages) High sensitivity	*Magnitude* *Significance*	WY1 Low – Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1 Low -Medium SY15: Low WY1: Moderate SY15: Slight	Views from the Monument extend to north, east, and west (restricted to the south by path and woodland). The view towards the A9 is elevated over Loch Alvie and is extensive to include the hills to the west and north - the focus of the view. A9 traffic is intermittently visible in the middle distance.	Both Options would result in loss of vegetation and formation of embankments and increased visibility of traffic movement. Loch Alvie and the hills would remain the focus of the view.
7. Rowan Tree Hotel cluster Viewpoint on B9152 looking westwards to A9.	*Magnitude*	WY1: Low -Med SY15:	N/A	WY1: Low -Med SY15:	The rear of the 3 storey hotel, and some privately owned lodges were not accessible to survey however, it is assumed	Both Options would result in reduction of trees and increase visibility of traffic movement.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Approx. chainage 1800 Medium sensitivity	*Significance*	Low WY1: Slight-Moderate SY15: Slight		Low WY1: Slight-Moderate SY15: Slight	they have some views to the west and the A9. From lower levels of the buildings the view is likely to be restricted by undulating topography and intervening vegetation around Loch Alvie though high sided vehicles are likely to be intermittently visible as they are from the Viewpoint.	
8. Creag Ghliannean Hill Viewpoint at cairn looking east to the A9 (no access track exists). Views southeast towards A9. Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainages) Medium sensitivity	*Magnitude* *Significance*	WY1: Low -Med SY15: Low WY1: Slight SY15: Neg/None	N/A	WY1: Low -Med SY15: Low WY1: Slight SY15: Neg/None	An intervening flatter foreground, cutting and trees screen the A9 from much of the view. The focus of the view is Tor Alvie and Duke of Gordon's Monument, Bogach and Doune Farm. Loch Alvie is not visible from the cairn but views of it open up when walking to the south eastern end of the ridge.	The Viewpoint was selected due to Aviemore South junction option. Mainline widening would result in tree loss but given the distance and vegetation on the flatter foreground, the changes are considered to be minor.
9. Burma Road The Viewpoint is approximately 30 metres west of intersection with Allt Coire na h-Uchdaich Approx. chainage	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Slight	N/A	WY1: Low SY15: Low WY1: Slight	Due to the topography and woodland (ancient and riparian) to the west of the A9, the road and Loch Alvie are not visible. Doune Farm and Bogach are prominent with Tor Alvie in the mid distance and the Cairngorm Mountains the horizon.	The Viewpoint was selected due to Aviemore South junction option – A9 mainline is not visible, though some construction activity may be visible.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
N/A (due to elevated distant Viewpoint not aligning with road chainages) Medium sensitivity		SY15: Neg/None		SY15: Neg/None		
10. Ballinluig Viewpoint is on access track between two residential properties and looking east to A9. Approx. chainage 1600 High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Moderate SY15: Neg/None	N/A	WY1: Low -Med SY15: Low WY1: Moderate SY15: Neg/None	Views of the A9 are restricted by mature trees and a band of conifers affording only glimpses of traffic. The focus of the view is Tor Alvie with the Duke of Gordon's Monument in the middle distance and the Cairngorm Mountains beyond.	Both option 1 and 2 would result in some tree loss and increased visibility of A9. The focus of the view would not change.
11. Drum Mhoir Viewpoint is on northbound verge of A9. Approx. chainage 2200 High sensitivity	*Magnitude* *Significance*	WY1 High SY15 Medium WY1: Substantial SY15: Slight	N/A	WY1 Medium SY15 Low-Medium WY1: Moderate SY15: Slight	Views to A9 are restricted by topography, and a band of conifers. The A9 is unlikely to be visible, though high sided vehicles and glimpses may be visible from the upper dormer window of the property with the elevated hill beyond.	There would be loss of roadside vegetation/birch for Option 1 – due to the elevation of the receptor mitigation planting may still leave high sided traffic movement visible. Option 2 widening would have less impact in terms of proximity for this receptor. With embedded mitigation planting in place – impact is considered slight.
12. Railway Cottages Viewpoint is on B9154 and Speyside Way	*Magnitude*	WY1 Medium SY15 Low-Medium	N/A	WY1 Medium SY15 Low-Medium	Views are restricted by conifers between the property and the B9152 and birch on the B9152 verge. The focus of the view is	Both Options indicate the A9 within cutting at its closest proximity to the receptors but would result in increased

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
extension looking west to A9. Approx. chainage 2900 High sensitivity	*Significance*	WY1: Moderate SY15: Slight		WY1: Moderate SY15: Slight	likely to be to open moorland hills.	visibility of traffic due to loss of intervening vegetation.
13. Lynwilg Farm Viewpoint from access track to house. Approx. chainage 3000 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Medium-Low WY1: Moderate SY15: Slight	N/A	WY1 High SY15: Medium WY1: Substantial SY15: Substantial	No access to the aspect of the property closest to the A9 was possible. It is assumed that any views from there will be largely restricted by conifers. The focus of the view are the hills.	There would be increased visibility of the A9 due to loss of intervening vegetation and formation of embankments associated with Option 2 widening more than Option 1. Option 2 would be in close proximity to the property boundary and therefore an engineering solution to mitigate impacts on the property may be required. While the detail is not available at this stage, it is assumed that this will result in an adverse visual impact.
14. Oak Cottage, Lynwilg Viewpoint from access track east towards A9. Approx. chainage 3200 High sensitivity	*Magnitude* *Significance*	WY1: Low – Medium SY15: Low WY1: Slight-Moderate SY15:	N/A	WY1: Medium SY15: Low WY1: Slight - Moderate SY15:	Views to the A9 are restricted by garden planting and a mixed band of conifer and deciduous trees between the property and the A9. The focus of the view is the hills to the east.	There would be increased visibility of the A9 due to loss of intervening vegetation and formation of embankments associated with Option 2 widening more than Option 1. The focus of the view would not change.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
		Slight		Slight		
15. Lynwilg House Viewpoint from access area between Lynwilg House and stables/outbuildings looking east to A9. Approx. chainage 3400 High Sensitivity	*Magnitude* *Significance*	WY1: Low – Medium SY15: Low WY1: Slight-Moderate SY15: Slight	N/A	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	Views are restricted by garden vegetation and intervening vegetation (riparian associated with Allt na Criche and roadside vegetation) along northbound carriageway of A9. The focus of the view is the Cairngorm Mountains.	Increased visibility of the A9 would occur due to loss of intervening vegetation and formation of embankments associated with northbound Option 2 widening more than Option 1. The focus of the view would not change.
16. Creagan Gorm Hill Viewpoint at cairn. Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainages) Medium sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	N/A	WY1: Low – Medium SY15: Low WY1: Neg/None SY15: Neg/None	Views extend across the valley to the Monadhliath Mountains on the horizon, which are the focus of the view. In the middle distance lie the town of Aviemore, Loch Alvie and Tor Alvie. Traffic is visible.	For both mainline widening options views would not be conspicuous given the distance from the Viewpoint. The focus of the view would not change.
17. B9152 south of Aviemore Viewpoint at access layby for HML. Approx. chainage 3500	*Magnitude* *Significance*	WY1: High SY15: Medium-High WY1:	N/A	WY1: High SY15: Medium-High WY1:	From the railway and the B9152 views west toward the A9 will be restricted by roadside scrub and young birch.	Option 1 would result in loss of vegetation and introduce bare embankment with the A9 and B9152 running in very close proximity. Option 2 would be similar but with slightly greater intervening distance. Engineering solutions between

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity		Substantial SY15: Moderate		Substantial SY15: Moderate		the A9 and B9152 would be visible adding an additional man made element to the view.
18. Kinakyle Viewpoint from access track to property. Approx. chainage 4300 High sensitivity	*Magnitude* *Significance*	N/A (within anticipated land take-not representative) WY1: SY15:	WY1: High SY15: High-Medium WY1: Substantial SY15: Moderate	WY1: High SY15: High-Medium WY1: Substantial SY15: Moderate	Views towards the A9 are restricted by intervening roadside vegetation alongside the southbound verge/garden of property. Traffic movement may be visible from the upper level dormer window. The focus of the view is likely to be the Cairngorm Mountains.	This property is located within the anticipated land take for Option 1 and therefore assessment of visual impact for Option 1 is not considered representative. Option 1A and Option 2 would result in loss of intervening vegetation and formation of new embankments in close proximity.
19. Birch View Viewpoint from access track to property. Approx. chainage 4550 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: High-Medium WY1: Substantial SY15: Moderate	WY1: Medium SY15: Medium WY1: Substantial SY15: Moderate	WY1: Medium SY15: Medium WY1: Substantial SY15: Moderate	Windows to the front have views along the access track to the property with the A9 largely screened by intervening vegetation. Access for survey to the rear was not possible, but a window to the gable end has views towards the A9 restricted by roadside embankment and intervening vegetation.	Option 1 would likely directly encroach on the property boundary and result in loss of vegetation and new slope profiling. Options 1A and 2 would result in some vegetation loss and slope profiling but is in less close proximity.
20. Lag na Cualach cluster A Viewpoint on northbound verge of A9 at March Cottage	*Magnitude*	WY1: Medium SY15: Medium-Low	WY1: High SY15: Medium	WY1: High SY15: Medium	March Cottage is the closest residence to the A9. It has views across a band of scrub, broom, birch and conifer to intermittent traffic movement.	Although Option 1 might result in loss of vegetation it would be at greater distance than either Option 1A - where the embankment would lie along the property's verge. Option 2

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Approx. chainage 4600 High sensitivity	*Significance*	WY1: Moderate SY15: Slight	WY1: High SY15: Moderate-Substantial	WY1: High SY15: Substantial		would be more adverse being slightly closer to the property.
21. Lag na Cualach cluster B Viewpoint outside property mapped as Kinmundy. Approx. chainage 4750 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	WY1: High SY15: Medium WY1: Substantial SY15: Moderate-Substantial	WY1: High SY15: Medium WY1: Substantial SY15: Moderate-Substantial	The properties between March Cottage and Kinmundy have views towards the A9 restricted by a conifer planted bund within the garden. Kinmundy is at similar elevation to the A9 so that views of traffic are visible. The A9 embankment makes up the near horizon in the centre of the view. Views to the Cairngorm Mountains are screened by southbound verge trees.	Option 1 would result in regrading of the northbound embankment and loss of the trees. Although felling of southbound verge trees may open up views to the Cairngorm Mountains, overall the impact magnitude is considered to be High. Options 1A and 2 are similar with the A9 northbound embankment being in closer proximity to the receptor.
22. High Range House cluster Viewpoint in car park of La Traviata restaurant adjacent to High Range House cluster Approx. chainage 4900 High sensitivity	*Magnitude* *Significance*	N/A for High Range House (within anticipated land take-not representative) Medium for remaining properties in cluster. WY1: N/A SY15:	WY1: Medium-High SY15: Medium WY1: Moderate-Substantial SY15:	WY1: Medium-High SY15: Medium WY1: Moderate SY15:	Access to the rear of High Range House was not possible, however due to close proximity to A9 changes will have an impact. La Traviata restaurant is at a lower level and slightly further proximity. The car park lies between the two. A lodge property is elevated nearby beyond which lies the caravan park. Receptors all have views of the A9 which are partially screened by intervening roadside vegetation on the southbound	High Range House is located within the anticipated land take for Option 1 and therefore assessment of visual impact for Option 1 is not considered representative. Option 1 would result in the embankment being closer to the elevated lodge property and loss of part of the car park area. Option 1A would result in some regrading and loss of vegetation. Option 2 would result in least change beyond construction and some vegetation loss.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
		N/A	Moderate	Slight-Moderate	embankment. Directly beyond the A9 lies the rocky face of Craigellachie outcrop.	
23. Red Trail Craigellachie NNR Viewpoint at waymarked 'Viewpoint' Approx. chainage N/A High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	N/A	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	Views east are towards Aviemore and the River Spey, with the Cairngorm Mountains beyond. There is restricted visibility of traffic on the A9, with traffic on the A95 within Aviemore and at Granish junction being visible.	For both options mainline widening is unlikely to be visible beyond construction and the focus of the view would not change.
24. Craigellachie NNR nr. Reservoir Viewpoint to immediate south of the reservoir on yellow waymarked trail Approx. chainage 5600 High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Neg/none SY15: Neg/None	N/A	WY1: Low SY15: Low WY1: Slight SY15: Neg/None	Views toward A9 are restricted by light and airy birch woodland with some A9 traffic intermittently visible during the winter assessment. The focus of the view is the reservoir.	For both options intervening vegetation loss due to northbound widening would potentially increase some visibility of traffic movement. The focus of the view would not change.
25. Macdonald Hotel/Aviemore Highland Resort Viewpoint at car park/playground nr. Morlich Hotel	*Magnitude* *Significance*	WY1 High SY15: Medium WY1:	N/A	WY1: Medium SY15: Medium-Low WY1:	Views to A9 are across open amenity space with the A9 embankment and the Craigellachie outcrop beyond being the focus of the view.	Option 1 would result in the loss of intervening vegetation and creation of a new embankment in closer proximity. Option 2 may result in some vegetation loss but the road will be in cutting and not as close as Option 1.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Approx. chainage 5500 Medium sensitivity		Moderate SY15: Moderate - Substantial		Moderate-Substantial SY15: Slight		All options would introduce a drainage feature at this location. Given the scale and diversity of landscape elements here this would not have a significant impact.
26. Avanside/Black Grouse cluster, Aviemore Viewpoint on access track to cluster which includes the multi-occupancy two storey residential building. Approx. chainage 7200 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial-Moderate SY15: Slight	N/A	WY1: Medium SY15: Medium WY1: Moderate SY15: Moderate	Views to the A9 are generally well screened by broadleaf woodland and embankment trees. High sided vehicles are intermittently visible. The focus of the view is likely to be to the east for all but one building. The A9 is elevated and part of the concrete underpass is visible.	Option 1 results in the A9 being in closer proximity to the receptors and would involve loss of much of the intervening woodland and a newly formed embankment. Option 2 has less impact although there would be some loss of trees. Option 2 would result in a drainage feature at this location. This would result in a greater level of woodland loss which acts as a screen in views to the A9 and raises the impact from Slight to Moderate at the Viewpoint.
27. Milton cluster, Aviemore Viewpoint on open ground (grass track) between the cluster and the A9. Approx. chainage 7300	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	The Viewpoint is on a recently cleared site which appears to be a potential building site. The A9 embankment and associated concrete underpass is central in the view.	All options would involve a newly formed embankment and clearance of vegetation in closer proximity to the receptors.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity						
28. Aviemore Orbital waymarked trail Viewpoint located at bridge over burn nr. Milton residential receptors. Approx. chainage 7450 Medium sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Substantial	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Substantial	Views toward the A9 occur both north and southbound on the trail which runs parallel to the A9 embankment in close proximity. Current views southbound take in the residential cluster at Milton but the focus of the view is the distant Cairngorm Massif and Craigellachie outcrop. Views northbound are limited by topography and woodland planting so that the A9 is much more evident northbound views than in those to the south.	Both options would result in the diversion of the path. It is assumed this is slightly further east and has been assessed on that basis.
29. Burnside, Aviemore Viewpoint located on public road between Burnside and A9 Approx. chainage 7250 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	Current views towards the A9 are over an embankment with recently planted trees. The A9 runs across the view with traffic visible. The distant horizon beyond is the Cairngorm Mountains.	Although both Options would result in loss of some intervening vegetation and changes to embankment, this is in closer proximity for Option 2.
30. Auchentoul/Ardarroch cluster, nr. Granish Viewpoint located at meteorological station at rear of the SNH offices	*Magnitude*	WY1: Low SY15: Low	N/A	WY1: Low SY15: Low	Views from the rear of the SNH offices are restricted by outbuildings at lower levels. A residential property lies within the cluster but views are restricted by topography.	For both Options the A9 is in cutting, though tree loss and regrading may increase visibility from the upper floor of the property. Woodland loss would be perceptible for all Options

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Approx. chainage 7750 Medium sensitivity	*Significance*	WY1: Slight SY15: Neg/None		WY1: Slight SY15: Neg/None	Beyond the A9 are low woodland covered hills.	though not key to the experience of the view.
31. Granish Farm Viewpoint from B9152 immediately north of the farm. Approx. chainage 7900 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1: Low SY15: Low WY1: Slight SY15: Negligible	Access to the rear of the property was not possible. However, views towards the A9 are likely to be restricted by woodland to the rear of the property and the hummocky topography. Views of high sided vehicles may be intermittently visible, as they were from the viewpoint.	Option 1 would result in the route being partly in cutting and partly on embankment. Option 2 would have less impact as northbound widening is predominantly within cutting.
32. Cottage opposite quarry nr. Granish Junction Viewpoint is located adjacent to the property. Approx. chainage 8400 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1: Low SY15: Low WY1: Slight SY15: Negligible	Views from the rear are restricted by topography and scattered trees – although there is a 'dip' where intermittent vehicle movement is visible.	Option 1 would result in embankments being visible at closer proximity to the property than Option 2 where the embankment is further from the property.
33. Red Stag Lodge Viewpoint from both the north and south of the property.	*Magnitude*	WY1: High SY15; Medium	N/A	WY1: Low SY15: Low	The property lies close to the southbound carriageway of the existing A9 with views south via picture windows across the undulating land (currently partially levelled for a proposed	Although Option 1 would be in cutting, the road would be closer to the property and would likely directly involve loss of intervening vegetation. Option 2

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Approx. chainage 8500 High sensitivity	*Significance*	WY1: Substantial SY15: Moderate-Substantial		WY1: Slight SY15: Slight	caravan park) and the Cairngorm Massif beyond.	would have less impact given its northbound widening. For Option 1 this would not increase the impact, though for Option 2 it would increase it from Negligible to Moderate and if intervening mitigation planting can be introduced, to Slight impact.
34. Birch Cottage cluster, Avielochan Viewpoint from the parking area adjacent to Birch Cottage Approx. chainage 10100 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Moderate-Substantial	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Moderate-Substantial	These receptors sit elevated to the west of Avie Lochan and the focus of the view is over Avie Lochan to the Cairngorm Mountains beyond. Views from the rear of the properties towards the A9 are restricted by a steep embankment with mixed woodland planting and beech hedge.	Option 1 would result in loss of trees and formation of new embankment and loss of the track behind Birch Cottage. Although, for Option 2 the embankment is further from the property, there would be loss of the intervening trees behind the cluster. Both Options would introduce a drainage feature close to Birch Cottage which would result in less available woodland for screening. As the impact is already Moderate-Substantial it is not considered to change this, though it is worth noting.
35. Avielochan Farm Viewpoint located in front (east) of the farm. Approx. chainage 10250	*Magnitude* *Significance*	N/A (within land take – not representative)	N/A	WY1: High SY15: High WY1:	This two story farmhouse sits elevated to the west of Avie Lochan and the focus of the view is over Avie Lochan to the Cairngorm Mountains beyond. It was not possible to access the rear of the property to determine views toward the A9	This property is located within the anticipated land take for Option 1 and therefore assessment of visual impact for Option 1 is not considered representative. Option 2 would result in loss of intervening vegetation and formation of new

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity				Substantial SY15: Substantial	though it is likely that these will be restricted by intervening trees.	embankment although the property would be retained. Both Options would introduce a drainage feature close to the property. As the impact is already Substantial it is not considered to change this, though it is worth noting.
36. Avielochan cluster Viewpoint on access track to Rowan Cottage Approx. chainage 10250 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	Although access to the rear was not possible, many properties in this cluster will have restricted views of the A9 due to garden planting. Rowan Cottage is closer and may have views from the upper storey though from lower level views likely to be restricted by conifer hedge. For most properties the focus of the view is Avie Lochan. The A9 is elevated but within woodland in views to the west.	Both options would result in the loss of a band on trees and creation of newly formed embankments across the extent of the view to the west. With mitigation planting matured, this is considered to be slight. Both options would introduce a retention pond which may be visible from Rowan Cottage and the access to the cluster.
37. A95 South of Laggantygown Approx. chainage 10900 High sensitivity	*Magnitude*	WY1: High SY15: Medium WY1: Substantial SY15: Slight	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Slight	Beyond the A95 views are of a mixed woodland covered slope along which the A9 lies within the woodland screen in the middle distance of the view. The horizon comprises of a conifer covered hill.	Option 1 would result in a realigned embankment and associated loss of much of the woodland between the A9 and the A95 – making the traffic much more visible. Option 2 would result in a little less extent of woodland loss southbound but a greater amount on the northbound. For all options mitigation planting is likely to

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
						result in Slight impact through time. Both Options would introduce a drainage feature to the view. Sensitive design would not equate to significant impact.
38. HML nr. Bridge at Laggantygown Viewpoint at the elevated mast base south of the HML Bridge Approx. chainage 11000 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1: Low-Medium SY15: Low WY1: Moderate SY15: Slight	Views to the A9 are elevated over the A95, across fields where the A9 traffic is visible intermittently through vegetation.	Although the A9 dips in and out of cutting here, the elevated views likely to be experienced from the HML would result in loss of vegetation and formation of new embankments for all Options obvious, though slightly less so for Option 2.
39. Track between HML bridge and A9 at Kinveachy Approx. chainage 12200 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Slight SY15: Negligible/None	N/A	WY1: Medium SY15: Low WY1: Slight SY15: Negligible/None	The A9 is elevated on an embankment and views are further restricted by intervening trees on the embankment.	For the purpose of this assessment the viewpoint is taken to represent similar views experienced by users of the HML. Both Options would result in loss of the track through re-grading of the southbound embankment and resultant loss of trees. Detail on the re-alignment of access is not available currently, and may have to be assessed at DMRB Stage 3. From the HML views to the A9 would open up in WY1 but would reduce in SY15 when

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
						planting matures. Views would be experienced very briefly.
40. Kennels and Keeper's Cottage Viewpoint from elevated embankment adjacent to the Kennels. Approx. chainage 12500 High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Slight SY15: Negligible	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Moderate-Substantial	View is restricted by trees though the Cairngorm Mountains are visible as the background beyond.	Option 1 would result in some loss of trees northbound but the change would be Low. Option 2 would result in an extensive band of intervening woodland loss.
41. Carrbridge Station Viewpoint on footbridge Approx. chainage 16400 Medium sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Slight SY15: Neg/None	N/A	WY1: Low SY15: Low WY1: Neg/None SY15: Neg/None	Views to the A9 are restricted by intervening broadleaf woodland – though some high sided vehicle movement is intermittently visible.	Option 1 would result in some woodland loss southbound which may increase visibility of traffic movement. Tree loss associated with Option 2 south bound verge is more distant and unlikely to present as a change.
42. Cluster east of A9 at Ellan Viewpoint located on Station Road Approx. chainage 16600	*Magnitude* *Significance*	WY1: High SY15: High WY1:	N/A	WY1: High SY15: High WY1:	Although views from the rear of Broom Cottage could not be confirmed, views to the A9 are likely to be partially restricted by outhouses, and garden vegetation.	Both options would result in a regraded embankment southbound to the rear of the property. For Option 1 this would be in closer proximity to the property. Construction activity would be particularly evident here, given

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
High sensitivity		Substantial SY15: Substantial		Substantial SY15: Substantial		the Dulnain crossing, reformed embankments and relatively open aspect.
43. Cluster west of A9 at Ellan Viewpoint located on Station Road Approx. chainage 16600 High sensitivity	*Magnitude* *Significance*	WY1: High SY15: High WY1: Substantial SY15: Substantial	N/A	WY1: High SY15: High WY1: Substantial SY15: Substantial	Although views from the rear of the residences could not be confirmed, it is appears that there is no mature vegetation and so view are anticipated to be at least partially open along the bridge over the River Dulnain. Existing A9 traffic is obvious in views towards the eastern boundary of the property known as Dunelm. The focus of views to the rear are likely to be of the River Dulnain and the strath.	Both Options would be in close proximity to the grounds of the property known as Dunelm so that engineering solutions may be required. Steep slopes and retaining walls would have the potential for adverse visual impact. Both Options would introduce the embankment so that views would be restricted for both properties, but particularly Dunelm. Construction activity would be particularly evident here, given the Dulnain crossing, reformed embankments and relatively open aspect.
44. Feith Mhor Lodge Viewpoint taken in field beside east elevation of building Approx. chainage 16800 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Slight SY15: Negligible	N/A	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	Two storey traditional house with 1.5 storey attached cottage. The front elevation is towards the A9. Views across the strath to the A9 Dulnain Crossing embankment. Traffic movement visible on A9 and Station Road with the conifer covered hills beyond. A line of scattered mature trees partially soften views of the embankment in summer.	Option 1 would increase the extent of embankment visible. Option 2 would increase the extent of the embankment across the centre of the view. However, the current embankment remains largely un-vegetated and there is an opportunity to improve this. Construction activity would be particularly evident here, given the Dulnain crossing, reformed

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
						embankments and relatively open aspect.
45. Dalrachney Beag Viewpoint from access track to property Approx. chainage 17000 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Slight SY15: Negligible	N/A	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	1.5 storey traditional farmhouse elevated views across the stone outbuildings across the strath. The horizon is smooth moorland hills with some conifer plantation on the opposite side of the Dulnain Strath. Views toward the A9 are the existing embankment – largely un-vegetated and traffic.	Option 1 would increase the extent of embankment visible. Option 2 would increase the extent of the embankment across the left hand side extent of the view. However, the current embankment remains largely un-vegetated and there is an opportunity to improve this. Construction activity would be particularly evident here, given the Dulnain crossing, reformed embankments and relatively open aspect.
46. Embankment at Bogroy cluster Viewpoint on elevated Bogroy Road nr. Hostel Approx. chainage 17050 High sensitivity	*Magnitude* *Significance*	WY1: Low SY15: Low WY1: Slight SY15: Negligible	N/A	WY1: Low SY15: Low WY1: Slight SY15: Negligible	Views are open across the Dulnain Strath to the densely wooded opposite side with houses nestled in the woods. The Highland Mainline Railway viaduct blends into the woodland background, with the mixed woodland ridge beyond making up the horizon. A9 is not visible although traffic movement is.	It is likely that only the A9 bridge structure piers might be visible but this would depend very much on the alignment in relation to the railway viaduct and the materials used. If handled sensitively, this could be minimal.
47. Old A9 at Black Mount Viewpoint located on road west of the telephone exchange at	*Magnitude*	WY1: High SY15: Medium	N/A	WY1: Medium-High SY15: Medium	The A9 runs parallel. Views are constrained to the north by conifer plantation. Views of remaining panorama are partially restricted by intervening vegetation.	Both Options would be level or in cutting in close proximity to the viewpoint. Option 1 would result in a greater loss of vegetation, thereby increasing A9 visibility from this viewpoint to a greater

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
entrance to forestry plantation Approx. chainage 19800 Medium sensitivity	*Significance*	WY1: Substantial SY15: Slight		WY1: Moderate-Substantial SY15: Slight		extent than for Option 2. However with matured mitigation planting in place this is overall slight.
48. Slochd Beag 1 Viewpoint on old A9 to immediate east of crossing Approx. chainage 21700 Medium sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	A9 bridge is visible travelling west on the old A9. The railway is parallel to the old A9 but is deep in cutting so it is sensed rather than seen. There are no stopping places. The A9 bridges above and across two rocky outcrops. The view is one of multiple scales and focuses on various layers of engineering infrastructure amidst the rocky pass.	Both Options would result in rock cuts and re-worked embankments at the crossing. Construction activity would be particularly evident here given the sense of enclosure.
49. Slochd Beag 2 Viewpoint on old A9 to immediate west of crossing Approx. chainage 21850 Medium sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Moderate	A9 bridge is visible travelling east on the old A9. The railway is parallel to the old A9 but is deep in cutting so it is sensed rather than seen. There are no formal stopping places. The A9 bridges above and across two rocky outcrops. The view is one of multiple scales and focuses on various layers of engineering infrastructure amidst the rocky pass.	Both Options would result in rock cuts and re-worked embankments at the crossing. Construction activity would be particularly evident here given the sense of enclosure.

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
50. Slochd Mhuic Viaduct Viewpoint to east of railway viaduct nr. ski lodge Approx. chainage 22100 High sensitivity.	*Magnitude* *Significance*	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	N/A	WY1: Medium SY15: Low WY1: Moderate SY15: Slight	While views from the viaduct were not possible for this assessment, it is assumed that views will be similar. Towards the A9 the views are partially restricted by intervening planting. Traffic movement is likely to be visible.	Both Options would result in cutting into the hillside beyond the A9 and re-alignment and loss of vegetation may be visible from the viaduct to a similar extent from this viewpoint.
51. Rynaclarsach cluster Viewpoint from minor road alongside properties Approx. chainage 22500 High sensitivity	*Magnitude* *Significance*	WY1: Medium SY15: Medium-Low WY1: Moderate SY15: Moderate	N/A	WY1: Medium SY15: Medium-Low WY1: Moderate SY15: Moderate	The A9 embankment makes up the immediate horizon. The embankment is vegetated in front of one property by conifer and in front of other by birch. Traffic is audible, and visible in the 'gap' between vegetation. Views from the rear of the properties cross a woodland ravine, to the railway, beyond which lie open moorland hills.	Both Options would result in cutting into the hill opposite though this is not visible from the viewpoint. No changes to the northbound embankment. Both Options would introduce a drainage feature in close proximity the detail and assessment of which will be developed at Stage 3. This would raise the impact levels from Negligible to Moderate.
52. Elevated track just south of CNP boundary Approx. chainage 23300 Medium sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15:	N/A	WY1: High SY15: Medium WY1: Substantial SY15:	Views are restricted to the west by the railway embankment, so that views toward the A9 are channelled between the rocky pass.	Both Options would have similar impacts at this location to include rock cuts and re-profiling of embankments. Mitigation planting is unlikely to be considered suitable here so that, although rock cuts may soften with colonisation vegetation over time, the impact would not

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
		Substantial		Substantial		reduce significantly over the 15yr. period.
53. Cycle track just north of CNP boundary Approx. chainage 23800 Medium sensitivity	*Magnitude* *Significance*	WY1: High SY15: Medium WY1: Substantial SY15: Substantial	N/A	WY1: High SY15: Medium WY1: Substantial SY15: Substantial	Views are constrained by the rocky pass, so that the A9 which lies parallel and slightly elevated.	Both Options may result in re-alignment of the cycle path and there would be changes due to rock cuts. For the purpose of this assessment, it is assumed that any realignment of NCR7 would be in close proximity. Both Options would result in the introduction of a drainage feature at the location. Given the impact is already substantial, this would not increase the level but it would in reality add an additional feature at an existing pinch point. An enhanced layby southbound at this location would be difficult due to limited space for rock traps, berms and watercourse diversion. It would be visually adverse, though not change the impact from substantial. Construction activity would be particularly evident here given the rock cuts and sense of enclosure.
54. General Wade's Military Road at Slochd Summit	*Magnitude*	WY1: High SY15: Medium	N/A	WY1: High SY15: Medium	Views towards the A9 are across 'interlocking' open moorland hills. The focus of the view when visibility is good is the Cairngorm Massif. The	Both Options would have similar impacts at this location to include rock cuts and re-profiling of embankments. Mitigation planting is unlikely to be considered suitable here so that,

Viewpoint Number, Location, Chainage & Sensitivity	Assessment	Option 1	Option 1A	Option 2	Description of Existing View Towards A9	Commentary
Viewpoint at Wade's marker stone Approx. chainage 24450 Medium sensitivity	*Significance*	WY1: Substantial SY15: Substantial		WY1: Substantial SY15: Substantial		although rock cuts may soften with colonisation vegetation over time, the impact would not reduce significantly over the 15yr. period. An enhanced layby southbound near here would impact on the GCR but visually might provide an opportunity to pause at the entrance to the Cairngorms National Park. Given that, sensitive design would be required but is not considered to increase impact. Construction activity would be particularly evident here given the rock cuts and focus of the view.

13.4.6. Impacts on visual receptors with a view of the junctions for each of the Proposed Scheme Junction Options is set out in Table 13.8 below. The assessment has considered the effect of the Proposed Scheme Options in the winter of year 1 and the summer of year 15 in line with DMRB guidance.

Table 13.8: Potential Impacts of Junction Options on Viewpoints

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
Viewpoint 4A Alvie Parish Church Approx. chainage 900			
Sensitivity: Medium			
A02	Views are across the graveyard and Loch Alvie, with the Craigellachie outcrop to the west and Tor Alvie to the east. The focus of the view is Loch Alvie with the broadleaf woodland sheltering scattered properties. All Options would result in reduction of woodland and introduce man-made elements to the view. Although this would not change the focus of the panorama, it would add a new element in the distant centre of the view. Magnitude of impact at WY1 is Medium, and at SY15 is Low for all junction options.	Significance Moderate	Significance Slight
A09		Significance Moderate	Significance Slight
A18		Significance Moderate	Significance Slight
Viewpoint 6 Duke of Gordon's Monument Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainage)			
Sensitivity: High			
A02	Views from the Monument extend to north, east, and west (restricted to the south by path and woodland). The view towards the A9 is elevated over Loch Alvie and is extensive to include the hills to the west and north - the focus of the view. A9 traffic is intermittently visible in the middle distance. All options would result in reduction of woodland and introduce man-made elements to the view. Due to the greater extent of A09 and A18 to the east, this would be greater than for A02. Magnitude of impact at WY1 for Option A02 is Medium, and at SY15 is Low. Magnitude of impact for Options A09 and A18 is High at WY1 and Medium at SY15.	Significance Moderate	Significance Slight
A09		Significance Substantial	Significance Moderate
A18		Significance Substantial	Significance Moderate
Viewpoint 7 Rowan Tree Hotel Cluster Approx. chainage 1800			
Sensitivity: Medium			
A02	The rear of the 3 storey hotel, and some privately owned lodges were not accessible to survey however, it is assumed they have some views to the west and the A9. From lower levels of the buildings the view is likely to be restricted by	Significance Slight	Significance Negligible/None
A09		Significance	Significance

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
	undulating topography and intervening vegetation though high sided vehicles are likely to be intermittently visible as they are from the Viewpoint.	Moderate	Moderate
A18	All options would result in reduction of woodland and introduce man-made elements to the view. This is likely to be limited to receptors in the upper rear floors of the hotel. Due to the greater extent of A09 and A18 to the east, this would be greater than for A02. Magnitude of impact for A02 at WY1 and SY15 is Low. Magnitude of impact for Option A09 and A18 is Medium at WY1 and Low at SY15.	Significance Slight	Significance Slight
Viewpoint 8 Creag Ghliannean Hill Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainage)			
Sensitivity: Medium			
A02	An intervening flatter foreground, cutting and trees screen the A9 from much of the view. The focus of the view is Tor Alvie and Duke of Gordon's Monument, Bogach and Doune Farm. Loch Alvie is not visible from the cairn but views of it open up when walking to the south eastern end of the ridge.	Significance Moderate	Significance Slight
A09	All junctions would result in the introduction of a man-made element to the view. Although there would be loss of woodland for all options, it would be greater for A18. Despite this, A18 fits better with the landscape given the 'splayed' layout mirrors the fluidity of the Loch Alvie shores. The other options would appear 'end on' and be more difficult to integrate.	Significance Moderate	Significance Slight
A18	Magnitude of impact for all Options is Medium at WY1 and Low at SY15.	Significance Moderate	Significance Slight
Viewpoint 9 Burma Road Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainage)			
Sensitivity: Medium			
A02	Due to the topography and ancient and riparian woodland to the west of the A9, the road is not visible, and Loch Alvie only partially so. Doune Farm and Bogach are prominent with Tor Alvie in the mid distance and the Cairngorm Mountains the horizon.	Significance Moderate	Significance Moderate
A09	All options would be partially visible in the centre of the view; the view is framed by descending slopes so that the eye is drawn towards the junction location. Therefore the impact is likely to be similar for all options as all options would occupy this focal point.	Significance Moderate	Significance Moderate
A18	Magnitude of impact for all Options is Medium at WY1 and Low at SY15.	Significance Moderate	Significance Moderate
Viewpoint 11 Drum Mhoir Approx. chainage 2200			

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
Sensitivity: High			
A02	Views to A9 are restricted by topography, and a band of conifers. The A9 is unlikely to be visible, though high sided vehicles and glimpses may be visible from the upper dormer window of the property with the elevated hill beyond. With loss of mainline southbound widening views may open up to A02, northbound widening would restrict views to A02. Options A09 and A18 have southbound extents which are in closer proximity to the receptor and would introduce earthworks and loss of trees. Magnitude of impact for Option A02 at WY1 is Medium-Low and at SY15 is Low. Magnitude of impact for Options A09 is Medium for both WY1 and SY15. Magnitude of impact for Option A18 is High for WY1 and Medium for SY15.	Significance Slight-Moderate	Significance Slight-Negligible
A09		Significance Moderate	Significance Slight-Moderate
A18		Significance Substantial	Significance Moderate
Viewpoint 12 Railway Cottages Approx. chainage 2900			
Sensitivity: High			
A02	Views are restricted by conifers between the property and the B9152 and birch on the B9152 verge. The focus of the view is the open moorland hills. A02 would result in loss of trees and introduce a new man-made element, including retention ponds, into the centre of the view. A18 would realign the B9152 away from the receptor which may be a beneficial effect. However, it would introduce new elements, including embankments in closer proximity that the existing A9. While A09 is at greater distance than the other options, it would still introduce features including the overbridge to the view. Magnitude of impact for Options A02 and A09 in WY1 is High and SY15 is Medium. Magnitude of impact for Option A18 in WY1 is Medium and at SY15 is Low.	Significance Substantial	Significance Moderate
A09		Significance Substantial	Significance Moderate
A18		Significance Moderate	Significance Slight-Moderate
Viewpoint 13 Lynwilg Farm Approx. chainage 3000			
Sensitivity: High			
A02	No access to the aspect of the property closest to the A9 was possible. It is assumed that any views from there will be largely restricted by conifers. The focus of the view are the hills. A02 would introduce a new embankment to the west of the property, including retention ponds, and associated tree loss. Both remaining options may require engineering solutions to mitigate impacts on the property due to the close proximity of the A9 to the property. Further detail is not currently available, although for the purposes of the Stage 2 assessment it is assumed to be of high impact.	Significance Moderate	Significance Slight
A09		Significance Substantial	Significance Substantial
A18		Significance	Significance

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
	Magnitude of impact for Option A02 at WY1 is Medium and at SY15 is Low. Magnitude of impact for Options A09 and A18 is High at WY1 and Medium at SY15.	Substantial	Substantial
Viewpoint 14 Oak Cottage, Lynwilg Approx. chainage 3200			
Sensitivity: High			
A02	Views to the A9 are restricted by garden planting and a mixed band of conifer and deciduous trees between the property and the A9. The focus of the view is the hills to the east. A02 would result in loss of woodland and new embankment to the right hand extent of the view. The other two options would result in new embankment formation to the centre right of the view with associated loss of vegetation. Magnitude of impact for Option A02 is Low at both WY1 and SY15. Magnitude of impact for Options A09 and A18 is Medium at WY1 and Low at SY15.	Significance Slight	Significance Negligible
A09		Significance Moderate	Significance Slight
A18		Significance Moderate	Significance Slight
Viewpoint 16 Creagan Gorm Hill Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainage)			
Sensitivity: Medium			
A02	Views extend across the valley to the Monadhliath Mountains on the horizon, which are the focus of the view. In the middle distance lie the town of Aviemore, Loch Alvie and Tor Alvie. Traffic is visible. All junction options would be perceptible on the valley floor between Loch Alvie and Craigellachie. Detail would not be a factor given the distance. The focus of the view would not change. Granish Junction is not clear from this viewpoint due to extensive tree cover and the intervening landform of Creag Phitiulais. Magnitude of impact for all Options at WY1 and SY15 is Low.	Significance Slight	Significance Negligible
A09		Significance Slight	Significance Negligible
A18		Significance Slight	Significance Negligible
Viewpoint 17 B9152 south of Aviemore Approx. chainage 3500			
Sensitivity: High			
A02	From the railway and the B9152 views west toward the A9 will be restricted by roadside scrub and young birch.	Significance Moderate	Significance Slight
A09		Significance	Significance

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
	From the B9152 A02 would result in thinning/loss of conifer tree block in the centre of the view and the addition of man-made elements including overbridge. The tie in associated with the B9152 realignment would commence at the viewpoint. This would introduce re-aligned embankment and loss of vegetation. Magnitude of impact for Options A02 and A18 at WY1 is Medium and at SY15 is Low. Magnitude of impact for Option A09 at WY1 is Slight and at SY15 is negligible.	Slight	Negligible
A18		Significance Moderate	Significance Slight
Viewpoint 23 Red Viewpoint, Craigellachie NNR Approx. chainage N/A (due to elevated distant Viewpoint not aligning with road chainage)			
Sensitivity: High			
A02	Views east are towards Aviemore and the River Spey, with the Cairngorm Mountains beyond. There is restricted visibility of traffic on the A9, with traffic on the A95 within Aviemore and at Granish junction being visible. From this Viewpoint it would be possible to see both Aviemore South and Granish junction locations. The Aviemore South junctions would result in some woodland loss and the introduction of additional man-made elements to the distant extents of the view. The focus of the view is Aviemore and the MacDonald Hotel with mountains beyond. The Granish junctions are within the main direction of view and both of these would be perceptible as additional man-made structures on the edge of Aviemore. Magnitude of impact for all Options is Low at both WY1 and SY15.	Significance Slight	Significance Negligible
A09		Significance Slight	Significance Negligible
A18		Significance Slight	Significance Negligible
C18		Significance Slight	Significance Negligible
C21		Significance Slight	Significance Negligible
C31		Significance	Significance Negligible
C34		Significance Slight	Significance Negligible
Viewpoint 33 Red Stag Lodge Approx. chainage 8500			
Sensitivity: High			
C18	The property lies close to the southbound carriageway of the existing A9 with views south via picture windows across the undulating land (currently partially levelled for a proposed caravan park) and the Cairngorm Massif beyond.	Significance Substantial	Significance Substantial

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
C21	C18 and C21 would result in the junction encroaching on or close to the boundary of the property and loss of intervening trees. New cuttings would result in re-profiling of topography to the northeast. Both these junction Options would likely result in direct impact to the outbuildings associated with the property.	Significance Substantial	Significance Substantial
C31	Magnitude of impact for Options C31 and C34 is not applicable as these Options result in anticipated land take and therefore visual assessment for this receptor is not considered representative.	Significance N/A	Significance N/A
C34	Magnitude of impact for Options C18 and C21 is High for both WY1 and SY15.	Significance N/A	Significance N/A
Viewpoint 47 Old A9 at Black Mount Approx. chainage 19800			
Sensitivity: Medium			
D02	The A9 runs parallel. Views are constrained to the north by conifer plantation. Views of remaining panorama are partially restricted by intervening vegetation.	Significance Substantial	Significance Substantial
D03	For all Options there would be the introduction of man-made elements to the view, with the overbridge being visible due to the topography, close proximity and the removal of intervening vegetation. Although the minor road on which the viewpoint is located, differs slightly, so that for Options D02, D07, D12 and D51 the road would be re-aligned northwards resulting in greater clearance of forestry. For those Options the Viewpoint would cease to be in its present location. For this reason detail cannot be given at Stage 2 but it is assumed that the re-alignment would result in similar impacts. This will be further assessed at DMRB Stage 3.	Significance Substantial	Significance Substantial
D07		Significance Substantial	Significance Substantial
D12	Magnitude of impact for all Options at both WY1 and SY15 is High.	Significance Substantial	Significance Substantial
D13		Significance Substantial	Significance Substantial
D51		Significance Substantial	Significance Substantial

Impacts Common to All Mainline Alignment Options

13.4.7. Between the start of the scheme and Allt na-Criche (ch.3500) the Proposed Scheme Options are broadly similar and are limited to only minor differences in earthworks. Therefore the effects on the representative viewpoints are common for all options. Where the impacts are significant at summer of year 15, i.e. moderate or greater, these have been discussed below.

- Moderate potential impact at Viewpoint 17 (B9152 south of Aviemore) due to loss of intervening vegetation, re-alignment of embankments and visual effect of engineering solutions.
- Moderate potential impact at Viewpoint 19 (Birch View, south of Aviemore) due to re-formation of embankments and loss of intervening vegetation. Option 1 would be in closer proximity but all would have similar impact.
- Substantial potential impact at viewpoint 28 Aviemore Orbital Footpath) due to proposed diversion of the path following re-grading of embankment.
- Moderate potential impact at Viewpoint 29 (Burnside, west of A9) due to loss of intervening vegetation and re-alignment of embankments.
- Moderate-Substantial potential impact at Viewpoint 34 (Avielochan cluster) due to loss of intervening vegetation and re-alignment of embankments.
- Substantial potential impact at Viewpoint 35 (Avielochan Farm) due to anticipated land take which would result in demolition of the property for Option 1 and substantial impact of Option 2 due to formation of new embankment and loss of associated intervening vegetation. In addition a potential drainage feature would be in close proximity.
- Substantial potential impact at Viewpoint 42 (Broom Cottage, Ellan) due to regraded embankment to rear of the property.
- Substantial potential impact at Viewpoint 43 (Ellan cluster, west of A9) due to regraded embankment in close proximity to both properties and potential loss of part of the grounds of one property.
- Moderate potential impact at Viewpoints 48 and 49 (Old A9 at Slochd Beag) due to rock cuts and re-worked embankments associated with the Slochd Beag crossing.
- Moderate potential impact at Viewpoint 51 (Rynaclarsach cluster) due to introduction of drainage feature which would encroach within the boundary of the property. Without this, impact would be Negligible from mainline widening alone.
- Substantial potential impact at Viewpoint 52 (Elevated track near Slochd Summit) due to rock cuts and re-profiling of embankments at a location with little scope for mitigation planting.
- Substantial potential impact at Viewpoint 53 (NCR7 near Slochd Summit) due to re-alignment of the NCR7 and also due to rock cuts and re-worked embankments at a location with little scope for mitigation planting.
- Substantial potential impact at Viewpoint 54 (General Wade's Military Road at Slochd Summit) due to rock cuts and re-profiling with limited scope for mitigation planting.

Impacts Specific to Mainline Alignment Options

13.4.8. In addition to the above common impacts, the following significant impacts (i.e. moderate or greater) specific to each mainline alignment option have been identified.

Impacts Specific to Mainline Alignment Option 1

- Substantial potential impact resulting from potential demolition of the property due to anticipated land take at Viewpoint 18 (Kinakyle).
- Moderate – Substantial potential impact for Viewpoint 19 (Lag na Cualach, cluster A) due to direct encroachment onto property boundary and resulting loss of vegetation and new slope profiling.
- Moderate potential impact for Viewpoint 21 (Lag na Cualach, cluster B) due to regrading of the northbound embankment and loss of intervening vegetation. Although felling of southbound verge trees may open up extent of views to the Cairngorm Mountains, overall the potential impact is adverse.
- Substantial potential impact for Viewpoint 22 (High Range House cluster) due to anticipated land take associated with High Range House resulting in potential demolition and the realigned embankment which would be closer to the remaining elevated lodge property and encroach upon the car park.
- Moderate-Substantial potential impact for Viewpoint 25 (Macdonald Hotel) due to realigned embankment which would be in closer proximity and resulting loss of intervening vegetation.
- Moderate-Substantial potential impact for Viewpoint 33 (Red Stag Lodge) due to the A9 being in very close proximity to the property and loss of intervening vegetation, including that currently providing partial screening, within the garden.

Impacts Specific to Mainline Alignment Option 1A

- Moderate potential impact for Viewpoint 18 (Kinakyle) due to loss of intervening vegetation and formation of embankments.
- Moderate – Substantial potential impact for Viewpoint 20 (Lag na Cualach, cluster A) due to loss of intervening vegetation and slope profiling where the embankment would be along the verge of the property.
- Moderate – Substantial potential impact for Viewpoint 21 (Lag na Cualach, cluster B) due to the northbound embankment which would be in close proximity to the receptor.
- Moderate potential impact for Viewpoint 22 (High Range House cluster) due to the regrading of the embankment which would result in loss of intervening vegetation.

Impacts Specific to Mainline Alignment Option 2

- Substantial potential impact for Viewpoint 13 Lynwilg Farm) due to loss of intervening vegetation and closer proximity of the route to the receptor with potential engineering solutions.
- Moderate potential impact for Viewpoint 18 (Kinakyle) due to loss of intervening vegetation and closer proximity of the route to the receptor.
- Substantial impact potential impact for Viewpoint 20 (Lag na Cualach, cluster A) due to loss of intervening vegetation and slope profiling where the embankment would be in close proximity to the property.
- Moderate – Substantial potential impact for Viewpoint 21 (Lag na Cualach, cluster B due to the northbound embankment which would be in close proximity to the receptor.
- Slight – Moderate potential impact for Viewpoint 22 (High Range House complex) due to the regrading of the embankment which would result in loss of intervening vegetation.

- Moderate potential impact for Viewpoint 26 (Avanside cluster) due to the introduction of a drainage feature which would result in additional loss of woodland with little scope for mitigation planting thus opening views to the A9 embankment and traffic movement.
- Moderate-Substantial potential impact for Viewpoint 40 (Keeper's Cottage, Kinveachy) due to extensive band of intervening woodland loss with little scope to replant due to embankment.

Impacts Common to Aviemore South Junction Options

13.4.9. At certain Viewpoints the potential impacts of Aviemore South junction are common. Where the potential impacts are significant at summer of year 15 i.e. moderate or greater, these have been discussed below.

- Moderate potential impact for Viewpoint 9 (Burma Road) due to the eye being drawn to the junction location as the focal point of the view.
- Moderate potential impact for Viewpoint 12 (Railway Cottages) due to the introduction of new embankments, man-made elements of the structure and loss of intervening vegetation.

Impacts Specific to Aviemore South Junction Options

13.4.10. Impacts specific to Aviemore South junction are:

Impacts Specific to Junction Option A02

- Moderate potential impact for Viewpoint 12 (Railway Cottages) due to introduction of an additional man-made element into the centre of the view with associated woodland loss.

Impacts Specific to Junction Option A09

- Moderate potential impact for Viewpoint 6 (Duke of Gordon's Monument) due to loss of vegetation and extent of man-made elements to the east. While this also applies to Option A18, it doesn't apply to Option A02. Therefore it is not included within the Impacts Common to All Junction Options and is considered here under Impacts Specific to each junction option.
- Slight to Moderate potential impact for Viewpoint 11 (Druim Mhor) due to the southbound extents of junction option A09 which would be in closer proximity to the property.
- Moderate potential impact for Viewpoint 12 (Railway Cottages) due to the introduction of additional man-made features into the view and associated loss of woodland.
- Significant potential impact for Viewpoint 13 (Lynwilg Farm) due to close proximity to the property and possible engineering solutions.

Impacts Specific to Junction Option A18

- Moderate potential impact for Viewpoint 6 (Duke of Gordon's Monument) due to due to loss of vegetation and extent of man-made elements to the east. While this also applies to Option A09, it doesn't apply to Option A02. Therefore it is not included within the Impacts Common to All Junction Options and is considered here under Impacts Specific to each junction option.
- Moderate potential impact for Viewpoint 11 (Druim Mhor) due to earthworks and loss of trees which are in closer proximity to the receptor for Option A18.

- Slight-moderate potential impact for Viewpoint 12 (Railway Cottages) due to the introduction of additional man-made elements into the centre of the view and associated loss of woodland.
- Substantial potential impact for Viewpoint 13 (Lynwilg Farm) due to close proximity to the property and possible engineering solutions.

Impacts Common to Granish Junction Options

- Substantial potential impact for all Granish junction options at Viewpoint 33 (Red Stag Lodge). For Options C31 and C34 there would be direct impact on the property due to anticipated land take which would result in potential demolition so that it has not been assessed further here beyond substantial impact. For Options C18 and C21 the impact would be substantial due to the close proximity of the junction to the property, loss of intervening screening, and re-profiling of topography associated with road cutting to the northeast.

Impacts Specific to Granish Junction Options

13.4.11. There are no specific impacts due to Granish junction options – only the common impacts described above.

Impacts Common to Black Mount Junction Options

- Substantial potential impact is shared for all Black Mount junction options from Viewpoint 47 (Old A9 at Black Mount) due to every option involving loss of woodland and vegetation to further open up already close range views towards the junction options. Views would include additional man-made structures, including overbridge, in the centre of the view. For options D02, D07, D12 and D51 the minor road on which Viewpoint 47 is located would be re-aligned. It is assumed for the purposes of this assessment that the NCR7 would be similarly re-aligned. Either way, the impacts would be similar – Substantial.

Impacts Specific to Black Mount Junction Options

13.4.12. Specific impacts do not apply given that the only viewpoint has effects common to all Black Mount junction options.

13.5. Potential Mitigation

13.5.1. Detailed mitigation has not been developed as part of the DMRB Stage 2 assessment but will be included at Stage 3. Embedded mitigation has been considered in the context of slope alignment and slope profiling to achieve best landscape fit. Consideration of Ancient Woodland in terms of minimising its removal due to its importance as an element of the character of the landscape has been prioritised at DMRB Stage 2.

Mitigation during Construction

13.5.2. During construction visual mitigation measures could potentially include (but not be limited to):

- Careful selection of construction site compound locations. For example, utilising existing screening, or by the use of temporary screening measures to reduce the effect upon visual receptors;

- Programming the works to reduce disruption – keeping to the defined works schedule and to permissible working hours;
- Ensuring efficient traffic management is in place to minimise disruption to A9 users and NMUs in the vicinity;
- Promoting the importance of best practice in relation to maintaining a litter and debris free construction site compound; and
- Minimising the use of artificial lighting and promotion of the use of directional lighting to reduce the impact on visual receptors.

Mitigation during Operation

13.5.3. During operation visual mitigation measures could potentially include (but not be limited to):

- Retaining existing intervening vegetation wherever possible to act as a screen and to enhance the experience of views;
- Planting to mitigate trees lost – including appropriate use of native species to promote biodiversity;
- Incorporation of sensitive slope profiling to reduce the magnitude of impact in the visual receptor experience or to enhance the experience of the view; and
- Incorporation of naturalistic edges to road drainage features to improve their visual appearance.

13.6. Summary of Route Option Impacts

13.6.1. This section presents the summary of the DMRB Stage 2 potential route option impacts for mainline widening and junction options and includes embedded mitigation and consideration of potential mitigation as described in 13.5.

13.6.2. The impacts of the Proposed Scheme Options have been assessed with mitigation in year 15 where screening, fencing and species planting have been assumed to have been introduced.

13.6.3. Only viewpoints where at least one mainline option would have a significant impact have been included in the summary table below. Note that where an option would result in potential demolition of a property or receptor due to anticipated land take, this is indicated, although it is not assessed or discussed further, there being no mitigation possible.

Table 13.9: Summary of Impacts Mainline Alignment Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
Residential and Non-Residential Receptors	All Residential and Non-Residential Receptors	Visual Impact	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are impacts considered more than general these have been discussed in the narrative for specific Viewpoint locations. Not a differentiator.
Operational Phase Impacts						
Residential Receptor	VP 13 Lynwilg Farm	Visual Impact	Slight	N/A	Substantial	Increased impact for Option 2 due to formation of embankments and loss of intervening vegetation. This may require engineering solutions which are not currently detailed. Differentiator.
Recreational Receptor	VP 17 B9152 south of Aviemore	Visual Impact	Moderate	N/A	Moderate	Moderate impacts for both available Options due to formation of embankments – including retaining engineering solutions - and loss of intervening vegetation. Not a differentiator.
Residential Receptor.	VP 18 Kinakyle, south of Aviemore	Visual Impact	N/A **(**land take – not representative**)**	Moderate	Moderate	Moderate impacts for all available Options due to formation of embankments and loss of intervening vegetation. Option 1 not assessed due to anticipated land take and therefore visual assessment of this receptor is not considered representative. Not a differentiator.
Residential Receptor	VP 19 Birch View, south of Aviemore	Visual Impact	Moderate	Moderate	Moderate	Moderate impacts for all available Options. Option 1 would encroach on the property boundary and result in new slope profiling and loss of vegetation. Although

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
						Option 1A and 2 are in less close proximity, the impacts would be similar. Not a differentiator.
Residential Receptor	VP 20 Lag na Cualach cluster A	Visual Impact	Slight	Moderate-Substantial	Substantial	Moderate – Substantial impacts for Option 1A and 2 due to the proximity of the embankment and changes in relation to these. Differentiator.
Residential Receptor	VP 21 Lag na Cualach cluster B	Visual Impact	Moderate	Moderate-substantial	Moderate - substantial	Although all impact levels are similar, for Options 1A and 2 the embankment would be closer to the receptor. Differentiator.
Residential and Recreational Receptor	VP 22 High Range House cluster	Visual Impact	N/A (land take – not representative)	Moderate	Slight-Moderate	Option 1 would result in anticipated land take and therefore visual assessment of this receptor is not considered representative. The remaining Options are Slight-Moderate due to regrading and loss of vegetation with Option 2 being less extensive in this regard. Differentiator.
Recreational Receptor	VP25 Macdonald Hotel, Aviemore	Visual Impact	Moderate-Substantial	N/A	Slight	Moderate-substantial impact would result for Option 1 due to the closer proximity of the re-formed embankment and loss of intervening vegetation. Differentiator.
Recreational Receptor	VP28 Aviemore Orbital	Visual Impact	Substantial	N/A	Substantial	All available Options would result in the re-alignment of the path. It is assumed that this would remain in relatively close proximity and has been assessed as such here – but this will need to be clarified at Stage 3. Not a differentiator.
Residential Receptor	VP29 Burnside, Aviemore	Visual Impact	Moderate	N/A	Moderate	All available Options moderate due to changes to embankment and loss of vegetation. Although for Option 2 the embankment would be in closer

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
						proximity, overall the impact falls within the same category. Not a differentiator.
Residential Receptor.	VP33 Red Stag Lodge	Visual Impact	Moderate-substantial	N/A	Negligible	Moderate-substantial for Option 1 due to the closer proximity resulting in loss of intervening trees within the property boundary. Differentiator.
Residential Receptor	VP34 Birch Cottage cluster, Avielochan	Visual Impact	Moderate-substantial	N/A	Moderate-substantial	Although for Option 2 the re-aligned embankment would be further from the receptor, there would be loss of intervening woodland so that overall the impact is considered to be within the same category. Not a differentiator.
Residential Receptor	VP35 Avielochan Farm	Visual Impact	N/A (demolition)	N/A	Substantial	Option 1 would result in demolition of the property and has not been assessed further. Option 2 would result in formation of a new embankment and loss of vegetation. Differentiator.
Residential Receptor	VP42 east of A9 at Ellan	Visual Impact	Substantial	N/A	Substantial	All available Options would result in regraded embankment southbound to the rear of the property. For Option 1 this would be in closer proximity, but overall the impact is considered to lie within the same category. Not a differentiator.
Residential Receptor	VP42 Cluster west of A9 at Ellan	Visual Impact	Substantial	N/A	Substantial	Substantial as all Options would result in the loss of part of the boundary of the property known as Dunelm. All options would introduce embankment so that views are restricted for both properties (but particularly Dunelm). Not a differentiator.

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Recreational Receptor	VP48 Slochd Beag 1	Visual Impact	Moderate	N/A	Moderate	All available Options would result in rock cuts and re-worked embankments at the crossing. Not a differentiator.
Recreational Receptor.	VP49 Slochd Beag 2	Visual Impact	Moderate	N/A	Moderate	All available Options would result in rock cuts and re-worked embankments at the crossing. Not a differentiator.
Recreational Receptor	VP52 Elevated track south of CNP boundary	Visual	Substantial	N/A	Substantial	All available Options would have similar impacts including rock cuts, and formation of embankments. Mitigation planting is unlikely to be suitable here so longer term impacts are likely. Not a differentiator.
Recreational Receptor	VP53 NCR7 north of CNP boundary	Visual Impact	Substantial (realignment of NCR7)	N/A	Substantial (realignment of NCR7)	All available Options would potentially result in re-alignment of the NCR7 in addition to rock cuts. The location of the re-alignment detail is not available but will be considered further at Stage 3. Not a differentiator.
Recreational Receptor	VP54 General Wade's Military Road, Slochd	Visual Impact	Substantial	N/A	Substantial	All available Options would have similar impact including rock cuts and formation of embankments. Mitigation planting is unlikely to be considered suitable at this location so that longer term impacts are likely. Not a differentiator.

13.6.4. Only Viewpoints with at least one junction option having a significant impact have been included in the summary tables below. Note that where an option would result in demolition of a property or receptor, this is indicated, although it is not assessed or discussed further, there being no mitigation possible.

Table 13.10: Summary of Impacts Aviemore South Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Construction Phase Impacts						
Residential and Recreational Receptors	All Residential and Recreational Receptors	Visual Impact	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are effects considered more than general these have been discussed in the narrative for specific Viewpoint locations. Not a differentiator.
Operational Phase Impacts						
Recreational Receptor	VP6 Duke of Gordon's Monument	Visual Impact	Slight	Moderate	Moderate	Moderate effect due to the greater extent to the east of A09 and A18, though all impacts would result in some woodland loss and would introduce additional man-made elements to the view. Differentiator.
Recreational Receptor	VP9 Burma Road	Visual Impact	Moderate	Moderate	Moderate	All options would be partially visible in the centre of the view. Not a differentiator.
Residential Receptor	VP11 Drum Mhoir	Visual Impact	Slight - negligible	Slight-moderate	Moderate	Options A09 and A18 would have southbound extents which would be in closer proximity to the receptor and would introduce new earthworks and loss of trees. Differentiator.
Residential and Recreational Receptor	VP12 Railway Cottages	Visual Impact	Moderate	Moderate	Slight - Moderate	A02 is moderate due to loss of trees and would introduce additional man-made elements to the view. A18 would re-align the B9152 away from the receptor, which may be beneficial. However, it would introduce new elements including embankments in closer proximity. While the A09 would be at greater distance than other options it would introduce similar elements to the view. Differentiator.

Table 13.11: Summary of Impacts Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Construction Phase Impacts							
Residential and Recreational Receptors	All Residential and Recreational Receptors	Visual Impact	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Where there are impacts considered more than general, these have been discussed in the narrative for specific Viewpoint locations. Not a differentiator.
Operational Phase Impacts							
Residential Receptor	VP33 Red Stag Lodge	Visual Impact	Substantial	Substantial	N/A (land take – not representative)	N/A (land take – not representative)	Options C31 and C34 would result in anticipated land take so that the visual assessment is not considered representative. Option C18 and C21 would result in the carriageway being closer to the property and likely loss of intervening trees in addition to ground profiling to the north east. Outbuildings are likely to be directly adversely affected. Therefore all available Options are Substantial impact. Not a differentiator.

Table 13.12: Summary of Impacts Black Mount Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)						Comparative Appraisal
			Black Mount Junction Options (Route Section 9)						
			Option D02	Option D03	Option D07	Option D12	Option D13	Option D51	
Construction Phase Impacts									
Residential and Recreational Receptors	All Residential and Recreational Receptors	Visual Impact	N/A	N/A	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator. Not a differentiator.
Operational Phase Impacts									
Recreational Receptor	Old A9 at Black Mount	Visual Impact	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	All Options are considered Substantial due to either the loss of the Viewpoint due to the realignment of the minor road, or loss of forestry due to re-alignment of the minor road. For all options the junctions including overpass would be clearly visible. Not a differentiator.

13.7. Scope of DMRB Stage 3 Assessment

13.7.1. Upon the confirmation of a preferred route alignment and junction options a detailed DMRB Stage 3 assessment would be required, the aim of this would be to refine the assessment undertaken at DMRB Stage 2, taking into account any changes to the design. The assessment would consider:

- An update and refinement of the baseline studies, using information from DMRB Stage 2 assessment;
- Development of detailed and specific mitigation proposals;
- A detailed assessment of the preferred route, identifying the predicted impacts and their significance on the visual receptors of the study area;
- Illustrations to explain the findings of the assessment; and
- A statement as to the significance of the residual impact.

---

[i] Highways Agency (2010) Interim Advice Note 135/10, Landscape and Visual Effects Assessment.
[ii] The Landscape Institute and the Institute of Environmental Management and Assessment. (2013). Guidelines for Landscape and Visual Impact Assessment.
[iii] Transport Scotland. DATE A9 Dualling Programme Strategic Environmental Assessment (SEA), Environmental Report, Appendix F: Strategic Landscape Review.
[iv] Highland Council Development Plan
[v] Cairngorms National Park Authority. (2015). Cairngorms National Park Plan.
[vi] Cairngorms National Park Authority and the British Geological Society. (2009). Cairngorms National Park Landscape Character Assessment.
[vii] Cairngorms National Park Authority. (1996). Cairngorms National Park Landscape Character Assessment.
[viii] Richards, J., (1999) Inverness District Landscape Character Assessment. Scottish Natural Heritage Review No. 114.
[ix] Turnbull Jeffrey Partnership. (1998). Moray and Nairn Landscape Assessment. Scottish Natural Heritage Review No. 101.

14. Cultural Heritage

14.1. Introduction

14.1.1. This chapter presents the findings of the assessment of the Proposed Scheme Options on Cultural Heritage.

14.1.2. The Design Manual for Roads and Bridges (DMRB) identifies three specific areas of interest under the overarching aspect of cultural heritage: archaeological remains, the built heritage and historic landscapes.

14.1.3. Archaeological remains consider those materials created or modified by past human activities, which includes a wide range of visible and buried artefacts, field monuments, structures and landscape features. Built heritage considers architectural, designed or other structures with a significant historical value, such as listed buildings. The historic landscape concerns perceptions that emphasise evidence of the past and its significance in shaping the present landscape.

14.1.4. Within the context of the DMRB, a cultural heritage asset is considered an individual archaeological site or building, a monument or group of monuments, an historic building or group of buildings and/or historic landscape.

Study Area

14.1.5. The nature and extent of any known or potential archaeological and historical resources has been examined to determine the potential impact of the Proposed Scheme within a study area encompassing the Proposed Scheme Options and a 500m buffer around their boundaries. A 1km buffer was also examined around the Proposed Scheme Options for statutorily designated heritage assets. The study areas adopted are shown in Figure 14.1.

14.2. Approach and Methods

14.2.1. The assessment was undertaken in accordance with the Chartered Institute for Archaeologists (CIfA) Standards and Guidance for Historic Environment Desk Based Assessment (2014)[i] and with respect to the guidance provided by Volume 11, Section 3, Part 2 and Appendix 8 (DMRB: HA208/07)[ii], and Volume 5, Section 1, Part 2 (TA37/93)[iii] of the DMRB. Under the terminology used by the DMRB this is a ‘simple’ assessment.

14.2.2. The following national legislation forms the background against which the assessment has been made:

- Scotland’s National Planning Framework (2014)[iv];
- Scottish Historic Environment Policy (2011)[v];
- Our Place in Time: The Historic Environment Strategy for Scotland (2014)[vi];
- Managing Change in the Historic Environment – Historic Scotland’s guidance note series[vii];
- Planning Advice Note (PAN) 2/2011: Planning and Archaeology (2011)[viii]; and
- Town and Country Planning (Scotland) Act 1997[ix].

14.2.3. National planning policy relevant to the historic environment can be found in paragraphs 135 - 151 of the Scottish Planning Policy Document (2014)[x].

14.2.4. The following local policies and documents have also been consulted:

- The Highland Council's Highland Wide Local Development Plan (2012)[xi] Policy 57 – Natural, Built and Cultural Heritage; and
- The Highland Council Supplementary Guidance: Historic Environment Strategy (2013)[xii].
- The Cairngorms National Park Local Development Plan 2015[xiii] Policy 9: Cultural Heritage

Baseline Data Collection

14.2.5. The following sources of information have been consulted:

- Information on designated assets from the Historic Environment Scotland data website which comprises World Heritage Sites, Scheduled Monuments, Listed Buildings, Gardens and Designed Landscapes, Historic Battlefield Sites and Conservation Areas;
- Information on known undesignated heritage assets recorded on the Highland Historic Environment Record (HHER);
- Details of previous archaeological investigations which have been undertaken within the study area (recorded on the HHER);
- Documentary and photographic sources (including aerial photographs) held by Historic Environment Scotland (this was formerly held by the Royal Commission on the Ancient and Historic Monuments of Scotland (RCAHMS), but this organisation was incorporated into Historic Environment Scotland in October 2015);
- Historic Mapping available at the Highland Archives and the National Library of Scotland; and
- Any other documentary, cartographic, or photographic sources held by the National Archives of Scotland, the Highland Archives, the National Library of Scotland and online.

14.2.6. A walkover survey was also conducted between 20th July and 22nd July 2015 where the sites of known heritage assets where visited to confirm their location and condition, and areas which would be disturbed by the Proposed Scheme Options were assessed for the presence of previously unknown heritage assets. No new assets were located during the walkover survey.

Consultation

14.2.7. Historic Environment Scotland and The Highland Council Historic Environment Team (HET) were consulted regarding the approach to the DMRB Stage 2 assessment of cultural heritage. A method statement was sent to both organisations for information and comment. Both organisations confirmed that they were satisfied with the proposed approach.

Assessment of Impacts

Value/Sensitivity

14.2.8. The assessment of the value of cultural heritage assets has involved consideration of how far the asset(s) contribute to an understanding of the past, through their individual or group qualities, either directly or potentially. These are professional judgements, but

they are also guided by legislation, national policies, acknowledged standards, designation, criteria and priorities.

14.2.9. The assessment has referenced Annexes 5, 6, and 7 of the DMRB, HA208/07 (Cultural Heritage) which recommends the adoption of six ratings for value in relation to archaeology, built heritage and historic landscapes: very high, high, medium, low, negligible and unknown. Definitions for each rating are outlined in Tables 14.1, 14.2 and 14.3 below.

Table 14.1: Factors for Assessing the Value of Archaeological Assets

Value	Example
Very High	World Heritage Sites (including nominated sites) Assets of acknowledged international importance Assets that can contribute significantly to acknowledged international research objectives
High	Scheduled Monuments (including proposed sites) Undesignated assets of scheduled quality and importance Assets that can contribute significantly to acknowledged national research objectives
Medium	Designated or Undesignated assets that can contribute to regional research objectives
Low	Designated or undesignated assets of local importance Assets compromised by poor preservation and/or poor survival of contextual associations Assets of limited value, but with potential to contribute to local research objectives
Negligible	Assets with very little or no surviving archaeological interest
Unknown	The importance of the resource has not been ascertained

Table 14.2: Factors for Assessing the Value of Built Heritage Assets

Value	Status and Definition
Very High	International Importance, i.e. World Heritage Sites
High	National Importance i.e. Category A listed buildings, Scheduled Monuments with standing remains, conservation areas containing very important buildings and undesignated structures of clear national importance
Medium	Regional Importance, i.e. Category B listed buildings, conservation areas containing buildings that contribute significantly to its historic character, historic townscape with important integrity in their buildings, or built settings and undesignated structures of clear regional importance
Low	Local Importance, i.e. Category C listed buildings, undesignated assets of modest quality in their fabric or historical association and historic townscape of limited historic integrity (including buildings and structures included in local list prepared by local authority)
Negligible	Assets of no archaeological or historical note
Unknown	Assets with some hidden, i.e. inaccessible potential for historic or architectural significance.

Table 14.3: Factors for Assessing the Value of Historic Landscapes

Value	Status and Definition
Very High	World Heritage Sites inscribed for their historic landscape qualities Historic Landscapes of international value, whether designated or not Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	Designated historic landscapes of outstanding interest Undesignated landscapes of outstanding interest Undesignated landscapes of high quality and importance, and of demonstrable national value Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s)
Medium	Designated special historic landscapes Undesignated historic landscapes that would justify special historic landscape designated, landscapes of regional value Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s)
Low	Robust undesignated historic landscapes Historic landscapes with importance to local interest groups Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations
Negligible	Landscapes with little or no significant historical interest

Effects on Setting

14.2.10. In accordance with guidance provided within the document 'Managing Change in the Historic Environment' (Historic Scotland, 2010), a three stage process was undertaken to assess the effect of the proposed scheme options on the setting of historic assets:

- Stage 1: Designated and undesignated heritage assets that might be affected by the proposed scheme were identified. The potential for impacts on designated assets in the wider landscape due to the potential intervisibility with the proposed scheme was also determined through the desk based review and site walk over survey.
- Stage 2: The setting of all baseline heritage assets was defined by establishing how the surroundings contribute to the ways in which the asset is understood, appreciated and experience.
- Stage 3: The way in which the proposed development would impact upon setting was then assessed for all baseline assets

Magnitude of Impact

14.2.11. The magnitude of impact is assessed using the guidance contained in DMRB Volume 11, Section 3, Part 2: Cultural Heritage. Table 14.4 below is an amalgamation of the three tables which can be found in the annexes in the above volume.

Table 14.4: Factors for Assessing the Magnitude of Impacts

Magnitude	Criteria
Major	Changes to most or all key archaeological materials or key historic building elements such that the resource is totally altered.

	Change to most or all key historic landscape elements, parcels or components: extreme visual effects: gross change of noise or change to sound quality: fundamental changes to use or access: resulting in total change to historic landscape character unit. Comprehensive changes to setting.
Moderate	Changes to many key archaeological materials or key historic building elements, such that the resource is clearly modified. Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access: resulting in moderate changes to historic landscape character. Considerable changes to setting that affect the character of the asset.
Minor	Changes to key archaeological materials or key historic building elements, such that the asset is slightly altered. Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historical landscape character. Slight changes to setting.
Negligible	Very minor changes to archaeological materials, historic buildings elements, or setting. Very minor changes to key historic landscape elements, parcels or compounds, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in very small change to historic landscape character.
No Change	No change to fabric or setting. No change to elements, parcels or components; no visual or audible changes; no changes arising from in amenity or community factors.

Impact Significance

14.2.12. The overall impact has been assessed using the following 'significance of impact matrix' from the DMRB, as indicated in Table 14.5

Table 14.5: Significance of Impacts Matrix

	Magnitude of Impact					
Value/Sensitivity		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate/ Large	Large/ Very Large	Very Large
	High	Neutral	Sight	Moderate/ Slight	Moderate/ Large	Large/ Very Large
	Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/ Large
	Low	Neutral	Neutral/Slight	Neutral/ Slight	Slight	Slight/ Moderate
	Negligible	Neutral	Neutral	Neutral/ Slight	Neutral/ Slight	Slight

Limitations of the Assessment

14.2.13. This assessment has been prepared based on the results of desk-based research and walkover surveys only. No intrusive archaeological investigations have been undertaken. This is in line with the approach to DMRB stage 2 assessment which was established in consultation with Historic Environment Scotland and The Highland Council Historic Environment Team.

14.3. Baseline Conditions

14.3.1. The proposed scheme crosses an undulating landscape which consists of forestry, agriculture, grazing, moorland and settlement. The nature of the topography in the area means that the current A9, the Highland Railway, a National Cycle Network (NCN) Route and transmission lines all follow generally the same route through the hills.

14.3.2. A total of 207 cultural heritage assets have been identified within the study area. This consists of 115 Archaeological Remains, 90 Historic Buildings and 2 Historic Landscapes. The location of the assets is shown on Figure 14.2 and are presented in the gazetteer (Appendix A14.1). This information has been gathered from consultations with the Highland Council Historic Environment Record, Historic Environment Scotland, the Highland Archive and walkover surveys conducted in July 2015.

14.3.3. There are no World Heritage Sites, Registered Battlefield or Conservation Areas within the study area. There are six Scheduled Monuments, twenty one Listed Buildings (1 Category A, 14 Category B and 6 Category C) and two Gardens and Designed Landscapes. A summary of the designated heritage assets within the study area is provided in Table 14.6 below.

Table 14.6: Summary of Designated Heritage Assets

Site number	Historic Scotland Ref.	Site Name	Designation	Value
1	GDL00246	Kinrara	Gardens and Designed Landscapes	High
2	GDL00139	Doune of Rothiemurchus	Gardens and Designed Landscapes	High
3	HS number 50909	Loch Alvie Bridge on B1952	Listed (Category C)	Low
4	HS number 1650	Alvie Parish Church and burial ground	Listed (Category B)	Medium
5	HS number 1651	Alive Manse (former Church of Scotland Manse) and steading	Listed (Category C)	Low
28	HS number 253	The Doune, Rothiemurchus	Listed (Category B)	Medium
29	HS number 9336	Doune Motte	Scheduled	High
30	HS number 254	The Doune, Farm Cottages	Listed (Category B)	Medium

Site number	Historic Scotland Ref.	Site Name	Designation	Value
45	HS number 256	Episcopal Church of St John the Baptist and Burial Ground	Listed (Category B)	Medium
49	HES number LB48029	Pine Bank (Formerly Craigellachie House)	Listed (Category C)	Low
51	HS number 9337	Rothiemurchus Palisaded enclosure to NW of Dell Farm	Scheduled	High
60	HS number 257	Aviemore Railway Station with Island Platform, Footbridge and Fencing	Listed (Category A)	High
61	HS number 48030	Cairngorm Hotel	Listed (Category C)	Low
81	HES number LB52063	Aviemore Railway Station signal box	Listed (Category B)	Medium
87	HS number 48032	Shelter Stone, Grampian Road	Listed (Category C)	Low
88	HS number 43492	Locomotive shed and offices, Strathspey Railway, Aviemore	Listed (Category B)	Medium
91	HS number 48031	Aviemore Grampian Road, Glenspay including boundary walls and gate piers	Listed (Category C)	Low
102	HS number 889	Aviemore Chambered Cairn and Standing Stone	Scheduled	High
143	HS number 899	Loch nan Carraigean chambered cairn and stone circle	Scheduled	High
157	HS number 4157	Tor Beag Fort	Scheduled	High
181	HS number 262	Carrbridge, Duthill Parish Church	Listed (Category B)	Medium
182	HS number 263	Carrbridge Village Hall	Listed (Category B)	Medium
183	HS number 960 (SAM) and 241 (LB)	Carrbridge Old Packhorse Bridge over River Dulnain	Scheduled and Listed (Category B)	High
184	HS number 6636	Carrbridge Station Goods Shed	Listed (Category B)	Medium
185	HS number 6636	Carrbridge Station Footbridge	Listed (Category B)	Medium
186	HS number 6636	Carrbridge Station waiting room	Listed (Category B)	Medium
187	HS number 6636	Carrbridge Station	Listed (Category B)	Medium
195	HS number 237	Slochd Mhuic Viaduct	Listed (Category B)	Medium

Site number	Historic Scotland Ref.	Site Name	Designation	Value
196	HS number 238	Ortunan Bridge, Slochd	Listed (Category C)	Low

14.3.4. A number of archaeological investigations have been carried out within the study area (see Figure 14.3). These are summarised below (a Highland HER reference is provided for each):

1. (EHG3978) A desk-based assessment was carried out by CFA Archaeology in 2011 for the proposed Etteridge to Boat of Garten Overhead Line (OHL) Rationalisation Scheme. The study identified mainly medieval or later settlement and agrarian activity, although several sites of prehistoric date were also identified;

2. (EHG509) A survey of the farms and estates in the Strathspey Valley for sites of archaeological and historical interest was undertaken by AOC Ltd in 1997. A total of 104 sites were located, the majority of which were considered to date to the early modern period and comprised 19th century farmsteads. Funerary remains of prehistoric date were also located;

3. (EHG2815) A desk based assessment and walkover survey was carried out by Catherine Dagg in 2007 in an area of a proposed water supply upgrade. A small number of minor archaeological features were identified which mainly included post medieval settlement remains;

4. (EHG2836 & 3318) A plane table and photographic survey was carried out by Catherine Dagg in 2008 connection with a proposed water supply upgrade. Features identified during the previous walkover survey were recorded, no additional features were identified. The survey was also accompanied by an evaluation of some of the identified structure. This evaluation located substantial remains of 18th and 19th century occupation;

5. (EHG1421) A site evaluation was undertaken in September 2006 by Headland Archaeology Ltd in advance of a proposed housing development at High Burnside. 19th and early 20th century structural remains were known on the site but no significant archaeological remains were identified during the evaluation;

6. (EHG1306) A site evaluation was undertaken at High Burnside in advance of a new road scheme. No archaeological features were located;

7. (EHG3755) A survey was undertaken by Stuart Farrell in 2011 to identify if anything was left of ‘Easter Aviemore’ and to record any features found. A number of features, included rigs, possible walls and a corn kiln were noted;

8. (EHG85) An archaeological management plan was carried out by AOC (Scotland) Ltd in 1996 for Historic Scotland for Granish Farm. Twenty four sites of archaeological and historical interest have been located with the farm area. These included prehistoric funerary and settlement sites and early modern rural settlement and agricultural buildings;

9. (EHG4183 & 4182) A Desk Based Assessment and walk over survey were undertaken by Highland Archaeology Services in 2013 at Knockgranish, Aviemore. The wooded areas by the road were identified as being of extremely low archaeological potential but within other areas 11 features were located, which mainly related to a deserted post medieval township;

10. (EHG171) A field survey was undertaken in connection with the preparation of a management plan for Avielochan Farm by AOC (Scotland) Ltd in 1996. Twenty Nine sites of archaeological and historical interest have been located with the farm area. These included prehistoric funerary and settlement sites and early modern rural settlement and agricultural buildings;

11. (EHG441) A watching brief was conducted at Kinveachy Cottage by Stuart Farrell in 2001. No archaeological deposits or features were revealed during the course of excavations;

12. (EHG4554) An inspection was carried out of Carrbridge Packhorse Bridge; and

13. (EHG242) An archaeological watching brief was undertaken by Wordsworth Archaeological Services in 1999 during excavations of a cable trench on Creag an Tuim Bhig. Remains of a probable prehistoric date were uncovered, including a hearth and remains of a possible structure.

Archaeological Remains

14.3.5. The following paragraphs briefly describe the archaeology of the study area in a chronological framework extending from the prehistoric periods to the present day. The built heritage and historic landscape character of the study area are also summarised. The assessment has considered the following time periods:

- Prehistoric:
  - Palaeolithic
  - Mesolithic;
  - Neolithic;
  - Bronze Age; and
  - Iron Age.
- Pictish and Early Medieval;
- Medieval;
- 17th & 18th centuries; and
- 19th century and Modern.

Prehistoric

14.3.6. Very little evidence relating to the Palaeolithic and Mesolithic periods survives in the Highlands. No finds dating to the Palaeolithic are recorded on the HHER. The lack of Palaeolithic sites may be due to the fact that the end of this period coincides with the retreat of the ice sheet which covered Scotland during the Ice Age.

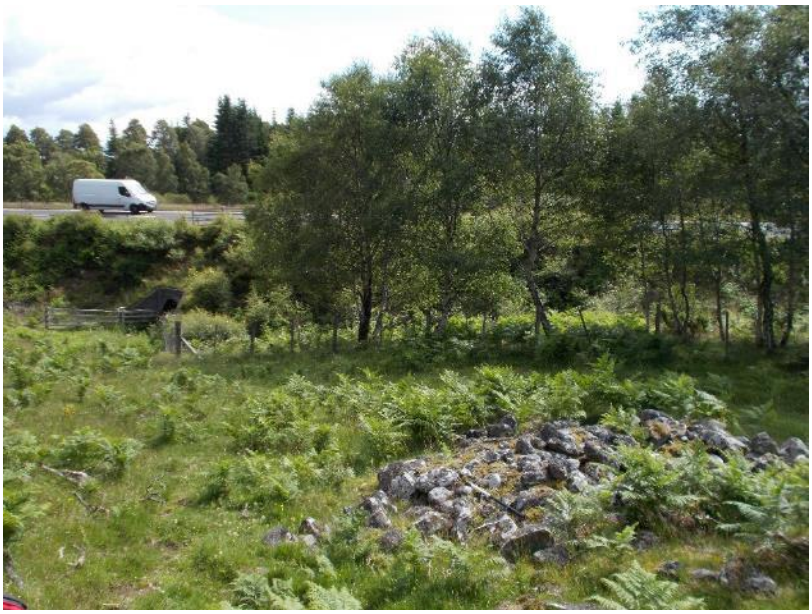
14.3.7. The lochs, rivers and topography of the study area would have made it an attractive place for Mesolithic communities, although no sites from this period are recorded on the HHER.

14.3.8. The transition from Mesolithic to Neolithic saw a gradual preference for more permanent settlement, farming and the keeping of livestock. This tradition carried on into the Bronze Age and Iron Ages. Sites dating from the Neolithic Period to the Iron Age are found throughout the study area. These are numbered on the Figure 14.2 and consist of field systems (sites 200 & 206), settlement sites (sites 11, 22, 51 & 153), cairnfields (sites 9,

12, 15, 20, 80, 154, 158, 198 & 205), burial sites (sites 7, 8, 10, 19, 102, 143, 148 & 150) and other sites (sites 21, 27, 104, 157, 162 &166).

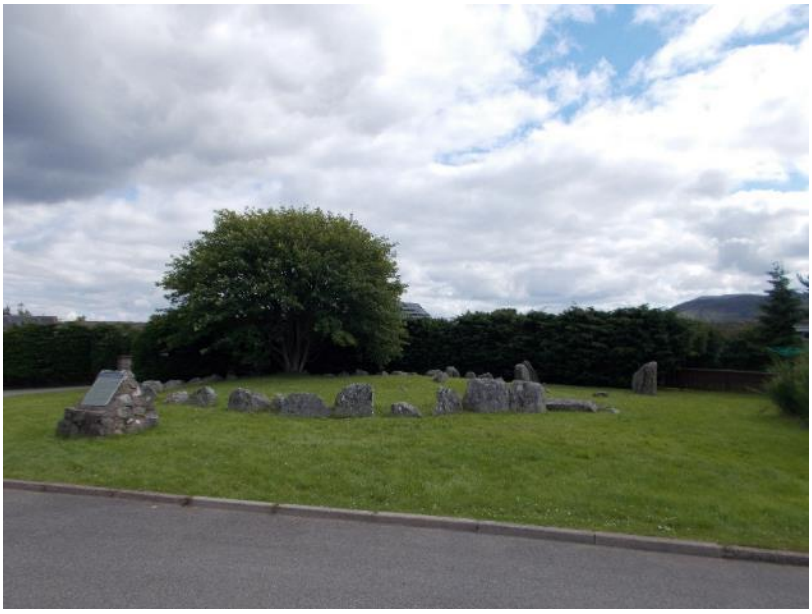
14.3.9. There is a concentration of prehistoric sites towards the southern end of the Proposed Scheme, however, these remains are scattered along the length of study area. The most prolific sites are cairnfields and burial sites. The cairnfields consist of either single or small grounds of cairns and are likely to represent field clearance cairns associated with prehistoric settlement in the area. The majority of the cairns are undated but can be associated with settlement dating to the Neolithic through to the Iron Age.

Photograph 14.1 (Cairn, site 158)



14.3.10. The burial sites again are scattered throughout the study area and consist of designated Clava type cairns, like the one at Aviemore (site 102, photograph 14.2) which is a Clava-ring cairn with associated outer standing stones. This cairn, although scheduled, currently stands in the middle of modern housing development and is far removed from the rural setting which it would have had when constructed in the Bronze Age. A second designated Clava ring cairn (site 143 which also has an associated stone circle) does retain its rural setting with stunning views towards the mountains. Just over a kilometre north of this cairn is a further undesignated Clava cairn (site 150) which is undesignated, but consists of possible two cairns where, according to the HER record for this site, finds of jet, charcoal and animal bone have apparently been found. Other burial sites consist of simple burial cairns or cist burial sites. Some of these seem to be associated with known settlement sites (such as site 7, 8, 10, 15 and 19 which are found in close proximity to hut circles, field systems and clearance cairns), while others may suggest the presence of an as-yet undiscovered settlement. Photograph 14.1 shows a typical cairn.

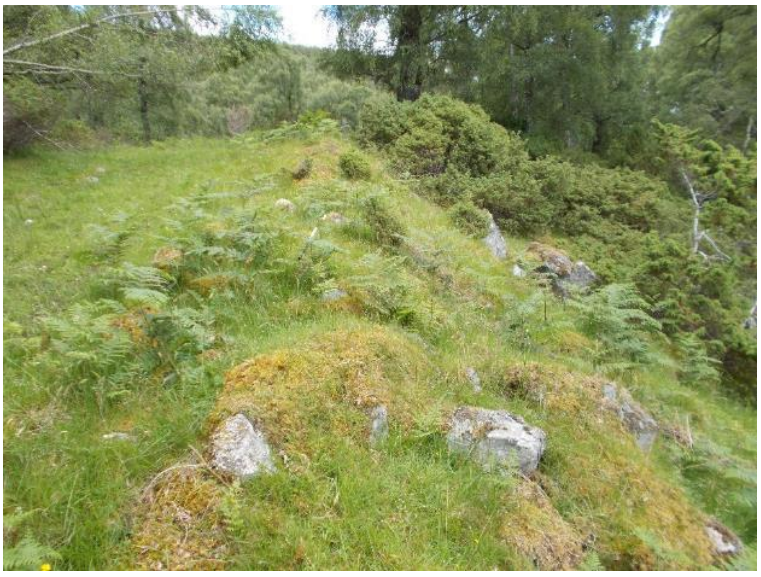
Photograph 14.2 (Aviemore Chambered Cairn, site 102)



14.3.11. Site 157 (photograph 14.3) is the site of the Scheduled Tor Beag Fort which is situated on the rocky promontory of Tor Beag. There is very little surviving of this fort, apart from a short tumbled stretch of wall and evidence of terracing. Documentary sources suggest that flint arrowheads have been found in the area. The exact date of this fort is unknown, however, hill forts are more commonly known from the Iron Age, although Bronze Age examples are known elsewhere in Scotland. The fort commands far reaching elevated views over the surrounding landscape, although the current tree cover is dense in most places acting as a natural screen from the A9.

14.3.12. Other prehistoric sites include a possible crannog site (162) which is reported to be visible within Loch Vaa. However, at the time of the site visit nothing was visible within the Loch. A number of cup marked rocks (site 27, 104 & 148) are also located within the Study Area, some of these have been assigned a Neolithic date within the HHER, but these sites are more typically dated to the Bronze Age. A standing stone is also recorded (site 21) as well as the site of a Bronze Age axe (site 166). Findspots should always been treated with some degree of caution as they may not be in situ when found.

Photograph 14.3 (Tor Beag Fort, site 157)



14.3.13. It is highly likely that these known prehistoric sites are associated with currently unknown contemporary sites surviving as below ground remains.

Early Medieval and Pictish

14.3.14. Towards the end of the Iron Age and Roman periods, and spanning the beginning of the Early Medieval period, documentary sources make reference to 'Picti' or 'painted people'. The picts produced characteristic carved stones which are found throughout the Highlands and Islands.

14.3.15. To date, no finds or features of this date are known within the study area.

Medieval

14.3.16. Throughout the medieval period, the study area (and indeed the wider landscape) remained predominantly rural, and its inhabitants depended on the exploitation of crops, livestock and woodland. The Highlands were relatively isolated from the central powers in this period and therefore mottes and other features characteristic of the establishment of a Norman aristocracy are infrequent.

14.3.17. Apart from castles and the remains of a few churches, there is little medieval archaeology in this area that can be seen today. Most domestic buildings seem to have been built using wood, peat and thatch. Likewise, most household items were made of easily accessible organic materials. There are a number of sites within the study area which consist of the remains of deserted 18th century settlement or farmsteads (sites 13, 14, 16, 17, 24, 33, 36, 43, 107, 111, 125, 127, 128, 129, 130, 132, 133, 136, 137, 139, 144, 146, 149, 152, 160, 161, 168, 169, 172, 173, 178, 190), and it is highly likely that many of these are located on top of earlier houses and fields which may date to this period.

14.3.18. There are some sites dating from the Medieval period within the study area, these are a Motte (site 29) and a cairn (site 155). The cairn itself no longer exists due to being ploughed out in 1910, however a pin which was assigned a 11th to 12th century date was found within it. This may suggest the presence of a medieval settlement or dwelling in the vicinity.

14.3.19. The motte, recorded as Doune Motte comprises an elongated mound which is believed to have been the site of a castle of the Comyn Clan (also known as Clan Cumming). This is a poorly documented site, which has been subject to landscaping in the 19th century.

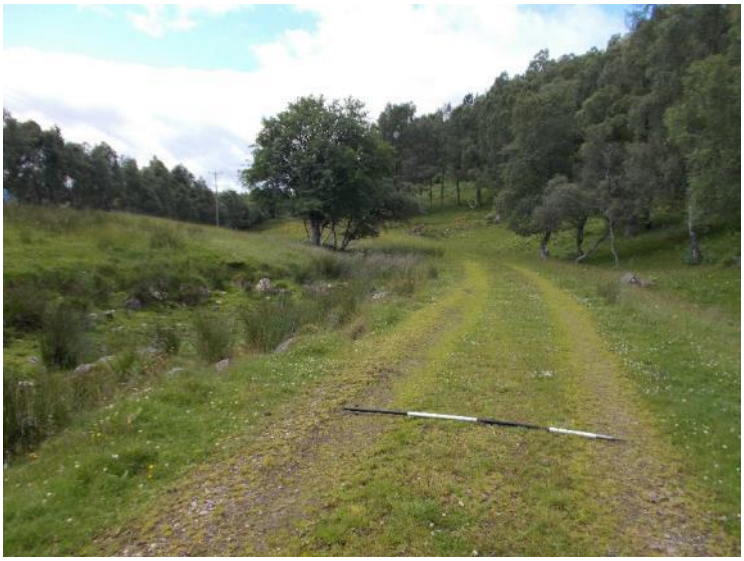
17th and 18th Centuries

14.3.20. The landscape of the study area changed significantly during the 17th and 18th centuries. Forests were exploited for timber on a large scale and agricultural activity expanded on to the higher ground as the population increased. There was an improvement of communication methods and industrial activity increased.

14.3.21. Agricultural activities in the area were based around communal farming townships which would have comprised several families. There are numerous examples of this within the study area (sites 13, 14, 16, 17, 24, 33, 36, 43, 107, 111, 125, 127, 128, 129, 130, 132, 133, 136, 137, 139, 144, 146, 149, 152, 160, 161, 168, 169, 172, 173, 178, 190 on Figure 14.2), and it is possible that these farmsteads/settlements may have had much earlier origins as discussed above.

14.3.22. During the 18th century, Scotland was militarised significantly in response to the threat and reality of Jacobite rebellion. Within the Highlands, medieval forts were repaired and redeveloped, and wholly new garrisons were built, although none of these structures are located within the study area. In addition, over 250 miles of military roads and over 40 new bridges were built to link these new and existing forts and garrisons. In 1724, General George Wade was appointed Commander-in-Chief in response to his own report and recommendation on what should be done about the Jacobite threat. He is chiefly remembered for the network of military road and bridges mentioned above, however many of these were only planned by Wade and left to his successor, William Caulfield, to actually construct in the 1740s and 1750s.

Photograph 14.4 (Section of General Wade's Military road, site 142)



14.3.23. The line of General Wade's Military Road between Dunkeld and Inverness (the line of which is followed in the majority by the current A9) took two years to build between 1728 and 1730. The current OS mapping still shows the majority of the routes of the Military Roads within the study area, however, the HHER also records a number of sites which represent some of the better preserved sections, or the location of bridges and culverts. Sites 31, 47, 63, 142, 163, 164 on Figure 14.2 all represent excavated sections of the road, well preserved sections of the road or structures associated with it. A view of a section of General Wade's Military Road is presented in Photograph 14.4.

19th Century and Modern

14.3.24. From the mid-18th century, landowners began to invest in agriculture and estate importance which led to an almost complete transformation of the rural landscape and created much of the landscape we see today. New farms were laid out, roads and railways were constructed, wet ground was drained and many early townships were cleared. Much of the managed forestry dates to this period and would have provided a more naturalised setting for country houses or shooting lodges. The A9 and the Highland Mainline Railway date to this period, and numerous structures, particularly bridges, associated with the latter are recorded on the HHER throughout the study area.

14.3.25. The settlements of Aviemore and Carrbridge grew in this period, mainly as a direct result of increased methods of transportation, such as the railway and roads. Aviemore grew as a tourist destination and was one of the first skiing resorts within Scotland. The Highland Railway was one of the biggest employer of the area, and it was this company who built many of the houses within Aviemore for its staff.

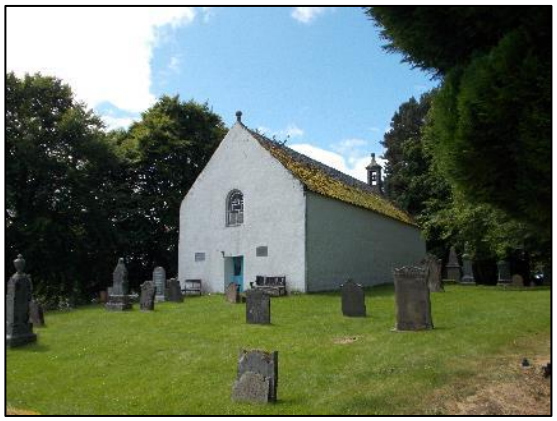
14.3.26. There are a number of sites within the study area which date to the Second World War. These include a military camp which was used by Sikhs and may contain hut platforms (site 18) and a possible WWII road block (site 180).

Built Heritage

14.3.27. A number of built heritage assets within the study area dating from the 18th century to the 19th century and modern periods.

14.3.28. Alvie Church (photographs 14.5 and 14.6) and Manse (sites 4 &5) are located on the edge of Loch Alvie. The church and burial ground are Category B listed and date to 1768, while the Manse is Category C listed and dates to 1807.

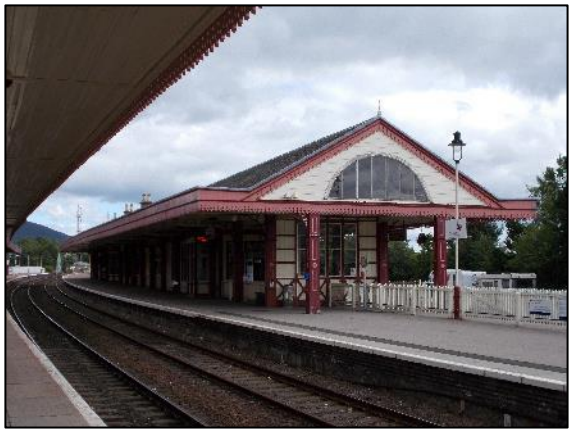
Photographs 14.5 & 14.6 (Alvie Church and burial ground, site 4)

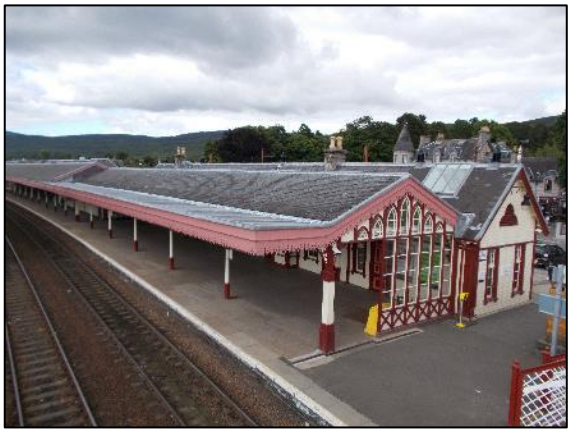


14.3.29. The Doune (sites 28) is a late 17th century Mansion house located beside the River Spey and within the Doune of Rothiemurchus designated Garden and Designed Landscape. It is a Category B listed building and is the family home of the Grants of Rothiemurchus. There is also a range of cottages (site 30) associated with the Mansion which are also Category B listed.

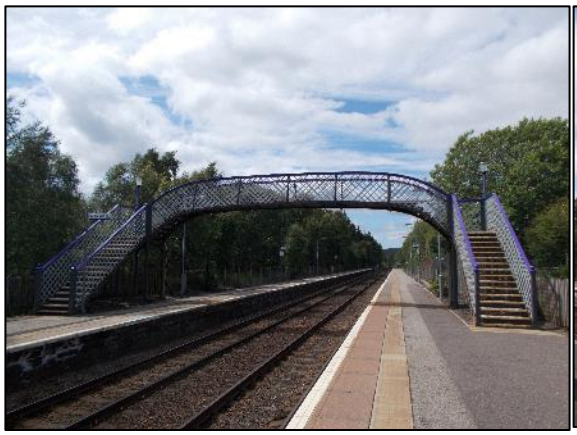
14.3.30. The Inverness to Aviemore section of the Highland Railway Line was opened in 1897. Within the study area a large number of built heritage assets are present which are associated with this railway. The stations at Aviemore (site 60 – Category A listed, photographs 14.7 & 14.8) and Carrbridge (sites 184, 185, 186 & 187 – Category B listed, photographs 14.9 and 14.10) date to the 1890s are two of only a small number of stations which are still in operation. Both are timber clad stations with steel and cast iron footbridges of a standard Highland Railway type. Carrbridge Station is the largest of the timber-clad station buildings, while Aviemore is described by Historic Environment Scotland as a rare and outstanding example of late 19th century timber railway station construction which has no equal in the Highlands. Aviemore Station has been assigned Category A status due to the finely detailed platform buildings and the fact that it retains so many original features. The station also has a timber signal box (site 81 – Category B listed) which is the largest survivor of the archetypal Highland Type 3 box by the renowned signal manufacturer's McKenzie and Holland. Another feature relating to the railways within the study area consists of the Category B listed Slochd Mhuic Viaduct (site 195) which is a tall 8 span, 122m long viaduct dating to the 1890s.

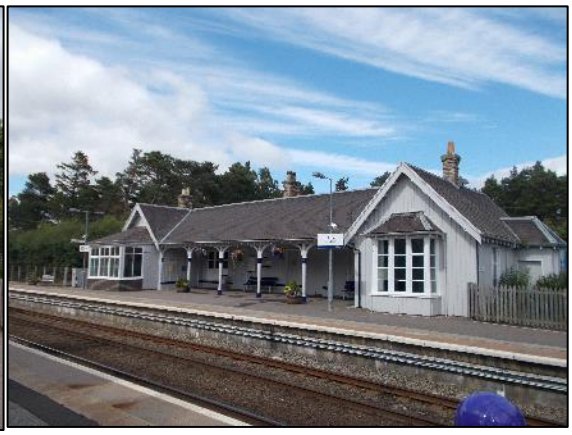
Photographs 14.7 & 14.8 Aviemore Station (site 60)





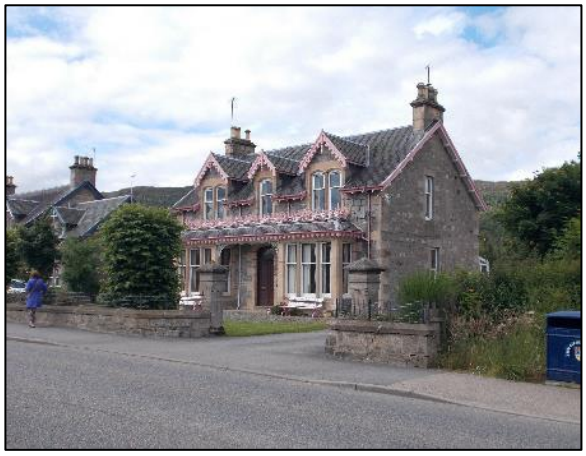
Photographs 14.9 & 14.10 Carrbridge Station (sites 184-187)



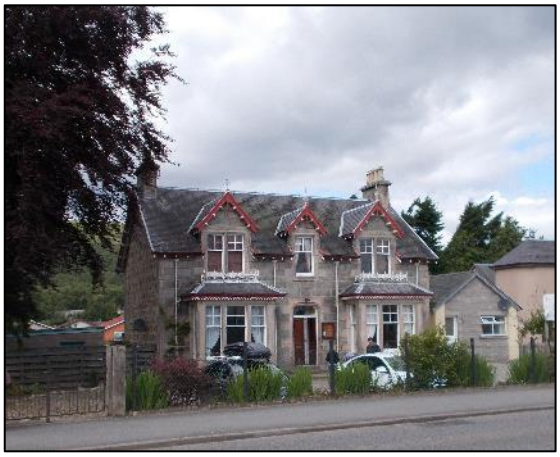


14.3.31. There are a number of listed buildings within Aviemore which date to the 19th century, the time when Aviemore expanded as a direct result of the arrival of the railways in the late 19th century. The majority of both designated and undesignated built heritage sites within Aviemore date to this period. The majority of buildings at this time were built in the typical Highland Estate villa style, and a number of these have been listed as they retain original features. The designated examples include Pine Bank (site 49 – Category C), the Cairngorm Hotel (site 61 – Category C), Shelter Stone (site 87 – Category, photograph 14.12) and Glenspay (site 91 – Category C, photograph 14.11).

Photograph 14.11 (Glenspay, site 91)



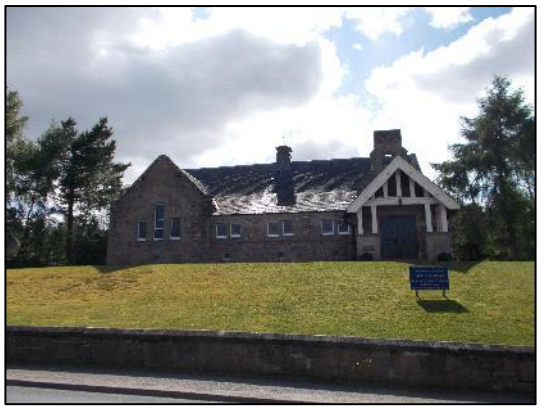
Photograph 14.12 (Shelter Stone, site 87)

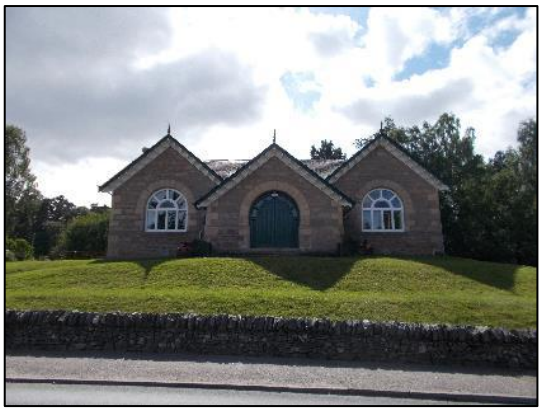


14.3.32. Within the Highland HER a number of modern buildings (such as hotel and leisure facilities at the Aviemore Centre) have been assigned HER numbers and associated records. For the purposes of this assessment these sites will not be considered due to their low or negligible heritage value (however, they are included within the Gazetteer).

14.3.33. Within the smaller settlement of Carrbridge are a number of listed buildings in a different style to those within Aviemore. Situated next to each other within Carrbridge are the Village Hall (site 182, photograph 14.14) and Duthill Parish Church (site 181, photograph 14.13). Both of these buildings are Category B listed and date to c.1900.

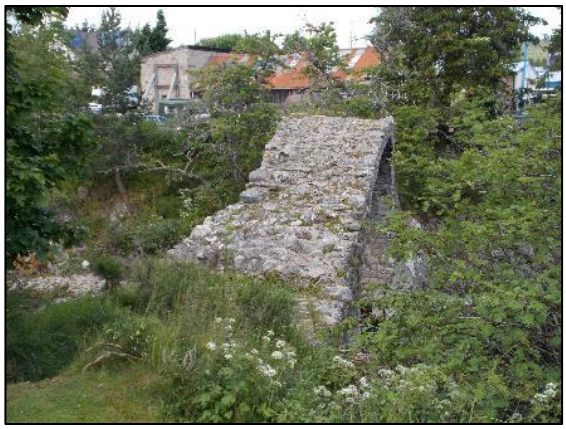
Photograph 14.13 (Duthill Church, site 181) **Photograph 14.14 (Village Hall, site 182)**

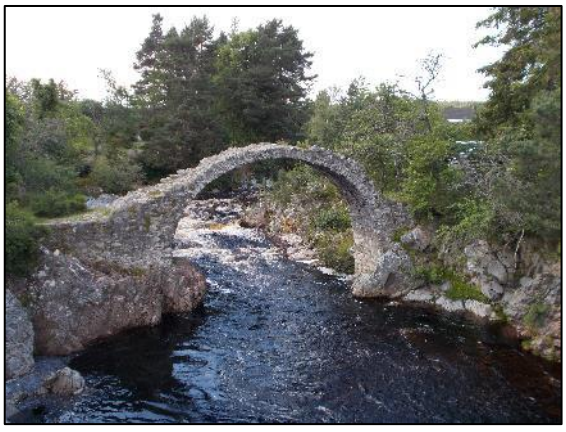




14.3.34. Just down the road from the church and village hall is a scheduled and listed packhorse bridge over the River Dulnain (site 183 – scheduled and Category B, photographs 14.15 & 14.16). This site dates to 1717 and consists of a high span single humpback rubble arch extending from a natural rock abutment. The surface of the bridge does not survive.

Photographs 14.15 & 14.16 (Carrbridge Packhorse Bridge, site 183)





14.3.35. Other categories of built heritage within the study area include sleeper built structures, which are now relatively rare within the highlands (site 46, 48, 79 &188). These sites date to the modern period and have been assigned a low heritage value. There are also a number of bridges which range in date from 18th century to modern (site 3 & 196 – both Category C listed, sites 32, 50, 145, 151, 179, 189, 191, 192, 197, 199, 201, 202, 203) Site 196 is thought to be associated with General Wade's Military Road.

14.3.36. A number of churches and cemeteries are also recorded within the study area (site 45 – category C listed, sites 52, 90 & 159). Again, the majority of these are post medieval or modern in date. Industrial sites consisting of a saw mill (site 103), a grain mill (sites 105

& 106) a mill and sluice (sites 108 & 109), a mill dam (site 110), a Threshing Mill (site 193) and lime kilns (sites 131, 134, 138, 170)

Historic Landscapes

14.3.37. There are two designated Gardens and Designed Landscapes within the study area, these are Kinrara and Doune of Rothiemurchus. These two sites are located next to each other at the far south of the Proposed Scheme.

14.3.38. Kinrara dates to the 18th century and within the Historic Environment Scotland designation description it is described as an outstanding example of a picturesque landscape design which makes a significant contribution to the scenic qualities and nature conservation values in the Strathspey. Kinrara was laid out by Duchess Jane Gordon, wife of the 4th Duke of Gordon and a woman who was prominent in social and political society in Scotland as well as in England. In designing the grounds, the Duchess is believed to have been influenced by Uvedale Price's 'Essay on the Picturesque' who advocated an appreciation of the practicalities of planting and farming, combined with local circumstances. This site, therefore was not just designed to be picturesque, but designed to reflect the area within which it was situated and therefore has a more agrarian character than other designed landscapes of a similar date.

14.3.39. Doune of Rothiemurchus is also a picturesque designed landscape which is thought to have 17th century origins, but was informalised in the 19th century. The land was owned by the Grants, and contains the Grant's mansion, The Doune. The designation description notes that in the 16th century, a documentary reference notes this estate as containing 'great and large fir woods'. These woods were exploited by the Grants in the 18th century. In the 19th century, farm buildings were demolished and relocated which allowed the grounds to be landscaped.

14.3.40. The wider landscape around the current A9 does maintain its rural upland nature (indeed the majority of the study area is within the Cairngorms National Park). The settlements are small and dispersed (with the exception of the main settlements of Aviemore and Carrbridge) and there are large areas of managed woodland, lochs and fine far reaching views of the Cairngorms. With the exception of the settlements of Aviemore and Carrbridge and the route of the current A9, the study area lacks large scale modern development which would have adversely impacted upon the historic landscape.

14.4. Potential Impacts

14.4.1. Chapter 7 of this report provided background to the selection of the Proposed Scheme Options that are subject to assessment, as well as a description of the option sifting process.

Construction

14.4.2. Potential impacts for all mainline and junction options are set out below. The majority of impacts upon cultural heritage remains will occur during the construction phase. Development activities such as groundworks, topsoil stripping, landscaping, ground compaction, access, service installation, stockpiling and storage will all have a negative effect on cultural heritage assets. These construction related impacts could lead to the following effects upon the Historic Environment:

- Permanent complete or partial loss of an archaeological feature or deposit as a result of ground excavation;

- Permanent or temporary loss of the physical and/or visual integrity of a feature, monument, building or group of monuments;
- Damage to resources as a result of ground excavation;
- Damage to resources due to compaction, desiccation or waterlogging; and
- Damage to resources as a result of ground vibration caused by construction.

Operation

14.4.3. As stated above, the majority of the impacts to the historic environment would occur during the construction phase. Operational impacts would purely relate to visual impacts due to the increased width of the road and the introduction of new junctions.

Impacts Common to All Mainline Alignment Options

14.4.4. With regard to potential impacts upon cultural heritage, the three Proposed Mainline Alignment Options would result in very similar impacts. The impacts include direct impacts upon a variety of undesignated cultural heritage assets including prehistoric settlement and burial sites (sites 7, 8, 9, 10, 11, 12, 148, 153, 154, 166 & 198), a medieval cairn (site 155), post medieval settlement, field systems and roads (sites 13, 14, 44, 140, 141, 156, 163, 164 & 167) and a number of modern sites which consist of bridges and a house (sites 32, 188, 201 & 203). In addition to the impacts on known heritage assets there may also be impacts upon currently unknown heritage assets. The impact upon these remains cannot be assessed until any potential value is known. However, the presence of known assets which include prehistoric field systems and possible structures would indicate the presence of surrounding contemporary features. There is also potential for impacts upon currently unrecorded sections of General Wade's Military Road.

14.4.5. There is likely to be impacts upon designated sites, the majority of which will be visual impacts and would mainly occur during the winter months where existing tree cover will be less dense and if any of the existing tree cover is removed during construction. These designated sites include two Gardens and Designed Landscapes (sites 1 & 2), ten Listed Buildings (8 category B and 2 category C) which include bridges (sites 3 &195), a church and manse (sites 4 & 5), houses (sites 28 & 30), and a railway station (185, 186, 186 & 187), and two Scheduled Monuments which consist of a possible medieval motte (site 29) and a prehistoric hill fort (site 157). It should be noted that the impact on the scheduled prehistoric hillfort will be direct for Mainline Option 2.

Impacts Specific to Mainline Alignment Options

Impacts Specific to Mainline Alignment Option 1

14.4.6. In addition to the common impacts outlined above, Mainline Option 1 would also impact upon seven additional undesignated sites which include a Bronze Age cup marked stone (site 104), post medieval buildings (sites 46 and 74), post medieval settlements (sites 128 and 132), a post medieval field system (site 129) and a post medieval trackway (site 123).

Impacts Specific to Mainline Alignment Option 1A

14.4.7. In addition to the common impacts outlined above, Mainline Option 1A would also impact upon five additional undesignated sites which include a Bronze Age cup marked stone (site 104), a post medieval building (site 74), post medieval settlements (sites 128 & 132) and a post medieval field system (site 129).

Impacts Specific to Mainline Alignment Option 2

14.4.8. In addition to the common impacts outlined above, Mainline Option 2 would also impact upon three addition undesignated sites which include a post medieval track (site 123), a post medieval building (site 139) and a modern bridge (site 203). It should also be noted that while the impact upon the Scheduled Hill Fort site (site 157) is common to all Mainline Options, Alignment Option 2 would have a direct physical impact, rather than a purely visual one. This direct impact to a scheduled monument is likely to be seen unfavourably by Historic Environment Scotland and The Highland Council Historic Environment Team.

Impacts Common to Aviemore South Junction Options

14.4.9. All three junction options will result in the same impact to known heritage assets. There will be no direct impacts upon known designated or undesignated assets. Two Gardens and Designed Landscapes (sites 1 & 2), two listed buildings (sites 28 & 30) and one scheduled monument (site 29) may be subject to an adverse visual impact. All of these sites are currently screened from the area proposed for the new Aviemore South junctions, however, during construction there is a possibility that tree cover (which currently provides the screening) may temporarily be removed, this would introduce an adverse visual impact into the setting of these designated sites.

Impacts Specific to Aviemore South Junction Options

Impacts Specific to Junction Option A18

14.4.10. As mentioned above, all three Aviemore South Junction Options would result in impacts upon the same designated heritage assets. However, due to the fact that Junction Option A18 has a larger footprint than the other two options, and consequently has a moderate likelihood to impact upon three additional designated sites (sites 3, 4 and 5). Also, due to its size, this Junction option also has greater potential to impact previously unknown cultural heritage remains.

Impacts Common to Granish Junction Options

14.4.11. All four Granish Junction Options have a very similar footprint and consequently would all have a similar impact upon known heritage assets. All options would impact on the route of General Wade's Military Road (site 142). The section of the Military Road in this area has already been bisected by an access road to the A9. All junction options here to impact upon previously unknown cultural heritage assets.

Impacts Common to Black Mount Junction Options

14.4.12. None of the proposed Black Mount Junction Options would impact upon known cultural heritage remains. There is still potential for previously unknown remains to be disturbed by construction work in this area.

Impacts Summary

14.4.13. Table 14.7 below presents the impacts upon the cultural heritage assets by the various options (please note that only the assets which are impacted are listed in the below table, value ratings have been established using the criteria provided in tables 14.1, 14.2 & 14.3):

Table 14.7: Summary of Impacts for all Options

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
Mainline Options						
1	Kinrara (Historic Landscape)	High	Widening of the A9 may impact upon the setting of this designated site.	Minor	Moderate/ Slight	All mainline options
2	Doune of Rothiemurchus (Historic Landscape	High	Widening of the A9 may impact upon the setting of this designated site.	Minor	Moderate/ Slight	All mainline options
3	Loch Alvie Bridge (Historic Building)	Low	Widening of the A9 may impact upon the setting of this designated site.	Minor	Neutral/ Slight	All mainline options
4	Alvie Parish Church (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
5	Alvie Manse (Historic Building)	Low	Widening of the A9 may impact upon the setting of this designated site.	Minor	Neutral/ Slight	All mainline options
6	Shieling (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Major	Slight/ Moderate	All mainline options
7	Burial Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
8	Cist (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
9	Cairnfield (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
10	Ring Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
11	Hut Circle ((Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
12	Clearance Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
13	Field System (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Major	Slight/ Moderate	All mainline options
14	Settlement (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Major	Slight/ Moderate	All mainline options
28	The Doune (Historic Buildings)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
29	Doune Motte (Archaeological remains)	High	Widening of the A9 may impact upon the setting of this designated site.	Minor	Moderate/ Slight	All mainline options
30	The Doune Farm Cottages (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
32	Easter Lynwilg Bridge (Historic Building)	Negligible	The widening of the A9 would physically impact this site	Moderate	Neutral/ Slight	All mainline options
44	Former access track to railway tunnel (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	All mainline options
46	Birch View Cottage (Historic Building)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	Option 1
74	Earthworks west of MacDonald Centre (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	Option 1 and 1A
104	Cup Marked Stone (Archaeological remains)	Medium	The widening of the A9 might physically impact this site, or any associated	Moderate	Moderate	Option 1 and 1A

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
			remains in its vicinity			
123	High Burnside (Archaeological remains)	Negligible	The widening of the A9 would physically impact this site	Minor	Neutral/ Slight	Option 2
128	Settlement (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	Option 1 and 1A
129	Field System (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	Option 1 and 1A
132	Settlement (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	Option 1 and 1A
139	Building (Historic Building)	Low	The widening of the A9 would physically impact this site	Minor	Neutral/ Slight	Option 2
140	Structure (Historic Buildings)	Negligible	The widening of the A9 would physically impact this site	Minor	Neutral/ Slight	All mainline options
141	Enclosure (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	All mainline options
148	Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
153	Building (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
154	Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
155	Cairn (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
156	Military Road (Archaeological remains)	Low	The widening of the A9 would physically impact this site	Moderate	Slight	All mainline options

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
157	Tor Beag Fort (Archaeological remains)	High	Widening of the A9 may impact upon the setting of this designated site. **NB** Option 2 would have a major physical impact.	Major (for Option2) Moderate for other options	Large/ Very Large (for option 2) Moderate/ Large (for other options)	All mainline options
163	Military Road (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Moderate	Moderate	All mainline options
164	Military Road (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Moderate	Moderate	All mainline options
165	Stone	Unknown	The widening of the A9 might physically impact this site	Minor	Unknown	All mainline options
166	Findspot (Archaeological remains)	Negligible	This findspot has already been removed, but may indicate contemporary activity which may be impacted by the road widening	Moderate	Neutral/ Slight	All mainline options
167	Structure (Historic Building)	Negligible	The widening of the A9 would physically impact this site	Minor	Neutral/ Slight	All mainline options
184	Carrbridge Station Goods Shed (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
185	Carrbridge Station Footbridge (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
186	Carrbridge Station Waiting Room (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Minor	Slight	All mainline options
187	Carrbridge Station (Historic Building)	Medium	Widening of the A9 may impact upon the setting	Minor	Slight	All mainline options

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
			of this designated site.			
188	Broom Cottage (Historic Building)	Negligible	Widening the A9 may affect the setting of this building.	Minor	Neutral/ Slight	All mainline options
195	Slochd Mhuic Viaduct (Historic Building)	Medium	Widening of the A9 may impact upon the setting of this designated site.	Negligible	Neutral/ Slight	All mainline options
198	Hut Circle (Archaeological remains)	Medium	The widening of the A9 would physically impact this site	Major	Moderate/ Large	All mainline options
201	Slochd Bridge Three (Historic Building)	Negligible	The widening of the A9 might physically impact this site	Minor	Neutral/ Slight	All mainline options
203	Slochd Bridge One (Historic Building)	Negligible	The widening of the A9 might physically impact this site	Minor	Neutral/ Slight	All mainline options
Junction Options						
1	Kinrara (Historic Landscape)	High	Construction of new Junctions at Aviemore South may visually impact this designated site	Minor	Moderate/ Slight	All Aviemore South options
2	Doune of Rothiemurchus (Historic Landscape)	High	Construction of new Junctions at Aviemore South may visually impact this designated site	Minor	Moderate/ Slight	All Aviemore South options
28	The Doune (Historic Buildings)	Medium	Construction of new Junctions at Aviemore South may visually impact this designated site	Minor	Slight	All Aviemore South options
29	Doune Motte (Archaeological remains)	High	Construction of new Junctions at Aviemore South may visually impact this designated site	Minor	Moderate/ Slight	All Aviemore South options
30	The Doune Farm Cottages (Historic Building)	Medium	Construction of new Junctions at Aviemore South may visually	Minor	Slight	All Aviemore South options

Site ref. No.	Name/ Asset type	Value	Description of Impact	Magnitude of Impact	Overall Impact	Impacted by
			impact this designated site			
140	Structure (Historic Buildings)	Negligible	Construction of a new junction at Granish may physically impact this site.	Minor	Neutral/ Slight	Options C21. C31 & C34
141	Enclosure (Archaeological remains)	Low	Construction of a new junction at Granish may physically impact this site.	Minor	Neutral/ Slight	Options C21. C31 & C34
142	Military Road (Archaeological remains)	Medium	Construction of a new junction at Granish may physically impact this site.	Moderate	Moderate	All Granish Junctions

14.5. Potential Mitigation

Mitigation during Construction

Archaeology

14.5.1. DMRB Volume 10, Section 6, Part 1 states that 'The fundamental aim of archaeological mitigation is to avoid impacts on nationally important or highly significant remains. If this is not possible then such remains should be archaeologically recorded in order to 'preserve by record' the significant aspects of the site'. Preservation in situ of nationally important or highly significant remains which may be affected by the Proposed Scheme is the preferred option, however, where this is not possible then alternative options will be investigated. Should no acceptable options be identified which would allow for the preservation of a site, detailed excavation (the scope of which will be agreed with The Highland Council HET and HES) will be carried out in order to further our understanding of the site affected.

14.5.2. To ensure that the impact of the Proposed Scheme can be appropriately mitigated it would be necessary to evaluate the preferred route to locate and determine the significance and extent of those archaeological assets present. The evaluation is likely to comprise a scheme of geophysical survey (if appropriate) and trial trenching. This evaluation may be followed by open area excavation prior to construction works. A watching brief during construction may also be required for areas not subject to evaluation or excavation. These works would be carried out to an agreed methodology prepared in consultation with Historic Environment Scotland and The Highland Council Historic Environment Team (HET).

14.5.3. Should archaeological remains of potentially national significance be encountered during the evaluation or excavations, consultation with Historic Environment Scotland and The Highland Council HET would be undertaken in developing an appropriate mitigation strategy.

Built Heritage

14.5.4. All of the Proposed Mainline Alignment Options will result in a visual impact to ten listed buildings (8 category B and 2 category C). All of the Aviemore South Junction Options would result in an impact to the setting of two category B listed buildings which are also impacted by the Mainline Options). Appropriate mitigation for this structure is likely to include screening. Once a preferred scheme has been identified, consultation would be undertaken with Historic Environment Scotland and The Highland Council HET to discuss appropriate mitigation options which would reduce the visual impact to this structure.

Historic Landscape

14.5.5. 2 designated Gardens and Designed Landscapes have the potential to be visually impacted upon by all Mainline Scheme Options and Aviemore South Junction Options during winter months or if existing tree cover is reduced. With the exception of the current A9 the integrity of the historic landscape is largely intact and maintains its rural and remote character. Dualling the A9 in this area is unlikely to adversely affect the integrity of the historic landscape, however, the various junction options would introduce major infrastructure into the area which would have a negative impact upon the historic landscape. Mitigation measures, in the form of screening and landscaping would be discussed with Historic Environment Scotland and The Highland Council HET.

Mitigation during Operation

14.5.6. Appropriate mitigation of cultural heritage assets during operation is likely to include screening or landscaping to minimise the increased visual impact which widening of the A9 would cause upon all aspects of the Historic Environment.

14.6. Summary of Route Option Impacts

14.6.1. Assessment of the Proposed Mainline Alignment and Junction Options indicates that all Proposed Scheme Options have the potential to impact on both known and unknown elements of the historic environment.

14.6.2. All Proposed Scheme Options would impact on known heritage assets. The majority of the impacts would be moderate removing most, if not all, of the subsurface deposits at the sites, and the heritage assets have been assessed to be of high to negligible value. In addition, there exists a risk to previously unidentified archaeological remains. The impacts may be mitigated to lessen the environmental effects on these assets.

14.6.3. The impacts upon the Cultural Heritage would be very similar for all Mainline and Junction options. In total, forty-nine known heritage assets will be impacted upon by all Proposed Mainline Options. In addition to this, eight known heritage assets will be impacted upon by the Proposed Junction Options. These assets include sections of military road, bridges, prehistoric sites, post medieval (or earlier) settlement sites and designated sites.

Table 14.8: Summary of Impacts for all Mainline Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
Historic landscape	Site 1 Kinrara	Setting	Moderate/ Slight			No differentiators identified
Historic Landscape	Site 2 Doune of Rothiemurchus	Setting	Moderate/ Slight			No differentiators identified
Historic Building	Site 3 Bridge	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 4 Alvie Parish Church	Setting	Slight			No differentiators identified
Historic Building	Site 5 Alvie Manse	Setting	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 6 Shieling	Direct physical impact	Moderate/ Slight			No differentiators identified
Archaeological Remains	Site 7 Burial Cairn	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 8 Cist	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 9 Cairnfield	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 10 Ring Cairn	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 11 Hut Circle	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 12 Clearance Cairn	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 13 Field System	Direct physical impact	Moderate/ Slight			No differentiators identified
Archaeological Remains	Site 14 Settlement	Direct physical impact	Moderate/ Slight			No differentiators identified

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Historic Building	Site 28 The Doune	Setting	Slight			No differentiators identified
Archaeological Remains	Site 29 Doune Motte	Setting	Moderate/ Slight			No differentiators identified
Historic Building	Site 30 The Doune Farm Cottages	Setting	Slight			No differentiators identified
Historic Building	Site 32 Bridge	Direct physical impact	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 44 Track	Direct physical impact	Slight			No differentiators identified
Historic Building	Site 46 House	Direct physical impact	Slight	Neutral/ Slight	Neutral/ Slight	Differentiator – greater impact of Option 1 on Site 46 (Section 3a)
Archaeological Remains	Site 74 Earthwork	Direct physical impact	Slight	Slight	Neutral/ Slight	Differentiator – greater impact of Option 1 and 1A on Site 74 Section 3b)
Archaeological Remains	Site 104 Cup Marked Stone	Direct physical impact	Moderate	Moderate	Slight	Differentiator – greater impact of Option 1 and 1A on Site 104 (Section 4)
Archaeological Remains	Site 123 Track	Direct physical impact	Neutral	Neutral	Neutral/ Slight	Differentiator – greater impact of Option 2 on Site 123 (Section 4)
Archaeological Remains	Site 128 Settlement	Direct physical impact	Slight			No differentiators identified
Archaeological Remains	Site 129 Field System	Direct physical impact	Slight			No differentiators identified
Archaeological Remains	Site 132 Unenclosed settlement	Direct physical impact	Slight			No differentiators identified

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Archaeological Remains	Site 139 Building	Direct physical impact	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 140 Structure	Direct physical impact	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 141 Enclosure	Direct physical impact	Slight			No differentiators identified
Archaeological Remains	Site 148 Cairn	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 153 Building	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 154 Cairn	Direct physical impact	Moderate/ Large			No differentiators identified
Archaeological Remains	Site 155 Cairn	Direct physical impact	Moderate Large			No differentiators identified
Archaeological Remains	Site 156 Military Road	Direct physical impact	Slight			No differentiators identified
Archaeological Remains	Site 157 Fort	Direct physical impact	Moderate/ Large	Moderate/ Large	Large/ Very Large	Differentiator – greater impact of Option 2 on Site 157 (Section 6a)
Archaeological Remains	Site 163 Military Road	Direct physical impact	Moderate			No differentiators identified
Archaeological Remains	Site 164 Military Road	Direct physical impact	Moderate			No differentiators identified
Archaeological Remains	Site 165 Stone	Direct physical impact	Unknown			No differentiators identified
Archaeological Remains	Site 166 Findspot	Direct physical impact	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 167 Structure	Direct physical impact	Neutral/ Slight			No differentiators identified
Historic Building	Site 184 Goods Shed	Setting	Slight			No differentiators identified

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Historic Building	Site 185 Footbridge	Setting	Slight			No differentiators identified
Historic Building	Site 186 Waiting Room	Setting	Slight			No differentiators identified
Historic Building	Site 187 Railway Station	Setting	Slight			No differentiators identified
Historic Building	Site 188 House	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 195 Railway Viaduct	Setting	Neutral/ Slight			No differentiators identified
Archaeological remains	Site 198 Hut circle	Direct physical impact	Moderate/ Large			No differentiators identified
Historic Building	Site 201 Bridge	Direct physical impact	Neutral/ Slight			No differentiators identified
Historic Building	Site 203 Bridge	Direct physical impact	Neutral/ Slight			No differentiators identified
Operational Phase Impacts						
Historic landscape	Site 1 Kinrara	Setting	Slight			No differentiators identified
Historic Landscape	Site 2 Doune of Rothiemurchus	Setting	Slight			No differentiators identified
Historic Building	Site 3 Bridge	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 4 Alvie Parish Church	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 5 Alvie Manse	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 28 The Doune	Setting	Neutral/ Slight			No differentiators identified

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Archaeological Remains	Site 29 Doune Motte	Setting	Slight			No differentiators identified
Historic Building	Site 30 The Doune Farm Cottages	Setting	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 157 Fort	Setting	Moderate/ Slight	Moderate/ Slight	Moderate/ Large	Differentiator – greater impact of Option 2 on Site 157 (Section 6a)
Historic Building	Site 184 Goods Shed	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 185 Footbridge	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 186 Waiting Room	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 187 Railway Station	Setting	Neutral/ Slight			No differentiators identified
Historic Building	Site 188 House	Setting	Neutral			No differentiators identified
Historic Building	Site 195 Railway Viaduct	Setting	Neutral/ Slight			No differentiators identified

Table 14.9: Summary of Impacts – Aviemore South Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Construction Phase Impacts						
Historic landscape	Site 1 Kinrara	Setting	Moderate/ Slight			No differentiators identified

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Historic Landscape	Site 2 Doune of Rothiemurchus	Setting	Moderate/ Slight			No differentiators identified
Historic Building	Site 28 The Doune	Setting	Slight			No differentiators identified
Archaeological Remains	Site 29 Doune Motte	Setting	Moderate/ Slight			No differentiators identified
Historic Building	Site 30 The Doune Farm Cottages	Setting	Slight			No differentiators identified
Operational Phase Impacts						
Historic landscape	Site 1 Kinrara	Setting	Slight			No differentiators identified
Historic Landscape	Site 2 Doune of Rothiemurchus	Setting	Slight			No differentiators identified
Historic Building	Site 28 The Doune	Setting	Neutral/ Slight			No differentiators identified
Archaeological Remains	Site 29 Doune Motte	Setting	Slight			No differentiators identified
Historic Building	Site 30 The Doune Farm Cottages	Setting	Neutral/ Slight			No differentiators identified

Table 14.10: Summary of Impacts – Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Construction Phase Impacts							
Archaeological Remains	Site 140 Structure	Direct physical	Neutral	Neutral/ Slight	Neutral/ Slight	Neutral/ Slight	Differentiator - greater impact of Options C21, C31 and C34

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
							on Site 140 (Section 5)
Archaeological Remains	Site 141 Enclosure	Direct physical	Neutral/ Slight				No differentiators identified
Archaeological Remains	Site 142 Road	Direct physical	Moderate				No differentiators identified

14.6.4. Only Mainline Option 2 would involve a direct adverse impact upon a designated site (a Scheduled Monument – Site 157). This impact would be direct arising from increased earthworks and landscaping associated with mainline widening option. As well as a direct physical impact there would also be an increased visual impact to the remaining site.

14.6.5. There are no known impacts associated with the Black Mount Junction options.

14.6.6. In conclusion, while all Proposed Mainline and Junction Options would result in similar impacts upon the historic environment, only Mainline Option 2 would result in a direct adverse impact upon a designated site and would therefore have a greater overall impact upon the historic environment.

14.7. Scope of DMRB Stage 3 Assessment

14.7.1. A detailed assessment will be undertaken at DMRB Stage 3 for archaeological remains, historic buildings and historic landscapes in accordance with DMRB guidance for a detailed assessment. This will include a staged methodology for identifying impacts of the preferred scheme and measures required to minimise or mitigate significant adverse effects. The scope of the assessment will be agreed with the relevant consulting bodies, including The Highland Council HET, and Historic Environment Scotland as the statutory advisor.

[i] Chartered Institute for Archaeologists (2014). Standard and Guidance for Historic Environment Desk Based Assessments
[ii] Highways Agency et al. (2007). Design Manual for Roads and Bridges, Volume 11 Cultural Heritage, Section 3, Part 2, Revision HA 208/07
[iii] Highways Agency et al. (1993). Design Manual for Roads and Bridges, Volume 5 Assessment and Preparation of Road Schemes, Section 1, Part 2, TA 37/93
[iv] Scottish Government. (2014). Scotland's Third National Planning Framework
[v] Historic Scotland. (2011): Scottish Historic Environment Policy
[vi] Scottish Government. (2014); Our Place in Time – The Historic Environment Strategy for Scotland
[vii] Historic Scotland various: Managing Change in the Historic Environment – Historic Scotland's guidance note series.
[viii] Scottish Government. (2011): Planning Advice Note (PAN) 2/2011: Planning and Archaeology
[ix] Town and Country Planning (Scotland) Act 1997
[x] Scottish Government. (2014); Scottish Planning Policy
[xi] The Highland Council. (2012): Highland-wide Local Development Plan
[xii] The Highland Council. (2013): Historic Environment Strategy
[xiii] The Cairngorms National Park Local Development Plan 2015

15. Air Quality

15.1. Introduction

15.1.1. This chapter presents the Stage 2 air quality assessment for the Proposed Scheme. The assessment has been carried out in accordance with the DMRB Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 Air Quality, May 2007[i](referred to as DMRB HA207/07) and relevant Interim Advice Notes (IANs) as listed in the Legislation, Policy and Guidance section 15.2.

15.1.2. The assessment includes: the determination of the air quality assessment study area; the existing baseline conditions and constraints; and the impacts on local air quality and regional emissions during the operational phase.

15.1.3. The Stage 2 Assessment has been undertaken for three Proposed Scheme Options for the mainline alignment Options (1, 2 and 1A), with 13 Proposed Junction Options relating to 3 locations within the scheme extents: Aviemore South; Granish; and Black Mount, assessed separately (described in Chapter 7). The local air quality assessment has focused on the impacts of the air pollutants nitrogen dioxide (NO_2) and particulate matter (PM) as the air quality criteria for these two pollutants are likely to be most difficult to achieve in the vicinity of roads. The regional assessment of emissions considers oxides of nitrogen (NO_x), hydrocarbons, carbon dioxide (CO_2) and particulate matter.

Study Area

15.1.4. The air quality study area for the Proposed Scheme has been defined based on changes in traffic data as a result of the Proposed Scheme Options (i.e. the with Proposed Scheme or Do-Something [DS] scenario compared to the without Proposed Scheme or Do-Minimum [DM] scenario) in the opening year of 2026. The air quality study area has been determined in accordance with traffic change criteria set out in DMRB HA207/07 which defines affected road networks (ARN) for local (paragraph 3.12) and regional (paragraph 3.20) air quality assessments. A detailed description of the traffic model used in the air quality assessment is provided in Chapter 20 Traffic and Economic Assessment, Part 4.

15.1.5. The ARN for the purposes of a local air quality assessment is defined as those roads within a defined ‘traffic reliability area’ (i.e. the area of the traffic model considered to provide reliable estimates of traffic when the base traffic model is compared to observed traffic) that meet any of the traffic change criteria, whereby:

- Road alignment will change by 5 metres (m) or more; or
- Daily traffic flows will change by 1,000 Annual Average Daily Traffic (AADT) or more; or
- Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or
- Daily average speed will change by 10 kilometres per hour (km/hr) or more; or
- Peak hour speed will change by 20 km/hr or more.

15.1.6. For the assessment of local air quality (human health and ecological resources with statutory designation), the air quality study area is limited to 200 m either side of each road carriageway section identified in the local air quality ARN. This distance of 200 m is industry best practice specified in DMRB HA207/07 having been derived from calculations using atmospheric dispersion modelling and reviewed in a series of field

measurements. In practice, any air quality assessment is undertaken by identifying where there are relevant receptors adjacent to the ARN and including all road sources within 200 m of that receptor, whether in the affected road network or not.

15.1.7. The ARN for the purposes of a regional air quality assessment is defined as those roads within a defined 'traffic reliability area' that meet any of the traffic change criteria, whereby:

- Daily traffic flows will change by 10% AADT or more; or
- HDV flows will change by 10% AADT or more;
- Daily average speed will change by 20 km/hr or more.

15.1.8. Traffic data was provided as total vehicles and percentage heavy goods vehicles (HGV) whereas the DMRB HA207/07 change criteria, as given above, relates to change in HDV. For the purpose of this assessment we have applied the HDV change criteria to the HGV data.

15.1.9. The ARN for both the regional and the local air quality assessment includes the A9 mainline and slips and the extent of the A95 included within the traffic model. The regional ARN also includes the extent of the A938 included within the traffic model.

15.2. Approach and Methods

Legislation, Policy and Guidance

15.2.1. Relevant air quality legislation, policy and guidance, including relevant Air Quality Strategy (AQS) objectives, are provided in Appendix A15.1.

15.2.2. The air quality assessment of the Proposed Scheme Options has been assessed in accordance with relevant guidance outlined in DMRB HA207/07, associated IANs and Defra's Local Air Quality Management Technical Guidance (LAQM.TG(16))[ii]. Relevant guidance documents are listed below:

- HA207/07 Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 1 Air Quality, May 2007 (DMRB HA207/07)[i];
- IAN 170/12 v3 Updated air quality advice on the assessment of future NO_x and NO_2 projections for users of DMRB HA207/07, November 2013[iii];
- IAN 174/13 Updated advice for evaluating significant local air quality effects for users of DMRB HA207/07, June 2013[iv]; and
- IAN 175/13 Updated advice on risk assessment related to compliance with the EU Directive on ambient air quality and on the production of Scheme Air Quality Action Plans for users DMRB HA207/07[v].
- Defra's Local Air Quality Management Technical Guidance (LAQM.TG(16))[ii], where appropriate.

15.2.3. IAN 185/15 Updated traffic, air quality advice on assessment of link speeds and generation of vehicle data into 'speed-bands' for users of DMRB HA207/07[vi] has not been adopted by Transport Scotland, unless the Proposed Scheme passes through an Air Quality Management Area (AQMA). As detailed in Section 15.3 of this chapter there are no AQMA and therefore IAN 185/15 has not be used for the assessment.

Construction Phase

15.2.4. There is currently limited information available on construction activities, duration and associated traffic at this stage. As such, detailed construction phase impacts will be considered during the DMRB Stage 3 assessment and construction impacts are not considered any further in this Stage 2 assessment.

Operation Phase

15.2.5. For the assessment of operational impacts, DMRB HA207/07 and relevant IANs provide methodologies for undertaking simple and detailed levels of assessment. A simple level of assessment of the impacts on local air quality using the DMRB air quality screening tool methodology detailed in Annex D of DMRB HA207/07 has been undertaken to determine potential effects on NO_2, PM_{10} and $PM_{2.5}$ (defined in Appendix A15.1) concentrations at human health receptors, and NO_x and nitrogen deposition at designated ecological sites in the opening year. Comparisons of the modelled concentrations with the EU limit values for these pollutants, to indicate whether or not any of the Proposed Scheme Options result in any new exceedances of EU limit values or worsening of existing exceedances, has also been undertaken. A simple level of assessment has also been undertaken for regional emissions for the opening and design years.

15.2.6. The air quality assessment consists of:

- determination of the air quality study area;
- discussion of existing baseline conditions;
- assessment of the likely changes in local air pollutant concentrations during operation; and
- assessment of the likely changes in regional air pollutant emissions during operation.

15.2.7. Do-Something traffic data were used for 18 Proposed Junction Option combinations with each of the traffic model options representative of the three Proposed Mainline Scheme Options[1]. As the traffic data for the 18 options were sufficiently similar , i.e. less than the change criteria as set out in section 15.1, a single Do-Something scenario could be assessed using the average of the 18 sets of data. The only difference between the Scheme Options for the mainline was therefore for the change in alignment in each case. Similarly the only difference between the junction options was for the arrangement of the junction rather than changes in traffic.

15.2.8. Traffic data was also provided for a base year (2013), to allow verification of the air quality model against scheme specific monitoring.

15.2.9. For assessment of impacts on local air quality, scenarios include:

- base year (2013);
- projected base year (2026);
- opening year Do-Minimum (2026); and
- opening year Do-Something (2026) for all Proposed Scheme Options.

[1] The three mainline alignment options do not impact the forecast traffic flows, therefore, traffic modelling options were for southbound widening only. With a single mainline alignment option there are 3 Aviemore South options, 2 Granish options and 3 Black Mount options giving 18 combinations in total.

15.2.10. For assessment of impacts on regional emissions assessment scenarios therefore include:

- base year (2013);
- opening year Do-Minimum (2026);
- opening year Do-Something (2026) for all Proposed Scheme Options;
- design year Do-Minimum (2041); and
- design year Do-Something (2041) for all Proposed Scheme Options.

Baseline Data Collection

Information and Data Sources

15.2.11. Information on existing baseline air quality conditions within the study area was obtained from the following sources:

- The Highland Council's air quality review and assessment reports[vii].
- Air quality background concentrations, monitoring data, emissions data and Pollution Climate Mapping (PCM) baseline modelling data acquired from the Scottish Environment Protection Agency (SEPA)[viii], Defra's UK Air Quality Information Resource (UK-AIR)[ix] and The Highland Council.
- Designated ecological site information from Magic GIS[x] and Scottish Natural Heritage (SNH) Information Service[xi].
- Critical load data for identified designated ecological habitats and background nitrogen deposition rates from the UK Air Pollution Information System (APIS)[xii].

Local Air Quality Assessment

15.2.12. The assessment of the potential air quality impacts of the Proposed Scheme Options has been undertaken using the simple assessment method detailed in Annex D of DMRB HA207/07. The method consists of a screening approach to estimate pollutant concentrations at receptor locations.

15.2.13. For this assessment, emissions of pollutants have been calculated for each link using Defra's latest Emissions Factors Toolkit at the time of assessment (EFT, version 6.0.2, November 2014)[xiii]. The contribution, in µg/m^3 (atmospheric concentration) per g/km/hr (emission), of the traffic to pollutant concentrations at receptors has then been calculated using the road traffic dispersion equations stated in DMRB HA207/07 Annex C3.2. The emission calculations assumed a "Motorway – Not London" road type for all modelled A9 links and "Rural – Not London" for all other roads, as a worst case.

15.2.14. This approach estimates the contribution from road traffic emissions to annual mean concentrations of pollutants at discrete receptors; these concentrations were then combined with estimates of background concentrations (taken from the Air Quality in Scotland background maps for the relevant year from a 2011 base year), to derive total annual mean concentrations. More detail on the background concentrations used in the modelling is provided in Section 15.3.

15.2.15. Total annual mean NO_2 concentrations were calculated from estimated road NO_x and background NO_2 concentrations, using the latest version of the 'NO_x to NO_2 conversion spreadsheet' (version 4.1)[xiv] available from the Defra UK-AIR website.

15.2.16. In addition to the estimated road NO_x and background NO_2 data, Defra's NO_x to NO_2 conversion spreadsheet requires a local authority area to be specified to determine regional oxidant concentrations, and a traffic mix to determine the proportion of primary NO_2. The local authority specified in the conversion tool was "Highland"; the traffic mix selected was "All non-urban UK traffic" for all roads included in the modelling.

15.2.17. The assessment has been undertaken in accordance with the IAN 170/12 on future NO_x and NO_2 projections, to account for variations in future year NO_2 predictions [iii]. The consequence of the conclusions of Defra's advice on long term NO_2 trends is that there is a gap between projected vehicle emission reductions and projections on the annual rate of improvements in ambient air quality in Defra's previously published technical guidance and observed trends. Air quality assessments following Defra LAQM.TG(16) guidance are considered to be overly optimistic in some cases. IAN 170/12 requires that steps are taken to adjust the estimated total NO_2 concentrations from modelling, termed "gap analysis" in order to better reflect future trends.

15.2.18. An additional scenario (projected base year) is required to enable the gap analysis to be completed. The projected base year scenario is modelled using the base year traffic data with the opening year vehicle emission factors and opening year background concentrations. Total NO_2 concentrations for the projected base year are calculated as described above. The results for the opening year are then adjusted using gap analysis to represent the observed long term trend profile.

15.2.19. Annual mean NO_2 concentrations based on both Defra LAQM.TG(16) and IAN 170/12 gap analysis factors are presented for comparison in Appendix A15.1. Annual mean NO_2 concentrations based on IAN 170/12 have been used in the core case for determining the impacts of the Proposed Scheme Options on local air quality.

Calculation of Nitrogen Oxides and Nitrogen Deposition

15.2.20. NO_x concentrations were estimated within relevant designated ecological sites up to a distance of 200 metres from the existing and new road centrelines for comparison against the annual mean AQS objective of 30 µg/m^3. The assessment was carried out using both Defra LAQM.TG(16) and IAN 170/12 gap analysis factors and the results are presented for comparison in Appendix A15.1.

15.2.21. To enable a comparison against critical loads, nitrogen deposition rates for the opening year scenarios have been calculated following DMRB HA207/07 Annex F. The road contribution to nitrogen deposition at each transect receptor was calculated as the difference between the total modelled NO_2 concentration at the receptor and the average background NO_2 concentration, and converted to a nitrogen deposition following DMRB Annex F.

15.2.22. The road increment was then added to the average background nitrogen deposition rate available from the Air Pollution Information System (APIS) website for the relevant 5 km grid square, to give the expected total nitrogen deposition rate at each transect location. The total deposition rate was compared to the relevant critical load for the type of ecosystem present. The change in deposition rate due to the Proposed Scheme was also examined.

Verification

15.2.23. Model verification is the process by which uncertainties in the modelling are investigated and, wherever possible, minimised. The verification step involves comparison of model estimated pollutant concentrations with monitored values that are representative of the base year model (which, based on available traffic data, for this assessment is 2013). A

scheme specific NO_2 monitoring survey has been undertaken, the results of which have allowed verification of the modelling results. Verification was undertaken in accordance with Defra's Technical Guidance LAQM.TG(16). Survey locations are provided in Table 15.5 and details of the verification provided in Appendix A15.1.

15.2.24. Monitoring of particulate matter is not carried out within the study area; therefore the model performance for this pollutant has not been verified. This is a common position for many scheme assessments.

Consultation

15.2.25. No consultation has been undertaken to date.

Assessment of Impacts

Value/Sensitivity

15.2.26. Receptors that are potentially sensitive to changes in air quality are defined in DMRB HA207/07 as residential properties, schools, hospitals and relevant designated ecological sites (containing habitats sensitive to NO_x and/or nitrogen deposition) located within 200 m of the ARN. The assessment considers the impacts at representative sensitive human health receptors and at ecological receptors including the following types of designated sites: Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites.

Receptors

15.2.27. Relevant locations with public exposure (including residential, medical and educational premises if present) have been identified from Ordnance Survey MasterMap® data[xv]. The Magic GIS website and datasets available from SNH Information Service were used to identify relevant internationally and nationally designated ecological sites in the vicinity of the Proposed Scheme Options and its ARN (SSSI, SAC, SPA and Ramsar sites).

15.2.28. There were 5 designated ecological sites identified within the study area, at Alvie SSSI, River Spey SAC/SSSI, Craigellachie SSSI, Loch Vaa SPA/SSSI and Slochd SAC (as detailed in the Baseline Section 15.3). Transects of receptor points from the closest point within the designated site and at set distances of approximately 25 m, 50 m, 100 m, 150 m and 200 m from the nearest road were assessed. Further details of the designated ecological sites, including habitat types and applicable critical loads are provided in the Baseline (section 15.3).

15.2.29. There are no human health receptors or designated ecological sites within 200 m of the Proposed Black Mount Junction Options.

15.2.30. A total of 16 discrete human health receptors were included in the air quality model. The assessed human health receptors are listed in Table 15.1 and the designated ecological site transects are listed in Table 15.2 in Appendix A15.1. Both human health and ecological receptors are shown on Figure 15.1.

Table 15.1: Human Health Receptors

Receptor	Grid Reference	Description
Mainline		
M1	NH8451924204	Slochd, Blackmount - Slochd Road, Carrbridge
M2	NH8480723798	4 Slochd Railway Cottages, Blackmount - Slochd Road, Carrbridge
M3	NH8967322502	Dunelm, Station Road - Dalnahaitnach, Carrbridge
M4	NH9178419086	Croft Of Kinveachy, A95T B9153 Junction - Skye Of Curr Junction
M5	NH9123018435	Meikle Of Kinveachy, A95T B9152 Junction - B9153 Junction
M6	NH9038116725	Avielochan, Avielochan Road, Aviemore
M7	NH8929513945	1 Carn Elrig View, Aviemore
M8	NH8918411642	17 High Range House, Grampian Road, Aviemore
M9	NH8909611330	3 March Cottage, Grampian Road, Aviemore
M10	NH8899611042	Lower Kinakyle, B9152 A9T Sliproad - B970 Junction, Aviemore
Granish		
G1	NH8997814920	Granish, Shunem Cottage, Granish, B9152 Grampian Road - A95T Junction, Aviemore
G2	NH8988415048	Red Stag Lodge, B9152 Grampian Road - A95T Junction, Aviemore
Aviemore		
A1	NH8785410511	Lynwilg Farm Cottage, Kinrara, B9152 A9T Sliproad - B970 Junction, Aviemore
A2	NH8795110426	Farmhouse, Easter Lynwilg, B9152 A9T Sliproad - B970 Junction, Aviemore
A3	NH8804710162	Lynwilg Railway Cottages, Lynwilg, B9152 A9T Sliproad - B970 Junction, Aviemore
A4	NH8714010168	Loch Alvie, Druim-Mhor, Loch Alvie, B9152 A9T Sliproad - B970 Junction, Aviemore

Magnitude of Change

15.2.31. Evaluation of the significance of the local air quality assessment findings has been undertaken in accordance with IAN 174/13, based on results using IAN 170/12 as the most likely case.

15.2.32. Descriptors for magnitude of change and consequent significance of impact due to changes in ambient concentrations of NO_2 and PM_{10} are provided in the IAN 174/13. Current DMRB assessment guidance does not require the assessment of $PM_{2.5}$, and so $PM_{2.5}$ is not addressed within IAN 174/13. As there is an annual mean objective for $PM_{2.5}$ in Scotland, criteria set out in IAN174/13 for the assessment of change to annual mean concentrations of NO_2 and PM_{10} have also been applied to $PM_{2.5}$.

15.2.33. The changes in magnitude, which are based on an assumed measure of uncertainty (MoU) of 10%, may be described as ‘small’, ‘medium’, ‘large’ or ‘imperceptible’, depending on the change in concentration relative to the air quality criterion.

15.2.34. Table 15.2 presents magnitude of change criteria for annual mean concentrations. According to IAN 174/13, only those receptors that are at a reasonable risk of exceeding relevant air quality thresholds need to be considered when determining significance.

15.2.35. In line with guidance within IAN174/13, the magnitude categories within Table 15.2 have also been applied to changes in annual mean concentrations of NO_x for the assessment of designated ecological sites.

Table 15.2: Magnitude of Change Criteria for Local Air Quality

Magnitude of change in concentration	Percentage change in annual mean NO_x, NO_2, PM_{10} and $PM_{2.5}$
Large	Greater than full MoU value of 10% of the air quality objective
Medium	Greater than half of the MoU value of 5%, but less than the full MoU of 10% of the air quality objective.
Small	More than 1% of objective and less than half of the MoU i.e. 5%. The full MoU is 10% of the air quality objective
Imperceptible	Less than or equal to 1% of objective

Impact Significance

15.2.36. In order to assess the significance of impacts for annual mean NO_2, PM_{10} and $PM_{2.5}$, the number of receptors that fall within the 'small', 'medium' and 'large' magnitude of change categories is calculated and compared to the guidelines presented in Table 15.3 (an imperceptible magnitude of change is not considered to result in a significant impact).

15.2.37. As outlined in IAN 174/13, significant air quality impacts are only identified for receptors where air quality thresholds are exceeded in either the Do-Minimum (without Proposed Scheme Option) and/or Do-Something (with Proposed Scheme Option) scenarios.

Table 15.3: Guideline to Number of Receptors Constituting a Significant Impact for Air Quality

Magnitude of change in concentration	Number of receptors with	
	Worsening of air quality objective already above objective or creation of a new exceedance	Improvement of an air quality objective already above objective or the removal of an existing exceedance
Large	1 to 10	1 to 10
Medium	10 to 30	10 to 30
Small	30 to 60	30 to 60

Compliance with EU Directive on Ambient Air Quality

15.2.38. An assessment of the Proposed Scheme impacts in relation to the risk of non-compliance with the EU Directive on ambient air quality is required under guidance within IAN 175/13

15.2.39. PCM model link data were obtained from Defra's UK Ambient Air Quality Interactive Map for the Proposed Scheme air quality study area. The PCM model link data were overlaid with the Proposed Scheme local air quality ARN to determine the Compliance Risk Road Network (CRRN).

15.2.40. There are no PCM model links within the study area and therefore no assessment of compliance risk can be undertaken. This is in accordance with IAN 175/13, which states that "where the two road networks intersect, only this subset of the road network should be used to inform the compliance risk". It is therefore concluded that there is no risk of the Scheme being non-compliant with the EU Directive on ambient air quality.

Regional Emissions Assessment

15.2.41. A regional air quality assessment was undertaken in accordance with DMRB HA207/07 to determine the pollutant emissions for the affected road network for the base year, opening year and design year. Emission calculations were undertaken using the Defra's Emission Factor Toolkit (EFT), version 6.0.2, to allow use of the current emissions factors.

15.2.42. The pollutants included in this assessment are CO_2, NO_x, particles (including PM_{10} and $PM_{2.5}$) and hydrocarbons. Emissions of CO have not been calculated as this pollutant is no longer included in current vehicle emission factors supported by Defra and DfT.

Limitations of the Assessment

15.2.43. A simple level of assessment of the impacts on local air quality using the DMRB air quality screening tool methodology detailed in Annex D of DMRB HA207/07 has been undertaken. The screening model uses a simple distance drop off calculation to estimate pollutant concentrations at receptor locations. The model does not take meteorological conditions into account, specifically wind speed or road alignment relative to wind direction. Model verification and adjustment has however, been undertaken to minimise uncertainties in the modelling and correct for bias in the calculation.

15.3. Baseline Conditions

Local Air Quality Management

15.3.1. The Proposed Scheme lies within the administrative boundaries of The Highland Council. The Highland Council has declared one AQMA within Inverness city centre due to exceedances of the NO_2 annual mean AQS objective. The AQMA incorporates two properties and is located approximately 25 km to the northwest of the Proposed Scheme, and is not expected to be affected by the Proposed Scheme Options.

15.3.2. The 2015 Updating and Screening Assessment Report concluded that no other exceedances of the relevant AQS objectives were identified at the remaining monitoring locations within The Highland Council area.

Air Quality Monitoring

15.3.3. Measurements of pollutant concentrations can be made by establishing analytical instruments that can measure across a continuous time frame and record average, minimum and maximum concentrations over specified periods.

15.3.4. Simpler sampling equipment, such as passive diffusion tubes, absorb pollutants over a longer time period and are subsequently analysed at an accredited laboratory to give an average concentration over the course of the monitoring term. Survey results from continuous monitoring are made available on UK-AIR and the Air Quality in Scotland website[xvi] whereas results from local passive monitoring are available through The Highland Council.

15.3.5. There is no ongoing continuous or passive monitoring undertaken by the local authorities in the immediate vicinity of the Proposed Scheme.

15.3.6. The closest continuous monitoring location relative to the Proposed Scheme is at Telford Street, Inverness. The continuous monitoring station is classified as a roadside site and is within Inverness city centre, approximately 25 km to the northwest of the

Proposed Scheme. The site is included within the UK Automatic Urban and Rural Network (AURN). The most recent monitoring data for the site, taken from The Highland Council 2015 Updating and Screening Assessment Report and the Air Quality in Scotland website are presented in Table 15.4 below for NO_2, PM_{10} and $PM_{2.5}$ along with relevant AQS objectives.

Table 15.4: Annual mean monitoring results from Telford Street, Inverness (µg/m³)

Pollutant	2009	2010	2011	2012	2013	2014	2015
Long term mean concentration							
Nitrogen Dioxide (NO2)	20.7	24.5^	27.0	29.2	21.0	21.0	27.5*
Annual Mean Objective	40µg/m³						
Particulate Matter (PM10)	11.6	14.0	11.8	11.0	11.7	11.0	9.0
Annual Mean Objective	18µg/m³						
Particulate Matter (PM2.5)	6.0	7.0	6.0	6.0	6.0	6.0	5.0
Annual Mean Objective	12µg/m³						
^Data capture <90% *Data from Defra UK-AIR.Data capture rate <75%							
Short term mean concentration							
Nitrogen Dioxide (NO_2)	0	0 (118)	0	0	0	0	0
Hourly Mean Objective	200µg/m³ not to be exceeded more than 18 times per year						
Particulate Matter (PM_{10})	0	2 (24.9)	0 (20.0)	1	0	0	n/a
Daily Mean Objective	50µg/m³ not to be exceeded more than 7 times per year						
Where the data capture was less than 90% the 99.8% percentile of hourly means is displayed in brackets							

15.3.7. Given the urban location of this monitoring site, data are not considered representative of the Proposed Scheme study area, which is predominantly rural. However, as NO_2 and PM_{10} concentrations are below the annual mean and short term AQS objectives at the city centre site, it is reasonable to assume that pollutant concentrations within the Proposed Scheme study area are below the respective AQS objectives. This is further supported by additional data including the very low Defra mapped background concentrations in the vicinity of the Proposed Scheme, and the results of the scheme specific monitoring survey which are further discussed below.

15.3.8. With respect to $PM_{2.5}$, the annual mean concentration measured at Telford Street was 7 µg/m³ in 2010 with concentrations remaining at 6 µg/m³ between in 2011 and 2014. These concentrations are less than the annual mean AQS objective to be achieved by 2020 in Scotland.

Scheme Specific Baseline Monitoring

15.3.9. DMRB HA207/07 requires the consideration of whether there is sufficient existing monitoring data to assess the impact of the Proposed Scheme Options against a baseline. There is currently no existing permanent monitoring undertaken within 200 m of the Proposed Scheme or within 1 km of the local air quality study area.

15.3.10. DMRB HA207/07 recommends that if there are insufficient monitoring data within the study area, passive diffusion tubes for NO_2 should be deployed as a minimum. The use

of diffusion tubes is recommended within Defra LAQM.TG(16)[xvii] for at least six months monitoring to allow for seasonal variability.

15.3.11. As such, in accordance with DMRB HA207/07 requirements, a six month baseline air quality monitoring survey commenced on 20th November 2015 and ended on 25th May 2016. The diffusion tubes used in the survey were the same type as used by The Highland Council, i.e. 20% TEA (triethanolamine) in water, supplied by Gradko Ltd, in order to ensure consistency between results.

15.3.12. Results from the six month baseline monitoring survey were annualised using data from three background AURN monitoring sites (Aberdeen, Dundee and Fort William), in accordance with guidance within LAQM.TG(16). Following annualisation, the baseline monitoring survey results have been bias corrected by applying the national bias adjustment factor obtained from the National Diffusion Tube Bias Adjustment Factor Spreadsheet ([xviii]). The spreadsheet is formed as a database of bias adjustment factors determined from local authority co-location studies throughout the UK. Site details and the annualised mean data for 2015 are presented for the survey in Table 15.5. Details of the annualisation are provided in Table 15.3 Appendix A15.1. The adjusted and annualised concentrations measured at the diffusion tube sites were all below the air quality criteria.

Table 15.5: Scheme Specific NO_2 Diffusion Tube Monitoring Locations and 2015 annual mean

ID	Grid Reference	Height	Site Type	Description	2015 Annual Mean ($\mu g/m^3$)
1	NH8101627078	2.8	Background	Drumbain Cottage	2.4
2	NH8285626206	2.6	Roadside	Slochd Summit Layby 152	12.1
3	NH8475223913	2.4	Roadside	Slochd Mhor Lodge	4.1
4	NH8633023890	2.8	Roadside	A9 Layby 149	8.9
5	NH9066322909	2.8	Roadside	Station Road, Bogroy / Carrbridge	7.6
6	NH9246319161	2.85	Background	Deshar Primary School	6.2
7	NH9100118175	2.8	Roadside	A9 Layby 137	14.3
8	NH9052916708	2.8	Roadside	Leading to Avielochan	11.4
9	NH8965513746	2.9	Roadside	Jct of Grampian Rd and Grampian View, Aviemore	15.1
10	NH8959612841	2.8	Roadside	Adjacent to 8, Myrtlefield, Aviemore	15.1
11	NH8910311388	2.3	Roadside	Road near Craig Dhu, March Cottage & Lagnacallich	9.6
12	NH8818410677	2.4	Roadside	Alltnacriche Hostel	4.1
13	NH8649109084	2.8	Roadside	Alvie / Loch Beag / Glebe Cottage	9.3

15.3.13. Statistical analysis of data for the three background AURN monitoring sites used for annualisation along with data from the Inverness roadside site found no statistically significant trend in annual mean NO_2 concentrations between 2012 and 2015. The 2015 monitoring data was therefore used without adjustment to verify the 2013 base year air quality modelling. The monitored annual mean NO_2 concentrations at Inverness, Aberdeen, Dundee and Fort William background AURN, used in the analysis, are presented for reference in Appendix A15.1 Table 15.5.

Emission Sources

15.3.14. The UK National Atmospheric Emissions Inventory (NAEI) provides source sector emissions data by 1 km squares for local authorities[xix]. To provide context to the study area, NO_x and PM_{10} emissions by source sector are presented in Table 15.6 for an average of the grid squares in which the Proposed Scheme is located, where the A9 passes between Slochd and Dalraddy. Emissions for NO_x are primarily attributable to road transport.

Table 15.6: Emissions of Air Pollutants in 2013 (tonnes) from Different Sectors

Source Sector	NO_x (tonnes)	NO_x % of total	PM_{10} (tonnes)	PM_{10} % of total
01 – Combustion in energy production and transfer	<0.01	<0.1%	0.50	2.6%
02 – Combustion in commercial, institutions, residential and agricultural sectors	6.94	7.7%	10.58	54.1%
03 – Combustion in industry	10.13	11.3%	2.97	15.2%
04 – Production processes	<0.01	<0.1%	0.05	0.3%
05 – Extraction / Distribution of Fossil Fuels	N/A	N/A	N/A	N/A
06 – Solvent Use	N/A	N/A	<0.01	0.1%
07 – Road transport	61.79	69.0%	3.97	20.3%
08 – Other transport and machinery	10.56	11.8%	0.68	3.5%
09 – Waste treatment and disposal	0.04	<0.1%	0.34	1.7%
10 – Agricultural, forests and land use change	N/A	N/A	0.19	1.0%
11 – Other sources and sinks	0.11	0.1%	0.29	1.5%
Total Emissions (rounded to 2 decimal places)	89.57	100%	19.57	100%

15.3.15. A review of emissions sources was undertaken using the SEPA interactive map[xx]. The map provides further information on releases of air emissions to atmosphere, sourced from the Scottish Pollutant Release Inventory (SPRI) database[xxi] The nearest regulated air releases are from The Highland Council Landfill Facility at Glenurquhart Road, Granish approximately 0.3 km to the east of A9. The facility is regulated for the treatment and disposal of non-hazardous waste, with emissions to air reported below the respective thresholds other than methane with a reported release of 58,900 kg. Further east lies the Granish Recycling Centre at Granish Farm, Aviemore approximately 0.7 km away from the study area. The facility is regulated for treatment and disposal of non-hazardous waste, with emissions to air reported below the respective thresholds.

Ecological Designations

15.3.16. The Defra Magic website and the SNH Information Service GIS datasets were used to identify statutory designated ecological sites in the vicinity of the Proposed Scheme such as SSSI, SAC, SPA and Ramsar sites.

15.3.17. Designated ecological sites need only be considered in terms of air quality where they are located within 200 m of the Proposed Scheme Options or ARN. There are 3 designated sites of international importance (SAC, SPA) and 4 sites of national importance (SSSI) within 200 m of the Proposed Scheme Options and ARN. All 5 designated ecological sites contain habitats sensitive to NO_x and nitrogen deposition. Critical loads for nitrogen deposition are available from the APIS website. The

recommended UNECE critical loads for the main habitat type have been selected. The critical loads for nitrogen deposition along with background nitrogen deposition and NO_x at the designated ecological sites considered in the assessment are shown in Table 15.7.

15.3.18. The River Spey SAC/SSSI is included in the table as the rivers and streams habitat is stated on APIS as being potentially sensitive to nitrogen. There are, however, no critical loads available for the River Spey, and nitrogen deposition from atmospheric rather than aquatic nitrogen is not considered to be of concern within this site following discussion with the project ecologists. The River Spey is therefore not considered further within the assessment.

Table 15.7: Critical loads for nutrient nitrogen and background nitrogen deposition

Designated Site	Habitat Type or Species	Critical Load (kg N ha^{-1} yr^{-1})	Average Background Nitrogen Deposition* (kg N ha^{-1} yr^{-1})^	2013 Average Background NO_x ($\mu g/m^3$)
Slochd SAC	European dry heaths	10-20	5.2	2.9
River Spey SAC/SSSI	Rivers and streams	n/a	6.7	3.0
Loch Vaa SPA/SSSI	Permanent oligotrophic waters: Softwater lakes	3-10	5.6	3.0
Loch Vaa SPA/SSSI	Broadleaved deciduous woodland	10-20	8.4	3.0
Craigellachie SSSI	Upland birch woodland	10-15	7.8	3.0
Alvie SSSI	Valley mires, poor fens and transition mires	10-15	3.8	3.0
Alvie SSSI	Upland oak woodland	10-15	6.8	3.0

*Nitrogen deposition varies by land cover type, with habitats with a larger surface area of vegetation (e.g. woodland) having higher deposition.

^The background nitrogen deposition rate was taken from the APIS website (based on a 3-year mean for 2012-14). This was adjusted for the opening year scenario by reducing deposition rates by 2% per year (DMRB Annex F, paragraph F2.3, Step 2).

Background Concentrations

15.3.19. Background maps are provided by the Air Quality in Scotland website[xxii] to assist local authorities in support of the review and assessment of local air quality[xxiii]. These provide background concentrations of NO_x, NO_2, and PM_{10}. Mapped background concentrations of each pollutant can be downloaded for each 1 km by 1 km grid square in Scotland and are modelled based on monitoring and meteorological data for 2011.

15.3.20. $PM_{2.5}$ concentrations were estimated by applying the ratio of Defra mapped background concentrations[xxiv] of PM_{10} to $PM_{2.5}$ to the Scottish background mapping of PM_{10}, as background mapping is not currently available for $PM_{2.5}$ from the Air Quality in Scotland website.

15.3.21. The mapped background concentrations were adjusted to remove Trunk A-Road and Primary A-Road pollutant contributions from the total mapped concentrations in each grid square, in accordance with Defra guidance using the background sector removal tool[xxv].

15.3.22. Maximum, minimum and average background concentrations for the study area for the years 2013 (base year) and 2026 (opening year) are given in Tables 15.8 and 15.9 for NO_x, NO_2, PM_{10} and $PM_{2.5}$. Unadjusted background concentrations are also to provide a comparison.

Table 15.8: 2013 Annual Mean Background Concentrations (µg/m^3)

	Unadjusted				Adjusted			
	NO_x	NO_2	PM_{10}	$PM_{2.5}$	NO_x	NO_2	PM_{10}	$PM_{2.5}$
Minimum	3.37	2.55	6.31	4.58	2.79	2.30	6.30	4.57
Maximum	5.78	4.32	8.03	5.40	4.40	3.58	8.00	5.38
Average	4.27	3.22	6.65	4.73	3.09	2.54	6.63	4.71

Table 15.9: 2026 Annual Mean Background Concentrations (µg/m^3)

	Unadjusted				Adjusted			
	NO_x	NO_2	PM_{10}	$PM_{2.5}$	NO_x	NO_2	PM_{10}	$PM_{2.5}$
Minimum	2.36	1.80	6.02	4.31	2.11	1.73	6.02	4.31
Maximum	3.99	3.01	7.67	5.10	3.54	2.90	7.67	5.09
Average	2.75	2.09	6.35	4.45	2.37	1.95	6.34	4.45

15.3.23. The mapped background concentrations shown above are below the annual mean AQS objectives (presented in Appendix A15.1 Table 15.1) for all pollutants. As shown in Table 15.6, the majority of the 2013 background concentrations derive from road transport.

15.3.24. The 2013 Defra background mapped concentrations were compared with the data for relevant background monitoring sites. The comparison is presented in Appendix A15.1 Table 15.4. The measured results are within 10% of the mapped background data for the grid square containing each monitoring site. It is therefore considered appropriate to use the mapped background estimates to characterise background air quality conditions in the study area in 2013 and 2026.

15.3.25. Mapped background concentrations and measurements at monitoring locations in the vicinity of the ARN suggest that it is very unlikely that there would be exceedances of AQS objectives in the immediate vicinity of the ARN. Results from the scheme specific air quality survey show that the concentrations at properties in the immediate vicinity of the Proposed Scheme are not currently exceeding the AQS objectives.

15.4. Potential Impacts

Local Air Quality

15.4.1. Verification of the 2013 base model has been undertaken with comparison of modelled concentrations against those derived from scheme specific monitoring at 10 monitoring sites located in the study area (detailed in Appendix A15.1 Table 15.6 and shown in Figure 15.1). The model adjustment factor used in the assessment is 2.0879, which results in an improved overall model performance (RMSE of 2.4 µg/m^3) and which is performing sufficiently well in accordance with LAQM.TG(16).

15.4.2. There are 16 potential receptors, but not all are relevant to all options. The estimated road contributed concentrations at receptors have been combined with background

concentrations and compared with relevant air quality thresholds to determine whether there are likely to be any exceedances of relevant AQS objectives. Annual mean NO_2 concentrations used in the core case are based on the IAN 170/12 gap analysis situation. The significance of changes in concentrations has been evaluated in line with IAN 174/13. Results are presented in detail for the Proposed Scheme Options in Appendix A15.1 Tables 15.9 to 15.24.

Impacts Common to All Mainline and Junction Options

NO_2

15.4.3. Modelling demonstrates that estimated concentrations do not exceed the NO_2 AQS objectives at any receptor in the base or opening year with and without the Proposed Scheme Options. Estimated concentrations at all receptors are below the annual mean NO_2 AQS objective of 40 µg/m^3 both with and without the Proposed Scheme for all options.

15.4.4. In line with IAN 174/13, significant air quality impacts are only identified for receptors where air quality thresholds are exceeded in either the Do-Minimum or Do-Something scenarios. As such, all changes in NO_2 annual mean concentrations at human health receptors are considered not to be significant.

15.4.5. For the 1-hour mean AQS objective for NO_2, Defra advises that if the annual mean NO_2 concentration is less than 60 µg/m^3 the hourly mean objective is unlikely to be exceeded. The maximum annual mean NO_2 modelled at any receptor for any option, either the without Proposed Scheme or with Proposed Scheme scenario was at receptor M8 with 22.9 µg/m^3, and as such the 1-hour mean AQS objective is highly unlikely to be exceeded.

PM

15.4.6. In all cases, the estimated total PM_{10} concentrations are below the PM_{10} annual mean AQS objective of 18 µg/m^3 (less than half) in the base or opening year with and without the Proposed Scheme Options. As such, all PM_{10} changes at human health receptors are considered not to be significant.

15.4.7. Similarly for $PM_{2.5}$, the estimated concentrations at all receptors are below the AQS objective of 12 µg/m^3 (less than half).

15.4.8. Annual mean PM_{10} concentrations are used to derive the number of exceedances of the 24-hour mean PM_{10} criterion. The method is described in Defra LAQM.TG(16) section 5.17. This method is based on the relationship between the number of 24-hour exceedances of 50 µg/m^3 and the annual mean concentration. Using equation 10.1 (as given in section 5.17 of Defra LAQM TG(16)), it is calculated that there would be no exceedances of the PM_{10} 24-hour mean standard across all receptors in all scenarios. Modelling results therefore indicate there would be no change to the number of exceedances at any modelled receptor with the Proposed Scheme in any of the scenarios assessed for any of the Proposed Scheme Options.

15.4.9. Estimated changes in PM_{10} annual mean concentrations due to the Mainline Alignment Option 1 were less than 0.2 µg/m^3, i.e. ‘Imperceptible’ according to significance guidance within IAN 174/13.

15.4.10. Estimated changes in $PM_{2.5}$ annual mean concentrations due to the Proposed Scheme Options were all less than 0.12 µg/m^3, i.e. ‘Imperceptible’ according to significance guidance within IAN 174/13. As such, all $PM_{2.5}$ changes at human health receptors are considered not to be significant.

Designated Ecological Sites

15.4.11. The assessment has shown that the majority of estimated concentrations at ecological receptors are below the annual mean NO_x AQS objective for the protection of vegetation of 30 µg/m^3 both with and without the Proposed Scheme. Annual mean NO_x concentrations at designated ecological sites within 200 m of the Proposed Junction Options for the three proposed junction locations are all below the annual mean NO_x AQS objective and are therefore not discussed in detail below.

15.4.12. In line with DMRB HA207/07 Annex F, nitrogen deposition has been calculated at each ecological receptor and compared against relevant critical loads where the AQS objective is exceeded. Annual mean NO_x and nitrogen deposition results for all modelled ecological receptors are presented in detail for the Proposed Scheme Options in Appendix A15.1 Tables 15.25 to 15.28.

Impacts Specific to Mainline Alignment Options

NO_2

15.4.13. Although there are no exceedances of the AQS objective in any Mainline Alignment Option, changes in concentrations have been evaluated in line with IAN 174/13.

Designated Ecological Sites

15.4.14. The assessment has shown that the majority of estimated concentrations at ecological receptors adjacent to the Mainline Alignment Options are below the annual mean NO_x AQS objective for the protection of vegetation of 30 µg/m^3 both with and without the Proposed Scheme. Exceedances of the AQS objective for NO_x do however occur at the closest locations to the road edge within Alvie SSSI (Options 1,1A, and 2) and Craigellachie SSSI (Option 2 only).

Impacts Specific to Mainline Alignment Option 1

NO_2

15.4.15. Of the 10 receptors modelled, three (receptors M6, M8 and M10) are estimated to have a change in annual mean NO_2 concentrations considered to be ‘large’ or ‘medium’ according to IAN 174/13 (i.e. change greater than 2 µg/m^3). However, these properties are all within the likely land take for the proposed construction of this mainline alignment option and therefore assessment of changes at these receptors is not considered representative. The remaining seven receptors are expected to have changes in concentrations considered to be ‘small’ or ‘imperceptible’ (i.e. change less than 2 µg/m^3) or to have no change (Receptor M2). Of these seven receptors the largest change with Mainline Option 1, of 1.4 µg/m^3, is estimated at Receptor M9. The increase in concentration at this location is driven by an increase in traffic flow on the A9 mainline.

Designated Ecological Sites

15.4.16. The Proposed Mainline Alignment Option 1 includes southbound widening along the full route. The boundary of the Alvie SSSI currently abuts the A9 road edge. Southbound widening would therefore involve land take within the designated ecological site, with the A9 road edge moving approximately 15 m from ecological receptor point E1 to E3 at Alvie SSSI.

15.4.17. Exceedances of the AQS objective for NO_x occur at the closest locations to the road edge within Alvie SSSI. The change in annual mean NO_x concentrations at E3 is considered to be ‘large’ according to IAN 174/13 (i.e. change greater than 3 µg/m^3).

'Large' changes are expected up to a distance of approximately 50 m from the existing road centre within the designated site, primarily as a result of the road realignment. Comparing concentrations at approximately equivalent transect points, the effect of the road alone is in the order of 7 µg/m^3 at 20 m, reducing to a change of just 0.2 µg/m^3 at 150 m from the road edge.

15.4.18. Alvie SSSI is classified as both: valley mires, poor fens and transition mires; and upland oak woodland, both with critical loads of 10-15 kg N ha^{-1} yr^{-1}. The maximum total nitrogen deposition calculated for a habitat type of valley mires, poor fens and transition mires is estimated to be 4.6 kg N ha^{-1} yr^{-1} (Receptor E3), or less than half the most stringent critical load of 10 kg N ha^{-1} yr^{-1}. The maximum total nitrogen deposition calculated for a habitat type of upland oak woodland at the same location is estimated to be 6.8 kg N ha^{-1} yr^{-1}, or just over two thirds of the most stringent critical load of 10 kg N ha^{-1} yr-1. The change in nitrogen deposition at this location is the equivalent of less than 5% of the lower limit on the critical load of 10 kg N ha^{-1} yr^{-1}.

Impacts Specific to Mainline Alignment Option 1A

NO_2

15.4.19. Of the 10 receptors modelled, one (receptor M9) is estimated to have a change in annual mean NO_2 concentrations considered to be 'large' according to IAN 174/13 (i.e. change greater than 4 µg/m^3). The increase in concentration at receptor M9, of 4.4 µg/m^3, is again due to an increase in traffic flow on the A9 and a shift in the mainline bringing traffic closer to the property. Two further locations (receptors M6 and M8) have a change in annual mean NO_2 concentrations considered to be 'medium'. The remaining 7 receptors have changes in concentrations considered to be 'small' or 'imperceptible' or to have no change (receptor M2).

Designated Ecological Sites

15.4.20. The Proposed Mainline Alignment Option 1A includes both northbound and southbound widening. The boundary of Alvie SSSI currently abuts the A9 road edge. As with Option 1, southbound widening adjacent to Alvie SSSI involves land take within the designated ecological site with the A9 road edge moving approximately 7 m from ecological receptor point E1 to E3 at Alvie SSSI.

15.4.21. Exceedances of the AQS objective for NO_x again occurs at the closest locations to the road edge within Alvie SSSI. The change in annual mean NO_x concentrations at E3 within Alvie SSSI is considered to be 'large' according to IAN 174/13 (i.e. change greater than 3 µg/m^3). 'Large' changes are expected up to a distance of approximately 50 m from the existing road centre, primarily as a result of the road realignment. Comparing concentrations at approximately equivalent transect points, the effect of the road alone is in the order of 7 µg/m^3 at 20 m, reducing to a change of just 0.3 µg/m^3 at 150 m from the road edge.

15.4.22. The maximum total nitrogen deposition calculated within Alvie SSSI for a habitat type of valley mires, poor fens and transition mires is estimated to be 4.7 kg N ha^{-1} yr^{-1} (Receptor E3), or less than half the most stringent relevant critical load of 10 kg N ha^{-1} yr^{-1}. The maximum total nitrogen deposition calculated for a habitat type of upland oak woodland at the same location is estimated to be 6.9 kg N ha^{-1} yr^{-1}, less than the most stringent relevant critical load of 10kg N ha^{-1} yr^{-1}. The change in nitrogen deposition at this location is the equivalent to less than 6% of the most stringent critical load.

Impacts Specific to Mainline Alignment Option 2

NO_2

15.4.23. Of the 10 receptors modelled, two (receptors M3 and M9) are estimated to have a change in annual mean NO_2 concentrations considered to be 'medium' according to IAN 174/13 (i.e. change between 2 and 4 µg/m^3). The remaining seven receptors have changes in concentrations considered to be 'small' or 'imperceptible' or to have no change (receptors M2 and M6). The largest change with Mainline Option 2, of 3.5 µg/m^3, is estimated at receptor M9. The increase in concentration at this location is driven by an increase in traffic flow on the A9 and the realignment of the mainline bringing traffic closer to properties.

Designated Ecological Sites

15.4.24. The Proposed Mainline Alignment Option 2 includes both northbound and southbound widening. The boundary of the Alvie SSSI currently abuts the A9 road edge, whereas the boundary of Craigellachie SSSI is 10 m from the current road edge. Northbound widening adjacent to Craigellachie SSSI brings the road edge to the SSSI boundary whereas land take relating to northbound widening adjacent to Alvie SSSI results in the road edge moving from ecological receptor point E1 to E2 at Alvie SSSI.

15.4.25. Exceedances of the AQS objective for NO_x occurs at the closest locations to the road edge within both Alvie SSSI and Craigellachie SSSI. The change in annual mean NO_x concentrations at the closest receptor to the road edge within Alvie SSSI and Craigellachie SSSI (Receptors E2 and E9) are considered to be 'large' according to IAN 174/13 (i.e. change greater than 3 µg/m^3). 'Large' changes are expected up to a distance of approximately 50m from the existing road centre at the Craigellachie SSSI and up to 25 m from the existing road centre at the Alvie SSSI, primarily as a result of the road realignment. Comparing concentrations at approximately equivalent transect points, the impact of the road alone is in the order of 7 µg/m^3 at 25 m, reducing to a change of just 0.2 µg/m^3 at 150 m from the road edge.

15.4.26. The maximum total nitrogen deposition calculated within Alvie SSSI for a habitat type of valley mires, poor fens and transition mires is estimated to be 4.7 kg N ha^{-1} yr^{-1} (Receptor E2), or less than half the most stringent critical load of 10 kg N ha^{-1} yr^{-1}. The maximum total nitrogen deposition calculated for a habitat type of upland oak woodland at the same location is estimated to be 6.9 kg N ha^{-1} yr^{-1}, again less than the most stringent relevant critical load of 10 kg N ha^{-1} yr^{-1}. The change in nitrogen deposition at this location is the equivalent of just 3% of the critical load for upland oak woodland of 10 kg N ha^{-1} yr^{-1}.

15.4.27. Craigellachie SSSI is classified as upland birch woodland which has a critical load of 10-15 kg N ha^{-1} yr^{-1}. The maximum total nitrogen deposition is estimated to be 7.6 kg N ha^{-1} yr^{-1} (Receptor E9), less than the most stringent relevant critical load of 10 kg N ha^{-1} yr^{-1}.The change in nitrogen deposition at this location is the equivalent of less than 4% of the most stringent critical load for upland birch woodland of 10 kg N ha^{-1} yr^{-1}.

Impacts Common to Aviemore South Junction Options

NO_2

15.4.28. Although there are no exceedances of the AQS objective in any Junction Options, changes in concentrations have been evaluated in line with IAN 174/13. All 4 receptors included in the assessment are estimated to have a change in annual mean NO_2

concentrations considered to be 'small' or 'imperceptible' or to have no change according to IAN 174/13 across all 3 junction options.

Impacts Specific to Aviemore South Junction Options

Impacts Specific to Junction Option A02

15.4.29. Two receptors (receptors A3 and A4) are estimated to have a change in annual mean NO_2 concentrations considered to be 'small' (i.e. change between 0.4 and 2 µg/m^3). The largest change with Option A02, of 0.9 µg/m^3, is estimated at receptors A3 and A4. The increase in concentrations at these locations is driven by an increase in traffic flow on both the A9 mainline and B9152.

Impacts Specific to Junction Option A09

15.4.30. Three receptors (A2, A3, and A4) are estimated to have a change in annual mean NO_2 concentrations considered to be 'small' (i.e. change between 0.4 and 2 µg/m^3). The largest change with Option A09, of 0.9 µg/m^3, is estimated at receptor A4. Receptor A2 is expected to experience a 'small' reduction of 0.5 µg/m^3 in NO_2 concentrations, and receptor A1 no change.

Impacts Specific to Junction Option A18

15.4.31. One receptor (receptor A4) is estimated to have a change in annual mean NO_2 concentration considered to be 'small' (i.e. change between 0.4 and 2 µg/m^3). Receptors A2 and A3 are expected to experience an 'imperceptible' reduction in NO_2 concentrations with Option A18 and receptor A1 no change.

Impacts Common to Granish Junction Options

NO_2

15.4.32. Although there are no exceedances of the AQS objective in any Junction Options, changes in concentrations have been evaluated in line with IAN 174/13. Of the two receptors modelled, only one was estimated to have a change in annual mean NO_2 concentrations considered to be 'small' or 'medium' according to IAN 174/13 across all 4 Granish Junction Options. Receptor G1 is expected to experience an imperceptible change in concentrations across all junction options.

Impacts Specific to Granish Junction Options

Impacts Specific to Junction Option C18 and C21

15.4.33. Receptor G2 is estimated to have a change in annual mean NO_2 concentrations considered to be 'small' according to IAN 174/13. The increase in concentration with Junction Options C18 and C21, of 0.5 µg/m^3, is due to location and is driven by an increase in traffic flow on the A9 mainline and the introduction of the southbound on slip adjacent to the property.

Impacts Specific to Junction Option C31 and C34

15.4.34. Receptor G2 is estimated to have a change in annual mean NO_2 concentrations considered to be 'medium' according to IAN 174/13. However, this property is within the likely land take for the construction of these Proposed Junction Options and is therefore considered not to represent a realistic scenario.

Impacts Common to Black Mount Junction Options

15.4.35. There are no human health receptors or designated ecological sites within 200 m of the Proposed Black Mount Junction Options. The impact of the Black Mount Junction Options on local air quality is therefore insignificant.

Overall Evaluation of Local Air Quality Impact Significance

15.4.36. Estimated concentrations demonstrate there are no exceedances of the NO_2, PM_{10} or $PM_{2.5}$ AQS objectives at any receptor in the base or opening year with and without the Proposed Scheme Options. Modelled concentrations at all receptors are expected to be below the annual mean NO_2, PM_{10} and $PM_{2.5}$ AQS objectives both with and without the Proposed Scheme for all options.

15.4.37. As concentrations at all receptors are below the AQS objectives in all scenarios, in accordance with IAN 174/13, all changes are classed as 'not significant' for local air quality. The summary of the determination of the impact significance on local air quality across the options is presented below in Table 15.10 to 15.12.

15.4.38. Exceedances of the AQS objective for NO_x occur at the closest locations to the road edge both with and without the Proposed Scheme within Alvie SSSI (Options 1,1A, and 2) and Craigellachie SSSI (Option 2 only). The maximum estimated total nitrogen deposition is, however, less than the most stringent critical load for the relevant habitat type at roadside locations within both designated sites. Following discussion with project ecologists, the maximum change in nitrogen deposition, which represents a fraction of the relevant critical load at each location assessed, was considered to have no effect on the relevant habitats (Table 11.8 Chapter 11). It is therefore concluded that there are no significant changes in nitrogen deposition as a result of the Proposed Scheme at designated ecological sites.

Regional Emissions

Impacts Common to All Mainline and Junction Options

15.4.39. Total emissions from roads included in the air quality study area have been estimated for CO_2, NO_x, PM_{10} and hydrocarbons in the base year (2013) and with and without the Proposed Scheme Options in the opening year (2026) and the design year (2041). The results are presented in Appendix A15.1 Table 15.29 and discussed below.

15.4.40. Whilst relative changes may appear substantial when comparing the situation in future years with the 2013 base year, in terms of mass emissions the changes can be considered to be small when put in the context of regional or national emissions.

15.4.41. As discussed in section 15.2, traffic data for the three Proposed Scheme Options for the mainline alignments and the 13 junction options were sufficiently similar, i.e. less than the change criteria as set out in section 15.1, that a single Do-Something scenario could be assessed using the average of the 18 sets of data.

15.4.42. In 2026, the changes in regional air pollutant emissions resulting from the Proposed Scheme Options are expected to result in an increase in emissions of all pollutants of between 26% and 39% when compared to the Do Minimum scenario, this is due to an expected 26% increase in vehicle kilometres travelled in the Do-Something scenario.

15.4.43. By 2041, the Proposed Scheme Options are expected to increase emissions of all pollutants by between 26 and 39%, again due to the 26% increase in vehicle kilometres travelled when compared to the equivalent Do Minimum.

15.4.44. Emissions of all pollutants are reduced when compared with the 2013 base year, with the exception of CO_2 in 2026, and CO_2 and PM_{10} in 2041.

15.5. Potential Mitigation

Mitigation during Operation

15.5.1. The air quality assessment indicates that the Proposed Scheme would not result in any new exceedances of EU limit values or worsening of existing exceedances. No air quality mitigation for the operational phase of the Proposed Scheme is therefore required.

15.6. Summary of Route Option Impacts

15.6.1. In terms of local air quality, for all Proposed Scheme Options there are no significant changes in concentrations of NO_2, PM_{10} and $PM_{2.5}$ as a result of the Proposed Scheme at human health receptors. There are no material differences between the Proposed Scheme Options assessed.

15.6.2. For all Proposed Scheme Options, as concluded in consultation with project ecologists, there are no significant changes in nitrogen deposition as a result of the Proposed Scheme at designated ecological sites. There are no material differences between the Proposed Scheme Options assessed.

15.6.3. In terms of regional emissions, there are no material variations in the emission changes between Proposed Scheme Options, in the context of wider regional or national emissions there are no significant differences between the Proposed Scheme Options assessed.

15.6.4. Summaries of the route option impacts are provided below in Tables 15.10 to 15.12. There were no receptors sensitive to air quality identified adjacent to the Proposed Black Mount Junction Options, hence a summary table has not been included for this location.

Table 15.10: Summary of Impacts – Mainline Alignment Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Operational Phase Impacts						
Air Quality	Human Health	Changes to local air quality pollutants NO_2, PM_{10} and $PM_{2.5}$	Insignificant			No differentiators identified
Air Quality	Ecologically Designated Sites	Changes to NO_x and nitrogen deposition	Insignificant			

Table 15.11: Summary of Impacts – Aviemore South Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options			
			Option A02	Option A09	Option A18	
Operational Phase Impacts						
Air Quality	Human Health	Changes to local air quality pollutants NO_2, PM_{10} and $PM_{2.5}$	Insignificant			No differentiators identified
Air Quality	Ecologically Designated Sites	Changes to NO_x and nitrogen deposition	Insignificant			

Table 15.12: Summary of Impacts – Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Operational Phase Impacts							
Air Quality	Human Health	Changes to local air quality pollutants NO_2, PM_{10} and $PM_{2.5}$	Insignificant				No differentiators identified
Air Quality	Ecologically Designated Sites	Changes to NO_x and nitrogen deposition	N/A				N/A

15.7. Scope of DMRB Stage 3 Assessment

15.7.1. For Stage 3, potential impacts on local air quality resulting from both the construction and operation of the preferred scheme option will be assessed in accordance with relevant guidance outlined in DMRB HA207/07, associated IANs and Defra's LAQM.TG(16).

15.7.2. Construction impacts will be assessed qualitatively, taking into account the nature of proposed construction activities that have the potential to generate dust and the location of any sensitive receptors situated within 200 m of the preferred option construction works. Suitable mitigation measures to control/minimise construction dust emissions will be recommended. The construction assessment will be undertaken in accordance with the IAQM 'Guidance on the Assessment of Dust from Demolition and Construction' (IAQM, 2014)[xxvi]. If suitable traffic data for the construction phase is available, quantitative assessment of construction vehicle emissions will be undertaken.

15.7.3. For the assessment of operational impacts, DMRB HA207/07 provides methodologies for undertaking simple and/or detailed levels of assessment. Given the insignificant changes expected with the Proposed Scheme, it is anticipated that a detailed assessment will not be required. It is likely therefore that a simple assessment, using the screening methodology within DMRB HA207/07 will be sufficient for Stage 3 assessment of the preferred option, provided that neither the route nor the traffic data change notably. The level of assessment that will be required is under review, to be confirmed in line with other A9 dualling projects currently underway.

---

[i] Highways England (2007); HA 207/07 Air Quality. Design Manual for Roads and Bridges Volume 11, Section 3, Part 1. Highways Agency. http://www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf
[ii] Defra (2009) Local Air Quality Management Technical Guidance (LAQM.TG (09)). https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69334/pb13081-tech-guidance-laqm-tg-09-090218.pdf
[iii] Highways England (2013), IAN 170/12 v3 Updated air quality advice on the assessment of future NO_x and NO_2 projections for users of DMRB Volume 11, Section 3, Part 1 'Air Quality.
[iv] Highways England (2013), IAN 174/13 Updated advice for evaluating significant local air quality effects for users of DMRB Volume 11, Section 3, Part 1 Air Quality (HA207/07).
[v] Highways England (2013), IAN 175/13 Updated advice on risk assessment related to compliance with the EU Directive on ambient air quality and on the production of Scheme Air Quality Action Plans for users DMRB HA207/07.
[vi] Highways England (2015) IAN 185/15 Updated traffic, air quality advice on assessment of link speeds and generation of vehicle data into 'speed-bands' for users of DMRB Volume 11, Section 3, Part 1 Air Quality.
[vii] The Highland Council (2015), 2015 Updating and Screening Assessment for The Highland Council (2015).
[viii] Scottish Environment Protection Agency (SEPA) (2015), Scottish Pollutant Release Inventory [online]
[ix] Defra (2015), UK-AIR: Air Information Resource [online] http://uk-air.Defra.gov.uk/
[x] Defra (2015), MAGIC [online] http://magic.Defra.gov.uk/MagicMap.aspx
[xi] Scottish Natural Heritage (SNH) (2015), Scottish Natural Heritage All of Nature for all of Scotland [online] www.snh.gov.uk
[xii] Centre for Ecology and Hydrology and the UK pollution and conservation agencies (2015), Air Pollution Information System: APIS [online] http://www.apis.ac.uk/
[xiii] Defra (2014), Emissions Factors Toolkit (EFT, version 6.0.2); Defra UK-AIR website.
[xiv] Defra (2014), 'NO_x to NO_2 conversion spreadsheet' (version 4.1); Defra UK-AIR website.
[xv] Ordnance Survey (2015), Mastermap data, Ordnance Survey [online] https://www.ordnancesurvey.co.uk/
[xvi] Air Quality in Scotland (2015), Monitoring Data; [online] http://www.scottishairquality.co.uk/latest/summary
[xvii] Defra (2008), Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance; [online] http://laqm.Defra.gov.uk/documents/0802141004_NO2_WG_PracticalGuidance_Issue1a.pdf
[xviii] Defra (2016), National Diffusion Tube Bias Adjustment Factor Sheet (version 06/16); Defra UK-AIR website.
[xix] National Atmospheric Emissions Inventory (2015), UK Emissions Interactive Map; Defra. [online] http://naei.Defra.gov.uk/data/gis-mapping

[xx] Scottish Pollutant Release Inventory (2014), Company Search Results; SEPA [online] http://apps.sepa.org.uk/SPRIPA/Search/ViewReturn.aspx?returnId=29080
[xxi] Air Quality in Scotland (2015), Emissions to air (SPRI); [online] http://www.scottishairquality.co.uk/data/emissions
[xxii] Air Quality in Scotland (2015), Maps of Annual Concentrations [online] http://www.scottishairquality.co.uk/data/mapping?view=data
[xxiii] Defra (2014) Air Pollution Background Concentration Maps: A users guide for Local Authorities. http://laqm.Defra.gov.uk/documents/Background-maps-user-guide-v1.0.pdf
[xxiv] Defra (2011) Background Mapping data for local authorities; Air Information Resource [online] http://uk-air.Defra.gov.uk/data/laqm-background-maps?year=2011
[xxv] Defra (2014), NO_2 Adjustment for NO_x Sector Removal; Air Information Resource [online] http://laqm.Defra.gov.uk/documents/NO2-Adjustment-for-NOx-Sector-Removal-Tool-v4.0.xls.zip
[xxvi] Institute of Air Quality Management (IAQM) (2014), Guidance on the Assessment of Dust from Demolition and Construction

16. Noise and Vibration

16.1. Introduction

16.1.1. This chapter presents the DMRB Stage 2 Assessment of the expected noise and vibration impacts arising from the Proposed Scheme Options on sensitive receptors (such as dwellings, schools, and community facilities) located in proximity to the Proposed Scheme.

16.1.2. The assessment builds upon the Strategic Environmental Assessment[i] and includes the following:

- Baseline conditions in the study area;
- Potential impacts of each of the Proposed Scheme Options compared to the baseline conditions; and
- A summary of the assessment of Proposed Scheme Options.

16.1.3. A list of technical definitions to support this chapter is given in the glossary/abbreviations section of this report. A description of the Proposed Scheme Options considered in this assessment is provided in Chapter 7 of this report.

Study Area

16.1.4. The study area has been determined using the guidance contained within paragraph A1.11 of the DMRB Volume 11, Section 3, Part 7 – Noise and Vibration 2011 HD213/11 Revision 1 (hereafter referred to as HD213/11).

16.1.5. The HD213/11 assessment requires calculations of noise impacts at locations within 600m of the carriageway edge of the proposed scheme (including improved, bypassed or new routes), and within 600m of any affected routes within 1km of the proposed scheme. The total area within the 600m boundaries is termed the 'calculation area'. A map detailing the study area is given in Figure 16-1. The study area contains 1715 dwellings and 9 other noise sensitive receptors including two schools, five churches, one library and one leisure centre.

16.1.6. Paragraph A1.11 of HD213/11 details the methodology by which the affected routes are identified. A route is affected where it is predicted to experience a change in noise of more than 1dB $L_{A10,18h}$ in the short term (i.e. opening year of the road project), or 3dB $L_{A10,18h}$ or more in the long term (i.e. the future assessment year). The future assessment year is the year between opening year and the 15th year where the maximum impact from the road project occurs.

16.1.7. HD213/11 also requires consideration beyond the calculation area, to take into account the likely noise impacts on the wider road network. The wider road network being identified as 50m from the carriageway edge of affected routes beyond the one kilometre boundary defined in 16.1.5.

Junction Options Study Areas

16.1.8. The impact of the Aviemore South, Granish and Black Mount junctions have been separately assessed to allow any changes in impact to be highlighted. Calculations of noise impacts at sensitive receptors within 1km of the carriageway edge of the combined junction options has been completed for Aviemore South, Granish and Black

Mount. This localised assessment of junction options is outside the scope of HD213/11 and has not been agreed with the Overseeing Organisation.

16.1.9. For Aviemore South junction, there are 17 receptors within 1km of the proposed junction options.

16.1.10. For Granish junction, there are 285 receptors within 1km of the proposed junction options.

16.1.11. For Black Mount junction, there is 1 receptor within 1km of the proposed junction options.

Policy and Plans

16.1.12. The national, regional and local planning policies and guidance relevant to noise and vibration are identified below.

National Planning Policy and Guidance

16.1.13. National planning policy on a variety of themes is contained within Scottish Planning Policy (SPP)[ii]. In terms of the impact of proposals on noise and vibration, SPP is focussed on:

- Supporting development that will contribute to sustainable economic growth and to high quality sustainable places; and
- Supporting healthier living by improving the quality of the built environment and by addressing environmental problems affecting communities.

16.1.14. Circulars and Planning Advice Notes (PANs) produced by the Scottish Government provide more focussed guidance by topic area. PAN 1/2011 Planning and Noise[iii] provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise. Further details of this guidance document are summarised in Chapter 19 (Policy and Plans) of this report.

Regional and Local Planning Policy Guidance

16.1.15. The Highland-wide Local Development Plan (HwLDP)[iv] is the land-use Plan which will guide the development and investment in the region over the next 20 years. The relevant policies in relation to noise and vibration, the details of which are summarised in Chapter 19 (Policies and Plans) of this report, include:

- Policy 28: Sustainable Design; and
- Policy 72: Pollution.

16.1.16. The SPP emphasises the Scottish Government's commitment to sustainable development and this is reflected in Policy 28 (Sustainable Design) of the HwLDP which supports developments that promote and enhance the social, economic and environmental well-being of the people of the Highlands. In view of this, developments which are judged to be significantly detrimental in terms of their impact on individual and community residential amenity will not accord with the HwLDP, unless there are no reasonable alternatives, if there is a demonstrable overriding strategic benefit to the development, or if satisfactory mitigation is incorporated.

16.1.17. Unwanted noise can have a significant impact on environmental quality, public health and amenity and it is important to be aware of the sources of noise in the environment in order to minimise or prevent its effects. As such, for proposals that may result in

significant noise pollution, Policy 72 (Pollution) of the HwLDP requires detailed assessment to be carried out on the levels, character and transmission and receiving environment of potential noise pollution. Proposals that result in significant noise pollution will only be approved where they show how noise pollution can be appropriately avoided and if necessary mitigated.

16.2. Approach and Methods

Road Traffic Noise

16.2.1. The assessment of road traffic noise at various noise sensitive receivers has broadly followed the Simple level assessment methodology outlined in HD213/11. Where the adopted methodology deviates from HD213/11 it has been identified together with justification.

16.2.2. The aim of this chapter is to provide decision makers with information to make an informed choice on the proposed options. The following elements have been omitted from the report to improve the clarity and/or because inclusion does not provide information which would help differentiate the options:

- Night time noise levels
- Ground borne vibration
- Reporting receptor noise levels and magnitude of change
- Cumulative impacts
- Noise contour maps
- Noise survey results
- Consultation

16.2.3. Assessment the night-time noise levels have not been calculated as hourly traffic data is not available, therefore, night-time levels would be derived using Method 3 of the TRL report[v]. It is considered that as the method uses a simple factor and a correction value to generate $L_{night,outside}$, the results would largely mirror the day time assessment and therefore would not provide additional information to help separate the options.

16.2.4. Ground borne vibration should be assessed if it is identified as a potential problem on existing routes. Vibration is not anticipated to be an issue and has not been undertaken for this Stage 2 assessment.

16.2.5. The assessment considers the noise climate both with and without the proposed scheme options, referred to as the Do-Something and Do-Minimum, respectively.

16.2.6. The assessment has been carried out in accordance with established prediction and assessment methodologies that are governed or guided by the following key documents:

- Calculation of Road Traffic Noise (CRTN), Department of Transport and Welsh Office, The Stationery Office, 1988[vi];
- Design Manual for Roads and Bridges Volume 11, Section 2 Part 5 (HA205/08), Assessment and Management of Environmental Effects[vii];
- Design Manual for Roads and Bridges Volume 11, Section 3 Part 7 (HD213/11 – Revision 1), Noise and Vibration[viii]; and
- Technical Advice Note - Assessment of Noise, The Scottish Government, 2011[ix].

16.2.7. CRTN is the accepted method for the prediction of traffic noise in the UK. Noise levels are calculated in terms of the $L_{A10,18h}$ index as specified in CRTN. This represents the average of the 18 hourly values of the A-weighted noise level exceeded for 10% of the time over each hour between the hours of 06:00 and 00:00. For this study, Annual Average Weekday Traffic (AAWT) flows have been used as specified by CRTN.

16.2.8. Noise levels in the study area have been predicted using commercially available software which applies all the calculation procedures detailed in CRTN, plus additional procedures from within HD213/11. The calculations are based on a three dimensional model of features which may affect the generation and propagation of noise.

16.2.9. In addition to traffic flow information, the traffic noise calculations are determined from digital mapping data detailing topographical and landscaping information including man-made features; positions of noise sensitive receivers such as houses, churches and schools; type of ground cover; and type of road surface used.

16.2.10. The traffic modelling team produced Do-Minimum and Do-Something scenarios for short term (opening year) and long term (future assessment year). There are eighteen Do-Something options (TR01 to TR18), these are based on combining all the different junction combinations, three at Aviemore South, two at Granish, and three at Black Mount. The transport modellers have not produced separate mainline alignment options because the mainline traffic doesn't change between the options. All traffic datasets are modelled for the southbound widening option. The traffic flows from the junction layout combinations are valid for the mainline alignment options.

16.2.11. A single traffic dataset (TR01) has been used to assess the variation in impact of the mainline alignment options, the dataset includes Aviemore South Option A02; Granish Option C31; and Black Mount Option D12 junction options. For each mainline option the data were aligned to the centreline of the scheme engineering drawings.

16.2.12. The impacts from the junction alignments contained in TR01 (A02, C31 and D12) are included in the mainline assessment.

16.2.13. The traffic data sets used to assess Aviemore South junction options were: TR01 (A02); TR14 (A09) and TR18 (A18).

16.2.14. The traffic data sets used to assess Granish junctions options were: TR01 (C31) and TR14 (C34).

16.2.15. The traffic data sets used to assess Black Mount junctions options were: TR01 (D12); TR14 (D51) and TR18 (D03).

16.2.16. The 36 (eighteen short term and eighteen long term) traffic datasets were screened for differences in in flow, composition and speed between junction instances (e.g. Aviemore South A02 appears in traffic model TR01; TR02; TR03; TR10; TR11 and TR12). Changes were found to be not great enough to exceed HD213/11 threshold values, i.e. perceptible change in noise level.

Ground-borne Vibration

16.2.17. HD213/11 advises that for a Simple level assessment, ground borne vibration should only be assessed if it is identified as a potential problem on existing routes. Vibration is not anticipated to be an issue as the new road surface will be smooth, and ground borne vibrations from traffic are only generally perceptible where the road surface is uneven. Permanent traffic induced vibration impacts have not been considered in this DMRB Stage 2 Assessment.

Construction Noise and Vibration

16.2.18. Construction of the Proposed Scheme has the potential to impact upon residents and other sensitive receptors adjacent to the works.

16.2.19. At this stage of scheme design neither a construction programme nor details of the likely construction plant and equipment to be used are available. An assessment of construction noise impacts has not been carried out at this stage. Construction noise predictions would be carried out at the DMRB Stage 3 Assessment, when a preferred option has been identified using available data.

Noise Model Assumptions

16.2.20. Ground contour information for the Do-Minimum scenarios and the topography beyond the scheme corridor is derived from the Ordnance Survey (OS) Terrain 50 dataset at a contour accuracy of 10m.

16.2.21. Ground contour information for the Do-Something scenarios along the scheme corridor is derived from the scheme 3D Engineering drawings.

16.2.22. Noise levels have been calculated at residential dwellings and other sensitive receptors within the study area as defined in the study area section above. HD213/11 provides examples of noise sensitive receptors. These include dwellings, hospitals, schools, community facilities, designated areas (e.g. National Scenic Area (NSA), National Park, Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Sites of Special Scientific Interest (SSSI)) and public rights of way such as footpaths.

16.2.23. Building footprint data is taken from Ordnance Survey (OS) MasterMap. The height of buildings within the noise model have been set to 8m in height. There are more than 2800 buildings within the study area, using a uniform building height is a necessary simplification for models containing large building counts. A building height of 8m is unlikely to have a significant effect on predicted impacts. Receptor height is a maximum of 4m above ground level, the shielding provided by an 8m building is considered to be similar to that of a taller building. For buildings shorter than 8m (e.g. garages) the noise model will include more shielding than reality and may under predict noise impacts in a small number of instances.

16.2.24. Identification of sensitive receptors is based on OS MasterMap and Address BasePlus data.

16.2.25. The noise model receptor height of 4m (i.e. first floor height) has been assumed for all dwellings. A receptor height of 1.5m is assumed for other sensitive receptors.

16.2.26. Noise levels at sensitive receptors have been predicted at a distance of 1m from the façade and include a 2.5dB(A) façade correction.

16.2.27. Open space sensitive receptors are not included in the Stage 2 assessment, e.g. Cairngorms National Park. Impact to open space receptors will be included in the Stage 3 assessment.

16.2.28. For all sensitive receptors, the reported noise impact is taken on the façade with the least beneficial change in noise level.

16.2.29. For each route option the following comparisons are made in order to determine the impact in the short term and long term:

- Do-Minimum scenario in the baseline year against the Do-Something scenario in the baseline year (short term); and
- Do-Minimum scenario in the baseline year against Do-Something scenario in the future year assessment (long term).

16.2.30. The baseline year is taken as being the opening year of the road project. This is considered to be the year which is most representative of the situation immediately before the road project opens to traffic, which for this assessment is 2026. The future year assessment for operation is defined as the year within the first 15 years of the modelled opening year where traffic flows are greatest. The future assessment year is therefore usually the design year of the proposed scheme (15 years after the modelled opening year), which in this assessment is 2041.

16.2.31. It has been assumed that the road surface of the existing highway network is conventional Hot Rolled Asphalt (HRA) with a texture depth of 2mm in both the Do-Minimum and Do-Something scenarios. In accordance with CRTN this provides a zero surface correction in noise calculations where the mean traffic speed is ≥ 75 km/h. Where the mean traffic speed is < 75 km/h the surface correction is -1dB. Changes in road surface types and subsequent correction to the noise level, has the potential to mask or distort the difference between options. A homogeneous surface type for both the Do-Minimum and Do-Something scenarios is assumed for the Stage 2 assessment.

16.2.32. In line with HD213/11, a minimum traffic speed of 20kph is used in the noise model where the traffic model predictions provide speeds less than this.

16.2.33. Within the traffic modelling data provided for each of the route options there are some road links on which a traffic flow of <1,000 vehicles (18-hour AAWT flow) is given. CRTN paragraph 30 provides guidance on the reliability of low traffic flows and states that calculations of noise level for traffic flows below 1,000 vehicles (18-hour AAWT) are unreliable. Flow numbers below 1000 vehicles were used, this was in line with the AMJV Stage 2 model assumptions. Accordingly for the purposes of this assessment a number of assumptions have been made:

- Where all the traffic flows on a particular road link for all years assessed are <800 vehicles (18-hour AAWT flow), the flow for each scenario is assumed to be zero vehicles, i.e. the road is not included in the assessment;
- Where the traffic flows on a particular road link are >800 but <1000 vehicles (e.g. Do-Minimum 2026 = 850, and Do-Something2026 = 950), the traffic flows for the scenario are not adjusted and included to assess the change in noise i.e. the road is included in the assessment.

16.2.34. There are no road links in the traffic model where the traffic flow is less than <800 vehicles (18-hour AAWT flow) in one year, but >800 vehicles in other years.

Assessment of Impacts

16.2.35. The Scottish Government's Technical Advice Note (TAN) provides a framework for determining the level of significance relating the magnitude of noise impacts with the sensitivity of the receptor and has been used in this assessment.

16.2.36. The level of sensitivity associated with each type of noise sensitive receptor is defined within the TAN and is shown in Table 16.1.

Table 16.1: Level of sensitivity associated with various examples of NSRs

Sensitivity	Description	Examples of NSR
High	Receptors where people or operations are particularly susceptible to noise	Residential, including private gardens Quiet outdoor areas used for recreation Conference facilities Theatres/Auditoria/Studios Schools during the daytime Hospitals/residential care homes Places of worship
Medium	Receptors moderately sensitive to noise, where it may cause some distraction	Offices Bars/Cafes/Restaurants where external noise may be intrusive Sports grounds when spectator noise is a normal part of the event and where quiet conditions are necessary (e.g. tennis, golf, bowls)
Low	Receptors where distraction or disturbance from noise is minimal	Building not occupied during working hours Factories and working environments with existing high noise levels Sports grounds when spectator noise is a normal part of the event Night Clubs

Magnitude of Impact

16.2.37. To assist in developing an appropriate classification of the magnitude of noise impacts the TAN advises the use of the classification of the magnitude of impact detailed in HD213/11, whereby the impacts are classified for changes in noise experienced in both the short-term and long term. These are presented in Table 16.2 and Table 16.3. HD213/11 states that *a change in road traffic noise of 1dB $L_{A10,18h}$ in the short term (e.g. when a project is opened) is the smallest that is considered perceptible. In the long term (typically 15 years after project opening), a 3dB $L_{A10,18h}$ change is considered perceptible. The magnitude of impact should, therefore, be considered different in the short term and long term.*

Table 16.2: Description for magnitude of noise impacts in the short term

Noise change, $L_{A10,18h}$	Magnitude of impact
0	No change
0.1 – 0.9	Negligible
1 – 2.9	Minor
3 – 4.9	Moderate
5+	Major

Table 16.3: Description for magnitude of noise impacts in the long term

Noise change, $L_{A10,18h}$	Magnitude of impact
0	No change
0.1 – 2.9	Negligible
3 – 4.9	Minor

Noise change, $L_{A10,18h}$	Magnitude of impact
5 – 9.9	Moderate
10+	Major

Impact Significance

16.2.38. The framework for determining the level of significance relating the magnitude of the impact with the sensitivity of the receptor is defined within the TAN and is shown in Table 16.4.

Table 16.4: Significance of Impacts

Magnitude of impact	Level of Significance Relative to Sensitivity of Receptor		
	Low	Medium	High
Major	Slight/moderate	Moderate/Large	Large/Very Large
Moderate	Slight	Moderate	Moderate/Large
Minor	Neutral/Slight	Slight	Slight/Moderate
Negligible	Neutral/Slight	Neutral/Slight	Slight
No Change	Neutral	Neutral	Neutral

16.2.39. The level of significance and its relevance to the decision making process is detailed in the TAN, as follows:

- Very Large: these effects represent key factors in the decision making process. They are generally, but not exclusively, associated with impacts where mitigation is not practical or would be ineffective.
- Large: these effects are likely to be important considerations in the decision making process, but where mitigation may be effectively employed such that resultant adverse effects are likely to have a Moderate or Slight significance.
- Moderate: these effects, if adverse, while important, are not likely to be key factors in the decision making process.
- Slight: these effects may be raised but are unlikely to be of importance in the decision making process.
- Neutral: no effect, not significant, noise need not be considered as a determining factor in the decision making process.

Limitations of the Assessment

16.2.40. Annual average weekday traffic data have been provided for the modelled opening year (2026) and future assessment year (2041) for the Do-Minimum scenario and Do-Something scenarios (18 traffic data scenarios). The accuracy of the noise predictions performed is directly related to the accuracy of the data provided. It is considered that all data inputs for this assessment are of an adequate level to support a Simple level assessment as defined in HD213/11.

16.2.41. The traffic model has not been produced for separate mainline alignment options because altering the junction alignment does not have any material impact on forecast traffic flows. All traffic datasets are modelled for the southbound widening option.

16.2.42. The assessment of the mainline options is based on geographical differences (both horizontal and vertical) in the road alignment and earthworks.

16.2.43. In the scheme corridor the Do-Minimum ground contours are derived from OS dataset with a contour accuracy of 10m. The Do-Something ground contours are derived from the scheme 3D engineering drawings. The reduced precision of the Do-Minimum scenario has the potential to result in height inaccuracies at the boundary between the engineering drawings and the rest of the ground model.

16.2.44. Building footprint data taken from OS MasterMap is cross-referenced with Address BasePlus to identify sensitive receptors. There are instances of building footprints with address point data and with the datasets with either missing data or misaligned data.

16.2.45. Only one receptor has been identified as medium sensitivity, the Macdonald Aviemore Resort Leisure Centre. The receptor is not considered a differentiator between proposed options, therefore, the results have not been included.

16.3. Baseline Conditions

16.3.1. Baseline noise levels within the study area were predicted using the noise model for the Do-Minimum baseline year (2026) traffic scenario as required by HD213/11, paragraph 3.8.

16.3.2. The existing A9 between Dalraddy and Slochd is a single carriageway section running in a predominantly south to north direction for approximately 25km, west of the town of Aviemore, the village of Carrbridge, the Highland Main Line railway and River Spey and Loch Alvie. The area through which this section of the A9 passes is part of the Cairngorms National Park and is rural in nature. The areas surrounding the A9 are predominantly sparsely populated and when away from the vicinity of the A9 are likely to have a relatively low baseline noise climate dominated by natural noise sources (wind in the trees and wildlife) with contributions from road traffic noise from the A9 as well as sporadic railway noise. In the more highly populated areas of Aviemore and Carrbridge, the existing noise climate is likely to be higher, with road traffic noise a significant contributor.

16.3.3. In accordance with the Environmental Noise Directive 2002/49/EC (END)[x], a series of Transportation Noise Action Plans (TNAP)[xi], based upon the results of a noise mapping exercise, have been prepared by the Scottish Government for the largest Scottish Cities and transport routes in order to identify potential options for the management of noise to reduce levels where necessary and preserve environmental noise quality where it is good. The A9 was included in the noise mapping exercise and subsequent TNAP. However, no Candidate Noise Management Area (CNMA) has been proposed near to the route options of this assessment.

16.4. Potential Impacts

16.4.1. This section describes the potential impacts for mainline alignment and junction options.

16.4.2. For all identified receptors where calculations have been undertaken, the sensitivity of the receptor has been classified using Table 16.1 as being a high sensitive receptor. Medium and low sensitivity receptors are not key to the decision making process, as such, the impacts have been scoped out of this assessment.

16.4.3. For each noise sensitive receptor the change in noise resulting from the Proposed Scheme Option has been classified according to the categories defined in Table 16.2 (short term) and Table 16.3 (long term), the tables therefore represent the numbers of receptors experiencing a change in noise levels.

16.4.4. For all Proposed Scheme Options considered in this assessment, the potential impacts are described without mitigation and therefore represent a worst-case scenario. Mitigation to reduce any significant impacts identified will be developed for the preferred option during the DMRB Stage 3 Assessment.

16.4.5. The mainline alignment results contain all the high sensitivity receptors in the study area (1715 dwellings and 8 other sensitive receptors). The junction options contain a subset of high sensitivity receptors within the study area.

16.4.6. The predicted noise changes for the three mainline options at high sensitivity receptors are shown in Table 16.5 (short term) and Table 16.6 (long term).

Table 16.5: Short Term Noise Changes – Mainline Options

Short Term – Do-Minimum 2026 vs Do-Something2026 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option 1**	**Option 1A**	**Option 2**
Increase in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	507	516	514
	1.0-2.9	Minor*	360	355	317
	3.0-4.9	Moderate*	116	116	143
	5.0 +	Major*	4	4	4
No change	0		56	54	60
Decrease in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	137	134	132
	1.0-2.9	Minor*	157	158	150
	3.0-4.9	Moderate*	222	222	243
	5.0 +	Major*	164	164	160

* minor, moderate or major magnitude of noise impact is determined to be a perceptible short term change in noise level.

Table 16.6: Long Term Noise Changes – Mainline Options

Long Term – Do-Minimum 2026 vs Do-Something2041 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option 1**	**Option 1A**	**Option 2**
Increase in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	1053	1027	997
	3.0-4.9	Minor*	115	145	165
	5.0-9.9	Moderate*	4	4	5
	10.0 +	Major*	1	1	1
No change	0		10	11	16
Decrease in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	218	211	192
	3.0-4.9	Minor*	248	250	280
	5.0-9.9	Moderate*	74	74	67
	10.0 +	Major*	0	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible long term change in noise level.

16.4.7. The predicted noise changes for the three Aviemore South junction options at high sensitivity receptors are shown in Table 16.7 (short term) and Table 16.8 (long term).

Table 16.7: Short Term Noise Changes – Aviemore South Junction Options

Short Term – Do-Minimum 2026 vs Do-Something2026 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option A02**	**Option A09**	**Option A18**
Increase in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	0	2	2
	1.0-2.9	Minor*	6	6	5
	3.0-4.9	Moderate*	1	0	1
	5.0 +	Major*	1	2	1
No change	0		2	1	2
Decrease in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	5	6	5
	1.0-2.9	Minor*	2	0	0
	3.0-4.9	Moderate*	0	0	1
	5.0 +	Major*	0	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible short term change in noise level.

Table 16.8: Long Term Noise Changes – Aviemore South Junction Options

Long Term – Do-Minimum 2026 vs Do-Something2041 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option A02**	**Option A09**	**Option A18**
Increase in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	10	12	12
	3.0-4.9	Minor*	2	1	2
	5.0-9.9	Moderate*	1	1	1
	10.0 +	Major*	0	0	0
No change	0		1	0	0
Decrease in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	3	3	1
	3.0-4.9	Minor*	0	0	1
	5.0-9.9	Moderate*	0	0	0
	10.0 +	Major*	0	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible long term change in noise level.

16.4.8. The predicted noise changes for the two Granish junction options at high sensitivity receptors are shown in Table 16.9 (short term) and Table 16.10 (long term).

Table 16.9: Short Term Noise Changes – Granish Junction Options

Short Term – Do-Minimum 2026 vs Do-Something2026 – High Sensitivity Receptors				
Change in noise level (dB)		**Magnitude**	**Option C31**	**Option C34**
Increase in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	82	72
	1.0-2.9	Minor*	75	72
	3.0-4.9	Moderate*	12	17
	5.0 +	Major*	1	2
No change	0		4	5
Decrease in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	30	33
	1.0-2.9	Minor*	53	52

Short Term – Do-Minimum 2026 vs Do-Something2026 – High Sensitivity Receptors				
Change in noise level (dB)		**Magnitude**	**Option C31**	**Option C34**
	3.0-4.9	Moderate*	23	27
	5.0 +	Major*	5	5

* minor, moderate or major magnitude of noise impact is determined to be a perceptible short term change in noise level.

Table 16.10: Long Term Noise Changes – Granish Junction Options

Long Term – Do-Minimum 2026 vs Do-Something2041 – High Sensitivity Receptors				
Change in noise level (dB)		**Magnitude**	**Option C31**	**Option C34**
Increase in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	184	172
	3.0-4.9	Minor*	10	18
	5.0-9.9	Moderate*	0	1
	10.0 +	Major*	1	1
No change	0		1	3
Decrease in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	75	74
	3.0-4.9	Minor*	12	14
	5.0-9.9	Moderate*	2	2
	10.0 +	Major*	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible long term change in noise level.

16.4.9. The predicted noise changes for the three Black Mount junction options at high sensitivity receptors are shown in Table 16.11 (short term) and Table 16.12 (long term).

Table 16.11: Short Term Noise Changes – Black Mount Junction Options

Short Term – Do-Minimum 2026 vs Do-Something2026 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option D03**	**Option D12**	**Option D51**
Increase in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	0	0	0
	1.0-2.9	Minor*	0	0	0
	3.0-4.9	Moderate*	0	0	0
	5.0 +	Major*	0	0	0
No change	0		1	0	1
Decrease in noise level, $L_{A10,18h}$	0.1-0.9	Negligible	0	1	0
	1.0-2.9	Minor*	0	0	0
	3.0-4.9	Moderate*	0	0	0
	5.0 +	Major*	0	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible short term change in noise level.

Table 16.12: Long Term Noise Changes – Black Mount Junction Options

Long Term – Do-Minimum 2026 vs Do-Something 2041 – High Sensitivity Receptors					
Change in noise level (dB)		**Magnitude**	**Option D03**	**Option D12**	**Option D51**
Increase in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	1	1	1
	3.0-4.9	Minor*	0	0	0
	5.0-9.9	Moderate*	0	0	0
	10.0 +	Major*	0	0	0
No change	0		0	0	0
Decrease in noise level, $L_{A10,18h}$	0.1-2.9	Negligible	0	0	0
	3.0-4.9	Minor*	0	0	0
	5.0-9.9	Moderate*	0	0	0
	10.0 +	Major*	0	0	0

* minor, moderate or major magnitude of noise impact is determined to be a perceptible long term change in noise level.

Mainline Alignment Options Impacts

16.4.10. All mainline alignment options introduce an overall adverse noise impact, more sensitive receptors experience an increase in noise level rather than a decrease. However, when only perceptible changes are considered, more receptors are predicted to experience a decrease in noise as opposed to an increase for all mainline alignment options.

16.4.11. The number of receptors experiencing a perceptible noise benefit in both the short term (i.e. >1.0dB $L_{A10,18h}$) or long term (i.e. >3.0dB $L_{A10,18h}$) is similar across each option.

16.4.12. The spatial distribution of predicted noise changes are broadly the same for all mainline alignment options.

16.4.13. In general, greater magnitude adverse impacts occur closer to the A9 and become less with increasing distance. All major impacts are found at receptors within 100m of the A9 carriageway.

16.4.14. The magnitude of impact is higher in the short term versus the long term, this is a function of the change in magnitude, see Table 16.2 and Table 16.3.

16.4.15. Perceptible adverse impacts are concentrated in the population centres of Aviemore and Carrbridge for all mainline alignment options, this is because there are more sensitive receptors grouped together close to the A9 (within 300m of the carriageway). In Aviemore, perceptible adverse changes are associated with both the A9 and main road running through the centre (B9152). In Carrbridge, perceptible changes are associated with the A9 and the main roads (B938 and B9153).

16.4.16. For Option 1 and Option 1A, predominantly southbound widening, receptors located closer to the southbound carriageway experience a greater noise impact.

16.4.17. For Option 2, northbound widening, receptors closer to the northbound carriageway experience a greater noise impact.

16.4.18. Overall mainline Option 2 results in the highest adverse impact. The results for Option 1 and 1a are very similar in the short term, in the long term Option 1 has fewer Minor adverse impacts.

Aviemore South Junction Options Impacts

16.4.19. All Aviemore South junction options introduce an overall adverse noise impact, more sensitive receptors experience a perceptible increase in noise level rather than a decrease.

16.4.20. A limited number of receptors (up to 2) close to the junction are predicted to experience a major impact in the short term.

Granish Junction Options Impacts

16.4.21. All Granish junction options introduce an adverse noise impact concentrated in locations closer to the junction.

16.4.22. A limited number of receptors (between 1 and 2) close to the junction are predicted to experience a major impact in both the short and long term.

Black Mount Junction Options Impacts

16.4.23. All Black Mount junction options are predicted to have no perceptible impact.

16.5. Potential Mitigation

16.5.1. For each option in both the short and long term, a number of minor, moderate and major impacts have been predicted. Receptors experiencing perceptible adverse impact should be mitigated if possible.

16.5.2. Mitigation will be considered at sensitive receptors where adverse impacts are 1dB $L_{10,18h}$ in the short term or 3dB $L_{A10,18h}$ in the long term, where the predicted road traffic noise levels are above a threshold of 59.5dB $L_{A10,18h}$.

16.5.3. Appropriate mitigation will be developed at Stage 3 for the preferred option, typically traffic noise mitigation includes lower noise road surfaces and/or noise barriers and/or earth bunds.

16.6. Summary of Route Option Impacts

16.6.1. The mainline alignment options are summarised in Table 16.13 below. The highest overall impact for each option in the short and long term is given. The tables also contain a breakdown of the number of receptors predicted to receive a perceptible adverse impact. The adverse impacts are also expressed as a percentage of total receptors in the study area (1723).

Table 16.13: Summary of Impacts - Mainline Option Impacts

Sub-topic	Receptor	Potential Impact	Highest Overall Impact			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Operation Phase Impacts						
Noise and Vibration	High Sensitivity Receptors	Short term (2026)	Major 4 (<1%) major 116 (7%) moderate 360 (21%) minor	Major 4 (<1%) major 116 (7%) moderate 355 (21%) minor	Major 4 (<1%) major 143 (8%) moderate 317 (18%) minor	Differentiator – Lower impact from Option 1 and 1A Greatest impact from Option 2
Noise and Vibration	High Sensitivity Receptors	Long term (2041)	Major 1 (<1%) major 4 (<1%) moderate 115 (21%) minor	Major 1 (<1%) major 4 (<1%) moderate 145 (21%) minor	Major 1 (<1%) major 5 (<1%) moderate 165 (21%) minor	Differentiator – Lower impact from Option 1 Greatest impact from Option 2

16.6.2. The Aviemore South junction options are summarised in Table 16.14. The highest overall impact for each option in the short and long term is given. The tables also contain a breakdown of the number of receptors predicted to receive a perceptible adverse impact.

Table 16.14: Summary of Impacts – Aviemore South Junction Option Impacts

Sub-topic	Receptor	Potential Impact	Highest Overall Impact			Comparative Appraisal
			Aviemore South Junctions			
			Opt. A02	Opt. A09	Opt. A18	
Operation Phase Impacts						
Noise and Vibration	High Sensitivity Receptors	Short term (2026)	Major 1 major 1 moderate 6 minor	Major 2 major 0 moderate 6 minor	Major 1 major 1 moderate 5 minor	No differentiators identified
Noise and Vibration	High Sensitivity Receptors	Long term (2041)	Moderate 0 major 1 moderate 2 minor	Moderate 0 major 1 moderate 1 minor	Moderate 0 major 1 moderate 2 minor	No differentiators identified

16.6.3. The Granish junction options are summarised in Table 16.15. The highest overall impact for each option in the short and long term is given. The tables also contain a breakdown of the number of receptors predicted to receive a perceptible adverse impact.

Table 16.15: Summary of Impacts – Granish Junction Option Impacts

Sub-topic	Receptor	Potential Impact	Highest Overall Impact		Comparative Appraisal
			Granish Junctions		
			Opt. C31	Opt. C34	
Operation Phase Impacts					
Noise and Vibration	High Sensitivity Receptors	Short term (2026)	Major 1 major 12 moderate 75 minor	Major 2 major 17 moderate 72 minor	Lower impact from Option C31 Greater impact from Option C34
Noise and Vibration	High Sensitivity Receptors	Long term (2041)	Major 1 major 0 moderate 10 minor	Major 1 major 1 moderate 18 minor	Lower impact from Option C31 Greater impact from Option C34

16.6.4. The Black Mount junction options are summarised in Table 16.16 below. The highest overall impact for each option in the short and long term is given.

Table 16.16: Summary of Impacts – Black Mount Junction Option Impacts

Sub-topic	Receptor	Potential Impact	Highest Overall Impact			Comparative Appraisal
			Black Mount Junctions			
			Opt. D03	Opt. D12	Opt. D51	
Operation Phase Impacts						
Noise and Vibration	High Sensitivity Receptors	Short term (2026)	None No perceptible adverse impacts			No differentiators identified
Noise and Vibration	High Sensitivity Receptors	Long term (2041)	Negligible No perceptible adverse impacts			No differentiators identified

16.7. Scope of DMRB Stage 3 Assessment

16.7.1. Following the identification of the preferred option a Detailed level assessment as defined within HD213/11 will be conducted. The scope of a Detailed level assessment is similar to that of a Simple level assessment, but with a number of additional steps and comparisons made.

16.7.2. An assessment of the temporary noise and vibration impacts arising from construction of the preferred option will be undertaken. To assess the noise and vibration effects of construction at noise sensitive receptors, BS 5228 'Code of practice for noise and vibration control on construction and open sites' which is published in two parts, namely Part 1: Noise[xii] and Part 2: Vibration[xiii] is currently the principal code of practice document where detailed guidance is available. This method provides guidance on how to assess potential impacts using quantitative methods of estimating construction noise

and vibration with reference to ambient noise levels in the study area and empirical formulae for the prediction of the resultant peak particle velocity.

16.7.3. For the operational assessment, the preferred option will be modelled using computer based modelling software and appropriate noise mitigation measures identified where required.

16.7.4. The level of reporting of permanent traffic noise impacts will include the following three comparisons:

- Do-Minimum scenario in the baseline year against Do-Minimum in the future assessment year;
- Do-Minimum scenario in the baseline year against Do-Something scenario in the baseline year; and
- Do-Minimum scenario in baseline year against Do-Something scenario in the future assessment year.

16.7.5. The assessment will consider night-time noise levels for the future year assessments. In addition, assessment of both the permanent traffic nuisance impacts and the permanent traffic induced vibration impacts will be undertaken and Tables A1.3 and A1.4, as defined in HD 213/11, will be provided.

---

i Transport Scotland (2014), A9 Dualling Programme, Strategic Environmental Assessment (SEA).
ii Scottish Government (June 2014), Scottish Planning Policy.
iii Scottish Government (September 2006), PAN 1/2011 Planning and Noise.
iv The Highland Council (April 2012), Highland Wide Local Development Plan.
v TRL, Converting the UK traffic noise index $L_{A10,18h}$ to EU noise indices for noise mapping (2002)
vi Department of Transport Welsh Office (1988), Calculation of Road Traffic Noise.
vii The Highways Agency, Scottish Government, Welsh Assembly Government, The Department for Regional Development Northern Ireland (2008). Design Manual for Roads and Bridges Volume 11, Section 2, Part 5 (HA205/08), Assessment and Management of Environmental Effects.
viii The Highways Agency, Scottish Government, Welsh Assembly Government, The Department for Regional Development Northern Ireland (2011). Design Manual for Roads and Bridges Volume 11, Section 3, Part 7 Noise and Vibration (HD213/11).
ix The Scottish Government (2011), Technical Advice Note – Assessment of Noise.
x European Commission (2002), Council Directive (2002/49/EC) The Assessment and Management of Environmental Noise (Environmental Noise Directive).
xi The Scottish Government (July 2014), Transportation Noise Action Plan. Produced by the Transportation Noise Working Group for the Scottish Government.
xii British Standards Institution (2014), BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise, British Standards Institution.
xiii British Standards Institution (2014), BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration, British Standards Institution.

17. Effects on all Travellers

17.1. Introduction

17.1.1. This chapter presents the assessment of potential impacts on the journeys made by pedestrians, cyclists, equestrians and vehicular travellers. In line with the structure presented in Interim Advice Note (IAN) 125/09 and with cognisance of IAN 125/15[i] this chapter combines DMRB (Highways Agency et al., 1993[ii]) topics 'pedestrians, cyclists and equestrians' and 'vehicle travellers'. For ease of reference the term 'Non-Motorised Users' (NMUs) is used to describe pedestrians, cyclists and equestrians.

17.1.2. The Views from the Road section describes the potential impacts of changes to the view from the road for vehicular travellers.

17.1.3. In line with IAN 125/09 and IAN 125/15 and DMRB (Highways Agency et al., 1993), this chapter assesses and reports potential construction and operational impacts separately. Impacts due to construction are considered to be those resulting from the breaking up of sections of the existing road and the construction of the new carriageways and associated junctions. The impacts due to operation are considered to be those resulting from the presence of the new carriageways and associated junctions following completion of construction.

Non-Motorised Users (NMUs)

Land Reform (Scotland) Act 2003

17.1.4. The Land Reform (Scotland) Act 2003 Part 1 came into effect in February 2005 and established statutory rights of responsible access on and over most land, and inland water. The legislation offers a framework of responsible conduct for both those exercising rights of access and for landowners.

17.1.5. Local authorities were granted powers and duties to uphold and facilitate responsible access rights. There was a duty placed upon local authorities to prepare a plan for a path network and to keep a list of 'core paths'. Sections 13 and 19 of the Act state:

'It is the duty of the local authority to assert, protect and keep open and free from obstruction or encroachment any route, waterway or other means by which access rights may reasonably be exercised'; and

'The local authority may do anything which they consider appropriate for the purposes of maintaining a core path and keeping a core path free from obstruction or encroachment'.

17.1.6. Section 10 of the Act states that it is the duty of Scottish Natural Heritage (SNH) to draw up and issue a Scottish Outdoor Access Code, setting out guidance in relation to access rights and responsibilities. It is the duty of SNH and local authorities to publicise the Code and for SNH to promote understanding of it. The Scottish Outdoor Access Code was approved by the Scottish Parliament in July 2004.

17.1.7. In accordance with DMRB (Highways Agency et al., 1993), the assessment of impacts on NMUs focuses on:

- changes in journey lengths; and
- changes in the amenity of journeys.

17.1.8. The assessment of journey length and amenity value has involved consideration of new or relieved severance associated with the alignment of the Proposed Scheme Options. The assessment for both has focused on impacts in the opening year (2026). A screening assessment of the traffic data for the Proposed Scheme Options indicated that the B9152, B9153, A938 and the unclassified road between Black Mount and Slochd would not experience an increase in vehicles of the levels that would cause increased severance to pedestrians using these roads. Therefore severance of this type has been scoped out of the assessment. Traffic data for the Preferred Scheme would undergo the same screening assessment during the DMRB Stage 3 Assessment.

17.1.9. It is not considered that any of the lay-bys on the A9, within the Proposed Scheme extents, currently support parking for NMU use of the path network in the area. Impacts upon these lay-bys have therefore not been considered as part of the DMRB Stage 2 assessment. Should provision for enhanced lay-bys be incorporated in to the DMRB Stage 3 design then consideration of impacts upon NMUs will be set out as part of the DMRB Stage 3 assessment.

17.1.10. At this stage the provision of parking and lay-bys for NMUs requiring access to routes impacted by the Proposed Scheme are currently being developed. Therefore, the DMRB Stage 2 assessment only considers impacts to NMU routes. It is the intention to address access to the routes and area based facilities (such as Munros, lochs etc.) further as part of the development of the Proposed Scheme at the DMRB Stage 3 Assessment.

17.1.11. Routes that have been determined to be not complete NMU routes (the route was severed, blocked or not visible when visiting site) or not used by NMUs have been scoped out of this assessment. These routes are shown on Figures 17.2a to 17.2i for context but are not labelled, those paths labelled on the figures have been subject to assessment. Evidence for scoping out these routes is supported by site visits to establish the likelihood of the paths / tracks being utilised by NMUs.

Driver Stress

17.1.12. Vehicle travellers and driver stress has been considered through an initial screening of the traffic data for the Proposed Scheme Options. The Opening Year (Do Minimum Scenario (DM)) and the Opening year (Do Something Scenario (DS)) predicted increase or decrease in speeds and flows along the Proposed Scheme Options were compared to determine if there were significant differences between the options. The result was that all Proposed Scheme Options had a similar impact on traffic speeds and flows (See Stage 2 Scheme Assessment Report Volume 1 (Part 4) – Traffic and Economic Assessment) and therefore driver stress was not considered a significant determining factor and has been scoped out of this Stage 2 assessment. Driver stress will be considered further as part of the Stage 3 assessment.

Views from the Road

17.1.13. The assessment was undertaken in accordance with the guidance set out in DMRB Volume 11, Section 3, Part 9: Vehicle Travellers[iii]. The guidance provided in DMRB defines the assessment of the View from the Road as '*the extent to which travellers, including drivers, are exposed to different types of scenery through which a route passes*.' The assessment considers:

- the views from the road whilst travelling; and
- the landscape character through which the route passes and may have wider views of;

- the extent to which travellers may be able to view the scene and the duration of the view;
- the quality of the landscape; and
- the presence of features of particular interest or prominence in the view and duration of visibility.

17.1.14. The two key areas that need to be considered are:

- the views from the road whilst travelling; and
- the views from laybys and stopping places.

Study Area

Journey Length and Amenity Value

17.1.15. The study area for the assessment of journey length and amenity value is considered to be the network of NMU routes in the vicinity of the Proposed Scheme Options where amenity will potentially be affected, and where Proposed Scheme Options link into or cross the routes. The NMU routes that were included for identification through the desk study, site visits and consultation include:

- Core Paths - paths, waterways or any other means of crossing land to facilitate, promote and manage the exercise of access rights under the Land Reform (Scotland) Act 2003;
- National Cycle Network (NCN) - a UK wide network of routes established to encourage cycling throughout Britain, as well as for the purposes of bicycle touring;
- Rights of Way (RoW) - a route over which the public has been able to pass unhindered for a number of years and form part of the Common Law of Scotland. Scotways provide advice on RoW and work to safeguard RoWs. There are three potential RoWs and these can be defined as:
  - vindicated – routes declared to be rights of way by the courts or through another legal process;
  - asserted – routes which have been accepted as rights of way by the landowner or where local authorities have indicated that they would take legal action to protect them if necessary; and
  - claimed – other routes which appear to meet the common law conditions necessary to be regarded as rights of way, but which have not been formally vindicated or asserted.
- Other NMU Routes - referred to as ‘Other NMU Routes’ which include locally utilised paths which are not designated, sections of General Wade’s Military Road, and local cycling tracks.

17.1.16. Photos of the routes within the study area from site visits undertaken in March and April 2016 are presented in Appendix A17.1.

Views from the Road

17.1.17. The study area for Views from the Road covers the existing A9 route, the Proposed Route Options, with consideration of long range views informed by ZTV (Figures 13.4-13.9) and field study.

17.2. Approach and Methods

Scope and Guidance

17.2.1. The assessments have been undertaken with reference to the following guidance:

- DMRB - Volume 11, Section 3, Part 8, Pedestrians, Cyclists, Equestrians and Community Effects[iv];
- DMRB - Volume 11, Section 3, Part 9, Vehicle Travellers; and
- DMRB – Volume 11, Interim Advice Note 125/09 and IAN 125/15.

Assessment of impacts on journey length and amenity value

17.2.2. The assessment has involved:

- identification of the existing network of Core Paths, RoW, other NMU routes and the road network likely to be affected by the implementation of the Proposed Scheme Options through overlaying the option designs for the mainline and junction arrangements on aerial photography and collated baseline data;
- site visits to evaluate the levels of current use of the identified network with particular emphasis on those sections which would be crossed by the Proposed Scheme Options or in close proximity to a Proposed Scheme Option;
- where possible, information has been gathered on usage levels of NMU routes and the type of user, during the consultation process;
- identification of any increase / decrease in journey lengths for NMUs on the existing network, where the Proposed Scheme Options require stopping up, partial stopping up and diversions (identification of alternative routes and assessment of changes to NMU journey length will be completed at DMRB Stage 3);
- evaluation of the increased or reduced severance for NMUs on the existing network; and
- description of the impacts on NMUs taking into account severance, increased journey length and changes in amenity value.

Assessment of impacts on Views from the Road

17.2.3. The assessment has involved:

- review of the A9 Dualling SEA Environmental Report Addendum Appendix F: Strategic Landscape Review Report (Transport Scotland, 2014)[v];
- review of the Cairngorms National Park Landscape Assessment, 2009[vi];
- review of the Inverness District Landscape Assessment, 1999[vii];
- review of the Moray to Nairn Landscape Assessment, 1996[viii];
- review of web-based photography; and
- site visits involving driving the route in both directions in different seasons.

17.2.4. A review of the opportunities for views of the wider landscape from the Proposed Scheme have been undertaken based on the categories provided in DMRB, Volume 11, Section 3, Part 9:

- no view – road in very deep cutting or contained by earth bunds, environmental barriers or adjacent structures;

- restricted view – road in frequent cuttings, or with deep cuttings across slopes, with frequent environmental barriers or adjacent structures blocking the view;
- intermittent view – road generally at grade but with shallow cuttings, environmental barriers or structures at intervals; and
- open view – road generally at grade or on embankment with views extending over the wider landscape or only restricted by existing landscape features.

Establishing the baseline

Journey Length and Amenity Value

17.2.5. NMU routes which have been included in the assessment were identified from the following sources:

- digital Ordnance Survey (OS) mapping;
- the Cairngorms Core Path Plan (2015)[ix];
- The Highland Council Core Path Plan (Adopted October 2011)[x];
- Preliminary Engineering Services data, DMRB Stage 1 Report and associated Appendices[xi];
- 2016 base year traffic data[xii];
- the A9 NMU Forums (May 2015 and May 2016);
- site visits (March, April and June 2016);
- consultation meeting with The Highland Council Access Officer, the Cairngorms National Park Authority Access Officers, and Scotways (December 2015); and
- feedback from Public Exhibitions held in February 2016.

17.2.6. In accordance with guidance provided in paragraph 9.7 of DMRB Volume 11, section 3, Part 8: Pedestrians, Cyclists, Pedestrians and Community Effects[4], no origin / destination surveys have been undertaken. The type of user, and where possible the usage levels, have been determined from information provided through the consultation process and site visits.

Views from the Road

17.2.7. Information gathered during site assessment to determine the potential impacts of the Proposed Route Options on the landscape and visual receptors (Chapter 12, and Chapter 13), has been used to inform the Views from the Road assessment.

17.2.8. Construction impacts have not been considered at DMRB Stage 2 as they are not considered to be a route option differentiator. However, construction may be considered in the narrative, though not formally assessed.

Consultation

17.2.9. Consultation to inform the baseline conditions was undertaken with ScotWays, Sustrans, The Highland Council and Cairngorms National Park Authority Access Officers. Consultation consisted of an information request for the location and use of core paths, public rights of way, cycle routes and other routes within the study area. Ongoing consultation with these parties is also being undertaken as part of the wider A9 NMU Forum. The NMU Forum includes representatives from Transport Scotland and NMU

stakeholders. It provides an opportunity to update NMU stakeholders on the A9 dualling programme and engage on specific matters relating to design development.

17.2.10. Specific meetings in relation to the Proposed Scheme were held with the following:

- ScotWays – December 2015;
- Sustrans – November 2015; and
- The Highland Council and Cairngorms National Park Authority Access Officers – December 2015.

17.2.11. In June 2016 a site visit was undertaken with The Highland Council Access Officer and a representative from Scotways.

17.2.12. Ongoing consultation, as part of the A9 Landscape Forum, in which the approach to the methodology for the Landscape and Visual Chapters of the ES has been undertaken, has been drawn on for the Views from the Road methodology.

17.2.13. Further information on the consultation process is provided in Chapter 7 (Overview of Environmental Assessment) of this report.

Impact Assessment

Journey Length

17.2.14. A change in journey length is determined to have occurred where there is severance of a path or where there is a diversion which impacts on the ability of NMUs to use the path in its current form.

17.2.15. The Proposed Scheme design (and any impacts to NMUs) is in its preliminary stages and diversion lengths have not been confirmed at this stage. The assessment identifies if a route is subject to a diversion and is reported as an ‘increase’ or ‘decrease’, alongside a best estimate of changes in journey lengths as an indication of potential impacts to NMUs. The magnitude of impact to a route will be considered for the Preferred Scheme during the DMRB Stage 3 Assessment.

Amenity Value

17.2.16. Impacts to amenity have been assessed by qualitatively describing the perceived changes to the relative pleasantness of a journey. This has been determined by the views afforded to travellers along an NMU route and any exposure to traffic which would potentially affect travellers in respect of fear / safety, noise pollution and air quality. The number and type of paths impacted and the differences between each Proposed Scheme Option is described, with any changes to amenity value reported, i.e. where there would be an increase, decrease, or no change in amenity value. Where a decrease is reported this is considered as an adverse impact on the amenity of the route.

17.2.17. For the purposes of this assessment, a change in amenity is considered where there is a change in the location of the existing A9 in relation to the location of the route. For example, adverse impacts on amenity are expected to occur where the Proposed Scheme Option is closer to the NMU route than the existing A9.

17.2.18. The assessment undertaken is subjective, qualitative and based on the likely perception of change to the individual experience.

17.2.19. The DMRB does not provide detailed guidance on specific sensitivity and magnitude of impact criteria in relation to assessment of impacts to NMUs at DMRB Stage 2. Applying any sensitivity and magnitude criteria to NMU routes is not likely to result in differences between the Proposed Scheme Options due to the similarities between these. All NMU routes are considered to be of high importance for this Stage 2 Assessment. Assessment criteria will be developed further at DMRB Stage 3.

17.2.20. During the DMRB Stage 3 assessment it is anticipated that further consultation with NMU groups and their representatives will be undertaken to inform mitigation for the Preferred Scheme.

View from the Road: Sensitivity

17.2.21. The potential impacts on the Views from the Road considered the sensitivity of the existing views and the changes to the existing views as a result of the Proposed Route Options. Professional judgement then informed the overall impact significance.

17.2.22. Sensitivity was assessed based on criteria below.

Table 17.1: Sensitivity of Existing Views

Sensitivity	Criteria
High	Travellers may experience extensive views of landscapes of high quality or value. Views might include features of distinctiveness, or that clearly contribute to the landscape character.
Medium	Travellers may experience partial or intermittent views of landscapes of high quality or value, or more extensive views of landscapes of some quality or value. Views might include features that make some contribution to the landscape character.
Low	Travellers may experience landscapes that include features of elements that detract from the view or are not consistent with the wider high value landscape. Alternatively, travellers may have no view/very restricted view of the landscape (irrespective of the quality or value of that landscape).

View from the Road: Magnitude of Impact

17.2.23. The magnitude of impact concerns the change from the existing view from the road to that which includes the Proposed Scheme Option.

Table 17.2: Magnitude of Impact on Existing Views

Magnitude	Criteria
High	A major change in the view that might significantly affect the experience for the traveller.
Medium	Changes in the view would be evident and would have some effect on the experience for the traveller.
Low	There would be very little change in the view or the potential experience for the traveller.

View from the Road: Significance of Impact

17.2.24. Table 17.3 sets out the typical criteria used in this assessment. These have been developed in consultation with the A9 Landscape Forum sub-group. The assessment

calls for professional judgement to be used in determining significance, as the assessment criteria provided below are not formulaic.

Table 17.3: Impact Significance Criteria

Significance	Criteria
Substantial	A major deterioration or improvement in views from the road. Adverse: the project would cause major deterioration to views or loss of views from the road where travellers currently experience extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest. Beneficial: The project would lead to a major improvement in a view where travellers would experience new extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest.
Moderate	A notable deterioration or improvement in views from the road. Adverse: the project would cause notable deterioration to views or loss of views from the road where travellers currently experience extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest. Beneficial: The project would cause notable improvement in a view where travellers would experience new extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest.
Slight	A minor deterioration or improvement in views from the road. Adverse: the project would cause limited deterioration to views or loss of views from the road where travellers currently experience extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest. Beneficial: The project would cause limited improvement in a view where travellers would experience new extensive views of a high quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest.
Negligible/None	No deterioration or improvement in views from the road.

Limitations to the Assessment

17.2.25. The assessment of impacts upon NMUs does not apply a significance scale to impacts, rather impacts are simply recorded as either an increase / decrease in journey lengths, and a reduction / improvement in amenity based on professional judgement. This assessment allows differentiation between the route options to be established. Application of a significance scale would be considered for the preferred option during the DMRB Stage 3 Assessment.

17.2.26. At DMRB Stage 2 the Proposed Scheme designs have not included any provisions for NMUs as part of the design, and no current decisions have been made on where NMU grade separated crossing will be provided and whether this will involve a rationalisation of existing crossing points. The assessment has been based on the assumption that mitigation will be provided in line with the strategic objectives detailed in the A9 NMU Access Strategy, specifically the objectives listed below:

- there will be no surface (at-grade) crossings of the dualled A9;
- at crossings of the dualled A9, NMU routes will be rationalised and combined where possible.

- Over or under road (grade separated) crossing points solely for NMUs will be provided where engineering, environmental, traffic and economic assessments, including site specific considerations, indicate this is justified.

17.2.27. The assessment is based on the assumption that mitigation will be provided on a like for like basis – i.e. where an NMU underpass currently exists a replacement will be provided, where an at-grade NMU crossing exists this will be closed and a diversion will be required to the nearest NMU underpass.

17.2.28. Calculated changes in journey lengths are based upon best approximations of route diversions referencing OS base mapping and GIS alignments of NMU routes as set out on Figures 17.2a to 17.2i.

17.2.29. Detail on drainage features is not available at DMRB Stage 2 and so only indicative locations where the feature might impact on views from the road has been considered.

17.2.30. Confirmation of location and details of laybys and enhanced lay-bys are not available at DMRB Stage 2 and so only indicative locations where the lay-by might impact on views from the road has been considered.

17.3. Baseline Conditions

NMUs

Core Path Network

17.3.1. Local authorities have a duty to make their Core Path Plans publicly available for inspection under the Land Reform (Scotland) Act 2003. The local authorities responsible for access within the study area are the Cairngorms National Park Authority and The Highland Council. The Cairngorms National Park Core Paths Plan: Developing Active Places was adopted in March 2015, and The Highland Council Core Path Plan was adopted in October 2011.

17.3.2. Core paths may include RoWs, footpaths, cycle tracks, paths covered by path agreements / orders under the Land Reform (Scotland) Act Sections 20 and 21, waterways, or other means by which persons may cross land.

17.3.3. There are nine core paths within the study area (eight designated by the Cairngorms National Park Authority, and one by The Highland Council (IN27.01)) as shown on Figures 17.2a to 17.2i. The core paths are described below:

- LBS30 (Cairngorms National Park Authority) – Aviemore Orbital – primarily a circular route through the Milton Woods to the east of the A9 linking to the Speyside Way and NCN7. The paths on the route are used by NMUs (including vulnerable groups accessing facilities such as the Highland Resort and Aviemore Primary School) and they connect with a wider path network to the west of the A9 via three underpasses (two solely for NMU use (Photographs 1 and 2, Appendix A17.1), one which facilitates access for vehicles in addition to NMUs (Photograph 3, Appendix A17.1)). LBS30 also routes from the underpass at Chainage (ch.) 5290 (and a link with LBS38) in to the Craigellachie National Nature Reserve (NNR) east towards Aviemore, and through the Milton Woods between ch.6070 and 7250. As well as being a core path the Aviemore Orbital is also promoted by The Highland Council as an ‘Independent Walk Around Aviemore’.
- LBS38 (Cairngorms National Park Authority) – Craigellachie All-abilities Path – is a circular route which crosses the A9 via an underpass in to the Craigellachie NNR at

ch.5290 (Photograph 4, Appendix A17.1) along the west of Loch Puladdern and back to the A9 underpass. The path is a well-used route for NMUs through the NNR and is suitable for use by the less able. As well as being a core path LBS38 is also promoted by The Highland Council as an 'Independent Walk Around Aviemore'.

- LBS39 (Cairngorms National Park Authority) – Craigellachie Nature Reserve Path - is a circular route which runs from LBS38 in a wider circular route comprised of a worn track which is rough in places before connecting to LBS138 to the Craigellachie Viewpoint, or routing back east and joining LBS38 at its northern extent. As well as being a core path the LBS39 is also promoted by The Highland Council as 'Craigellachie – The Red Trail', an 'Independent Walk Around Aviemore'.
- LBS138 (Cairngorms National Park Authority) – Craigellachie Viewpoint Path – a steep path to the top of the Craigellachie NNR which routes from LBS39 to the west. The core path terminates at the Craigellachie Viewpoint from which there are extensive views across the River Spey Valley (Photograph 5, Appendix A17.1).
- LBS145 (Cairngorms National Park Authority) – Aviemore Orbital to Craigellachie National Nature Reserve – this path routes from the underpass into the Craigellachie NNR (Photograph 4, Appendix A17.1) through the McDonald Highland Resort to the Scandinavian Village (Photograph 6, Appendix A17.1) where the path turns west towards to A9 (Photograph 7, Appendix A17.1) and then routes north to connect with the Aviemore Orbital (LBS30). The route is a combination of off-road paths and footpaths alongside the roads through the McDonald Highland Resort and is known to be used by vulnerable groups to access the Highland Resort and Craigellachie NNR.
- LBS41 (Cairngorms National Park Authority) – School to Milton Woods – a well-used path running east to west from Aviemore to Milton Woods which forms part of the Aviemore Orbital Route. LBS41 connects with LBS30 to the east of the existing A9 and is used by vulnerable groups to access facilities such as Aviemore Primary School and Aviemore Medical Practice.
- LBS40 (Cairngorms National Park Authority) – Dalfaber Drive to Milton Woods - a well-used path running east to west from Aviemore to Milton Woods which connects with LBS30 to the east of the existing A9 and is used by vulnerable groups to access facilities such as Aviemore Primary School and Aviemore Medical practice.
- LBS114 (Cairngorms National Park Authority) – Sustrans Route 7 – the core path follows the alignment of NCN7 from Carrbridge and routes west and under the A9 at ch.16540 to Sluggan. This core path is used by walkers, cyclists and equestrians and vulnerable groups accessing facilities within Carrbridge such as the primary school. It then turns north, re-joining the northern NCN7 split at the Slochd Ski Centre. The NCN then runs adjacent to the A9 through Slochd between the existing A9 carriageway and the Highland Mainline Railway (HML) to the boundary of the National Park at Slochd Mor (ch.23550). This core path also provides an opportunity to access the Sputan Dubha ice climbing site on the southbound side of the A9, however, this requires crossing the A9 at-grade and no specific NMU crossing point is identified in this location.
- IN27.01 (The Highland Council) – National Cycle Route 7 by A9 – a 1.7km route which runs from the boundary of the Cairngorms National Park (where it intersects with core path LBS114) along the line of NCN7 to the existing junction with the former A9 at ch.25260.

17.3.4. There are two core paths with known crossing points across the A9 within the study area, LBS38 and LBS114, both are grade separated. Core paths are shown on Figures 17.2a to 17.2i. These routes were noted as being used by NMUs through consultation and site visits, with particular use by recreational walkers, cyclists and equestrians.

National Cycle Network (NCN) Routes

17.3.5. The NCN is a network of cycle routes in the UK, created by the charity Sustrans. The cycle routes are a combination of pedestrian routes, disused railways, minor roads, canal towpaths and traffic calmed routes. The NCN can therefore also be designated as core paths or RoWs.

17.3.6. NCN7 runs from Sunderland to Inverness. The section of NCN7 considered in this assessment runs through Aviemore and along the Speyside Way adjacent to the River Spey to Boat of Garten before turning west and joining the B9153 at its junction with the A95. NCN7 then routes north to Carrbridge where the alignment splits. One section of NCN7 routes west and under the A9 (at ch.16540) to Sluggan, this section is used by vulnerable groups to access facilities within Carrbridge such as the primary school. It then turns north, re-joining the northern NCN7 split at the Slochd Ski Centre.

17.3.7. The northern split of NCN7 follows the alignment of the A938 to Black Mount (Photograph 8, Appendix A17.1). It continues north from this point following the route of a U Class Road passing under the A9 at An Slochd Beag, ch.217000 (Photographs 9 and 10, Appendix A17.1). The NCN then runs adjacent to the A9 through Slochd between the existing A9 carriageway and the HML (see Photographs 11 and 12, Appendix A17.1). NCN7 also provides an opportunity to access the Sputan Dubha ice climbing site on the southbound side of the A9, however, this requires crossing the A9 at-grade and no specific NMU crossing point is identified in this location (as set out in Table 17.4).

Rights of Way (RoW)

17.3.8. ScotWays maintains the National Catalogue of Rights of Way (CROW), in partnership with SNH. In addition, local authorities may also retain their own records. Access along public rights of way is protected by the Countryside (Scotland) Act 1967, Section 46, diversions to RoWs can be considered if the proposed diversion is deemed suitable by the planning authority.

17.3.9. There are six RoWs within the study area as shown on Figures 17.2a to 17.2i. The RoWs are described below

- HB45 – A claimed RoW known as the ‘Burma Road’ which routes from Lynwilg to the northwest (Photograph 13, Appendix A17.1). During the site visits this path was observed as being in use by both walkers and cyclists, and further evidence from the Highland Council indicates that this path is also in use by equestrians and by vulnerable groups using the facilities at an outdoor centre. Access to the RoW is provided from an existing at grade junction with the A9 (Photograph 14, Appendix A17.1), or via HB83 along the western verge of the A9.
- HB83 – A claimed RoW which routes under the A9 to the south of Aviemore at ch.4730 via an existing underpass (Photograph 15, Appendix A17.1). The path continues along the verge of the northbound A9 carriageway (Photograph 16, Appendix A17.1) before crossing a small bridge and in to the woodland (Photograph 17, Appendix A17.1) before connecting with the RoW HB45 at the commencement of the Burma Road and Lynwilg. This path shows signs of use by both walkers and cyclists and has been highlighted by both Scotways and The Highland Council as being a popular route connecting Lynwilg and the Burma Road with Aviemore via an underpass rather than crossing the A9 at-grade.
- HB54 – A claimed RoW which commences at the southern end of Aviemore at the junction of the B9152 and the B970. The path routes via the High Range Motel and to the east of the caravan park where it links with Core Path LBS30. HB54 follows

the alignment of LBS30 to the Scandinavian Village where it then turns east and connects with Grampian Road.

- HB48 – A claimed RoW which commences to the east of Avielochan and crosses the A95 at-grade before continuing west and crossing the A9 at-grade at Balnabruich (ch.10260). The RoW then continues west in to the woodland area and finally routes north west to link in with HB45. Initial consultation with The Highland Council Access Officer indicated that this RoW may have been lost through reverse prescription, however a subsequent site visit and consultation with the owners of Avielochan Farm in June 2016 identified that the RoW is still in use in order to access a private water supply, and by local residents to access the woodland areas via a stile over the fence on to the verge at Balnabruich (Photographs s 18 and 19, Appendix A17.1).
- HB47 – A claimed RoW which follows the alignment of General Wade's Military Road (Photographs 20 and 21, Appendix A17.1). Evidence was present on site of the route being in use by walkers, cyclists and equestrians and this was further supported by information provided by The Highland Council Access Officer. The RoW routes from Kinveachy to Slochd and at present the RoW terminates to the west of the A9 however a link via NCN7 at Slochd to the at-grade crossing at ch.24220 creates an additional link to RoW HI110, this small section of route should be given the same consideration as the RoWs it connects. In addition The Highland Council Access Officer noted that there is a connection across the A9 at Kinveachy (ch.12400 which was noted during the site visit as being at at-grade crossing (Photograph 22, Appendix A17.1) to the A95 and B9153 which might reasonably be considered a natural extension of the right of way connecting in to NCN7.
- HI110 – a claimed RoW which commences to the east of the A9 at Slochd Summit at the site of a current at-grade crossing of the A9 at ch.24220 (Photographs 23 and 24, Appendix A17.1). The RoW is known to be used by walkers, cyclists, equestrians and skiers and forms part of a popular long-distance route following the alignment of General Wade's Military Road. Consultation with Scotways has confirmed that this section of the Military Road is one of the most complete sections still in existence. This RoW also connects to additional informal routes to the east of the A9 including Other NMU Route 18.

17.3.10. There are three RoWs with known crossing points of the A9 within the study area as shown on Figures 17.2a to 17.2i and referenced in Table 17.4. However, it should be noted that the crossing at Kinveachy should be considered as of equal importance to a RoW crossing due to the linkages it provides.

Other NMU Routes

17.3.11. There are numerous other local or informal paths either on or off the road network throughout the Dalraddy to Slochd corridor which were identified either through site visits, or from a review of the data presented in the A9 PES and SEA. There is no formal usage data for these routes and assumptions have been made and informed by site visits and the consultation undertaken regarding the Proposed Scheme.

17.3.12. A total of 19 Other NMU Routes (indicated on Figures 17.2a to 17.2i) were identified by applying the study area criteria to the wider path network. A total of 15 crossing points on the A9 were identified on these paths. The Other NMU routes are described below:

- Other NMU Route 1 – The Burma Road is referenced as a Mountain Biking Wild Trail and forms a circular route from Aviemore. The route follows the B9152 south from Aviemore before turning towards Lynwilg at the existing at-grade junction south of Aviemore at ch.3170 (Photograph 14, Appendix A17.1). The route then follows the Burma Road RoW HB45 to a cairn at the summit of the climb. A single track descent then routes south to Ballinluig Farm before passing under the A9 at ch.1920

(Photograph 25, Appendix A17.1) to the south of Druim Mhor and routing along the edge of Loch Alvie on a tarmac path (Photograph 26, Appendix A17.1). The path then routes south east to Ballinluig Cottage and continues on the B1952 to Aviemore to complete the route.

- Other NMU Route 2 – The Speyside Way Extension from Aviemore to Kingussie was officially opened in September 2015 and is a shared use path for walkers, cyclists and equestrians. The path routes south from Aviemore along a segregated footway adjacent to the B1952 before turning east at Kinakyle and crossing the HML and routing south following the railway alignment.
- Other NMU Route 3 – an existing access track in to the Craigellachie NNR, the path routes from the rear of the McDonald Highland Resort and crosses the A9 at-grade at ch.5650 (Photograph 27, Appendix A17.1) continuing through the woodland and connecting in to Core Path LBS38.
- Other NMU Route 4 – a combination of paths which connect the Aviemore Orbital Route to the housing estate on the west side of the A9. There are two existing underpasses for NMUs at ch.7000 and 7170 (Photographs 1 and 2, Appendix A17.1) which are connected by a gravel path. A further connection is then provided to a segregated path alongside the access road to the housing estate at ch.7250 (Photograph 3, Appendix A17.1) which routes through an underpass which is also suitable for vehicles. This path network is utilised by vulnerable groups to link in to the Aviemore Orbital (LBS30) and to access the facilities within Aviemore.
- Other NMU Route 5 – a well preserved section of General Wade's Military Road (Photograph 28, Appendix A17.1) which routes from the B9152 south of Granish to the existing at-grade junction of the A95 and A9 at Granish where the route is severed. The route continues north along a well preserved, off-road section (Photograph 29, Appendix A17.1) of the path to a gate where it joins with Other NMU Route 6 (Photograph 30, Appendix A17.1).
- Other NMU Route 6 – an existing NMU route which runs from the A95 south of Avielochan to an at-grade crossing of the A9 at ch.9200 (Photograph 31, Appendix A17.1). The route continues to the west of the A9 where it joins with a network of paths within the woodland area. During the site visits in March / April 2016 the path to the west of the A9 was observed as being in use by dog walkers, and evidence was also present to signify that the path has also been in use by both cyclists and equestrians.
- Other NMU Route 7 – a continuation of General Wade's Military Road routing from its intersection with Other NMU Route 8 to Avielochan where evidence of the path disappears.
- Other NMU Route 8 - an existing NMU route which runs from the A95 north of Avielochan to an at-grade crossing of the A9 at ch.10530 (Photograph 32, Appendix A17.1). The path then routes in to the woodland on the northbound side of the A9. The path is gated on the western side of the A9 however there was evidence of NMUs having climbed the fence adjacent to the gate (Photograph 33, Appendix A17.1).
- Other NMU Route 9 – a section of General Wade's Military Road on the northbound side of the A9 which routes through existing fields (Photograph 34, Appendix A17.1) which had evidence of being used by equestrians. Other NMU Route 9 provides a connection to Other NMU Route 10 (see below), and to RoW HB47 at Kinveachy.
- Other NMU Route 10 – this route forms a link between General Wade's Military Road (Other NMU Route 9) and the A95 via an at-grade crossing of the A9 at ch.12130 (Photograph 35, Appendix A17.1) and an underpass under the HML. Evidence existed on site to indicate that this path is used by equestrians.

- Other NMU Route 11 – a path providing a link between NCN7 at the intersection of the A95 and B9153 and RoW HB47 on the northbound side of the A9. The Path follows an existing road to an at-grade crossing of the A9 at ch.12400 (Photograph 36, Appendix A17.1). The Highland Council Access Officer has advised that due to the linkage that this path creates between RoW HB47 and the B9153 / A95 and the NCN7 this path should be considered an extension of the existing RoW.
- Other NMU Route 12 – an existing track which provides a link from the B9153 and NCN7 to RoW HB47 to the west of the A9 via an overbridge over the HML and an at-grade crossing of the A9 at ch.13250 (Photograph 37, Appendix A17.1). Although no evidence was found on site of NMU use there is a clear linkage between two existing, designated paths.
- Other NMU Route 13 - an existing track which provides a link from the B9153 to the west side of the A9 via an underbridge under the HML and an at-grade crossing of the A9 at ch.14340 (Photograph 38, Appendix A17.1). Although no evidence was found on site of NMU use the NMU route does provide a linkage from paths on the east side of the A9 to a series of forestry tracks to the west.
- Other NMU Route 14 – route which follows an unclassified road leading from the A938 to an at-grade crossing with the A9 at ch.17050 (Photograph 39, Appendix A17.1) via an underpass under the HML. The NMU route is on-road rather than segregated and either side of the A9 and provides access to a wider network of paths adjacent to the River Dulnain.
- Other NMU Route 15 – NMU route which runs adjacent to the northbound carriageway of the A9 from ch.17000 at Dalrachney Beag to 19280 where it crosses the A9 at-grade (Photograph 40, Appendix A17.1) to link in with NCN7. There are two locked gates which are required to be navigated along the path (Photograph 41, Appendix A17.1). Information from the PES commission indicates that this path and crossing of the A9 may be frequented by equestrians although no evidence was found for this during the site visits.
- Other NMU Route 16 – a short pathway which forms a link between NCN7 and paths on the northbound side of the A9 within the woodland at An Slochd Beag associated with the Slochd Ski Centre. The path (which showed no immediate signs of NMU use during the site visits undertaken) crosses the A9 at-grade at ch.21010 (Photograph 42, Appendix A17.1) before joining with NMU Route 18 within the woodland. Other NMU Route 16 also routes north from NCN7 towards the HML although no signs of use were identified on this path.
- Other NMU Route 17 – this path is located to the south of the A9 within the woodland area associated with the Slochd Ski Centre. It is a route used by walkers and skiers (during the winter months) who are afforded glimpsed views of the A9 from the elevated paths (Photograph 43, Appendix A17.1). The path routes to an intersection with Other NMU Route 16.
- Other NMU Route 18 – this path is located on the southbound side of the A9 and runs parallel to the A9 to the tie-in with the existing dual carriageway. The path (Photograph 44, Appendix A17.1) consists of a rough vehicle track through a field system and is known to be used by both equestrians and walkers.
- Other NMU Route 19 - NMUs are known to utilise the B9152 from Aviemore to the existing Granish Junction and the A95 from Granish to its junction with the A95 B9153. This link is utilised by people travelling between Carrbridge and Aviemore and at present there is no segregated path for NMUs, rather travellers are forced to travel on the local and trunk road network.

Views from the Road

Views from Existing A9

17.3.13. The existing A9 winds around the lower slopes of the Monadhliath Mountains with Loch Alvie to the east. Views from the road are restricted as the road is in false cutting, with roadside planting, for much of the way between the start of the route and approach to Aviemore South junction. Brief glimpses of Loch Alvie are intermittently visible for northbound travellers. The focus of the view for northbound travellers is the Craigellachie outcrop. The focus of the view for southbound travellers is the Cairngorm Massif.

17.3.14. At Aviemore South, the existing at-grade junction short range views open up to Lynwilg and also to the east. Thereafter the A9 winds around Craigellachie's birch woodland covered rocky outcrop to the west. Embankment with scrub and patchy tree cover partially screens the western fringes of the town of Aviemore for the traveller. A visual awareness of the town may not be obvious until the new modern housing is seen at Burnside. Southbound travellers see Craigellachie outcrop in short range views.

17.3.15. To the north of Aviemore intermittent views are possible eastwards briefly at Granish. From Granish to the Dulnain Crossing at Carrbridge, views are almost entirely restricted by a mix of conifer plantation, mixed woodland and cutting. At times the cutting is covered with broom. This section of road is particularly uniform for northbound travellers, with the only focal point being part of the hills to the north visible. Although southbound travellers have a similar experience in views to the east and west, the Cairngorm Massif – often snow-capped – to the south is spectacular, if not extensive.

17.3.16. Elevated open views east and west are experienced whilst crossing the River Dulnain Bridge. This is all the more welcome on emerging from the prolonged sense of enclosure afforded by close proximity forestry.

17.3.17. North of the River Dulnain, the A9 is once again contained within cutting and conifer plantation. At the existing Black Mount junction, the traveller can experience extensive long range views south over moorland to layers of receding ridges. This is easier to experience for southbound travellers but possible for northbound travellers also.

17.3.18. At Slochd Beag, the A9, the HML, and the former A9 converge in one location at different overlapping levels. The pinch point takes advantage of the rocky pass cutting but is less spectacular for the A9 traveller given the higher level and road barrier design.

17.3.19. The A9 winds around the rocky outcrops at Slochd, with the levels falling away to the west. The focus of the view for northbound travellers is the rocky pass and the telecoms mast at Slochd Mor. The weathered rock feature known as The Soldier's Head is a popular local and tourist talking point, with the experience for some travellers at this point being to try to determine if they can identify it. For southbound travellers the rocky Slochd Pass is experienced as a dramatic change from the softer moorland covered hills associated with the Southern Uplands, and the pastoral elements of the Tomatin/Moy area. This creates a clear juxtaposition and, additionally, marks the gateway to the Cairngorms National Park from the north.

Views from Existing Laybys

17.3.20. There are 19 existing laybys between Dalraddy and Slochd. Views from existing laybys, where relevant, have been discussed in the narrative but they have not been assigned a significance at this stage.

Summary of Baseline NMU Routes

17.3.21. Table 17.4 below summarises the NMU routes identified within the study area which will be subject to assessment at DMRB Stage 2 and the existing crossing points of the A9 on each route (Figures 17.2a to 17.2i identify the locations of the NMU routes subject to assessment and the crossing points (CP) of the A9 on each route):

Table 17.4: Summary of NMU routes within the study area

Path Reference	Type / Description	Crossing of A9	Predominant User
LBS30	Core Path, The Highland Council Promoted Path	N/A	Walkers, Cyclists, Equestrians
LBS38	Core Path, The Highland Council Promoted Path	1No. grade separated crossing at ch.5290 (Figure 17.2c CP4)	Walkers, Cyclists
LBS39	Core Path, The Highland Council Promoted Path	N/A	Walkers
LBS138	Core Path	N/A	Walkers
LBS145	Core Path	N/A	Walkers, Cyclists, Equestrians
LBS41	Core Path	N/A	Walkers, Cyclists, Equestrians
LBS40	Core Path	N/A	Walkers, Cyclists, Equestrians
LBS114	Core Path	1No. grade separated crossing at ch.16540 (Figure 17.2f CP16)	Walkers, Cyclists, Equestrians
IN27.01	Core Path	N/A	Walkers, Cyclists, Equestrians
NCN7	National Cycle Network	2No. grade separated crossings at ch.165400 (Figure 17.2f CP16) and 217000 (Figure 17.2h CP20)	Walkers, Cyclists, Equestrians
HB45	Right of Way	N/A	Walkers, Cyclists, Equestrians
HB83	Right of Way	1No. grade separated crossing at ch.4730 (Figure 17.2b CP3)	Walkers, Cyclists, Equestrians
HB54	Right of Way	N/A	Walkers
HB48	Right of Way	1No. at-grade crossing at ch.10260 (Figure 17.2d CP10)	Walkers, Cyclists, Equestrians
HB47	Right of Way General Wade's Military Road	N/A	Walkers, Cyclists, Equestrians

Path Reference	Type / Description	Crossing of A9	Predominant User
HI110	Right of Way	1No. at-grade crossing at ch.24220 (Figure 17.2h CP21)	Walkers, Cyclists, Equestrians
Other NMU Route 1	Scotland Mountain Biking Wild Trail	2No. crossings, a grade separated crossing at ch.1920 (Figure 17.2a CP1) and an at-grade crossing at ch.3170 (Figure 17.2b CP2)	Cyclists
Other NMU Route 2	Speyside Way Extension	N/A	Walkers, Cyclists, Equestrians
Other NMU Route 3	Undesignated route to Craigellachie NNR	1No. at-grade crossing at ch.5650 (Figure 17.2b CP5)	Walkers
Other NMU Route 4	Connections to / from Aviemore Orbital Route	3No. grade separated crossings at ch. 7000, 7170 and 7250 (Figure 17.2c CP6, CP7, CP8)	Walkers, Cyclists
Other NMU Route 5	General Wade's Military Road to Granish	N/A	Walkers, Cyclists, Equestrians
Other NMU Route 6	Undesignated route south of Avielochan	1No. at-grade crossing at ch.9200 (Figure 17.2c CP9)	Walkers, Cyclists, Equestrians
Other NMU Route 7	General Wade's Military Road to Avielochan	N/A	Walkers
Other NMU Route 8	Undesignated route north of Avielochan	1No. at-grade crossing at ch.10530 (Figure 17.2d CP11)	Walkers, Cyclists, Equestrians
Other NMU Route 9	General Wade's Military Road to Kinveachy	N/A	Walkers, Cyclists, Equestrians
Other NMU Route 10	Undesignated route between General Wade's Military Road and the A95	1No. at-grade crossing at ch.12130 (Figure 17.2d CP12)	Walkers, Equestrians
Other NMU Route 11	Undesignated route providing a link between NCN7 and HB47	1No. at-grade crossing at ch.12400 Figure 17.2d CP13)	Walkers, Cyclists, Equestrians
Other NMU Route 12	Undesignated route providing a link between NCN7 and HB47	1No. at-grade crossing at ch.13250 (Figure 17.2e CP14)	Walkers, Cyclists, Equestrians
Other NMU Route 13	Undesignated route from the B9153 across the A9	1No. at-grade crossing at ch.14340 (Figure 17.2e CP15)	Walkers
Other NMU Route 14	Undesignated on-road route connecting Carrbridge with the A9	1No. at-grade crossing at ch.17050 (Figure 17.2f CP17)	Walkers, Cyclists, Equestrians
Other NMU Route 15	Undesignated route which crosses the A9 at-grade and	1No. at-grade crossing at ch.19290 (Figure 17.2g CP18)	Walkers, Equestrians

Path Reference	Type / Description	Crossing of A9	Predominant User
	routes south alongside the northbound carriageway		
Other NMU Route 16	Undesignated route providing a link between NCN7 and the undesignated paths was of the A9	1No. at-grade crossing at ch.21010 (Figure 17.2g CP19)	Walkers, Cyclists, Equestrians
Other NMU Route 17	Undesignated route through the woodland west of the A9	N/A	Walkers, Skiers
Other NMU Route 18	Undesignated route running parallel to the A9 from Slochd Summit.	N/A	Walkers, Equestrians
Other NMU Route 19	A95 / B9152	N/A	Walkers, Cyclists

Summary of Baseline Views from the Road

17.3.22. The baseline described above has been addressed in terms of the route narrative which describes views from the road both northbound and southbound, as illustrated by Figures 17.1a to 17.1i. The narrative broadly aligns with the Landscape Character Areas. Chainages have been used to highlight views from specific sections of the road in the Potential Impacts section.

17.4. Potential Impacts

Impacts Common to All Mainline Alignment Options

Construction Impacts

17.4.1. Construction impacts have been identified where change in journey lengths or amenity will occur as a result of construction processes. A best estimate of changes in journey lengths has been presented based upon the methodology as set out in Section 17.2 however it should be noted that during the construction of the Proposed Scheme it will be the responsibility of the Contractor for the works to determine the route of any diversions in consultation with The Highland Council, the Cairngorms National Park Authority, Scotways and Sustrans as appropriate and therefore journey length diversions quoted in this Stage 2 assessment may be subject to change.

Non-Motorised Users

Core Paths

17.4.2. During the construction of the Proposed Scheme it is likely that sections of LBS30 will be closed to facilitate the construction of the mainline alignment. Direct impacts that will potentially occur during construction include:

- A realignment of LBS30 will occur between ch.6060 and 6150 leading to a reduction in journey length of c.30m, and ch.7050 to 7540 leading to a reduction in journey lengths of c.20m where the core path is required to be diverted to accommodate earthworks for the construction of the mainline.
- A reduction in amenity will occur though the creation of noise and dust where the mainline is constructed adjacent to LBS30 along its length. Further impacts will occur

where the path currently routes through Milton Wood with the potential removal of existing woodland in this area for the construction of earthworks.

17.4.3. Access to LBS38, LBS 39 and LBS138 will be severed during the construction of the Proposed Scheme due to the need to close the underpass at ch.5290 on LBS30 in order to extend or replace the underpass. Due to the location of the paths and the temporary closure of the underpasses these core path will in effect be closed until such time as the underpass is reopened. No change in journey length or amenity is considered to occur as users will not be utilising the paths during this time, however during the construction phase it is considered that adverse impacts will occur to users of the path including vulnerable groups.

17.4.4. Temporary closure of a section of LBS145 will potentially occur between ch.5300 and 5500 where the core path routes around a small pond within the grounds of the Highland Resort. An alternative route to the east of the pond would result in a potential increase in journey length in journey distance of c.40m. A reduction in amenity will occur though the creation of noise and dust where the mainline is constructed adjacent to LBS145, thereafter the core path routes away from the A9 and impacts will be unlikely to affect the amenity of the users.

17.4.5. LBS114 routes under the A9 at ch.16540, it order to facilitate the construction of a new bridge at this location a temporary closure of LBS114 will potentially be required which will result in NMUs having to follow a diverted route along the NCN7 from Carrbridge to Slochd via the existing local road network. This diversion will result in a decrease in journey length of c.2500m, and a reduction in the amenity value for users as the existing LBS114 follows a lightly trafficked road before continuing off road along the alignment of General Wade's Military Road to Slochd. The diverted route would follow a more heavily trafficked road north from Carrbridge which routes close to the A9 in places which would result in a decrease in amenity value for users. Further intrusion will occur where LBS114 routes through Slochd to the boundaries of the Cairngorms National Park as a result of construction activities to widen the mainline.

17.4.6. IN27.01 will be directly affected by construction practices to widen the A9 mainline as the route passes through Slochd. Construction works have the potential to result in the temporary closure of this core path resulting in adverse impacts upon journey lengths with a potential increase in journey length of c.8500m required via a series of forestry and hill tracks to the west and southwest of IN27.01 if appropriate mitigation is not implemented. The diversion may ultimately result in an increase in amenity for those users as they will be travelling through a forested area and will be away from the A9 construction works. However, it is considered that the adverse impacts resulting from the increased length of the diversion would negate any beneficial impacts to amenity of the users.

National Cycle Network

17.4.7. It is not considered that the construction of the mainline options would result in any changes in journey lengths or amenity for users until NCN7 reaches Slochd. At present NCN7 splits at Carrbridge and routes via underbridges at ch.16540 on the route to Sluggan, and ch.217000 on the route via the A938 and the unclassified road to Slochd. It is considered that construction processes can be phased to ensure that at least one section of NCN7 remains open during the construction period and as such no increase in journey lengths on NCN7 is expected on these sections of the route.

17.4.8. As NCN7 passes through Slochd the route will be directly affected by construction practices to widen the A9 mainline. Construction works have the potential to result in the temporary closure of NCN7 resulting in adverse impacts upon journey lengths with a

potential increase of c.8500m required via a series of forestry and hill tracks to the west and southwest if appropriate mitigation is not implemented. The diversion may result in an increase in amenity for those users as they will be travelling through a forested area and will be away from the A9 construction works. However, it is considered that the adverse impacts resulting from the increased length of the diversion would negate any beneficial impacts to amenity of the users. Furthermore, this diversion may not been seen as suitable for all types of users such as those cyclists using road bikes as opposed to mountain bikes, and vulnerable user groups who may struggle with the forested path network depending upon its surfacing and condition.

Rights of Way

17.4.9. It is not considered that the mainline options will result in any impacts to journey length or amenity on HB45 due to its proximity from the proposed construction works associated with the Proposed Scheme. However, access to the path may be temporarily restricted as a result of the closure of the existing Aviemore South at-grade junction, and the temporary closure of the underpass at ch.4730 which currently provides access to HB45 via RoW HB83 on the northbound side of the A9. It is considered that this restriction of access would result in an adverse impact upon users (equestrians, cyclists and walkers). It is however assumed that access during construction will be maintained to an outdoor centre and therefore access to HB45 for NMUs and vulnerable groups using that facility will be maintained, however the final access agreements will be required to be determined by the Contractor for the works.

17.4.10. Access to HB83 will be severed during the construction period with the temporary closure of the underpass at ch.4730, and the requirement for the construction of earthworks on the northbound side of the A9 which may result in sections of the path which currently route through the verge of the A9 being closed temporarily resulting in a potential increase / in journey distances as NMUs are forced to divert via a crossing of the A9. Should sections of the path remain open during the construction period there will be an associated reduction in amenity for any users of this alignment due to the presence of construction plant and any associated impacts resulting from noise, construction and dust and alteration to views.

17.4.11. Temporary closure of a section of HB54 will potentially occur at ch.5400 where the RoW routes around a small pond within the grounds of the Highland Resort. An alternative route to the east of the pond would result in a potential increase in journey distance of c.40m. A reduction in amenity will occur though the creation of noise and dust where the mainline is constructed adjacent to HB54, thereafter the RoW routes away from the A9 and impacts will be unlikely to affect the amenity of the users.

17.4.12. Access to HB48 will be severed during the construction period with the at-grade crossing of the A9 closed to users. Access to the route will effectively be severed with a diversion of c.8500m which involves routing via RoW HB52 and the B9152 to Aviemore and crossing the A9 at High Burnside (ch.7250) before following a series of forestry tracks before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion.

17.4.13. Access to HB47 will be severed during the construction period with the at-grade crossing of the A9 closed to users. Access to the route will effectively be severed with an increase in journey distance of c.8000m which involves a diversion through Carrbridge and following the route of LBS114 / NCN7 before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW (which has been identified through consultation as being in use by walkers, cyclists, skiers and equestrians (and is identified as a long-distance equestrian route) who will be

required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local (B9152) road network.

17.4.14. Further impacts will occur to HB47 where the route extends to Slochd Mor. The construction of earthworks in this area has the potential to result in a temporary closure of the path with journey lengths increasing if diversions are required through the woodland and hill tracks to the west. Potential journey lengths would increase by c.10,000m in order to reach the current at-grade junction of the A9 at Slochd Summit if appropriate mitigation is not implemented. The construction period would also result in users of long-distance routes following HB47 and HI110 not being able to complete their journeys due to the closure of the at-grade crossing at Slochd Summit to facilitate construction of the mainline.

17.4.15. Access to HI110 will be severed from the paths on the northbound side of the A9 during the construction period with the at-grade crossing of the A9 closed to users. Access to the route will be severed with an increase in journey distance of c.700m when compared to the existing scenario which involves routing under the A9 at Tomatin and following the alignment of NCN7 from the southern edge of Tomatin to Slochd. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing roads rather than within agricultural land.

Other NMU Routes

17.4.16. Other NMU Route 1 would require to be diverted during construction with the closure of the existing at-grade junction of the A9 at Aviemore South and the closure of the underpass at ch.1920. NMUs will there be required to divert to an alternative crossing of the A9.

17.4.17. Other NMU Route 2 will be partially severed during construction where earthworks are required which impinge upon the footway alongside the B9152. It is anticipated that NMUs will be able to be accommodated along this short section of the B9152 in order to maintain access to the Speyside Way Extension. The amenity value for users will be decreased where construction works result in increased dust and noise emissions adjacent to users, however this will likely be limited to the sections between ch.300 and 900.

17.4.18. The construction of the scheme will result in the closure of access to Other NMU Route 3, with the at-grade access to the rear of the Highland Resort being closed to facilitate construction. Users of this route will be required to direct via the underpass at Craigellachie (ch.5290) during construction leading to an increase in journey distance of c.500m through the Highland Resort due to the potential requirement to divert Core Path LBS145. Access to Other NMU Route 3 will however be severed during the construction of the Proposed Scheme should there be a need to close the underpass at ch.5290 on LBS30 in order to extend or replace the underpass. Due to the location of the path and the temporary closure of the underpass Other NMU Route 3 would in effect be closed until such time as the underpass is reopened.

17.4.19. It is anticipated that during the construction of the Proposed Scheme the two NMU underpasses associated with Other NMU Route 4 will be closed, however access will be maintained across the A9 for NMUs via the existing underbridge which provides access to vehicles and NMUs at High Burnside. The closure of the underpasses will result in a maximum increase in journey length along the Aviemore Orbital Route (LBS30) of c.370m to the crossing. The amenity of NMU journeys along this route will be reduced where NMUs are required to walk adjacent to the local road in order to cross under the A9, amenity will be further reduced due to the proximity of Other NMU Route 4 to the

construction works, users will therefore likely be affected by increased noise and dust generation.

17.4.20. Access to Other NMU Routes 6 and 8 will be severed during the construction period with the at-grade crossings of the A9 closed to users at ch.9200 and 10530 respectively. Access to the routes will effectively be severed with an increase in journey distance of c.4000m for users of Other NMU Route 6, and c.8900m for Other NMU Route 8 users. The diversion of Other NMU Route 6 involves routing south to Aviemore along the A95 and crossing the A9 at High Burnside before following the forestry tracks on the northbound side of the A9. This will result in a reduction in amenity for users of the route who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local road network. The amenity of journeys for users will be reduced where they are required to follow the existing road network, however, once on the northbound side of the A9 amenity will improve where NMUs route through the existing forestry. Other NMU Route 8 will be diverted along the A95 and then, as with HB48 the diversion will involve routing via RoW HB52 and the B9152 to Aviemore and crossing the A9 at High Burnside (ch.7250) before following a series of forestry tracks before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion.

17.4.21. The construction of the mainline and associated earthworks will result in sections of Other NMU Route 9 being closed. An increase in journey length is likely to occur where users of this route are required to divert away from the earthworks, however it is considered that any diversion could be taken within the field through which the route currently runs and the increased length of journey would be c.25m. The further encroachment of the mainline and associated earthworks will result in an adverse effect on the amenity of the NMU Route with users subjected to adverse visual impacts as a result of the more extensive earthworks which will be present along the northbound carriageway.

17.4.22. Other NMU Routes 10 and 11 will be severed during the construction period with the at-grade crossings of the A9 at ch.12130 and 12400 closed to users. Access to the routes will effectively be severed with an increase in journey distance of c.13500m and c.13000m respectively which involves routing through Carrbridge and following the route of NCN7 to its connection with HB47 which can then be used to connect south to Other NMU Route 10. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing local (B9153) road network. This will affect users which include equestrians who are known to utilise this crossing of the A9.

17.4.23. Other NMU Routes 12 and 13 will be severed with the closure of the at-grade crossings of the A9 at ch.13250 and 14340. In order to access these routes a diverted route would be required which would involve routing through Carrbridge and via LBS114/NCN7 and subsequently following a series of forestry tracks before connecting in to the Other NMU Routes to the west of the A9 resulting in increased journey distances of c.11295m and c.9900m respectively. Although safety will be improved through the removal of at-grade crossings of the A9 carriageway the diversions will result in a reduction in amenity for users of the routes who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing road network.

17.4.24. Other NMU Route 14 will be severed during construction with the closure of the at-grade crossing of the A9 at ch.17050. This will require users to divert through Carrbridge and utilise NCN7 and RoW HB47 to Sluggan Bridge before routing back along forestry tracks to connect back to the route. This results in an increase in journey length of c.6500m for

users who will also experience a reduction in amenity as a result of having to travel through Carrbridge on-road, however, as the road follows the lightly trafficked NCN7 route to Sluggan Bridge, and the forestry tracks north of the River Dulnain it is considered that the amenity of the journey will improve where the NMU route is more remote to the construction of the Proposed Scheme[1].

17.4.25. The construction of the Proposed Scheme will result in direct impacts to Other NMU Route 15 which will result in sections of the route requiring to be closed and a diverted route provided. It is considered that where sections of the route are closed an alternative route may be available through routing to the west of the forest area through which the route runs for part of its length. The existing at-grade crossing of the A9 at ch.19290 will be closed during construction so any users who are seeking to follow this route will be required to divert along Other NMU Route 14 and cross the A9 at ch.17050 before following the route of NCN7 to Black Mount, an increase in journey length of c.1750m which will also result in a reduction in amenity for users. This diversion assumes that the crossing of the A9 at ch.17050 remains open to users at this time, if this is not the case then a much more significant diversion route will be required via Sluggan and Carrbridge.

17.4.26. Other NMU Route 16 will be severed during the construction period with the at-grade crossing of the A9 at ch.21010 closed to users. Access to the route will result in an increase in journey distance of c.2700m which involves routing through along the unclassified road to Slochd, and then following the series of NMU routes through the woodland on the northbound side of the A9. Whilst the removal of the at-grade crossing would result in a safety benefit, there would be an associated reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing road network.

17.4.27. It is not considered that any direct impacts will occur to Other NMU Route 19 during the construction of the proposed mainline alignments. However it is likely that amenity will be reduced for users of this NMU Route with potential increases in HGV movements along the A95. As this section of the NMU path network is heavily utilised by commuters between Carrbridge and Aviemore it is considered that any impacts which reduce amenity and safety of the users will impact upon a large number of users.

Views from the Road

17.4.28. At DMRB Stage 2 the likely construction impacts on the road traveller are not known. Although potential impacts can occur during construction, these are considered temporary in nature. In accordance with the methodology impacts during construction have not been assessed at DMRB Stage 2. All the Proposed Scheme Options will have similar impacts including:

- removal of vegetation to facilitate works;
- resulting bare earth due to removal of vegetation and earthworks;
- changes in landform due to earthworks, including temporary soil storage areas;
- vehicle activity due to excavation, earthmoving and construction;
- construction of bridges and other structures;
- site compound areas, storage of materials and lighting to facilitate work during hours of darkness; and

[1] It should be noted that a shorter diversion is available to NMUs, however this requires fording the River Dulnain and is therefore not seen as a suitable alternative for all NMUs and has therefore not been subject to appraisal.

- traffic management systems.

Operational Impacts

Non-Motorised Users

Core Paths

17.4.29. A realignment of LBS30 will occur between ch.6060 and 6150 leading to a reduction in journey length of c.30m, and ch.7050 to 7540 leading to a reduction in journey lengths of c.20m where the core path is required to be diverted to accommodate earthworks for the construction of the mainline. The existing underpass in to Craigellachie NNR will be extended or replaced to ensure it routes under the dual carriageway and it is therefore considered that there will be no impacts to journey length at this location during the operation of the Proposed Scheme.

17.4.30. Users of LBS30 will experience a long-term reduction in amenity during the operation of the Proposed Scheme resulting from visual impacts as a result of the removal of woodland areas in order to accommodate the widened footprint of the A9.

17.4.31. For users of Core Paths LBS38, 39 and 138 it is not considered that any change in journey lengths will occur, however the encroachment of earthworks and potential traffic noise will result in a reduction in amenity for those users of the path within Craigellachie NNR.

17.4.32. LBS145 will require a minor realignment where it routes passed a small pond within the Highland Resort resulting in a c.40m increase in journey length between ch.5300 and 5500 in order to accommodate earthworks associated with the mainline alignments. It is considered that the diversion of the core path to the east would result in beneficial impacts upon the amenity of the users by being moved further away from the operational A9.

17.4.33. It is not considered that users of LBS114 will experience any impacts to journey lengths or amenity as a result of the operation of the Proposed Scheme.

17.4.34. IN27.01 will required to be diverted in order to accommodate the widened A9 and the associated earthworks. It is considered that the diversion will be a small realignment of the existing path through Slochd which will not alter journey lengths or the amenity value of journeys made on this path.

National Cycle Network

17.4.35. It is not considered that users of NCN7 will experience any impacts to journey lengths or amenity as a result of the operation of the Proposed Scheme. A small section of the route through Slochd which will be required to be diverted in order to accommodate the widened A9 and the associated earthworks. It is considered that the diversion will be a small realignment which will not significantly alter journey lengths or the amenity value of journeys made on this path.

Rights of Way

17.4.36. It is not considered that the mainline options will result in any impacts to journey length or amenity on HB45 due to its proximity from the Proposed Scheme. Access to the path will also be retained with the retention of the underpass at ch.4730. It is not considered that there will be any operational impacts to vulnerable groups utilising this path.

17.4.37. Access to HB83 will remain during operation via the underpass at ch.4730. Some minor increases to journey distances may occur if HB83 needs to be realigned to accommodate any earthworks on the northbound side of the A9. It is considered that a reduction in amenity may also occur as a result of alterations to existing, open views which will be altered through the presence of additional earthworks along this section of the A9.

17.4.38. HB54 will require a minor realignment where it routes passed a small pond within the Highland Resort resulting in a potential increase in journey length of c.40m between ch.5300 and 5500 in order to accommodate earthworks associated with the mainline alignments. It is considered that the diversion of the RoW to the east would result in beneficial impacts upon the amenity of the users by being moved further away from the operational A9.

17.4.39. Access to HB48 will be severed during the operational period with the at-grade crossing of the A9 closed to users. Access to the route will effectively be severed with a diversion of c.8500m which involves routing via RoW HB52 and the B9152 to Aviemore and crossing the A9 at High Burnside (ch.7250) before following a series of forestry tracks before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion.

17.4.40. Access to HB47 will be severed during the operation of the Proposed Scheme with the at-grade crossing of the A9 closed to users. Access to the route will effectively be severed with an increase in journey distance of c.8000m which involves a diversion through Carrbridge and following the route of LBS114 / NCN7 before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW (which has been identified through consultation as being in use by walkers, cyclists, skiers and equestrians (and is identified as a long-distance equestrian route)) who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local (B9152) road network.

17.4.41. A minor realignment of HB47 may be required at Slochd Mor which could result in a small alteration in journey lengths where earthworks are required, however it is unclear at this stage whether an increase / decrease in journey length will occur. The overall amenity of the RoW will be largely unaffected by the operation of the Proposed Scheme, however the restriction of access to the RoW to solely the northbound side of the A9 reduces the overall amenity of the long-distance route which the path forms a part of.

17.4.42. Access to HI110 will be severed from the paths on the northbound side of the A9 during the operation of the Proposed Scheme due to the closure of the at-grade crossing of the A9 at Slochd Summit. The severance will result in an increase in journey distance of c.700m when compared to the existing scenario which involves routing under the A9 at Tomatin and following the alignment of NCN7 from the southern edge of Tomatin to Slochd. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing roads rather than within agricultural land.

Other NMU Routes

17.4.43. The operation of the proposed mainline options will result in a diversion of Other NMU Route 1 as a result of the closure of the existing at-grade junction at Aviemore South. Users will be forced to divert via the underpass at ch.4730 and along Right of Way HB83 leading to a c.700m reduction in journey length. The amenity of the path will be improved as users will no longer be required to route along the B9152 and cross the A9

at-grade, instead a safer, grade separated crossing will be utilised and a segregated path used by NMUs.

17.4.44. Other NMU Route 2 will experience a minor realignment to accommodate the earthworks associated with the mainline, however it is not expected that any increase in journey length will occur. It is not anticipated that any impacts in amenity will occur as a result of the operation of the Proposed Scheme.

17.4.45. The operation of the Proposed Scheme will result in the closure of the existing at-grade crossing utilised by users of Other NMU Route 3. NMUs will be required to divert via core path network and the underpass at ch.5290. This will result in an increase distance of c.500m, however there will be an associated beneficial impact in terms of safety with NMUs no longer required to cross the A9 at-grade. There will also be a beneficial impact to NMUs through improved amenity in the long-term with the route passing through a greater proportion of the Craigellachie NNR.

17.4.46. It is not considered that any operational impacts will occur to journey lengths for users of Other NMU Route 4, some reduction in amenity may occur as a result of a loss of woodland and encroachment of earthworks towards the path on the southbound side of the A9.

17.4.47. Access to Other NMU Routes 6 and 8 will be severed during the operation of the Proposed Scheme with the at-grade crossings of the A9 closed to users at ch.9200 and 10530 respectively. Access to the routes will effectively be severed with an increase in journey distance of c.4000m for users of Other NMU Route 6, and c.8900m for Other NMU Route 8 users. The diversion of Other NMU Route 6 involves routing south to Aviemore along the A95 and crossing the A9 at High Burnside before following the forestry tracks on the northbound side of the A9. This will result in a reduction in amenity for users of the route who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local road network. The amenity of journeys for users will be reduced where they are required to follow the existing road network, however, once on the northbound side of the A9 amenity will improve where NMUs route through the existing forestry. Other NMU Route 8 will be diverted along the A95 and then, as with HB48 the diversion will involve routing via RoW HB52 and the B9152 to Aviemore and crossing the A9 at High Burnside (ch.7250) before following a series of forestry tracks before connecting in to the RoW to the west of the A9. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion.

17.4.48. The operation of the Proposed Scheme will require a realignment of Other NMU Route 9 along the toe of the earthworks on the northbound side of the A9. This realignment will result in an increase in journey length of c.25m but this will be dependent upon the final route alignment. It is not considered that amenity will decrease along this NMU route as the operational scenario will be broadly similar to the baseline situation along the length of NMU Route 9.

17.4.49. Other NMU Routes 10 and 11 will be impacted as a result of the operation of the Proposed Scheme with the at-grade crossings of the A9 at ch.12130 and 12400 closed to users. Access to the routes will effectively be severed with an increase in journey distance of c.13500m and c.13000m respectively which involves routing through Carrbridge and following the route of NCN7 to its connection with HB47 which can then be used to connect south to Other NMU Route 10. This will result in a reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing local (B9153) road network. This will affect users which include equestrians who are known to utilise this crossing of the A9.

17.4.50. Other NMU Routes 12 and 13 will be severed with the closure of the at-grade crossings of the A9 at ch.13250 and 14340. In order to access these routes a diverted route would be required which would involve routing through Carrbridge and via LBS114/NCN7 and subsequently following a series of forestry tracks before connecting in to the Other NMU Routes to the west of the A9 resulting in increased journey distances of c.11295m and c.9900m respectively. Although safety will be improved through the removal of at-grade crossings of the A9 carriageway the diversions will result in a reduction in amenity for users of the routes who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing road network.

17.4.51. As with the construction of the Proposed Scheme, the operational impact will be the severance of Other NMU Route 14 with the closure of the at-grade crossing of the A9. This will require users to divert through Carrbridge and utilise NCN7 and RoW HB47 to Sluggan Bridge before routing back along forestry tracks to connect back to the route. This results in a c.6500m diversion to users who will also experience a reduction in amenity as a result of having to travel through Carrbridge on-road, however, as the road follows the lightly trafficked NCN7 route to Sluggan Bridge, and the forestry tracks north of the River Dulnain it is considered that the amenity of the journey will improve where the NMU is more remote to the construction of the Proposed Scheme.

17.4.52. Other NMU Route 15 will require a diversion along the northbound side of the A9 between ch.17500 and 19200 in order to route along the toe of the new embankments. It is likely that a diversion of this NMU route will be required routing around the forestry to the west leading to an increase in journey length of c.100m, however routing away from the A9 and the associated construction works will improve the amenity of the journeys. The at-grade crossing of the A9 will be removed, however there will be the opportunity for users to cross the A9 mainline at the proposed Black Mount grade separated junction which will result in improved safety for users by removing the need to cross the A9 at-grade. .

17.4.53. Other NMU Route 16 will be severed with the permanent closure of the at-grade crossing of the A9 at ch.21010. Access to the route will result in an increase in journey distance of c.2700m which involves routing through along the unclassified road to Slochd, and then following the series of NMU routes through the woodland on the northbound side of the A9. Whilst the removal of the at-grade crossing would result in a safety benefit, there would be an associated reduction in amenity for users of the RoW who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing road network.

17.4.54. The operation of the proposed mainline alignments will not result in any impacts to journey lengths or amenity for users of Other NMU Route 19.

Views from the Road

17.4.55. The visual impacts associated with the Proposed Scheme Options during operation include (but are not limited to):

- removal of vegetation to facilitate works;
- removal of existing vegetation which affords screening;
- changes in landform due to the formation of cuttings, embankments and bridge structures;
- the addition of underpasses and new junction layouts at Aviemore South, Granish and at Black Mount;

- changes to landscape patterns due to the addition of elements to aid reinstatement, including new or additional planting;
- moving traffic and HGVs; and
- vertical elements including lighting of underpasses and underbridges associated with potential junctions, and signage.

17.4.56. The impacts common to mainline alignment options in terms of views from the road are:

- Potential slight impacts to views from the road at ch.3800-5300 due to loss of woodland potentially exposing the rock at Craigellachie and resulting in wind throw associated with tree removal.
- Potential slight-moderate impacts to views from the road at Dulnain crossing and Slochd Beag due to the addition of a new elevated structures associated with the dualling.
- Potential slight- moderate beneficial impacts to views from the road at ch.23600-25030 due to opportunity to improve rock cuts at Slochd and remove existing rock blanket.
- Potential moderate beneficial impacts to views from the road at ch.0-3800 due to the opportunity to open up views to Loch Alvie.

Impacts Specific to Mainline Alignment Options

Impacts Specific to Mainline Alignment Option 1

Construction Impacts

Non-Motorised Users

17.4.57. Construction processes will result in a reduction in amenity for users of LBS41 and LBS40 adjacent to the A9 where the core paths connect with the Aviemore Orbital Route (LBS30) at ch.6460 and 7050. It is considered that southbound widening would increase noise and result in dust emissions for users of this route. LBS41 is a route that is used by vulnerable groups accessing facilities such as Aviemore Primary School (located at NGR NH894133) and Aviemore Medical Practice (located at NGR NH896133). Construction processes in the vicinity of this route in particular therefore has the potential to result in adverse impacts to the amenity of a range of NMUs.

17.4.58. The construction of Mainline Alignment 1 may result in minor diversions being required to Other NMU Route 5 between ch.9000 and 9200 in order to allow access for construction traffic to construct the required earthworks for the Proposed Scheme. Should a diversion be required it would likely require NMUs to follow the A95 from Granish junction, north to the point at which Other NMU Route 6 insects with the A95. The route diversion would be c.1300m in length and its alignment would result in a reduction in amenity and safety for users where they are required to follow the trunk road network rather than a route through woodland areas.

17.4.59. Access along Other NMU Route 7 will be severed during construction to facilitate the construction of the earthworks associated with the southbound widening for Mainline Option 1 between ch.9640 and 10050. Users of this route will be required to divert using Right of Way HB48 and the A95 before routing along Other NMU Route 6, a diversion of c.1000m. There will be no direct connection to Other NMU Route 7 at this location with access requiring to be taken through the woodland area. Construction of this mainline

option will result in an adverse impact on amenity for users with NMUs forced to divert along the verge of the A95 trunk road rather than routing through a woodland area.

17.4.60. It is not considered that the construction of Mainline Option 1 will result in any impacts upon journey lengths on Other NMU Route 18, however, the construction of the mainline and associated embankments will result in adverse impacts for users with construction dust and noise emissions impacting upon NMUs.

Operational Impacts

Non-Motorised Users

17.4.61. Mainline Option 1 would not result in the need to divert LBS41 or LBS40, and the shifting of the mainline closer to the core paths is not expected to result in any significant reductions in amenity to NMU users.

17.4.62. It is considered that the operation of Mainline Option 1 will not result in any diversion to Other NMU Route 5, however the amenity of the route will be negatively affected with additional earthworks and vehicular traffic being moved closer to the route.

17.4.63. Other NMU Route 7 will require realignment during the operation of the scheme to accommodate the required earthworks and widened mainline between ch.9640 and 10500. It is likely that the redirected mainline will result in journey lengths remaining of a similar distance to those currently experienced, however this will be dependent on the final route alignment identified. The amenity for users of this route will decrease due to the proximity of the A9 and its associated earthworks to the realigned path.

17.4.64. It is not considered that any significant impacts will occur to journey lengths or amenity for users of Other NMU Route 18 during the operation of the Proposed Scheme. However, should users of this route wish to ultimately cross the A9 to connect with the pathways on the northbound side then this access would be restricted due to the closure of the at-grade crossing.

Views from the Road

17.4.65. Potential slight adverse impact in views from the road at ch.5400 – 6100 and 7000-7600 due to the revised cuttings and loss of vegetation which will open up views to the Macdonald Hotel holiday complex and the north west of Aviemore near Milton.

Impacts Specific to Mainline Alignment Option 1A

Non-Motorised Users

17.4.66. It is considered that the impacts to the NMU routes associated with Mainline Alignment 1A will be the same as those for Mainline Alignment 1 and therefore no additional assessment has been undertaken.

Views from the Road

17.4.67. There are no specific potential impacts in views from the road for Option 1A.

Impacts Specific to Mainline Alignment Option 2

Construction Impacts

Non-Motorised Users

17.4.68. The construction of Mainline Alignment 2 does not directly affect Other NMU Route 17, however temporary closure of the route closest the A9 may be required during the construction period in order to ensure the safety of the public where earthworks are being constructed. Alternative routes are available through the woodland area so it is not considered that the utilisation of these routes will result in any increases in journey lengths. The amenity of the route will be affected in the short term where vegetation removal is required and where construction processes are undertaken in close vicinity to the route leading to dust and noise emissions affecting the enjoyment of the route for all NMUs.

Operational Impacts

Non-Motorised Users

17.4.69. Other NMU Route 17 will experience a reduction in amenity for users with the removal of vegetation and the movement of traffic closer to the path network. However it is not anticipated that any diversions of the route will be required in order to accommodate the Proposed Scheme.

Views from the Road

17.4.70. Potential slight beneficial impact to views from the road between 5350 – 5500 as the loss of woodland would open up views to Loch Puladdern. Potential slight beneficial impact between 8100-15100 due to loss of roadside trees which currently frame views of mountain ranges to the north and south, resulting in a greater extent of the hills being visible for the traveller.

Impacts Common to Aviemore South Junction Options

Construction Impacts

Non-Motorised Users

17.4.71. Other NMU Route 1 would require to be diverted during construction with the closure of the existing at-grade junction of the A9 at Aviemore South. Access to this path may therefore be closed until such time as the formation of the new junction at Aviemore South is opened and provides access. With the temporary closure of underpasses at ch.1920 and 4730 access to Other NMU Route may be severed until such time as the junction / underpasses are reopened.

Operational Impacts

Non-Motorised Users

17.4.72. During the operation of the Proposed Scheme the Aviemore South junctions will result in users of Other NMU Route 1 diverting further south in order to utilise the new junctions to cross the A9. This will result in increases in journey lengths ranging from c.860m (Junction A02) to c.1500m (Junction A18). An alternative does exist for users of Other NMU Route 1 via the existing at ch.4730. This would result in a reduction in journey

lengths of c.800m by utilising HB83 which is a well-used NMU Route which supports pedestrians, cyclists and equestrians. It is not considered that either of these route options would result in any changes to the amenity of Other NMU Route 1.

Views from the Road

17.4.73. The impacts common to junction options in terms of views from the road are loss of woodland due to the land take associated with the footprint of the junctions and the formation of a new overbridge, new slip roads and associated cuttings and embankments. Collectively, these are considered to be Substantial impact at year 1, reducing to Slight-Moderate impact in year 15.

Impacts Specific to Aviemore South Junction Options

Impacts Specific to Junction Option A02

Non-Motorised Users

17.4.74. There are no impacts specific to Junction Option A02 during construction or operation of the Proposed Scheme, impacts to paths associated with this junction are covered by the impacts common to all Aviemore South Junction Options.

Views from the Road

17.4.75. During the operation of the Proposed Scheme there would be potential moderate adverse impact on the views from the road due to the introduction of the half clover leaf junction elements which will be particularly visible in northbound views.

Impacts Specific to Junction Option A09

Non-Motorised Users

17.4.76. There are no impacts specific to Junction Option A09 during construction or operation of the Proposed Scheme, impacts to paths associated with this junction are covered by the impacts common to all Aviemore South Junction Options.

Views from the Road

17.4.77. There are no potential impacts for views from the road specific to Junction A09.

Impacts Specific to Junction Option A18

Construction Impacts

Non-Motorised Users

17.4.78. No direct impacts will occur to users of Other NMU Route 2, however the proximity to the works may result in adverse impacts to amenity for users despite the separation of the path from the road due to the presence of the HML. Impacts may occur in the short-term as a result of a reduction in amenity from noise generation and dust deposition affecting users of Other NMU Route 2.

Operational Impacts

17.4.79. It is not considered that the operation of Junction Option A18 will result in any impacts to journey length or amenity when compared to the baseline scenario.

Views from the Road

17.4.80. There are no potential impacts for views from the road specific to Junction A18.

Impacts Common to Granish Junction Options

Construction Impacts

Non-Motorised Users

17.4.81. The construction of the Granish junctions will result in much of Other NMU Route 5 being lost. The section between ch.8500 and 9200 will be lost due to the need to construct the earthworks and slip roads required for the junction alignments. NMUs seeking to utilise Other NMU Route 5 will be diverted along the B9152 and the A95 for a length of c.1700m whereupon they can connect with Other NMU Route 6. The amenity of safety of the NMU journey's along this section of the route will be reduced as there is currently no segregated NMU route and users will be required to walk along the local and trunk roads networks (Other NMU Route 19).

17.4.82. Access to Other NMU Route 6 will be severed during the construction of the Proposed Scheme with the at-grade crossing of the A9 closed to users at ch.9200. Access to the routes will effectively be severed with an increase in journey distance of c.4000m. The diversion of Other NMU Route 6 involves routing south to Aviemore along the A95 and crossing the A9 at High Burnside before following the forestry tracks on the northbound side of the A9. This will result in a reduction in amenity for users of the route who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local road network. The amenity of journeys for users will be reduced where they are required to follow the existing road network, in addition amenity will be reduced on the forestry tracks on the northbound side of the A9 where the construction of the new junction options encroaches on the paths and will remove existing areas of woodland.

17.4.83. Some minor disruption may occur for users of Other NMU Route 19 during the construction of the junction options as a result of increased noise and dust occurring adjacent to the route and as a result of the tie-in works between the junction options and the A95. It is not considered that any changes to journey length will occur as a result of the contraction of any of the junction options.

Operational Impacts

Non-Motorised Users

17.4.84. The operation of the Granish junction options will result in the loss of Other NMU Route 5 between ch.8500 and 9200, NMUs will be required to take an alternative route following the B9152 and A95 leading to a less safe, reduced amenity diversion leading to an increase in journey length of c.1700m.

17.4.85. Access to Other NMU Route 6 will be severed during the operation of the Proposed Scheme with the at-grade crossing of the A9 closed to users at ch.9200. Access to the routes will effectively be severed with an increase in journey distance of c.4000m for users of Other NMU Route 6 which involves routing south to Aviemore along the A95 and crossing the A9 at High Burnside before following the forestry tracks on the northbound side of the A9. This will result in a reduction in amenity for users of the route who will be required to undertake a significant diversion of which a large section will be required to be travelled on the existing trunk (A95) and local road network.

Views from the Road

17.4.86. Potential moderate adverse impacts on views from the road is common to all Granish junction options due felling of woodland at year 1, which is considered to reduce to potential slight adverse impact on views from the road by year 15. This is due to Granish being designed with an underpass and the topographical levels and cuttings reducing impacts on travellers' views.

Impacts Specific to Granish Junction Options

Impacts Specific to Junction Options C18, C21, C31 and C34

Non-Motorised Users

17.4.87. There are no impacts specific to Junction Options C18, C21, C31 and C34 during the construction or operation of the Proposed Scheme, impacts to paths associated with these junctions are covered by the impacts common to all Granish Junction Options.

Views from the Road

17.4.88. There are no potential impacts on views from the road specific to Junction Options C18, C21, C31 and C34 during operation of the Proposed Scheme.

Impacts Common to Black Mount Junction Options

Construction Impacts

Non-Motorised Users

17.4.89. The construction of the proposed junction options at Black Mount is likely to require a diversion of NCN7 in order to ensure the safety of users of the facility. It is considered that the diversion can be routed to the east of the current alignment resulting in increased journey distances of c.200m when compared to the baseline scenario. The construction of the new junction options will result in adverse impacts to the amenity of NCN7 users where construction processes occur adjacent to the route leading to increased noise and dust emissions. The proposed junction options at Black Mount all consist of overbridges and as such it is considered that there will be an adverse impact on views from this facility to the west as a result of the construction of new earthworks and structures.

17.4.90. The construction of the Black Mount Junction Options will result in the closure of the at-grade junction at ch.19290, and a section of the route between ch.18900 and 19290 being closed to facilitate the construction of the junction options. This will restrict NMU movements as a result of not being able to cross the A9 and any diversion would require NMUs to divert via the at-grade crossing at Dalrachney Beag (on the assumption that this crossing remains open to NMUs) and NCN7 where it follows the A938 to Black Mount, an increase in journey length of c.1750m which will also see users of the route have the amenity value of their journeys reduced.

Operational Impacts

17.4.91. During the operation of the Proposed Scheme NCN7 will be diverted along the line of the B938 and the unclassified road to Slochd in order to accommodate the new junction options. It is considered that the diverted route will result in an increase in journey distance of up to c.200m. Impacts upon the amenity of the route will be primarily related

to impacts to views from the NCN7 where the presence of the new grade separated junction and its associated earthworks will restrict views to the west.

17.4.92. Other NMU Route 15 will be diverted to allow access over the A9 at the grade separated crossing point. This will require a diversion of the route resulting in an increase in journey distance of c.300m, however this crossing will result in an improvement to the safety of the route as NMUs will no longer be required to cross the A9 at-grade in this location thereby resulting in an overall improvement to the amenity of the route.

Views from the Road

17.4.93. Potential substantial adverse impact on views from the road in year 1 reducing to potential moderate adverse impact in year 15 due to the introduction of an overbridge, new slip roads and associated cuttings and embankments in a location where views south are considered to be a rare instance of long range views in the Dalraddy to Slochd section of the A9. Note that although this applies to all Black Mount junction options, including options D07 and D51, the latter two options have an additional element of clover leaf quadrants which is set out separately below.

Impacts Specific to Black Mount Junction Options

Impacts Specific to Junction Option D02, D03, D07, D12, D13 and D51

Non-Motorised Users

17.4.94. There are no impacts specific to Junction Options D02, D03, D07, D12, D13 and D51 during the construction or operation of the Proposed Scheme, impacts to paths associated with these junctions are covered by the impacts common to all Black Mount Junction Options.

Views from the Road

17.4.95. There are no potential impacts on views from the road specific to Option D02, D03, D12 and D13 during operation of the Proposed Scheme.

17.4.96. Potential substantial adverse impact on views from the road due to Junction Options D07 and D51 during the operation of the Proposed Scheme. The introduction of the half clover leaf design which will be a more obvious feature in views.

17.4.97. The potential impacts on the views from the road for mainline options are set out in Table 17.5 below. Winter of Year One is abbreviated to WY1 and Summer of Year 15 is abbreviated to SY15. A finding of 'N/A' (not applicable) is indicated for chainages where Option 1A does not exist (Option 1A only applies between certain chainages).

Table 17.5: Potential Impact on the Traveller Experience from Mainline Options

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
Start of route/Loch Alvie to north of Aviemore South junction. ch.0-3800 Badenoch: Loch Alvie to Inverdruie LCA Medium sensitivity	*Magnitude*	Medium	N/A	Medium	The A9 lies almost entirely within woodland or in false cutting until the existing Aviemore South junction so that views are restricted to the briefest glimpse of Loch Alvie. The focus of the view for northbound drivers is the Craigellachie outcrop and for drivers to the south are the Cairngorm mountains.	Proposed southbound widening applies to this section which would result in revised cuttings and associated loss of roadside vegetation. This would potentially open up views to the east.
	Significance	WY 1 Moderate beneficial SY 15 Moderate beneficial	N/A	WY 1 Moderate beneficial SY 15 Moderate beneficial		
Kinakyle to Macdonald Highland Hotel ch.3800-5270 Badenoch: Loch Alvie to Inverdruie LCA (northern extent of) Badenoch: Inverdruie to Pityoulish LCA (southern extent of) Low-Medium sensitivity	*Magnitude*	Medium	Medium	Medium	Views are restricted to the west due to the rocky outcrop of Craigellachie, and to the east by false cutting and roadside vegetation so that it is only a few large scale buildings that make the traveller aware of the town of Aviemore.	All Options would result in loss of Ancient Woodland at the foot of Craigellachie exposing new rock cuts and increasing the visual impact of wind throw. This would be slightly greater for Option 1A and 2. Between ch.4600-4800 both Option 1A and 2 would be closer to Lag na Cualach cluster of properties, and these would be more obvious to the road traveller in the early years of opening.
	Significance	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse		

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
Macdonald Highland Hotel to Granish Farm ch.5270- 8100 Badenoch: Inverdruie to Pityoulish LCA (northern extent of) Low-Medium sensitivity	*Magnitude*	Medium	Medium	Medium	Between the Macdonald Hotel and ch.7000, views are restricted by the rocky outcrop of Craigellachie to the west and false cutting and roadside vegetation to the east. Between 7000-7300 short range views briefly open westwards to the new housing at Burnside, before reverting to restrictions from roadside vegetation to ch.8100.	Option 1 would result in loss of some Ancient Woodland near ch.5300. Option 2 would expose Loch Puladdern (ch.5350-5500) which could have a slight beneficial impact on the experience of the view for travellers. Between Loch Puladdern and Burnside, Option 1 would result in revised cuttings and vegetation clearance to the east and Option 2 would result in loss of woodland to the west (ch. 3700-4500 and 4800-5200), exposing any rock cuts made. Between ch.7900-8000 there would be loss of Ancient Woodland associated with Option 2 only.
	Significance	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse		
	Significance	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse	WY 1 Moderate adverse SY 15 Slight adverse		
	Magnitude	Low	N/A	Low		

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
From Granish to ch.15100. ch.8100 - 15100 Strathspey: Pityoulish to Boat of Garten LCA Low sensitivity	*Significance*	WY 1 Slight beneficial SY 15 Slight beneficial	WY 1 N/A SY 15 N/A	WY 1 Slight beneficial SY 15 Slight beneficial	Views from the A9 are very restricted for the duration of this section due to forestry and woodland along the road corridor both to the east and west. The focus of the view for drivers is towards the hills to the north (for northbound drivers) and to the south (for southbound drivers).	Both Options are largely contained east and west within Ancient Woodland (between 8500-9800 and 1300-5100). Between ch. 10300-11600 the Ancient Woodland is confined to the west. Overall therefore the felling for either Option would be experienced by the traveller. In some areas (100-12500 and 13100 – 13800 felling to the southbound carriageway associated with Option 1 may afford views of the HML intermittently for A9 travellers. The focus of the view north and south may increase in extent as the viewing window 'enlarges' due to felling. This is considered to have a potential beneficial effect.
Dulnain Strath	*Magnitude*	Medium	N/A	Medium		

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
ch.15100- 17500 Strathspey: Dulnain Strath LCA Medium sensitivity	*Significance*	WY 1 Slight – Moderate adverse SY 15 Slight - Moderate adverse	WY 1 N/A SY 15 N/A	WY 1 Slight – Moderate adverse SY 15 Slight - Moderate adverse	Between 15100 and 16300 views are restricted by plantation and woodland to both the west and east. At 16300, there are intermittent views to the east as tree cover becomes lighter around Carrbridge Station. Views over the Dulnain Strath afforded by the open elevated A9 crossing are long range to the west and east, the latter including the HML bridge which runs parallel. Although views are brief they are in marked contrast to the restricted views to the immediate south and north so that the experience for the A9 traveller is one of marked change.	Between ch.15100 and 16550 both Options would result in similar loss to Ancient Woodland potentially extending the northbound views. Between 16500 and 17000 (Dulnain crossing) the addition of a new elevated structure associated with the dualling would be visible for all travellers in both directions. However, the focus of the view along the open strath would not change and the structure would be within the context of the existing A9 crossing and the parallel HML bridge. Due to the elevation, changes to views would be the same in year 1 and year 15.
	Magnitude	Medium	N/A	Medium		

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
Dulnain Strath to the CNP boundary ch.1750-23600 The Slochd LCA Medium sensitivity	*Significance*	WY 1 Slight – Moderate adverse SY 15 Slight - Moderate adverse	WY 1 N/A SY 15 N/A	WY 1 Slight – Moderate adverse SY 15 Slight - Moderate adverse	Between 17500 and 19200 and 21100 and 21700 views are restricted by plantation either side of the A9. From 19200 to 21100 there are long range open views to the south to the receding mountain ridges for drivers north and southbound. Views northwards are restricted by mainly birch woodland between the A9 and A95/old A9 with Black Mount plantation just beyond. At 21700-21900 the A9 is elevated over the railway and old A9, though this is not obvious to the A9 traveller. From 21900 to 23600 views north are restricted by Carn nam Bain-tighearna but there are short range views over a wooded ravine to the railway as it climbs toward Slochd Mor. Glimpses of the viaduct are possible. Visually locating the Soldier's Head, a weathered rock feature, is a popular pastime for travellers. The rocky pass at Slochd is the most dramatic section of the route for the traveller.	Between 17500 and 19200 both Options would result in similar loss of Ancient Woodland. A new elevated structure at Slochd Beag would create a change for road users. It is assumed that rock cuts at Carn nam Bain-tighearna would be noticeable but not necessarily adverse; this is an opportunity to improve on the existing rock cuts and potentially remove the need for the current rock blanket treatment. The key feature of The Soldier's Head will be retained.
	Magnitude	Medium	N/A	Medium		

Location (chainage) Landscape Character Area and Sensitivity	Assessment	Option 1 WY1 Winter of Year One SY15 Summer of Year 15	Option 1A WY1 Winter of Year One SY15 Summer of Year 15	Option 2 WY1 Winter of Year One SY15 Summer of Year 15	Description of Existing View From A9	Commentary on Assessment
North of the CNP boundary to end of the A9 section. ch.23600-25030 Southern Uplands LCA Low sensitivity	*Significance*	WY 1 Slight – Moderate beneficial SY 15 Slight – Moderate beneficial	WY 1 N/A SY 15 N/A	WY 1 Slight – Moderate beneficial SY 15 Slight – Moderate beneficial	Travellers northbound are likely to experience the change from the enclosed rocky pass at Slochd to the flat relatively open moorland. Southbound travellers are likely to experience the opposite – moving from the open moorland to the rocky pass. For the latter a number of detractors (communications masts, rock blankets) are obvious.	It is assumed that rock cuts at Carn nam Bain-tighearna would be a noticeable but not necessarily adverse; this is an opportunity to improve on the existing rock cuts and potentially remove the need for the current rock blanket treatment.

17.4.98. The potential impacts on the views from the road for junction options are set out in Table 17.6 below. Winter of Year One is abbreviated to WY1 and Summer of Year 15 is abbreviated to SY15.

Table 17.6: Potential Impact on the Traveller Experience from Junction Options

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
Aviemore South Junction ch.2000-3400 Badenoch: Loch Alvie to Inverdruie LCA Medium sensitivity			
A02	The existing section comprises of an at-grade junction where traveller's views open up to the east. The focus of the view are the hills to the north and the south. All Options would result in similar amount of loss of Ancient Woodland. The magnitude of impact is considered to be medium for all Options. Views of A02 would introduce an overbridge with associated slip roads and newly formed cuttings and embankments for north and southbound travellers, with the half cloverleaf quadrants 1 &4 being particularly visible in views northbound so that the impact significance is substantial adverse in winter of year 1 and moderate adverse at summer of year 15. Views of A09 would introduce an overbridge with associated slip roads and newly formed cutting and embankments. The diamond layout is likely to be less obtrusive in views for northbound travellers than the quadrants of A02 so that the impact significance is less than for A02 – slight to moderate at summer of year 15. Views of A18 would introduce an overbridge with associated slip roads and newly formed cutting and embankments. The staggered slip roads combined with the skewed alignment of the overbridge would likely result in a less 'constrained' experience for the road user than A02 so that the impact significance would be less than for A02 – slight to moderate at summer of year 15.	Significance Substantial adverse	Significance Moderate adverse
A09		Significance Substantial adverse	Significance Slight – moderate adverse
A18		Significance Substantial adverse	Significance Slight – moderate adverse
Granish Junction Option ch.8100 - 9300 Strathspey: Pityoulish to Boat of Garten LCA			

Junction Option	Commentary & Magnitude of Impact (WY1- Winter of Year One, SY15 – Summer Year 15)	Impact Winter Year 1	Impact Summer Year 15
Low sensitivity			
C18	The existing section comprises of an at-grade junction where traveller's views open up to the east. The focus of the view are the hills to the north and the south. All options would introduce lighting to the underbridges. All Options are mostly in cutting due to the introduction of an underbridge so that views would be restricted by topography as they currently are by woodland. All Options would result in loss of similar amounts of ancient woodland. The magnitude of impact is considered to be medium for all Options. In the short term the significant of impact would be moderate adverse, but for all Options at year 15 impact is assumed to be slight adverse.	Significance Moderate adverse	Significance Slight adverse
C21		Significance Moderate adverse	Significance Slight adverse
C31		Significance Moderate adverse	Significance Slight adverse
C34		Significance Moderate adverse	Significance Slight adverse
Black Mount ch.19000-20000 The Slochd LCA Medium sensitivity			
D02	The existing section comprises of an at-grade junction where on approach from the east the traveller's views are restricted by woodland. The focus of the view for north and southbound travellers is towards the hills to the south. D03 and D13 diamond layout would introduce an overbridge with associated slip roads and newly formed cuttings and embankments. D02 and D12 would introduce an overbridge with associated slip roads and newly formed cuttings and embankments. The staggered design is similar to the diamond option in terms of views from the road. D51 and D07 would introduce an overbridge with associated slip roads and newly formed cuttings and embankments but the introduction of the half clover leafs will be more obvious in traveller views. Potentially this could prove a greater restriction on views to the south towards the receding hills; these hills are a Special Quality of the Cairngorms National Park. These options also have greater loss of Ancient Woodland than for the other junction options (which would all have similar extent of Ancient Woodland clearance. The magnitude of impact is considered to be high for all Options.	Significance Substantial adverse	Significance Moderate adverse
D03		Significance Substantial adverse	Significance Moderate adverse
D07		Significance Substantial adverse	Significance Substantial adverse
D12		Significance Substantial adverse	Significance Moderate adverse
D13		Significance Substantial adverse	Significance Moderate adverse
D51		Significance Substantial adverse	Significance Substantial adverse

17.5. Potential Mitigation

Mitigation during Construction

Non-Motorised Users

17.5.1. The contractor will be required to develop a Traffic Management Plan in consultation with The Highland Council, the Cairngorms National Park Authority and Transport Scotland for the duration of the construction contract. The Traffic Management Plan would identify proposals for the principal phases of the works and individual construction activities to address disruption to existing NMU movements in specific locations along the construction corridor.

17.5.2. Where temporary diversions of NMU routes are deemed to be required during construction the contractor will be required signpost all diversions for the duration of the temporary diversions.

17.5.3. During the construction of the Proposed Scheme the Contractor will be required to produce a Construction Environmental Management Plan (CEMP) which will be required to reduce impacts resulting from construction processes such as noise and dust generation, as well as setting out information regarding the protection of members of the public using NMU routes in the vicinity of the works.

17.5.4. Throughout the construction period existing NMU crossings of the A9 should remain open where possible in order to ensure that links across the A9 are maintained and access restrictions are limited. Where crossings of the A9 are proposed to be closed during construction appropriate diversions of the NMU routes they support should be implemented to ensure that access to NMU routes are not completely severed such as those within the Craigellachie NNR which could potentially be severed from use during construction if the existing underpass is closed and no alternative, safe crossing is provided. Where crossings are present in close proximity to each other consideration should be given to the staggered closure of crossing to ensure that access is maintained across the A9 for NMUs.

17.5.5. During the construction period the Contractor should give cognisance to the construction of NMU underpasses adjacent to existing crossing points in order to allow for safe passage of NMUs during the construction period.

17.5.6. Due to the engineering and environmental constraints that exist at Slochd consideration should be given to mitigation measures for the NMU Routes (Rights of Way, NCN7 and Core Paths) that route through the area. Due to the diversion lengths involved for NMUs should these paths be closed, other measures should be considered such as a shuttle bus for users of these routes as was utilised during the construction of the A9 Dualling at Crubenmore.

Views from the Road

17.5.7. During construction visual mitigation measures could potentially include (but not be limited to):

- careful selection of construction site compound locations. For example, utilising existing screening, or by the use of temporary screening measures to reduce the effect upon vehicular travellers;
- programming the works to reduce disruption – keeping to the defined works schedule and to permissible working hours;

- ensuring efficient traffic management is in place to minimise disruption to A9 users and NMUs in the vicinity;
- promoting the importance of best practice in relation to maintaining a litter and debris free construction site compound; and
- minimising the use of artificial lighting and promotion of the use of directional lighting to reduce the effect on vehicular travellers.

Mitigation during Operation

Non-Motorised Users

17.5.8. At present the Proposed Scheme designs do not incorporate any embedded designs specific to NMUs, however it is considered that as the scheme is developed at DMRB Stage 3 some NMU provisions will become embedded in the scheme for assessment.

17.5.9. Any proposed footpath closures or diversions will be required to be discussed and agreed with the appropriate authority (the Cairngorms National Park, Scotways, or The Highland Council).

17.5.10. In order to mitigate the potential impacts resulting from the potential closure of existing NMU crossings of the A9 it is recommended that where existing grade separated crossings of the A9 occur along the length of the Proposed Scheme that these are retained as grade separated crossings during operation.

17.5.11. Where existing at-grade crossings occur consideration should be given to replacing these with grade separated crossings for NMUs. However, it is acknowledged that whilst this represents the preferred mitigation strategy some rationalisation of grade separated crossing is likely to be required which may require some diversions of existing NMU routes.

17.5.12. Should it not be deemed feasible to replace all existing at-grade crossings with grade separated crossings then a rationalisation of crossing points will be considered. This may result in some NMU routes requiring diversion. In order to inform any rationalisation of crossing points, consideration should be given to the existing land uses surrounding the crossing points, and whether any landowners may be directly affected by the closure of crossing points and the diversion of NMU routes.

17.5.13. Where underpasses are proposed new structures should be all-weather surfaced, lit and equestrian accessible where possible. It is anticipated that this will be considered further as part of the iterative design process.

17.5.14. Consideration should be given within the DMRB Stage 3 design to the provision of a new, segregated multi-use path along the length of the Proposed Scheme. Should a full segregated NMU not be possible then consideration should be given to the provision of segregated multi-use paths in key locations along the Proposed Scheme, it is considered that the following sections should therefore be given consideration:

- Chainage 0 to Aviemore – a segregated multi-user path is being provided on the Kincraig to Dalraddy Scheme which is currently under construction. A NMU route will be developed which connects this path with the southern end of Aviemore thereby providing a partial link between the communities of Aviemore and Kingussie.
- Aviemore to Carrbridge – at present NCN7 does provide a route between Aviemore and Carrbridge, however the current route is via Coylumbridge and Boat of Garten and is not deemed suitable for commuters between Aviemore and Carrbridge. Potential NMU route options in this location include the provision of a segregated

NMU route between Aviemore and Carrbridge in order to better connect these communities and to take existing NMU traffic off the A95 trunk road, or a possible link between Aviemore and the existing junction of the A95 and B9153 at Kinveachy, thereafter NCN7 continues on the less trafficked B9153 to Carrbridge.

Views from the Road

17.5.15. Detailed mitigation has not been developed as part of the DMRB Stage 2 assessment but will be included at Stage 3. Embedded mitigation has been considered in the context of slope alignment, slope profiling and ancient woodland.

17.5.16. During operation visual mitigation measures could potentially include (but not be limited to):

- retaining existing intervening vegetation wherever possible to act as a screen and to enhance the experience of views;
- planting to mitigate trees lost – including appropriate use of native species to promote biodiversity;
- incorporate sensitive slope profiling to reduce the magnitude of change in the visual receptor experience or to enhance the experience of the view; and
- incorporate irregular edges to road drainage features to improve their visual appearance.

17.6. Summary of Route Option Impacts

Non-Motorised Users

17.6.1. The following tables summarise the potential impacts identified during the construction and operation of the Proposed Scheme for the Mainline and Junction Options, residual impacts are presented based upon the preferred mitigation strategy as set out in Section 17.5.

Table 17.7: Summary of Potential Impact on NMUs from Mainline Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
NMUs	LBS30	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS38	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS39	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS138	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS145	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS41	Journey Length	No Change	No Change	No Change	Construction of earthworks on the southbound side of the A9 will result in an encroachment upon users of LBS41 and an associated reduction in amenity. Differentiator.
		Amenity	Decrease	Decrease	No Change	
NMUs	LBS40	Journey Length	No Change	No Change	No Change	Construction of earthworks on the southbound side of the A9 will result in an encroachment upon users of LBS40 and an associated reduction in amenity. Differentiator.
		Amenity	Decrease	Decrease	No Change	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
NMUs	LBS114	Journey Length	Decrease	Decrease	Decrease	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	IN27.01	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	NCN7	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HB45	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	HB83	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HB54	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HB48	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HB47	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HI110	Journey Length	Increase	Increase	Increase	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
		Amenity	Decrease	Decrease	Decrease	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
NMUs	Other NMU Route 1	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 2	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 3	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 4	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 5	Journey Length	Increase	Increase	No Change	Construction of earthworks on the southbound side of the A9 will result in an encroachment upon users of Other NMU Route 5 and an associated reduction in amenity and increase in journey lengths. Differentiator.
		Amenity	Decrease	Decrease	No Change	
NMUs	Other NMU Route 6	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 7	Journey Length	Increase	Increase	No Change	Construction of earthworks on the southbound side of the A9 will result in an encroachment upon users of Other NMU Route 7 and an associated reduction in amenity and increase in journey lengths.
		Amenity	Decrease	Decrease	No Change	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
						Differentiator
NMUs	Other NMU Route 8	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 9	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 10	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 11	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 12	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 13	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 14	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 15	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
NMUs	Other NMU Route 16	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 17	Journey Length	No Change	No Change	No Change	Construction of earthworks on the northbound side of the A9 will result in an encroachment upon users of Other NMU Route 17 and an associated reduction in amenity. Differentiator
		Amenity	No Change	No Change	Decrease	
NMUs	Other NMU Route 18	Journey Length	No Change	No Change	No Change	Construction of earthworks on the southbound side of the A9 will result in an encroachment upon users of Other NMU Route 18 and an associated reduction in amenity. Differentiator
		Amenity	Decrease	Decrease	No Change	
NMUs	Other NMU Route 19	Journey Length	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
Operational Phase Impacts						
NMUs	LBS30	Journey Length	Decrease	Decrease	Decrease	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS38	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS39	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
NMUs	LBS138	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	LBS145	Journey Length	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	LBS41	Journey Length	No Change	No Change	No Change	It is considered that with the implementation of the mitigation strategy as detailed in Section 17.5 that no changes to amenity or journey lengths will occur to users of LBS41. Therefore despite southbound widening in this location it is not considered that this route will be a differentiator.
		Amenity	No Change	No Change	No Change	
NMUs	LBS40	Journey Length	No Change	No Change	No Change	It is considered that with the implementation of the mitigation strategy as detailed in Section 17.5 that no changes to amenity or journey lengths will occur to users of LBS40. Therefore despite southbound widening in this location it is not considered that this route will be a differentiator.
		Amenity	No Change	No Change	No Change	
NMUs	LBS114	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	IN27.01	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	NCN7	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
NMUs	HB45	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	HB83	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	HB54	Journey Length	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	HB48	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	HB47	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	HI110	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 1	Journey Length	Decrease	Decrease	Decrease	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 2	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	Other NMU Route 3	Journey Length	No Change	No Change	No Change	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
		Amenity	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
NMUs	Other NMU Route 4	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 5	Journey Length	No Change	No Change	No Change	Encroachment upon users of Other NMU Route 5 and an associated reduction in amenity will occur during the operation of the Proposed Scheme. Differentiator.
		Amenity	Decrease	Decrease	No Change	
NMUs	Other NMU Route 6	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 7	Journey Length	No Change	No Change	No Change	Encroachment upon users of Other NMU Route 7 and an associated reduction in amenity will occur during the operation of the Proposed Scheme. Differentiator.
		Amenity	Decrease	Decrease	No Change	
NMUs	Other NMU Route 8	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 9	Journey Length	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	Other NMU Route 10	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
NMUs	Other NMU Route 11	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 12	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 13	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 14	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 15	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 16	Journey Length	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	
NMUs	Other NMU Route 17	Journey Length	No Change	No Change	No Change	Encroachment upon users of Other NMU Route 17 and an associated reduction in amenity. Differentiator.
		Amenity	No Change	No Change	Decrease	
NMUs	Other NMU Route 18	Journey Length	No Change	No Change	No Change	Encroachment upon users of Other NMU Route 18 and an associated reduction in amenity. Differentiator.
		Amenity	Decrease	Decrease	No Change	
NMUs	Other NMU Route 19	Journey Length	No Change	No Change	No Change	

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
		Amenity	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator

Table 17.8: Summary of Potential Impact on the NMUs from Aviemore South Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Construction Phase Impacts						
NMUs	Other NMU Route 1	Journey Length	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 2	Journey Length	No Change	No Change	No Change	Encroachment upon users of Other NMU Route 2 and an associated reduction in amenity. Differentiator.
		Amenity	No Change	No Change	Decrease	
Operational Phase Impacts						
NMUs	Other NMU Route 1	Journey Length	Increase / Decrease	Increase / Decrease	Increase / Decrease	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	
NMUs	Other NMU Route 2	Journey Length	No Change	No Change	No Change	During the operation of the Proposed Scheme it is not considered that an impacts will occur to the amenity of Other NMU Route 2. It is therefore not considered to be a differentiator.
		Amenity	No Change	No Change	No Change	

Table 17.9: Summary of Potential Impact on NMUs from Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Construction Phase Impacts							
NMUs	Other NMU Route 5	Journey Length	Increase	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 6	Journey Length	Increase	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 19	Journey Length	No Change	No Change	No Change	No Change	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	
Operational Phase Impacts							
NMUs	Other NMU Route 5	Journey Length	Increase	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 6	Journey Length	No Change	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	Increase	
NMUs	Other NMU Route 19	Journey Length	No Change	No Change	No Change	No Change	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	No Change	

Table 17.10: Summary of Potential Impact on NMUs from Black Mount Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)						Comparative Appraisal
			Black Mount Junction Options (Route Section 9)						
			Option D02	Option D03	Option D07	Option D12	Option D13	Option D51	
Construction Phase Impacts									
NMUs	NCN7	Journey Length	Increase	Increase	Increase	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	Decrease	Decrease	
NMUs	Other NMU Route 15	Journey Length	Increase	Increase	Increase	Increase	Increase	Increase	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator
		Amenity	Decrease	Decrease	Decrease	Decrease	Decrease	Decrease	
Operational Phase Impacts									
NMUs	NCN7	Journey Length	Increase	Increase	Increase	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	No Change	No Change	No Change	No Change	No Change	No Change	
NMUs	Other NMU Route 15	Journey Length	Increase	Increase	Increase	Increase	Increase	Increase	Operational impacts are considered to be generally similar for all options and so are not considered to be a differentiator
		Amenity	Increase	Increase	Increase	Increase	Increase	Increase	

17.6.2. The summary Tables below indicate the potential significant impacts on views from the road remaining at year 15.

17.6.3. The summary of potential significant impacts in views from the road in year 15 in relation to mainline alignment options are set out in Table 17.11 below. A finding of N/A (not applicable) is used where the impacts are not differentiators (such as for construction impacts), or where reference is made to Option 1A (which only applies to certain chainages).

Table 17.11: Summary of Potential Impact on the Traveller Experience from Mainline Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
Traveller Experience	Traveller on A9	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator.
Operational Phase Impacts						
Traveller Experience	Traveller on A9 Start of route/Loch Alvie to north of Aviemore South junction. ch.0-3800	Visual	Moderate beneficial	N/A	Moderate beneficial	Proposed southbound widening applies to this section which would result in revised cuttings and associated loss of roadside vegetation. This would potentially open up views to the east. Not a differentiator.
	Dulnain Strath ch.15100- 17500		Slight – Moderate adverse	N/A	Slight - Moderate adverse	Between ch.15100 and 16550 both Options will result in similar loss to Ancient Woodland potentially extending the northbound views. Between 16500 and 17000 (Dulnain crossing) the addition of a new elevated structure associated with the dualling will be visible for all travellers in both directions. However, the focus of the view along the open strath will not change and the structure will be within the context of the existing A9 crossing and the parallel HML bridge. Due to the elevation, and open nature of the view the impact to views will be similar in year 1 and year 15. Not a differentiator

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Mainline Alignment Options			
			Option 1	Option 1A	Option 2	
Construction Phase Impacts						
Traveller Experience	Traveller on A9 North of the CNP boundary to end of the A9 section. ch.23600-25030	Visual	Slight – Moderate beneficial	N/A	Slight – Moderate beneficial	It is assumed that rock cuts at Carn nam Bain-tighearna will be a noticeable but not necessarily adverse; this is an opportunity to improve on the existing rock cuts and potentially remove the need for the current rock blanket treatment. Not a differentiator

17.6.4. The summary of potential significant impacts in views from the road in year 15 in relation to Aviemore South junction options are set out in Table 17.12 below. A finding of N/A (not applicable) is used where the impacts are not differentiators (such as for construction impacts), or where reference is made to Option 1A (which only applies to certain chainages).

Table 17.12: Summary of Potential Impact on the Traveller Experience from Aviemore South Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)			Comparative Appraisal
			Aviemore South Junction Options (Route Sections 1& 2)			
			Option A02	Option A09	Option A18	
Construction Phase Impacts						
Traveller Experience	Traveller on A9	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator.
Operational Phase Impacts						
Traveller Experience	Traveller on A9 Views from Road at Aviemore South	visual	Moderate adverse	Slight-Moderate adverse	Slight-Moderate adverse	A02 clover leaf quadrant layout likely to be more obtrusive in views experienced by the traveller. Differentiator.

17.6.5. Granish junction was not found to have significant impacts, with all impacts being slight at year 15 and common to all Granish Options. A finding of N/A (not applicable) is used where the impacts are not differentiators (such as for construction impacts), or where reference is made to Option 1A (which only applies to certain chainages).

Table 17.13: Summary of Potential Impact on the Traveller Experience from Granish Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)				Comparative Appraisal
			Granish Junction Options (Route Section 5)				
			Option C18	Option C21	Option C31	Option C34	
Construction Phase Impacts							
Traveller Experience	Traveller on A9	N/A	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator.
Operational Phase Impacts							
Traveller Experience	Traveller on A9 Views from road at Granish	visual	N/A	N/A	N/A	N/A	No potential significant impact was found for views from the road associated with Granish junction. Not a differentiator

17.6.6. The summary of potential significant impacts in views from the road in year 15 in relation to Black Mount junction options are set out in Table 17.14 below. A finding of N/A (not applicable) is used where the impacts are not differentiators (such as for construction impacts), or where reference is made to Option 1A (which only applies to certain chainages).

Table 17.14: Summary of Potential Impact on the Traveller Experience from Black Mount Junction Options

Sub-topic	Receptor	Potential Impact	Impact Significance (Residual Impacts)						Comparative Appraisal
			Black Mount Junction Options (Route Section 9)						
			Option D02	Option D03	Option D07	Option D12	Option D13	Option D51	
Construction Phase Impacts									
Traveller Experience		N/A	N/A	N/A	N/A	N/A	N/A	N/A	Impacts arising from construction would generally be similar for all options and so are not considered to be a differentiator.
Operational Phase Impacts									
Traveller Experience	Views from the Road at Black Mount junction	Visual	Moderate adverse	Moderate adverse	Substantial adverse	Moderate adverse	Moderate adverse	Substantial adverse	All Options would introduce an overbridge and associated slip roads, cuttings and embankments in a relatively open landscape with key views south. D51 and D07 would have greater impact due to the half clover leaf quadrants. Differentiator

17.7. Scope of DMRB Stage 3 Assessment

17.7.1. The Effects on All Travellers at DMRB Stage 3 Assessment will:

- Confirm the baseline data already gathered in relation to the Proposed Scheme and redefine the study area for the preliminary design;
- Undertake further consultation with The Highland Council, Sustrans, Scotways, local NMU groups and landowners to identify any additional or new information available on the types of NMUs and to present the Proposed Scheme;
- Update the DMRB Stage 2 Assessment of impacts to journey length and amenity to reflect the information from the relevant assessments including air quality, noise and vibration, landscape and visual;
- Update the DMRB Stage 2 Assessment of impacts to journey length and amenity value to include criteria to define the magnitude of impact;
- Appraise the methodology used to identify impacts to ensure that access for all travellers, and access to area based facilities such as Munros, National Parks, rivers etc. is considered through the DMRB Stage 3 Assessment;
- Update and define the level of impact significance for changes in journey length and amenity, taking into account embedded mitigation and sensitivity criteria;
- Propose detailed mitigation measures based on the updated assessments, if required;
- Consideration of driver stress;
- Usage of community facilities and community severance will be assessed in the community and private assets chapter;
- Update the DMRB Stage 2 Assessment for views from the road with reference to the DMRB Stage 3 Assessment on Landscape and Visual Effects, taking into account the Proposed Scheme planting and earthworks design; and
- Provide a conclusion indicating the significance of impacts in relation to NMUs, drivers and view from the road.

[i] The Highways Agency (2015) Interim Advice Note 125/15. Supplementary Guidance for users of DMRB Volume 11 'Environmental Assessment'. October 2015. Supersedes IAN 125/09.
[ii] Highways Agency, Scottish Executive Development Department, The National Assembly for Wales and The Department of Regional Development Northern Ireland, (1993). Design Manual for Roads and Bridges Volume 11, Section 3, Part 8, Pedestrians, Cyclists, Equestrians and Community Effects. June 1993. The Stationary Office Ltd.
[iii] Highways Agency. Design Manual for Roads and Bridges, Volume 11, Section 3, Part 9, Vehicle Travellers.
[iv] Highways Agency. Design Manual for Roads and Bridges, Volume 11, Section 3, Part 8, Pedestrians, Cyclists, Equestrians and Community Effects
[v] Transport Scotland. (2014). A9 Dualling Strategic Environmental Assessment (SEA) Report, Environmental Report Addendum Appendix F: Strategic Landscape Review Report.
[vi] Cairngorms National Park Authority. (2009). Cairngorms National Park Landscape Assessment.
[vii] Richards, J., (1999). Inverness District Landscape Assessment, Scottish Natural Heritage Review No. 114.
[viii] Turnbull Jeffrey Partnership. (1998). Moray to Nairn Landscape Assessment, Scottish Natural Heritage Review No. 101.
[ix] Cairngorms National Park Authority (2015). Cairngorms National Park Core paths Plan: Developing Active Spaces. Cairngorms National Park Authority
[x] The Highland Council, (2011). Core Paths Plan 17. The Highland Council.
[xi] Jacobs, (2014). DMRB Stage 1 Report (March 2014) and associated Appendices. Transport Scotland.
[xii] Atkins / Mouchel, (2016). Dalraddy to Slochd Traffic Data. Transport Scotland.

18. Materials and Waste

18.1. Introduction

18.1.1. This chapter includes an assessment of anticipated impacts:

- from the material resource demand from primary and secondary sources and manufactured construction products during site preparation, construction and operation of the Proposed Scheme Options; and
- to waste facilities within the vicinity of the Proposed Scheme.

18.1.2. In line with the Waste Framework Directive (2008/98/EC), 'waste' is considered to be "*any substance or object set out in Annex 1 of the Directive which the holder discards or intends to discard or is required to discard*".

18.1.3. The assessment has primarily focused on environmental impacts from construction by undertaking a comparison of the amount of material required to construct the preliminary design of each Proposed Scheme Option and the generation / management of waste on site and potential impact on local waste management facilities.

18.1.4. With regards to mitigation, it is an objective of this assessment to improve the sustainability in design and construction and ensure that sustainability is addressed from an early stage in the design of the Proposed Scheme Options. The Waste Hierarchy shall be applied to form the priority order of recommendations regarding material procurement, site won materials and waste generation, treatment and disposal; and is as follows:

- prevention;
- preparing for re-use;
- recycling;
- other recovery, e.g. energy recovery; and,
- disposal.

18.1.5. The use of materials and the management and transportation of waste during construction could also give rise to other adverse environmental effects such as air quality and noise impacts however this chapter does not consider these impacts and Chapters 15 (Air Quality) and 16 (Noise and Vibration) should be consulted for further information on these aspects. It is anticipated that potential environmental impacts from construction will be subject to detailed assessment during DMRB Stage 3.

18.1.6. The A9 Dualling Programme Strategic Environmental Assessment (SEA) Environmental Report[i] provides information regarding the resource efficiency requirements for earthworks, construction materials and waste. Within this document Transport Scotland has made a commitment to embed resource efficiency into their construction practices. This commitment has informed the recommendations made in the mitigation and summary section of this Chapter.

Regulatory Assessment

18.1.7. In addition to the assessment undertaken in Chapter 19 Policies and Plans, guidance on materials assessment indicates that key policies and strategies relevant in Scotland that seek to influence the sustainable use of material resources and waste management

should be identified. These shall be utilised during the detailed design and include but are not limited to:

- Directive on Waste (2008/98/EC)[ii];
- Climate Change (Scotland) Act, 2009[iii];
- Environmental Protection Act 1990, Part II[iv];
- The Scottish Government, Scottish Planning Policy, 2014[v];
- The Scottish Government, Zero Waste Plan, 2010[vi];
- The Scottish Government, Zero Waste Regulations, 2012[vii];
- The Waste (Scotland) Regulations, 2012[viii];
- SEPA's Land Remediation and Waste Management Guidelines, 2009[ix];
- SEPA's Promoting the sustainable reuse of greenfield soils in construction, 2010[x];
- SEPA's Guidance on the Production of Fully Recovered Asphalt Road Planings[xi]; and
- SEPA's Guidance on Recycled Aggregates from Inert Waste[xii].

18.1.8. Although, not obligatory in Scotland, a Site Waste Management Plan (SWMP) is considered to be an important and useful tool for the reduction of waste destined for disposal. The project will have a SWMP that will assist the client, consultant, construction contractors and their sub-contractors to:

- reduce raw materials costs;
- reduce waste destined for landfill;
- reduce waste disposal costs;
- meet legislative requirements; and,
- meet the client's expectation.

18.1.9. Transport Scotland's Corporate Plan 2012 to 2015 states that Transport Scotland will *"...embed resource efficiency into our practices"*[xiii].

18.1.10. The priority of Scotland's Zero Waste Plan[vii] is to treat resources as high up the waste hierarchy as possible by preventing, reusing or recycling resources wherever feasible and to achieve the best overall environmental outcome and the project is also committed to this objective.

18.1.11. An assessment at DMRB Stage 3 will be undertaken, in accordance with DMRB guidance for undertaking a 'detailed materials assessment', for the Proposed Scheme to determine impacts on the above regulations and compliance with the recommended guidance.

Study Area

18.1.12. This section of the proposed scheme extends along the existing A9 trunk road from approximately 300m west of Dalraddy to approximately 500m north of Slochd summit. The local waste infrastructure and the potential waste management capacity, within 80km, have been identified based on the proximity of the nearest local waste management facilities. The total quantities of materials required for the construction of the Proposed Scheme Options have also been considered (refer to Chapter 5 Engineering Assessment).

18.1.13. There are various Proposed Scheme Options and these are described in Chapter 3 (summarised in Chapter 7 Overview of Environmental Assessment) and summarised in Table 18.3 below. In summary these options comprise:

- Three mainline alignment options – 1, 1A and 2; and,
- 13 junction options – eight relating to southbound alignments and five relating to northbound alignments.

In addition, the appraisal of new structures (bridges and livestock creeps), culverts and SuDS options is also being undertaken and these are interlinked with the proposed mainline and junction options. Table 18.3 provides further detail on the different mainline and junction options and shows how these are related.

Table 18.1: Short Description of Proposed Scheme Options

Option Name	Description
Mainline Options	
1	Southbound widening for the entire route and incorporating Junction options A02, A09, A18, C31, C34, D03, D12 and D51.
1A	As Mainline Option 1 although alignment differs through Sections 2, 3a and 3b (Chainage 2500 and 6700) where hybrid northbound and southbound widening is proposed. Junction options are as for Mainline Option 1.
2	Predominantly northbound widening but with southbound widening at Sections 2 (Chainage 2500 to 3500), 6a (Chainage 10400 to 11700), 10 (Chainage 20900 to 23100) and 11 (Chainage 23100 to 25780) and incorporating Junction Options A02, A09, A18, C18, C21, D02, D07 and D13.
Junction Options	
A02	Aviemore South Junction. Half Clover Leaf Quadrants 1 & 4 (overbridge / southbound mainline widening)
A09	Aviemore South Junction. Diamond left-right stagger with ghost island (overbridge / southbound mainline widening)
A18	Aviemore South Junction. Diamond left-right stagger with B9152 realigned (overbridge / southbound mainline widening)
C18	Granish Junction. Diamond (underbridge / northbound mainline widening)
C21	Granish Junction. Half dumbbell clover leaf (underbridge / northbound mainline widening)
C31	Granish Junction. Diamond (underbridge / southbound mainline widening)
C34	Granish Junction. Half dumbbell clover leaf (underbridge / southbound mainline widening)
D02	Black Mount Junction. Diamond left-right stagger (overbridge / northbound mainline widening)
D03	Black Mount Junction. Half diamond with north facing slips (overbridge / southbound mainline widening)
D07	Black Mount Junction. Half Clover Leaf Quadrants 2 & 4 (overbridge / northbound mainline widening)
D12	Black Mount Junction. Diamond left-right stagger (overbridge / southbound mainline widening)

Option Name	Description
D13	Black Mount Junction. Half diamond with north facing slips (overbridge / southbound mainline widening)
D51	Black Mount Junction. Half Clover Leaf Quadrants 2 & 4 (overbridge / southbound mainline widening)

18.2. Approach and Methods

18.2.1. The Aims and Objectives of Environmental Assessment (DMRB, Vol.11, Part 1: HA 200/08)[xiv] identifies Materials in Table 1.1 - the Environmental Impact Assessment Topics. Draft Guidance has been published for Materials - DMRB Volume 11 – Environmental Assessment – Section 3, Part 6 (HD 212/11)[xv] and the assessment has been undertaken in accordance with this guidance.

18.2.2. As documented in Paragraph 4.30 of HD212/11[xv]:

The simple assessment is largely a desk-based exercise and for the purposes of the Materials and Waste topic it is mainly qualitative. It should aim to identify the following:

- Baseline data for the project in question, or at the earliest stages of the project cycle identify what forms of data will be required;
- The materials required for the project and where information is available, the quantities;
- The anticipated waste arisings from the project, and where information is available, the quantities and type (e.g. inert, non-hazardous, hazardous);
- The alignment of the project proposals with the regulatory and policy context, and stated project objectives;
- The results of any consultation; and,
- The impacts/effects that will arise from the issues identified and, if possible, whether these are likely to be significant; and
- A conclusion about whether this level of assessment is sufficient to understand the impacts/effects of the project or whether detailed assessment is necessary, and the identification of any mitigation measures.

18.2.3. Paragraph 4.28 of HD212/11[xv] states that a simple assessment might be expected to be used where it is not possible to quantify material requirements and forecast waste generation in detail. Given the level of information available at present this approach is considered appropriate at this stage.

18.2.4. It is expected that most of the waste generated on site will be Demolition and Construction (D and C). Therefore, the assessment has considered the waste facilities within 80km that may have the capacity to process or dispose of D and C waste. This distance was based on a preliminary assessment of the location and size of available facilities and the amount of materials that were anticipated as part of the proposed works.

Scoping Assessment

18.2.5. For projects with an estimated cost greater than £300,000 it is automatically assumed in the draft DMRB guidance document HD212/11 that the potential exists for environmental impacts and effects resulting from the use of materials and the generation

of waste. Where projects are estimated to cost less than £300,000, the potential for environmental effects should also be considered at scoping stage.

18.2.6. The design for each Proposed Scheme Option is in the preliminary stages and detailed information for the DMRB Stage 2 Assessment was not available to undertake a detailed assessment. Therefore, in accordance with the guidance in HD212/11[xv] a simple level assessment has been considered appropriate at this stage.

18.2.7. Impacts associated with construction materials (imported and site won) and waste production are summarised under the following headings:

- site remediation / preparation;
- demolition;
- construction; and
- operation.

Consultation

18.2.8. Consultation has been undertaken by Transport Scotland as part of the A9 Dualling SEA[i] process. In response to the SEA the Scottish Environment Protection Agency (SEPA) indicated that in relation to material resources and waste:

- SEPA concurs with the following statement "*SEA recommends that, wherever possible, A9 dualling uses locally sourced materials and suppliers, to reduce material transport emissions…*";
- that the use of rail transportation should also be considered within the A9 Design Guide given the proximity of the A9 to the railway and could be considered within the A9 Design Guide and forthcoming Environmental Impact Assessments;
- SEPA welcomes the proposal for SWMPs for each section and that it would be useful if the A9 Design Guide contained a generic Construction Environmental Management Plan with a Site Waste Management Plan forming one chapter of it;
- part of the route will encounter peat which can be a difficult material to manage and re-use. SEPA would welcome a section of the A9 Design Guide identifying this and setting out the likely re-use options and best practice guidance currently available to inform future Environmental Impact Assessments; and,
- felling to waste has become an increasing concern for SEPA on other developments and therefore the A9 Design Guide should include guidance on tree felling and reference to our Guidance - Management of Forestry Waste[xvi].

18.2.9. The above consultation feedback and Design Principles have been considered in identifying preliminary mitigation as set out in section 18.5. It is expected that consultation with SEPA regarding appropriate solutions to resource and waste management will be ongoing to inform the detailed design of a Preferred Route and the detailed level assessment at DMRB Stage 3.

Materials Resource Assessment

18.2.10. There is no data currently available to determine the material resource requirements of the existing operational A9 between Dalraddy and Slochd at this stage of the assessment process. Therefore, the baseline has been assessed qualitatively.

18.2.11. The materials assessment has utilised the following resources to identify the volumes and amounts of materials required to construct the Proposed Scheme Options:

- A9 Dualling Programme, Perth to Inverness: North Scheme – Dalraddy to Moy Ground Investigation, Environmental Assessment, (Halcrow 2015): to identify areas of potential fill and unusable material[xvii];
- The Preliminary Ground Investigation and Peat Probing (Atkins / Mouchel 2015): to identify areas of potential fill and unusable material[xviii]; and,
- Manual of Contract Documents for Highway Works, Volume 1 - Specification for Highway Works (Highways England 2001): to identify typical material resources required for a 'normal' road scheme[xix].

18.2.12. The material volumes identified at this early stage of the development of the Proposed Scheme Options for assessment and comparison have generally comprised the following. These have been quantified within Table 18.4:

- total cut (bulk);
- total quantity of fill required;
- Class 1 import requirement;
- imported red chip for central reserve;
- existing asphalt for re-use;
- total quantity of asphalt; and
- import of Type 1.

18.2.13. In addition, the following resources were also identified at Stage 2 although these were omitted from this report given that only outline design information is available. These additional resources will be quantified at Stage 3 when detailed design information becomes available.

- concrete (blinding and structural);
- steel (reinforcement, beams and parapets);
- geotextile separator layer;
- total length of Road Restraint systems;
- total length of timber fencing and gates;
- existing concrete kerbs for crushing and re-use;
- road studs;
- imported Type A filter material (drainage);
- existing Type A filter material; and
- type 1 pavement for re-use.

18.2.14. Other materials have been identified, as defined by the Manual of Contract Documents for Highway Works (MCHW), Volume 1 - Specification for Highway Works[xix], but not in comparable volumes, and have been assessed qualitatively in order to indicate the material requirements of a 'typical' road scheme. The Carbon Management System, which will be used at Stage 3, derives a 'total carbon equivalent' for a road scheme (including transportation of materials) by adding together the 'total carbon equivalent' of the specifications of the road in accordance with the Specification for Highways Works. If required, the user can reduce or increase the specified materials within the tool to produce a more carbon efficient scheme. The 'total carbon equivalent' number can then be used as part of a detailed materials assessment of a scheme using HD212/11[xv].

18.2.15. In relation to the magnitude of impact attributable to each Proposed Scheme Option, the Proposed Scheme Option which has been assessed to result in the largest material requirement is considered to have the largest potential adverse impact on materials resource.

Waste Assessment

18.2.16. The waste assessment has utilised the following resources to identify the baseline:

- A9 Dualling Programme, Perth to Inverness: North Scheme – Dalraddy to Moy Ground Investigation, Environmental Assessment[xix]: to identify areas of potential fill and unusable material;
- The Preliminary Ground Investigation and Peat Probing[xviii]: to identify areas of potential fill and unusable material; and,
- SEPA, Waste Facility Data, http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-site-information/[xx]: to identify waste facilities within the vicinity of the Proposed Scheme Options. At present the most recent data that is available is for 2014.

18.2.17. The major waste volumes identified at this early stage of the development and comparison of the Proposed Scheme Options generally comprise the following. Where possible these have been quantified within Table 18.5:

- green waste (site clearance);
- existing Vehicle Restraint System;
- demolition of structures;
- disposal of unsuitable materials (U1A, U1B and U2); and,
- disposal of existing traffic signs.

18.2.18. U1A, U1B and U2 refer to materials considered to be unsuitable and which will require treatment to render them to be a usable resource within a road scheme. These definitions are provided within the MCHW [xix] and relate to the specification which will govern the scheme earthworks. The MCHW document is advocated by Transport Scotland. Within the MCHW guidance, U1A is defined as material that does not meet the requirements of Table 6/1 or Appendix 6/1 of a Series 600 earthworks specification. U1A materials generally relate to materials considered to be geotechnically unsuitable for use and, for example, this includes peat-containing soil materials. The term U1B relates to materials that do not meet the Appendix 6.14 and 6.15 limiting criteria provided within the Series 600 Specification and generally this relates to contaminated materials. Lastly, U2 materials are those that are considered to be hazardous materials or radioactive waste.

18.2.19. The type and capacity of waste facilities within 80km of the Proposed Scheme Options was identified from the SEPA Waste Facility Data[xx].

18.2.20. The sensitivity of the waste facilities was defined using the criteria in Table 18.1 taken from HD 212/11[xv].

Table 18.2: Sensitivity Rating for Waste Facilities

Sensitivity	Description
Very High	There is no available waste management capacity for any waste arising from the Proposed Scheme.

Sensitivity	Description
High	There is limited waste management capacity in relation to the forecast waste arising from the Proposed Scheme.
Medium	There is adequate waste management capacity for the majority of wastes arising from the Proposed Scheme.
Low	There is adequate available waste management capacity for all wastes arising from the Proposed Scheme.

18.2.21. The impacts to the waste receptors have been classified, in accordance with HD 212/11[xv], as being:

- Adverse – Detrimental or negative impact to an environmental resource or receptor; or,
- Beneficial – Advantageous or positive impact to an environmental resource or receptor.

Mitigation

18.2.22. Where adverse impacts associated with the use and consumption of materials and the production and management of waste have been identified, potential mitigation measures have been identified with the aim of providing an early indication of measures to avoid, reduce or remediate potential impacts using the waste hierarchy as defined by the European Union, Directive on Waste (2008/98/EC).

18.2.23. The mitigation measures identified are preliminary recommendations to be considered further and developed into committed mitigation where appropriate during the DMRB Stage 3 assessment.

Limitations of Assessment

18.2.24. In relation to the provided materials quantities, the following limitations should be noted. Additional limitations have been detailed in the Notes column in Tables 18.4 and 18.5:

- The quantities are based on information available at the time of writing from the Stage 2 design with associated embedded mitigation (including variations to mainline alignment options earthworks slope gradients) and it is anticipated that these will be revised in the future as detailed design information becomes available;
- All provided information is considered to be factually correct based on the available design information at the time of writing;
- Information relating to certain quantities considered to be potentially significant was not available at the time of writing. This relates to elements such as the volume of green waste and total unsuitable materials arising from the construction works;
- Due to the level of uncertainty that was present in the information available at the time of writing, the anticipated volumes of unsuitable soil materials (U1A, U1B and U2) have not been included in this report. This information will be informed by future ground investigation and this will allow for an estimate of the volume of material requiring treatment or off-site disposal to be calculated for inclusion in the Stage 3 report. It is understood that an indicative estimate of 20% of excavated soil materials being U1A has been adopted by the designers; however, because of the level of uncertainty in this assumption it is not considered appropriate to use this estimate to produce a numerical value for the volume of unsuitable soil material at this stage. No

such similar estimate for U1B and U2 materials can be made at this time but this will be reviewed as further ground investigation information becomes available;

- The information relating to the different materials detailed in Tables 18.4 and 18.5 has been expressed using different units and therefore a comparison of the significance of the impact of different materials is not possible at this stage;
- Entries within Tables 18.4 and 18.5 marked as "-", represent those for which no information is available at present; and
- Based on the available information it was not possible to quantify the magnitude or significance of the potential impacts arising from materials resources and waste streams and these will be quantified as part of the DMRB Stage 3 Assessment.

18.3. Baseline Conditions

Material Resource

18.3.1. The operation of the existing A9 between Dalraddy and Slochd does not require any substantial material resource and does not generate large quantities of waste during 'normal' maintenance activities on the road. There is no data to determine a quantitative baseline for this section of the existing A9.

Waste Management Facilities

18.3.2. SEPA 2014 Waste Facility Data was accessed to allow for the identification of waste facilities near the site and the most appropriate are detailed in Table 18.2. In addition, SEPA has provided further information on the capacity of the facilities in June 2016 which has also been summarised in the table. Facilities indicated to not accept waste likely to arise from the proposed scheme have not been considered. The different methods of managing the D and C within 80km of the Proposed Scheme Options comprise the following:

- Landfill Site;
- Waste Transfer Station;
- Metal Recycler; and,
- Multiple Activity Site.

Table 18.3: Sensitivity Rating for Waste Facilities

Name	Approximate Distance and Location in relation to the site	Type	Annual Capacity (Tonnes (t))	Remaining capacity (end 2014)	Sensitivity	SEPA Comment
R Finnie Skip Hire, 32 Longman Dr, Inverness	30km	Metal Recycler / Transfer Station	10,000	N/A*	Medium	Accepts hazardous waste (special waste)
Johnston Recycling, 3 Burnett Road , Inverness	30km	Metal Recycler / Transfer Station	4,995	N/A*	Medium	No comments

Name	Approximate Distance and Location in relation to the site	Type	Annual Capacity (Tonnes (t))	Remaining capacity (end 2014)	Sensitivity	SEPA Comment
Highland Car Crushers, ELV & MRF, Inverness	30km	Metal Recycler	5,000	N/A*	Medium	Licence currently being transferred to new operator and so may not be available
David Ritchie and Sons Ltd, Aviemore	<1km	Recycling Centre / Waste Transfer Station	25,000	N/A*	Medium	Available capacity for metal recycling
Granish Landfill Site Cell 3, By Aviemore	<1km	Landfill / Civic Amenity	25,000	76,000	High	Limited waste capacity.
SITA UK, Stoneyhill WTS, Henderson Drive, Inverness	30km	Waste Transfer Station	150,000	N/A	Medium	Accepts asbestos waste
Nether Dallachy Landfill Site	80km	Landfill	1,320,000	400,000	Medium	No comments
*This data is not available from SEPA						

18.3.3. Table 18.2 provides details of relevant potential waste sites within 80km so as to provide a context for the treatment of waste arising from any Proposed Scheme. This distance was based on a preliminary assessment of the location and size of available facilities and the amount of materials that were anticipated as part of the proposed works.

18.3.4. Table 18.2 indicates that there are four facilities that are considered to have a medium sensitivity in relation to the amount of metal, from the Proposed Scheme Options, that could be recycled 'locally'. The remaining facilities located within 30km are all considered to have a high sensitivity in relation to materials that may require treatment. An additional landfill that is located approximately 80km from the site is the second closest landfill facility and is considered to have a medium sensitivity in relation to the material that may require treatment.

18.3.5. With relation to Table 18.2, hazardous waste (also known as special waste) is as defined in SEPA guidance document WM3[xxi].

18.3.6. Daviot Quarry near Inverness, approximately 22 km from the proposed scheme has been identified as a potential source for aggregate material if this needs to be sourced externally.

18.4. Potential Impacts

Materials Resource and Waste Volumes

18.4.1. The volumes of the main materials resources and waste streams identified across the Proposed Scheme Options are presented for comparison below in Tables 18.4 and 18.5. Materials for which the anticipated quantities are considered relatively trivial, i.e. consist of relatively small quantities compared to the resources and wastes likely to comprise significantly larger quantities, have been omitted at this stage.

18.4.2. The volumes highlighted in red indicate which of the Proposed Mainline Options and Junction Options require the largest material resource or will create the greatest volume of waste in relation for each specific material type. Where data was available, this has been highlighted separately for the mainline options and each of the junction options.

18.4.3. Table 18.4 provides detail on the forecast cut and fill balance with relation to the earthworks for the proposed scheme.

18.4.4. Discussion on the nature of individual impacts and their significance including whether they are direct / indirect or short term / long term has not been assessed within the Stage 2 report as this is not considered to be possible using the available information. The nature of impacts will be characterised as further information becomes available and will be included in the Stage 3 report where possible.

18.4.5. It is anticipated that in general, impacts relating directly to the road construction will be short term, i.e. for the duration of this work, although longer term impacts on resource and waste facility availability may also be experienced as a result of the construction of the proposed scheme. Indirect impacts may be experienced by other activities in the wider area which may be reliant on these resources and waste facilities.

Table 18.4: Material Resources Volumes for the Proposed Scheme Options

Project Activity	Material Resource Required for the Project	Unit	Proposed Mainline Options			Proposed Junction Options													Notes
						Aviemore South			Granish				Black Mount						
			1	1A	2	A02	A09	A18	C18	C21	C31	C34	D02	D03	D07	D12	D13	D51	
Site Remediation / Preparation	Exact quantities unknown at this stage, however these could include: • Aggregate; • Fill materials; • Concrete / plastic pipes; • Sand / Type A filter medium for drainage; • Paints; and, • Cabling																		The iterative design process will provide further information on the materials required for the construction for the Proposed Scheme during Site Remediation / Preparation and Demolition. These project activities will also be informed by the detailed ground investigation that will be undertaken for the Proposed Scheme. Measures will need to be taken to ensure resourcing closely matches site requirements in order to limit wastage. There will be a temporary adverse impact as a result of the transportation of these materials although the impact will have a more permanent impact if wastage is allowed to occur.
Demolition																			
Construction	**Earthworks and Pavement**																		The total amount of material required for the Proposed Scheme will be amended at DMRB Stage 3 using updated design information. Measures will need to be taken to ensure resourcing closely matches site requirements in order to limit wastage. There will be a temporary adverse impact as a result of the transportation of these materials although the impact will have a more permanent impact if wastage is allowed to occur. With respect to cut and fill balances, in general an overall cut is considered to have the greatest adverse impact given the potential requirement for off-site disposal and the resulting permanent impact. Where only an overall fill has been identified, the greatest adverse impact is considered to be for the greatest volume of fill across the various options given the increased number of hauls required to manage this material and the temporary impact that will be related to this. In relation to the reuse of asphalt, the lowest volume across the options is considered to have the greatest adverse impact due to the increased requirement to locate external asphalt resources in these instances. Information relating to the quantities required to construct structures at the different junction locations was not specific to the different junction options. The provided information related to different structure types with these independent of the junction options. The ranges of material quantities for the different structure types have been provided.
	Total Cut (roads)	m^3	1748000	1761000	2429000	59000	44000	65000	167000	185000	248000	158000	42000	30000	117000	35000	41000	155000	
	Total Fill (roads)	m^3	2047000	2089000	2221000	163000	397000	218000	22000	23000	117000	74000	129000	99000	57000	176000	73000	104000	
	Cut / Fill balance (roads) (- represents fill volume)	m^3	-299000	-328000	208000	-104000	-353000	-153000	145000	162000	131000	84000	-87000	-69000	60000	-141000	-32000	51000	
	Total cut for SUDS ponds	m^3	127100	126600	127700	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total fill for SUDS ponds	m^3	7500	7200	8600	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cut / Fill balance (SUDS) (- represents fill volume)	m^3	119600	119400	119100	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cut / Fill balance (roads and SUDS)	m^3	-179400	-208600	327100	-104000	-353000	-153000	145000	162000	131000	84000	-87000	-69000	60000	-141000	-32000	51000	
	Imported Red chip for central reserve	m^3	5600	5600	7000	60	-	-	-	30	-	20	-	-	40	-	-	50	
	Total asphalt requirement	m^2	591000	590000	619000	19000	17000	29000	17000	18000	22000	19000	25000	15000	28000	24000	15000	28000	
	Total asphalt to be reused from existing carriageway	m^2	65000			-	-	-	-	-	-	-	-	-	-	-	-	-	

Project Activity	Material Resource Required for the Project	Unit	Proposed Mainline Options			Proposed Junction Options													Notes
						Aviemore South			Granish				Black Mount						
			1	1A	2	A02	A09	A18	C18	C21	C31	C34	D02	D03	D07	D12	D13	D51	
	Imported Type 1 (roads)	m^3	123800	123700	123700	4700	4300	7300	4400	4600	5500	4700	6200	3700	7000	6100	3700	7000	
	Total imported fill (Type 1) (structures)	m^3	42600		42800	2500 - 5900			6200 - 9800				3200 – 6000						
	Total imported fill (Type 1) (culverts)	m^3	210000	210000	221000	2400	2800	2100	-	163 - 330	-	-	-	-	-	-	-	-	
	Additional Information for Materials Resourcing																		
	Total Cut (roads)	hauls	148766	149873	206724	5022	3745	5532	14213	15745	21107	13447	3575	2554	9958	2979	3490	13192	Assume each truck haul will be a typical 20 tonne construction road truck. Assuming a density of 1.7tonne/m^3 each truck haul will move circa 11.75m^3. At this stage of assessment the total number hauls for movements within the site and also off site has been calculated. Haulages highlighted in red are considered to represent the greatest temporary adverse impact as a result of the effect on the environment of the related vehicle movements. The impact on the environment of the disposal of surplus materials has not been considered here. The volume of unsuitable soil materials (U1A, U1B, U2) has not been calculated at this time due to the level of uncertainty that is present in the available information. The volume of unsuitable material will have an effect on the reuse potential for materials to be used as fill.
	Total Fill (roads)	hauls	174213	177788	189022	13873	38788	18554	1873	1958	9958	6298	10979	8426	4852	14979	6213	8852	
	Total cut for SUDS ponds	hauls	10818	10775	10869	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total fill for SUDS ponds	hauls	639	613	732	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cut / Fill balance (roads and SUDS)	hauls	15269	17754	27839	8852	30043	13022	12341	13788	11149	7149	7405	5873	5107	12000	2724	4341	
Operation	N/A	N/A	Materials will be required during the operation and maintenance of the length of road. However, as the project is at an early stage in its development there is little or no information available to indicate what these requirements would be.																

Notes:
- = no information provided
Quantities have been rounded to the nearest 10 / 100 / 1000 as appropriate to reflect the degree of uncertainty in the information available at Stage 2

Table 18.5: Waste Streams and Volumes for the Proposed Scheme Options

Project Activity	Potential Wastes Produced and Possible Classifications	Unit	Proposed Mainline Options			Proposed Junction Options													Notes
						Aviemore South			Granish				Black Mount						
			1	1A	2	A02	A09	A18	C18	C21	C31	C34	D02	D03	D07	D12	D13	D51	
Site Remediation / Preparation	Existing concrete kerbs to be removed	m	11134			-	-	-	-	-	-	-	-	-	-	-	-	-	A permanent adverse impact will result for the off-site disposal of materials and attempts should be made to limit wastage or to embrace reuse opportunities where possible in line with the waste hierarchy model.
	Existing vehicle restraint system to be removed	m	10682			-	-	-	-	-	-	-	-	-	-	-	-	-	
	Existing Type A filter material to be removed	m^3	9410			-	-	-	-	-	-	-	-	-	-	-	-	-	
	Existing traffic signs to be disposed off	No	173			-	-	-	-	-	-	-	-	-	-	-	-	-	
	Existing fence to be removed (both LHS and RHS)	m	33357			-	-	-	-	-	-	-	-	-	-	-	-	-	
Demolition	Old culverts	m^3	1100	1100	1070	11	11	11	-	12	-	-	-	-	-	-	-	-	
	Old structures and walls	m^3	730			-	-	-	-	-	-	-	-	-	-	-	-	-	
Construction	Total unsuitable materials (U1A, U1B, U2)	N/A	The volume of unsuitable soil materials (U1A, U1B, U2) has not been calculated at this time due to the level of uncertainty that is present in the available information. This will be calculated as further information becomes available and will be included in the Stage 3 report. An indicative estimate of 20% of excavated soil material being U1A has been adopted by the designers at this stage. No such similar estimate for U1B and U2 materials can be made at this time but this will be reviewed as further ground investigation information becomes available.																
Operation	N/A	N/A	Small amounts of waste likely to be produced on an ongoing basis. Unlikely to be a significant increase on quantities currently produced during routine operation and maintenance. Mainly inert / non-hazardous, but possibly some hazardous. During the DMRB Stage 3 Assessment the whole life cost of the Proposed Scheme will be assessed and this will include re-surfacing.																

Notes:
- = no information provided
Quantities have been rounded to the nearest 10 / 100 / 1000 as appropriate

Impacts Relating to Mainline Alignment Options

18.4.6. It is anticipated that the Proposed Scheme Options would result in adverse impacts in relation to material resources. The main impacts would be associated with the earthwork volumes of either excess materials generated on site or those requiring importation and the number of vehicle hauls needed to transport these materials. For example the estimated smallest number of vehicles hauls required for the importation of fill for the mainline earthworks is approximately 174 ,213 hauls (Option 1) and the largest number of importation hauls is 189,022 (Option 2). If the required fill came from the closest quarry outside of the Proposed Scheme Options the total round trip would be approximately 0.5km which is the equivalent of between approximately 87,107km and 94,511km travelled. It should be remembered that a proportion of this fill material could be sourced from the earthworks cut materials although this eventuality will also have a haulage requirement as will the requirement to transport surplus materials.

18.4.7. The distances provided in the paragraph above do not include the movement of materials within the scheme or the disposal of waste materials and so the actual distance travelled will be greater. To understand the magnitude of this impact a detailed assessment at DMRB Stage 3 will be undertaken.

18.4.8. The greatest single volume associated with the mainline earthworks (Option 2 cut) was estimated to require 206,724 hauls to transport this material to its final destination. With regards to the earthworks cut/fill balance, mainline Option 2 would still represent the greatest adverse impact with Option 2 requiring 27,839 hauls to transport surplus cut compared to Options 1 and 1A that will require 15,269 and 17,754 hauls respectively to bring additional fill materials to the scheme.

18.4.9. For the mainline options and in regards to the volumes of materials required for the formation of the road pavement and SuDS, the data indicated that Option 2 would have a greater adverse impact than Option 1 and 1A. Only Option 2 had a cut and fill balance that would result in an overall excess for soils, i.e. would require soils to be sent to another site or to landfill. For the earthworks associated with the road and SUDS features, Option 2 showed a total excess of 327,100m^3 and Option 1 and 1A showed total shortfalls of 179,400m^3 and 208,600m^3 respectively. Based on these figures Option 2 would be considered to possess a potential permanent adverse impact from a possible requirement to dispose of excess materials whereas Options 1 and 1A would only possess temporary adverse impacts of lower magnitude resulting from the number of vehicle hauls needed to manage the materials during the earthworks.

18.4.10. Option 2 also showed a requirement for a greater volume of asphalt compared to Options 1 and 1A with the volume of Type 1 required being fairly consistent for the three options. Reuse of materials from the existing carriageway will reduce the required number of hauls but the provided information indicates that Option 2 would have the greatest temporary adverse impact.

18.4.11. The volume of unsuitable soil material arising from the mainline earthworks has not been calculated at this time due to the level of uncertainty in the available information, although it is estimated that approximately 20% of excavated materials will be U1A. No such similar estimate for U1B and U2 materials can be made at this time but this will be reviewed as further ground investigation information becomes available.

Impacts Relating to All Junction Options

18.4.12. For the junction options, there was no clearly preferable option for each junction that was apparent when assessing the majority of resource requirements, although Junctions A09 for Aviemore South, C21 for Granish and D07 for Black Mount were indicated to have the greatest adverse impact. This was based on the Cut / Fill balance as detailed in Table 18.4 which indicates an overall amount of material potentially required to be imported for Aviemore South (overall fill) and requiring to be sent to landfill or for off-site re-use / treatment for Granish and Black Mount (overall cut).

Impacts Relating to Aviemore South Junction

18.4.13. The earthworks cut and fill balance showed an overall fill for all three of the junction options. Option A09 was indicated to have the greatest potential impact with a fill volume of 353,000m^3, which is more than double the volumes for Options A02 and A18 (104,000m^3 and 153,000m^3 respectively). This relates to 30,043 hauls for Option A09 and 8852 and 13,022 hauls for Options A02 and A09 respectively.

18.4.14. With regards to the volumes of other materials required for the road construction, Option A18 was indicated to have the greatest impact with regards to the overall volumes of asphalt and Type 1 required (29,000m^3 and 7300 m^3 respectively).

18.4.15. For culverts, Option A09 was indicated to be slightly more impactful than the other options with regards to the amount of fill material needed. For structures, the provided information was not specific to the different options.

Impacts Relating to Granish Junction

18.4.16. Granish Junction presents an overall cut across all of the proposed options with the greatest overall cut being indicated to be for Option C21 (162,000m^3) which relates to a total of 13,788 hauls. Option C34 was indicated to have the least impact with a cut volume of 84,000m^3 being identified for this option and this relates to approximately 13,788 hauls.

18.4.17. For other construction materials, Option C31 was indicated to have the greatest impact with regards to the overall volumes of asphalt and Type 1 required (22,000m^3 and 5500 m^3 respectively) although the volumes of these materials required for the other junction option were not substantially less. Option C18, which was indicated to have the least impact, was shown to have asphalt and Type 1 requirements of 18,000m^3 and 4,600m^3 respectively.

18.4.18. Only Option C21 was shown to have a potential impact with regards to its imported Type 1 requirement although this volume was relatively trivial (maximum of 330m^3).

Impacts Relating to Black Mount Junction

18.4.19. For Black Mount Junction, two options (D07 and D51) were shown to have an overall cut with D07 indicated to be the most impactful with an overall cut volume of 60,000m^3. The remaining proposed junction options (D02, D03 and D12) all presented overall fill volumes with Option D12 indicated to have the greatest associated volume (141,000m^3). Despite having a greater associated volume, Option D12 is considered to be less impactful than Option D07 as a result of the potential requirement for off-site disposal of excess materials. There may also be potential for this excess to be used elsewhere with the Scheme although information relating to likelihood of this was not available at the time of writing.

18.4.20. Option D51 was indicated to have the greatest impact with regards to other construction materials with 28,000m^3 of asphalt and 7000m^3 of Type 1 needed to complete the build of this junction option.

General Comments

18.4.21. No information was available at the time of writing with regards to the anticipated volumes of unsuitable soil materials (U1A, U1B and U2). The Geology, Soils and Groundwater chapter (Chapter 9) should be referred to for information about potential sources of contaminated (U1B) and hazardous (U2) materials within the site although the volumes of materials that may have been affected by these sources is not known at present. The volumes of these materials as well as the volumes of U1A materials will be estimated as further ground investigation information becomes available and will be quantified and assessed at DMRB Stage 3.

18.4.22. It should be noted that for the majority of the waste elements no differentiation was made between the Mainline Options, i.e. a single quantity was provided for all options. In general, no information was provided about anticipated waste volumes for the junction options.

18.4.23. In relation to non-metallic waste materials, it is understood that Granish Landfill does not have capacity to accept the volumes of material that are likely to result from the scheme and Nether Dallachy Landfill may have capacity for these materials; however, the distance to this landfill is significant (approximately 80km. Given these constraints, alternative solutions for re-use / treatment of surplus materials will need to be identified.

18.4.24. The existing vehicle restraint system (VRS) could be partially recycled at the metal recyclers identified in Table 18.2. However, SEPA correspondence indicates that Highland Car Crushers licence is in the process of being transferred to a new operator and so it not known if this facility will be available for use. R. Finnie Skip Hire may be able to recycle some waste metal from the VRS. It is also understood that David Ritchie and Sons in Aviemore has the capacity to accept this material and is in close proximity to the Proposed Scheme Options which would reduce the impact from transportation of this material.

18.4.25. The volume of green waste i.e. waste vegetation produced during site preparation works, has not been quantified at this stage of assessment. However, it is thought this could comprise a relatively large amount of material and will be quantified and assessed at DMRB Stage 3.

18.4.26. In addition to the unusable material, there are likely to be other wastes associated with the 'normal' construction processes and site waste of a road scheme which have not been quantified for this assessment. These could include, but not be limited to:

- off-cuts and waste timber;
- plastics (such as uPVC & HDPE);
- packaging waste materials (for example card, wood and plastic film); and
- aggregate materials (such as masonry, brick and block, paving, tiles and ceramics) and plasterboard in mixed waste.

18.4.27. The volumes of waste relating to the materials detailed in the paragraph above are likely to be relatively small compared to the volumes of other waste materials but treated cumulatively the adverse impacts from waste disposal could increase in magnitude when considering these materials.

18.5. Potential Mitigation

18.5.1. The following mitigation measures have been identified at this stage and will be considered further at DMRB Stage 3 for inclusion in the final scheme. It is anticipated that these aspects would be included within an overarching waste management strategy for the A9 Dualling Programme.

- A Materials and Waste Management Strategy (M&WMS) will be developed for both material procurement and waste management; and
- As part of the M&WMS a Resource Management Plan (RMP) and SWMP will be produced and adhered to;

18.5.2. Based on the assessment undertaken at DMRB Stage 2 it is considered that the following should be considered to limit the amount of material being sent for disposal:

- Any existing road pavement would be recycled for use. At present, approximately 65,000m^3 of asphalt is proposed to be reused within the road pavement and it is recommended that this amount is maximised to reduce the impact of the development;
- Geotechnically and chemically suitable material from the excavated cuts would be reused on site wherever possible using techniques such as screening or remediation in order to maximise the quantities of materials being reused within the scheme; and,
- Wherever possible demolition materials and materials arising from site preparation e.g. old kerbs, will be reused within the pavement formation through use of crushing and screening of these materials.

18.5.3. A number of further mitigation measures are recommended to enhance the above commitments:

- Minimising the total material demand of the design by ensuring that material inputs match demand as closely as possible; and,
- Minimise waste by matching material demand with material supply. Material supply can be met from the following prioritised sources:
  - On site reuse / recycled; and,
  - Off site reuse / recycled.

18.5.4. At present the anticipated volumes of U1A, U1B and U2 materials are not known although U1A materials have been estimated at 20% of excavated soil materials. Limited potential contamination sources have been identified on and adjacent to the proposed alignment as documented in Chapter 9 (Geology, Soils and Groundwater) but there is a potential for these materials to be present. In the event that these materials are identified and chemical analysis indicates that they are unsuitable for reuse, there may be an opportunity to adopt soil treatment measures to render these materials suitable for use within the scheme and it is recommended that this is investigated in line with the waste hierarchy model which states that disposal of materials should only be adopted as a last resort.

18.5.5. Through a combination of statutory obligation and stringent target setting the mitigation measures indicated above would result in the majority of waste being diverted from landfill.

18.5.6. Waste management facilities are also a source for recycled construction materials in Scotland in addition to accepting D and C waste for recycling. Sourcing materials as locally as possible would reduce impacts associated with transportation, and the

identification of D and C sites for the provision of recycled construction materials confirms that recycled construction materials are readily available.

18.5.7. Mitigation will be developed as part of DMRB Stage 3 assessment taking into account the following considerations with regard to 'Material Assets':

- Ensure final designs minimise land take;
- Maximise the use of existing route infrastructure with suitable residual performance life;
- Minimise use of raw materials, through use of appropriate recycled materials that meet safety and durability performance requirements;
- Minimise waste generation through re-use of excavated materials locally, or between A9 dualling schemes (subject to agreement with SEPA);
- Use long-life performance materials to improve durability and reduce whole life cost and carbon;
- Use locally sourced materials and suppliers, to reduce material transport emissions and to support local businesses; and,
- Assess the effect of recycled material specifications to determine the associated carbon impact and maintain flexibility to select the option that provides the optimal balance between embodied and transportation carbon effects.

18.6. Summary of Route Option Impacts

18.6.1. The assessment of anticipated materials resources and waste streams indicates that all Proposed Scheme Options would result in adverse impacts. The summary of resource and waste volumes provided in Tables 18.4 and 18.5 did not show a clear preferred option for the Mainline or Junctions; however, based on the earthworks and pavement resource quantities, Mainline Option 2 and Junction Options A09, C21 and D07 were indicated to have the greatest adverse impact. A09 is common to all Mainline Options although Junction Options C21 and D07 are related to only Mainline Option 2 further indicating this to be the option with the greatest adverse impact.

18.6.2. Given the information currently available it is not possible to determine the magnitude of change associated with the Proposed Scheme Options and further assessment work is required to understand the potential effects of a Preferred Scheme. It is therefore recommended that the assessment above is used as information by which to compare the Proposed Scheme Options and the Preferred Scheme is subject to more detailed assessment.

18.7. Scope of DMRB Stage 3 Assessment

18.7.1. It is recommended that a detailed assessment as defined in HD212/11 is undertaken at DMRB Stage 3 and that this assessment will use embodied carbon as a proxy for describing the magnitude of environmental impact relating to materials. This assessment should be informed by the Manual of Contract Documents for Highway Works, Volume 1 - Specification for Highway Works and the Transport Scotland's Carbon Management System in order to quantify the specific materials required for the manufacture and installation of the different components required to construct the Proposed Scheme.

[i] Halcrow, (2013), A9 Dualling Strategic Environmental Assessment. Transport Scotland
[ii] European Union, (2008), Directive on Waste (2008/98/EC)
[iii] UK Government, (2009), Climate Change (Scotland) Act
[iv] UK Government, (1990). Environmental Protection Act 1990, Part II – Waste on Land
[v] The Scottish Government (2014). Scottish Planning Policy 2014. The Scottish Government
[vi] The Scottish Government, (2010). Zero Waste Plan, 2010. The Scottish Government
[vii] The Scottish Government, (2012). Zero Waste Regulations, 2012. The Scottish Government
[viii] The Scottish Government, (2012), The Waste (Scotland) Regulations. The Scottish Government
[ix] SEPA, (2009). Land Remediation and Waste Management Guidelines, 2009. The Scottish Government
[x] SEPA, (2010). Promoting the sustainable reuse of greenfield soils in construction, 2010. SEPA
[xi] SEPA. Guidance on the Production of Fully Recovered Asphalt Road Planings. SEPA
[xii] SEPA. Guidance on Recycled Aggregates from Inert Waste. SEPA
[xiii] Transport Scotland, (2012). Corporate Plan 2012-2015. Transport Scotland
[xiv] Highways England, (2008). Design Manual for Roads and Bridges, Volume11, Part 1: HA 200/08, The Aims and Objectives of Environmental Assessment. Highways England
[xv] Highways England, (2011). The Design Manual for Roads and Bridges, Section 3, Part 6, HD212/11. Highways England
[xvi] SEPA, (2012). Guidance - Management of Forestry Waste
[xvii] Halcrow, (2015). A9 Dualling Programme, Perth to Inverness: North Scheme – Dalraddy to Moy Ground Investigation, Environmental Assessment. Transport Scotland
[xviii] Atkins / Mouchel, (2015). Preliminary Ground Investigation and Peat Probing. Transport Scotland
[xix] Highways England, (2001). The Manual of Contact Documents for Highway Works. Volume 1, Specification for Highway Works, Series 600 Earthworks
[xx] SEPA, (2015) Waste Facility Data, available from: http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-site-information/. SEPA. Accessed April 2016
[xxi] SEPA et al, (2014). Technical Guidance WM3. Waste Classification: Guidance on the classification and assessment of waste. First edition.

19. Policies and Plans

19.1. Introduction

19.1.1. The purpose of this chapter is to provide an assessment of potential impacts and constraints associated with the proposed route options for the dualling of the A9 between Dalraddy and Slochd in terms of the wider national, regional and local planning policy context. This includes a review of national, regional and local planning policy and guidance documents, and consideration of the project in terms of potential policy conflicts or compliance.

19.1.2. The approach taken follows guidance in the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 12 (Impact of Road Schemes on Policies and Plans) for a Stage 2 Environmental Assessment[i], and applies a desk study approach to the analysis of polices and plans of relevance to the Proposed Scheme. This standalone Policies and Plans chapter has been created to provide a simple reference to all relevant planning policies against which a scheme would be assessed, rather than the relevant planning policies being outlined in each environmental chapter, as suggested in Interim Advice Note 125/09 'Supplementary guidance for users of DMRB Volume 11 'Environmental Assessment' (Highways Agency, 2009).

19.1.3. The powers and duties to manage, maintain and build trunk roads in Scotland rest with the Scottish Ministers by virtue of the Roads (Scotland) Act 1984 (the RSA)[ii]. The RSA sets out the procedures the Scottish Minsters must follow in promoting orders for new roads.

19.1.4. Sections 25 and 37 (2) of the Town and Country Planning (Scotland) Act 1997 as amended by the Planning etc. (Scotland) Act 2006 require that planning decisions be made in accordance with the Development Plan unless material considerations indicate otherwise. Therefore, if a proposal accords with the Development Plan and there are no material considerations indicating that it should be refused, permission should be granted and vice versa.

19.1.5. This chapter outlines the land use (including transport and environment) policy and plans framework of the study area. It should be read in conjunction with the other specialist chapters within this report.

19.2. Approach and Methods

19.2.1. The study area extends along the A9 between Dalraddy and Slochd, and the area of land 500m to either side of the carriageway.

19.2.2. The assessment considers the extent to which the Proposed Mainline Alignment and Junction options integrate with the land use and transport planning policy framework for the area, and the extent to which the construction of each Option would assist or hinder achievement of planning policy objectives.

19.2.3. A desk study was undertaken to review key planning and transport policy documents which were identified within the Strategic Environmental Assessment (SEA)[iii] and subsequent Addendum[iv]. The study also identified plans that may have been adopted subsequent to the SEA. The SEA concludes on page 7 that:

"Online A9 dualling is not expected to significantly affect current development plans, as these have been developed in consideration of the current A9 route".

19.3. Baseline Conditions

19.3.1. The desktop analysis identifies and describes the national and local planning polices of relevance in terms of the geographic context of the Proposed Scheme. This includes the National Planning Framework 3 (NPF3), Scottish Planning Policy (SPP), Planning Advice Notes (PANs) as well as the relevant Development Plan polices. In addition, national, regional and local Transport and Economic Strategies are also considered.

National Planning Framework 3 (NPF3)[v]

19.3.2. The NPF3 sets out the Scottish Government's context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole. It sets out the Government's development priorities over the next 20-30 years and identifies national developments which support the development strategy.

19.3.3. Statutory development plans must have regard to the NPF3, and Scottish Ministers expect planning decisions to support its delivery.

19.3.4. NPF3 was laid in the Scottish Parliament on June 23, 2014. As well as a framework for the spatial development of Scotland as a whole, it includes 14 national developments, identified to deliver the strategy.

19.3.5. Paragraph 5.20 of the NPF3 states that:

'The road network has an essential role to play in connecting cities by car, public transport and active travel. We will complete dualling of the trunk roads between cities, with dualling of the A9 from Perth to Inverness complete by 2025.

19.3.6. It goes on at paragraph 5.32 to state that:

'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.'

Scottish Planning Policy (SPP)[vi]

19.3.7. The purpose of the SPP is to set out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land. The SPP was published in June 2014. The SPP promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances. It directly relates to:

- the preparation of development plans;
- the design of development, from initial concept through to delivery; and
- the determination of planning applications and appeals.

19.3.8. The SPP is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed across the country. It is non-statutory. However, Section 3D of the Town and Country Planning (Scotland) 1997 Act requires that functions relating to the preparation of the National Planning Framework by Scottish Ministers and development plans by planning authorities must be exercised with the objective of contributing to sustainable development. Under the Act, Scottish Ministers are able to issue guidance on this requirement to which planning authorities must have regard. The Principal Policy on Sustainability is guidance under section 3E of the Act.

19.3.9. As a statement of Ministers' priorities the content of the SPP is a material consideration that carries significant weight, though it is for the decision-maker to determine the appropriate weight in each case. Where development plans and proposals accord with the SPP, their progress through the planning system should be smoother.

19.3.10. The SPP provides guidance across a range of topics including maintaining and enhancing the distinctive and high-quality, irreplaceable historic places; to this end paragraph 137 of the SPP states that the planning system should:

- *'promote the care and protection of the designated and non-designated historic environment (including individual assets, related settings and the wider cultural landscape) and its contribution to sense of place, cultural identity, social well-being, economic growth, civic participation and lifelong learning; and*
- *enable positive change in the historic environment which is informed by a clear understanding of the importance of the heritage assets affected and ensure their future use. Change should be sensitively managed to avoid or minimise adverse impacts on the fabric and setting of the asset, and ensure that its special characteristics are protected, conserved or enhanced.*'

19.3.11. The SPP also establishes that the natural environment forms the foundation of the spatial strategy set out in NPF3. It identifies that the environment is a valued national asset offering a wide range of opportunities for enjoyment, recreation and sustainable economic activity. It states that planning plays an important role in protecting, enhancing and promoting access to our key environmental resources, whilst supporting their sustainable use.

19.3.12. In respect of the natural environment paragraph 194 of the SPP states that the planning system should:

- *'facilitate positive change while maintaining and enhancing distinctive landscape character;*
- *conserve and enhance protected sites and species, taking account of the need to maintain healthy ecosystems and work with the natural processes which provide important services to communities;*
- *promote protection and improvement of the water environment, including rivers, lochs, estuaries, wetlands, coastal waters and groundwater, in a sustainable and co-ordinated way;*
- *seek to protect soils from damage such as erosion or compaction;*
- *protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value;*
- *seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats; and*
- *support opportunities for enjoying and learning about the natural environment'*.

19.3.13. In relation to resilience from flood risk the SPP confirms the NPF3 support for a catchment-scale approach to sustainable flood risk management. The spatial strategy aims to build the resilience of our cities and towns, encourage sustainable land management in our rural areas, and to address the long-term vulnerability of parts of our coasts and islands. It identifies that climate change will increase the risk of flooding in some parts of the country and that planning can play an important part in reducing the vulnerability of existing and future development to flooding.

19.3.14. Paragraph 255 establishes policy principles through which the planning system should promote:

- *'a precautionary approach to flood risk from all sources, including coastal, water course (fluvial), surface water (pluvial), groundwater, reservoirs and drainage systems (sewers and culverts), taking account of the predicted effects of climate change;*
- *flood avoidance: by safeguarding flood storage and conveying capacity, and locating development away from functional flood plains and medium to high risk areas;*
- *flood reduction: assessing flood risk and, where appropriate, undertaking natural and structural flood management measures, including flood protection, restoring natural features and characteristics, enhancing flood storage capacity, avoiding the construction of new culverts and opening existing culverts where possible; and*
- *avoidance of increased surface water flooding through requirements for Sustainable Drainage Systems (SuDS) and minimising the area of impermeable surface'*.

19.3.15. To achieve this the planning system should prevent development which would have a significant probability of being affected by flooding or would increase the probability of flooding elsewhere. Piecemeal reduction of the functional floodplain should be avoided given the cumulative effects of reducing storage capacity. The policy states that proposed arrangements for SuDS should be adequate for the development and appropriate long-term maintenance arrangements should be put in place.

Planning Advice Notes

19.3.16. Sitting below the NPF3 and the SPP are a suite of PANs and Policies which provide more focussed guidance by topic area.

PAN 33: Development of Contaminated Land[vii]

19.3.17. This PAN provides guidance on the development of contaminated land and the determination of schemes when a site is contaminated. It highlights that schemes should adequately identify the sources of contamination and provide suitable remediation measures. If such measures are not forthcoming then there are grounds for refusal. Where schemes are approved, it recommends the imposition of conditions to ensure that land is remediated before development can commence.

PAN 60: Planning for Natural Heritage[viii]

19.3.18. This PAN provides advice on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment and encourages developers and planning authorities to be positive and creative in addressing natural heritage issues.

19.3.19. The PAN identifies that the planning system has a vital role to play in safeguarding the natural heritage and building environmental capital. It confirms that planning can help to create high quality sustainable environments which offer social and economic opportunities and weave the experience of nature into the fabric of everyday life. Within this context the following are identified as important planning objectives:

- maintaining and enhancing landscape character;
- providing for a diversity of wildlife habitats;
- making provision for a wide range of outdoor recreational activities; and
- fostering opportunities for learning about the environment.

PAN 61: Planning and Sustainable Urban Drainage Systems[ix]

19.3.20. This PAN describes how the planning system has a central co-ordinating role in getting SUDS accepted as a normal part of the development process. It states that planners have a policy role in setting the framework in structure and local plans, as well as masterplanning exercises.

19.3.21. The PAN advises all proposals for development to take account of the effects of potentially increased surface water run-off. It describes the overall objectives of SUDS as returning excess surface water to the natural water cycle with minimal adverse impact on people and the environment. It advises that structure and local plans should set out the planning authority's expectations in relation to the use of SUDS and should indicate the basis on which SUDS will influence the overall design of a major development or regeneration project. It also recommends that developers draw up a drainage strategy as an integral part a planning application.

PAN 65: Planning and Open Space[x]

19.3.22. This PAN emphasises that the importance given to open space in local planning policy should be reflected in development management decisions. Development management decisions should have appropriate regard to designated open spaces and robust justification should to be provided where there is conflict. It highlights the important role of the planning system to protect valuable open space and ensuring provision of appropriate quality in or within easy reach of new development.

PAN 75: Planning for Transport[xi]

19.3.23. This PAN provides good practice guidance to be used by planning authorities, developers and others to carry out in their policy development, proposal assessment and project delivery. The document aims to create greater awareness of how linkages between planning and transport can be managed. The PAN highlights that projects likely to result in significant environmental effects require an Environmental Impact Assessment and that permitted development rights are withdrawn.

PAN 79: Water and Drainage[xii]

19.3.24. Paragraph 14 of the PAN states that:

'The interaction between sewers, local watercourses and water bodies (including groundwater), means that planning authorities must also consider arrangements for surface water drainage and whether the risk of flooding is an issue.'

19.3.25. Paragraphs 47-49 of the PAN provide advice on Sustainable Urban Drainage Systems. The advice note identifies that it is SEPA's policy to promote SUDS as the preferred solution for drainage of surface water run-off for all proposed development. The purpose of SUDS is to mimic natural drainage, encouraging infiltration where appropriate and attenuating both hydraulic and pollutant impacts with minimal adverse impact on people and the environment.

PAN 1/2011 Planning and Noise[xiii]

19.3.26. This PAN provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise.

19.3.27. The PAN promotes the principles of good acoustic design and a sensitive approach to the location of new development. It promotes the appropriate location of new potentially

noisy development, and a pragmatic approach to the location of new development within the vicinity of existing noise generating uses, to ensure that quality of life is not unreasonably affected and that new development continues to support sustainable economic growth.

19.3.28. The Environmental Noise (Scotland) Regulations 2006 transposed the European Directive 2002/49/EC (the Environmental Noise Directive) into Scottish law. The Regulations affect large urban areas; major transport corridors and major airports.

19.3.29. They require Scottish Ministers and airport authorities to manage noise through a process of strategic noise mapping and noise action plans. In the areas affected by the Regulations, planning authorities have a role in helping to prevent and limit the adverse effects of environmental noise.

19.3.30. Paragraph 4 of the PAN identifies that:

- *'Unwanted noise can have a significant impact upon environmental quality, public health and amenity. It is important to be aware of the sources of noise in the environment in order to minimise or prevent its effects. Common sources of noise include road vehicles, aircraft, railways, industry, landfill operations, construction, commercial premises and entertainment venues, and sport and recreation venues.*
- *The Environmental Noise Directive (END) describes environmental noise as "unwanted or harmful outdoor sound created by public activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity" (Directive 2002/49/EC, article 3). It focuses on the impact of such noise on individuals and serves to prevent noise levels that would endanger the health and quality of life of any person.*'

19.3.31. The PAN identifies issues which may be relevant when considering noise in relation to a development proposal. In respect of road proposals these are set out at paragraph 23 which states that:

'Road traffic noise impact assessments should take account of level, potential vibration, disturbance and variation in noise levels throughout the day, the pattern of vehicle movements and the configuration of the road system. When upgrading existing roads it will normally be sufficient to base noise assessments on the current measured noise level. When considering proposals for the development or improvement of major roads, forecast noise levels can be ascertained from the relevant roads authority. In some cases, roads authorities may have prepared predictions of the effects of road traffic noise but this will depend upon accurate data on traffic flow being available'.

PAN 2/2011 Planning and Archaeology[xiv]

19.3.32. This PAN supersedes PAN 42 Archaeology – the Planning Process and Scheduled Monuments Procedures. It sits alongside Scottish Planning Policy (SPP), Scottish Historic Environment Policy (SHEP) and the Managing Change in the Historic Environment Guidance Notes, which together set out the Scottish Ministers' policies for planning and the historic environment. This PAN is intended to inform the day-to-day work of a range of local authority advisory services and other organisations that have a role in the handling of archaeological matters within the planning process.

19.3.33. Government policy is to protect and preserve archaeological sites and monuments, and their settings, in situ wherever feasible. Where preservation in situ is not possible, planning authorities should consider applying conditions to planning consents, listed building consents and conservation area consents to ensure that an appropriate level of excavation, recording, analysis, publication and archiving is carried out before and/or

during development. The interpretation and preservation in situ of archaeological remains should be seen as a positive resource that can contribute to a sense of place in new development.

19.3.34. The PAN establishes that in determining planning applications that may impact on archaeological features or their setting, planning authorities may on occasion have to balance the benefits of development against the importance of archaeological features. The weight that should be given to archaeological considerations will depend on a number of factors, including:

- the relative rarity of the archaeological feature concerned;
- the completeness of the feature / whether it is a particularly good example of its type;
- the historical or cultural associations of the feature;
- the value given to the feature by the local community;
- the potential value of the feature as an in situ educational or research resource; and
- the potential value of retaining the feature for tourism or place-making.

Online Planning Advice on Flood Risk

19.3.35. This online advice note replaces the previous PAN 69 and provides guidance in relation to flood risk. The note (in paragraph 43) lists the following points that should be taken into account as part of the development management process:

- 'Establish whether the development site is susceptible to flooding, from all sources, and whether development of the site would lead to an increase in flood risk elsewhere.
- Consider proposals within the context of the Flood Risk Framework, location and site specific circumstances, the characteristics and nature of any flood risk and the type and design of development proposed.
- Applications that may lead to an increase in flood risk on or off site should be supported, as appropriate, by a Flood Risk Assessment (see diagram 2 below) [sic] in accordance with SEPA's Technical flood risk guidance for stakeholders.
- Where development is allowed in a flood risk area measures to protect against or manage flood risk and loss of storage capacity should be agreed.
- For redevelopment and change of use proposals in areas at flood risk, consider options to reduce flood risk vulnerability through e.g. design, type and use of development or number of buildings.
- Consider the impacts of climate change during the lifetime of the development and whether the development needs to be designed to be adaptable to climate change, e.g. to potentially rising levels of flood waters'

Scotland's National Transport Strategy (2016)[xv]

19.3.36. The National Transport Strategy (NTS) was originally published in December 2006 and sets a framework for transport in Scotland up to 2026. A refresh of the NTS was published in January 2016. Page 46 of the NTS sets out the following vision for transport in Scotland:

'An accessible Scotland with safe, integrated and reliable transport that supports economic growth, provides opportunities for all and is easy to use; a transport system that meets everyone's needs, respects our environment and contributes to health; services recognised internationally for quality, technology and innovation, and for

effective and well-maintained networks; a culture where transport providers and planners respond to the changing needs of businesses, communities and users, and where one ticket will get you anywhere'.

19.3.37. The NTS also outlines five high level objectives and three key strategic outcomes on page 46. The high level objectives are as follows:

- 'Promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency;
- Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network;
- Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy;
- Improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff; and
- Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport'.

19.3.38. Page 47 outlines the key strategic outcomes, which are as follows:

- 'Improved journey times and connections, to tackle congestion and lack of integration and connections in transport;
- Reduced emissions, to tackle climate change, air quality, health improvement; and
- Improved quality, accessibility and affordability, to give choice of public transport, better quality services and value for money, or alternative to car'.

19.3.39. More specifically, the NTS highlights the commitment made by Scottish Ministers to a significant road investment programme, which includes the dualling of the A9 by 2025.

Infrastructure Investment Plan 2015[xvi]

19.3.40. The Infrastructure Investment Plan (IIP) sets out priorities for investment and a long-term strategy for the development of public infrastructure in Scotland. The IIP sets out the Scottish Government's long term aspirations for infrastructure and highlights a number of existing strategic projects to which the Government is committed.

19.3.41. The IIP highlights the Scottish Government's commitment to complete the dualling of the A9 by 2025. Page 108 of the Plan outlines that the dualling of the A9 will contribute towards Scotland's sustainable economic growth, which requires the *'strategic transport network to be available for workers and employers to access those areas where employment can grow, provide efficient access to markets and ensure inward investment opportunities are captured'.*

Scotland's Economic Strategy 2015[xvii]

19.3.42. Scotland's Economic Strategy 2015 sets out the Scottish Government's overarching framework for increasing competitiveness and tackling inequality in Scotland. The Strategy sets out four priorities for achieving sustainable economic growth, one of which is investing in people and infrastructure in a sustainable way.

19.3.43. The Strategy promotes investment in the nation's infrastructure in order to help businesses to grow, create employment opportunities and boost connectivity. The Strategy advocates taking a strategic and long-term approach to infrastructure

investment and lists a number of major projects that are supported by the Scottish Government. This includes investment in the dualling of the A9.

Historic Environment Scotland Policy Statement[xviii]

19.3.44. The Historic Environment Scotland Policy Statement 2016 (HESPS) is a material consideration in the decision making process and supersedes the previous Scottish Historic Environment Policy (2011). The document sets out how Historic Environment Scotland fulfils its regulatory and advisory roles and how Scottish Planning Policy is to be interpreted and implemented. The HESPS is a relevant document in the statutory planning, Environmental Impact Assessment and Strategic Environment Assessment processes. It is to be read alongside the Scottish Planning Policy and other relevant Ministerial policy documents.

Local Development Plans

19.3.45. The following local adopted plans make up the statutory development framework relevant to the study area:

- Cairngorms National Park Local Development Plan (relevant to the study area within the National Park);
- Inner Moray Firth Local Development Plan (relevant to the study area outside of the National Park); and
- Highland-wide Local Development Plan (relevant to the study area outside of the National Park).

Cairngorms National Park Local Development Plan (2015)[xix]

19.3.46. The Cairngorms National Park Local Development Plan (CNPLDP) was adopted on 27 March 2015 and sets out the planning policies against which development in the Cairngorms National Park are to be determined. The Local Plan sets out the spatial strategy and vision for the Park, which seeks to primarily focus future growth in settlements along the Inverness rail line and A9, whilst ensuring the protection of its natural and cultural heritage.

19.3.47. Paragraph 1.17 of the CNPLDP sets out a vision for the National Park to be delivered through three long terms outcomes:

- ‘A sustainable economy supporting thriving businesses and communities;
- People enjoying the Park through outstanding visitor and learning experiences; and
- A special place for people and nature with natural and cultural heritage enhanced’.

19.3.48. Additionally, the CNPLDP sets out the spatial strategy for the Park. This strategy seeks to deliver new housing to meet the identified housing land requirement up to 2034. It seeks to focus new housing within a number of settlements, in particular Aviemore.

19.3.49. Appendix 19.1 summarises the main strategic development, transport and environmental policies outlined in the CNPLDP which are of relevance to the study area.

Highland-wide Local Development Plan (2012)[xx]

19.3.50. The Highland-wide Local Development Plan (HwLDP) was adopted on 5 April 2012 and was constituted as the local development plan in law. It sets out the overarching spatial planning policy for the whole of the Highland Council area, except the area covered by the CNPLDP.

19.3.51. The Plan sets out a vision statement and spatial strategy for the area, taking on board the outcomes of consultation undertaken during preparation of the plan. The HwLDP represents the strategic element of the development plans and its purpose is to give broad strategic land use planning guidance until 2020. The Plan provides for change in population, employment and in environmental conditions by indicating the nature of development that should be encouraged and where.

19.3.52. The overall aim of moving towards a sustainable region means that the intention of the Plan is to create sustainable communities, balance population growth, encourage economic development and safeguard the environment across the area.

Spatial Strategy

19.3.53. The route corridor falls within the Inner Moray Firth sub area within the HwLDP. The land use, economic and environmental objectives for the Inner Moray Firth area are that by 2030 the following will have been achieved:

- have increased the number of jobs, people and facilities - the Inner Moray Firth area will be a larger and more efficient “engine” for the wider Highland economy;
- have a growing City – building on the growth and opportunities of its role as the major service and administrative centre, Inverness will have developed in a way that promotes the key aspirations of the updated City vision, focuses development where infrastructure exists or can be provided in the most efficient way and maintains a thriving City centre as the focus for services and retail provision;
- have made it easy for people and wildlife to move about through a green network – large scale and small scale habitat corridors have been protected and enhanced so that species can move about within and around development, including species that are affected by climate change. People will have better access to high quality places using a network of paths for walking and cycling, which contributes to quality of life, health and inward investment. Effective masterplanning will have ensured that linkage to the green network, accessible civic and greenspaces and enhanced access will have accompanied development;
- have more efficient forms of travel – the area will have seen substantial improvements to the existing transport network through improvements to the road network, seeing an increase in the numbers of people walking, cycling as a result of the green network, and taking the urban rail/bus networks and delivery of better connections for local road freight to and from longer haul Caledonian canal, rail, sea and air routes; and
- have resolved its infrastructure constraints - an effective partnership of all funding bodies will have removed the barriers to growth. As well as improvements to the A9 trunk road, the West Link, A96 upgrade, the Nairn By-pass and a new station at Dalcross will have been delivered. Broadband, electricity grid networks and drainage infrastructure will no longer restrict the economic potential of the area.

19.3.54. Appendix 19.1 provides a summary of the main strategic development, transport and environmental policies outlined in the HwLDP

Inner Moray Firth Local Development Plan (2015)[xxi]

19.3.55. The Inner Moray Firth Local Development Plan (IMFLDP) was adopted on 31 July 2015. The Plan sets out the strategic policies and land allocations to guide development in the Inner Moray Firth area in the next 10 – 20 years. The IMFLDP adds to the HwLDP and Supplementary Guidance as part of the Development Plan for the Inner Moray Firth area.

19.3.56. The Plan sets out the spatial strategy for delivering the vision for the Inner Moray Firth area as set out in the HwLDP. The spatial strategy seeks to focus development in existing settlements, create new communities that are sustainable, provide the required infrastructure and transport network, and protect the area's built and natural assets.

19.3.57. The Plan identifies the provision of infrastructure and efficient forms of transport are fundamental to the delivery of development and to create communities served by an appropriate level of services and facilities.

19.3.58. Table 19.1 below summarises the main policy outlined in the IMFLDP.

Table 19.1: Summary of Relevant Land Use and Environmental Policies in the IMFLDP

IMFLDP Policy	Summary of Policy
Delivering Development Policy 2	States that the development of the locations identified in the Plan will be supported subject to the necessary infrastructure, services and facilities required to support the new development being provided.

Local Supplementary Planning Guidance

19.3.59. Sitting below the CNPLDP, HwLDP and IMFLDP is a suite of adopted supplementary guidance notes (SG) that provide further detail on a number of topic areas and how to comply with Local Plan policies. The SG form part of the local development plan and those that are considered to be of relevance to the study area are discussed below.

19.3.60. Tables 19.2 and 19.3 below summarise the relevant Supplementary Planning Guidance.

The Highland Council Supplementary Guidance[xxii]

Table 19.2: Summary of Relevant Highland Council Supplementary Guidance

Supplementary Guidance	Summary of Guidance
Highland Statutorily Protected Species SG	Provides further detail on protected species legislation and policy and provides guidance on how development proposals can prevent or reduce impact on such species.
Flood Risk & Drainage Impact Assessment SG	Outlines that developers should demonstrate that their proposals will not be subject to unacceptable risk of flooding, will not increase flood risk elsewhere and will safeguard water quality and have effective maintenance arrangements for all SuDS devices, other water bodies and associated set-back areas. The SG also provides guidance on appropriate roadside drainage.
Trees, Woodlands & Development SG	Seeks to ensure that applicants for planning permission effectively consider existing and the opportunities for planting new trees and woodland in their proposals. It states that the capacity of woodland to accommodate new development without losing its essential character should be considered and is important to establish in relation to levels of acceptability of development. It requires applicants to demonstrate why there is a need to develop a wooded site, as opposed to an alternative unplanted site. It highlights that there is a strong presumption in favour of protecting woodlands and that proposals including the removal of woodland will only be supported where a significant public benefit can be demonstrated.
Highland Historic Environment Strategy SG	Seeks to ensure that development proposals take into account the historic environment and that historic assets are protected and enhanced. The SG sets out a number of strategic aims against which

Supplementary Guidance	Summary of Guidance
	development is to be considered. This includes ensuring that development is sensitive to the historic environment and responds to the established qualities of the surroundings (Strategic Aim 30), as well as having due regard to archaeological, historical and cultural significance of all aspect of the local environment (Strategic Aim 33).

Cairngorms National Park Authority Supplementary Guidance[xxiii]

Table 19.3: Summary of Relevant Cairngorms National Park Authority Supplementary Guidance

Supplementary Guidance	Summary of Guidance
Policy 4 - Natural Heritage SG	Sets out three principles for meeting the requirements of the policy. The first is to ensure that development does not result in net loss of a natural heritage asset by firstly seeking to protect it, then alternatively minimise or mitigate adverse impacts and, as a final option, compensate for any loss. The second principle is to assess and deliver the potential to enhance the natural heritage, whilst the third is to ensure the management of any mitigation measures.
Policy 5 - Landscape Non-statutory Guidance	Sets out steps for meeting the requirements of the policy. It states that proposals should demonstrate how adverse impacts have been minimised through appropriate siting and design, how it responds to the local landscape character and setting, and how the design relates to the site and cultural context. The SG states that if there are any remaining negative impacts, consideration will be given as to how these will be managed, firstly through on-site minimisation/mitigation, or alternatively through off-site landscape enhancement works.
Policy 9 - Cultural Heritage Non-statutory Guidance	Provides further detail on how development can protect cultural heritage. It states that development affecting a Listed Building should demonstrate how its design ensures no adverse effect on the building, its curtilage and setting. In the case of Scheduled Monuments, proposals must demonstrate how it will preserve known and formally recognised, or scheduled, archaeology in situ. It is should also be demonstrated that no adverse impact on the setting will occur.
Policy 10 – Resources Non-statutory Guidance	Sets out how development can meet the requirements of the policy in relation to a range of National Park resources, including water resources, flooding and minerals.

Regional and Local Transport Strategies

19.3.61. Regional Transport Strategies for the area are outlined in the HITRANS Regional Transport Strategy (RTS). HITRANS' Regional Transport Strategy was approved by Scottish Ministers in July 2008, which covers a 14 year period.

HITRANS RTS (2008)[xxiv]

19.3.62. In accordance with the Transport (Scotland) Act 2005, HITRANS has prepared a RTS, setting out a vision and programme for improving the Region's transport infrastructure, services and other facilities to 2022.

19.3.63. The RTS has as its vision enhancing the area's viability - enhancing its place competitiveness and thereby attracting and retaining people in the area and making it a more attractive place in which to live, to work, to conduct business and to visit.

19.3.64. This vision will be achieved through improving the interconnectivity of the whole area to strategic services and destinations. This will require development of a fit for purpose, multi-modal transport system.

19.3.65. The RTS seeks as aspirations for priority links in the strategic road network increased journey reliability and reduced journey times. The Strategy seeks to fulfil this vision through a balanced and integrated package of interventions which support the key themes of:

- Delivering economic prosperity;
- Connecting communities and being socially inclusive; and
- Delivering environmental sustainability, health and well-being.

19.3.66. Delays to movement on the strategic roads occur mainly on the single carriageway sections of the trunk roads, including the A9 between Perth and Inverness.

19.3.67. HITRANS has set out the proposed interventions to be undertaken to support the delivery of the RTS, which will subsequently improve the transport system. As a result, HITRANS supports measures which will improve the journey reliability on key connections within the region including improvements to the A9 between Perth and Inverness.

HIGHLAND Local Transport Strategy (LTS) (2010)[xxv]

19.3.68. The principal themes at the heart of the LTS are the themes of:

- Safety
- Sustainability
- Economic development
- Integration

19.3.69. All of these themes are contained in national and regional transport strategies and they are again reflected in the LTS.

19.3.70. The objectives outlined in the LTS include:

- To create a transport framework which contributes to the economic growth of the region by improving access to jobs, and creating a more attractive environment for business and tourism;
- To increase accessibility for those sections of the community which may currently be excluded such as those with reduced mobility and those without access to a car;
- To integrate transport modes with each other and with other needs of the council area; and
- To reduce road accidents and improve personal safety.

19.3.71. LTS Policy No 4 states that the:

- The Council will continue to work in partnership with Transport Scotland and SUSTRANS to develop the National Cycle Network within Highland.
- The Council will adopt a collaborative approach to encouraging walking and cycling with different Highland Council services and other public agencies.

19.4. Potential Impacts

19.4.1. The Proposed Scheme Options are expected to result in a number of potential positive and negative impacts in respect of their compliance with national and local development policy. The level of compliance of each Mainline Alignment and Junction options with planning policies is discussed below, as well as summarised in Tables 19.4-19.7.

19.4.2. It is important to note that the level of conflict with planning policy is reflective of the scheme design at this stage. Appropriate mitigation measures will be identified at the detailed design stage and could result in a change to the level of adverse impact associated with the scheme. As such, the level of conflict with planning policy has the potential to change accordingly.

Impacts Common to All Mainline Alignment Options

19.4.3. The potential level of conflict with planning policies is for the most part common amongst the Mainline Alignment Options, with only a few environmental areas where Option 2 differs from Options 1 and 1A.

19.4.4. Firstly, all Mainline Alignment Options travel through large areas of Ancient Woodland and semi-natural woodland, resulting in loss of such areas, which are protected by planning policy. The options are likely to impact on designated areas of ecological value such as the Craigellachie National Nature Reserve and SSSI, and River Spey Special Area of Conservation. Therefore, without mitigation, all options conflict with Policy 4 of the CNPLDP. To ensure compliance with the policy, it would be necessary to demonstrate, following mitigation, that the integrity of such areas are not damaged, or demonstrate that the benefit of the scheme clearly outweighs such harm. In addition, the potential for impact on protected/priority species also represents potential conflict with Policy 4 should such harm not be fully prevent by mitigation.

19.4.5. All options will also potentially impact on the setting of Category B and C listed buildings and the Avielochan, Tor Beag, Fort Scheduled Monument. Such impact would conflict with CNPLDP Policy 9, which seeks to protect heritage assets from harm. To ensure compliance it would therefore be important to demonstrate that any impact can be mitigated or that any residual harm is outweighed by the benefit of the scheme.

19.4.6. All options are located within the Cairngorms Landscape Character Area and a number of Glen Strath Landscape Character Areas, whilst also having potential to have a small impact on the Upland Landscape Character Area. It is important to ensure that the scheme does not have a significant impact on the landscape characteristics of these areas in order to avoid conflict with CNPLDP Policy 5.

19.4.7. All options have the potential to impact on areas of SEPA wetlands, whilst also intersecting areas of Medium Flood Risk. In addition, there is potential for impact on a number of waterbodies, including the River Dulnain. As such, without mitigation, this would represent conflict with CNPLDP Policy 10, which seeks to protect the water environment, prevent increase to flood risk and presume against the culverting of watercourses.

19.4.8. The route intersects and has the potential to impact upon a number of crossing points for non-motorised users, including Public Rights of Way and Core Paths. As such, to ensure compliance with CNPLDP Policy 2 and HwLDP Policy 77, it would be important to provide convenient alternative means of access.

19.4.9. The route options will result in the loss of various classes of agricultural land and will also potentially impact on a number of road crossings, most notably to and from

Aviemore, which has the potential to restrict access to private properties in rural areas. In addition, all options will impact on land occupied by the High Range Holiday Complex at Aviemore, as well as a site approved for the development of a touring caravan park (application reference 2012/0188/DET. Should any of these potential impacts be significant, this would represent conflict with CNPLDP Policy 2, which supports economic growth, in particular tourist development. All options will also impact on land subject to a planning application for 42 new houses (application reference 16/02611/FUL) on land north of Aviemore. Such impact has the potential to prohibit the site from delivering the number of homes sought in the planning application and as such would represent conflict with the CNPLDP spatial strategy.

19.4.10. Finally, all options travel through a Geological Conservation Review Site at Slochd and HwLDP and CNPLDP policies seek to prevent harm to such sites. To prevent conflict with planning policy it would be important to demonstrate that the objectives and integrity of the site would not be compromised or that any significant effects are mitigated by the provision of features of commensurate or greater importance to those that are lost. This is to ensure compliance with CNPLDP Policy 4.

Impacts Specific to Mainline Alignment Options

Impacts Specific to Mainline Alignment Option 1 and 1A

19.4.11. The level of compliance with planning policy is consistent between Options 1 and 1A. The extent of such compliance is consistent with the 'Common Impacts' discussed above, with the exception of having a greater impact on the High Range Holiday Complex and land associated with planning application 16/02611/FUL in comparison to Option 2. In addition, both options would require small land-take within the application boundary of planning permission 05/306/CP for 140 new houses, although impact on the proposed layout appears to be negligible. As such, both options represent greater conflict with CNPLDP Policy 2 and the spatial strategy. These options have less conflict with CNPLDP Policies 4 and 9 than Option 2, as discussed below.

Impacts Specific to Mainline Alignment Option 2

19.4.12. In addition to the 'Common Impacts' discussed above, Option 2 has additional potential impacts that represent a greater level of conflict with a number of planning policies. Firstly, Option 2 requires greater land take in the Craigellachie SSSI representing a higher level of conflict with CNPLDP Policy 4 against which the economic benefits of the scheme would be considered.

19.4.13. Option 2 also has the potential to impact directly on the Avielochan, Tor Beag Fort Scheduled Monument. This represents a potentially significant conflict with the SPF and CNPLDP Policy 9, which prohibit any adverse impact on such heritage assets. If this impact cannot be fully mitigated then stronger justification than that needed for Options 1 and 1A would be required to demonstrate that the benefits of the scheme outweigh this harm.

19.4.14. Option 2 also has additional policy conflict than Options 1 and 1A in relation to the water environment, as a result of its potential impact on Loch Puladdern. A greater amount of evidence would need to be provided to demonstrate that impacts on the water environment can be mitigated to ensure compliance with CNPLDP Policy 10.

19.4.15. Finally, whilst Option 2 will impact on land occupied by the High Range Holiday Complex at Aviemore, as well as land associated with planning application 16/02611/FUL, the amount of land take is much less than Options 1 and 1A. As such the extent of impact on an existing tourist facility is less than other options, as is the level of conflict with

CNPLDP Policy 2 and the spatial strategy. Option 2 does not appear to infringe on the application boundary of planning permission 05/306/CP.

Impacts Common to Aviemore South Junction Options

19.4.16. The potential level of conflict with planning policies is for the most part common amongst the Aviemore South Junction options. Potential policy conflicts that are common amongst all options are limited to those related to landscape, non-motorised users, community and private assets. Firstly, all options are located within the Cairngorms Landscape Character Area and Badenoch: Loch Alvie to Inverdruie Character Area. It would therefore be important to ensure that significant impact on the landscape characteristics of these areas are mitigated to prevent conflict with CNPLDP Policy 5.

19.4.17. The options would also cut off crossing points with a Core Path and therefore alternative access should be provided to ensure compliance with CNPLDP Policy 2. There is also potential for impact on a track used by Lynwilg Farm, as well as agricultural land, which could represent conflict with CNPLDP Policy 2, should it impact on business operations.

Impacts Specific to Aviemore South Junction Options

Impacts Specific to Junction Option A02 and A09

19.4.18. The compliance of Options A02 and A09 with planning policy is consistent with the 'Common Impacts' discussed below. The extent of policy conflict associated with these options is, however, less than Option A18. This relates to impact on the Alvie SSSI and water environment, which is discussed below.

Impacts Specific to Junction Option A18

19.4.19. The level of compliance with planning policy associated with Option 18 is consistent with Options A02 and A09 with the exception of two additional impacts. The first relates to potential impact on the Alvie SSSI which will require justification that the benefits of this option outweigh such harm in order to comply with CNPLDP Policy 4. The second is potential impact on an area of SEPA Wetland and it would therefore be necessary to demonstrate that such impact can be mitigated to ensure compliance with CNPLDP Policy 10.

Impacts Common to Granish Junction Options

19.4.20. The level of potential conflict with planning policies is, for the most part, common amongst all Granish Junction options. The first potential conflict is with CNPLDP Policy 4, arising from possible substantial loss of semi-natural woodland and Ancient Woodland, as well as potential impact on protected/priority species. It would therefore be necessary to demonstrate that adverse impacts can be fully mitigated, or demonstrate that the benefit of the scheme clearly outweighs any residual harm.

19.4.21. All options are located within the Cairngorms Landscape Character Area and Strathspey: Pityoulish to Boat of Garten Character Area. As such, it would be important to ensure that significant impact on the landscape characteristics of these areas are mitigated to prevent conflict with CNPLDP Policy 5.

19.4.22. All options have the potential to impact on areas of SEPA wetlands, as well as a waterbody, and therefore, without mitigation, this would represent conflict with CNPLDP Policy 10.

Impacts Specific to Granish Junction Options

Impacts Specific to Junction Option C18 and C21

19.4.23. Options C18 and C21 would cut off a crossing point with a Core Path and would also require the diversion of a small section of another Core Path. Suitable alternative access to a Core Path should be provided to ensure compliance with CNPLDP Policy 3. In addition, the options will result in the loss of class 4.20 (land capable of producing a narrow range of crops) and 6.30 agricultural land (capable of use as rough grazing only), whilst also having a partial impact on approved planning application reference 2012/0188/DET for a touring caravan park.

Impacts Specific to Junction Option C31

19.4.24. Option C31 is also likely to require the extinguishment of a Core Path, with alternative access therefore should be provided to comply with CNPLDP Policy 3. This Option will also impact on class 4.20 and 6.30 agricultural land but will impact on planning application reference 2012/0188/DET to a larger extent than Options C18, C21 and C34, representing greater conflict with CNPLDP Policy 2.

Impacts Specific to Junction Option C34

19.4.25. Option C34 is also likely to require the extinguishment of a Core Path and would be subject to the same policy implications as described above. The Option will also result in the loss of class 4.20 and 6.30 agricultural land, whilst also having a partial impact, to the same extent as Options C18 and C21, on planning application reference 2012/0188/DET.

Impacts Common to Black Mount Junction Options

19.4.26. All options are located within the Cairngorms Landscape Character Area and The Slochd Character Area. As such, it would be important that if potentially significant impacts on the landscape characteristics of these areas are identified, these are mitigated to ensure no conflict with CNPLDP Policy 5. In addition, all options are likely to extinguish a Core Path and therefore alternative access would need to be provided to ensure compliance with CNPLDP Policy 2.

Impacts Specific to Black Mount Junction Options

Impacts Specific to Junction Option D03 and D13

19.4.27. The level of policy compliance is consistent between Options D03 and D13. The difference with other Options relates to impact on woodland. Options D03 and D13 would result in loss of semi-natural woodland and a small loss of Ancient Woodland. The extent of Ancient Woodland loss is less than the other options and this therefore represents a reduced level of conflict with CNPLDP Policy 4.

Impacts Specific to Junction Option D02 and D12

19.4.28. Options D02 and D12 both have the same level of planning policy conflict. These options would also result in loss of semi-natural woodland but would cause greater loss of Ancient Woodland than Options D03 and D13. This represents a greater level of conflict with CNPLDP Policy 4.

Impacts Specific to Junction Option D07 and D51

19.4.29. Options D07 and D51 both have the same level of planning policy conflict. However, the level of conflict with CNPLDP Policy 4 that these options have in comparison to others is greater. Like other options, D07 and D51, would result in loss of semi-natural woodland as well as Ancient Woodland to a larger extent than Options D02 and D12. Therefore, a greater level of justification that the benefits of the scheme outweigh harm to Ancient Woodland would be required for Options D07 and D51 to ensure compliance with CNPLDP Policy 4.

Beneficial Impacts

19.4.30. Although the Mainline Alignment and Junction options would potentially conflict with a number of planning policies, it is important to identify the policy objectives that the scheme as a whole would deliver.

19.4.31. The scheme would deliver the Spatial Priority for Change outlined in NPF3, which seeks the completion of the A9 dualling by 2025. The economic benefits associated with the scheme would help to achieve the objectives in national economic strategies, as well as NCPLDP Policy 2. The scheme would also deliver the spatial strategy for the Inner Moray Firth, along with the objectives of regional and local transport strategies. It would do so through the following:

- The route option would improve traffic flow on the A9;
- The route option would improve safety on the A9;
- The route option provides the opportunity to improve NMU facilities and pathways;
- Improvement of A9 will support economic objectives for Aviemore; and
- Would deliver a major infrastructure project identified for investment by the Scottish Government.

19.5. Compliance Measures

19.5.1. As a result of a number of potential planning policy conflicts it is important to include appropriate information to demonstrate planning compliance. In the event of conflict, it is important to demonstrate how such conflict will be fully mitigated, or, in some cases, demonstrate that the social or economic benefits of the scheme outweigh any environmental harm.

19.5.2. To ensure compliance with the planning policies with which the scheme has been identified as being in conflict, the following will need to be achieved:

- Demonstrate that, following mitigation, the scheme will not damage the integrity of the local natural environment and designated areas of ecological value. Otherwise, it will be essential to provide robust justification that the benefits of the scheme outweigh any significant environmental harm.
- Demonstrate that the scheme will protect and have no unacceptable or significant impact on heritage assets (either directly or on their setting). Should mitigation be unable to prevent significant impact it will be necessary to demonstrate that the benefits of the scheme outweigh such harm;
- It is important that the scheme is designed to mitigate harm to the character of the local landscape, particularly within the Cairngorms National Park, as far as possible. Should there be any residual harm it would be necessary to robustly demonstrate that this is outweighed by the national benefit of the scheme;

- It will be essential to demonstrate that any impacts on the water environment can be mitigated and that flood risk will not be increased elsewhere through the submission of a Flood Risk Assessment;
- The extinguishment or temporary stopping up of any Core Paths will require convenient alternative access to be provided;
- In relation to potential impact on Geological Conservation Review Sites, it would be important to demonstrate that the objectives and integrity of the site would not be compromised or that any significant impacts are mitigated by the provision of features of commensurate or greater importance to those that are lost;
- Materials should be sourced locally, to aid the local economy and reduce haulage and costs, which in turn will reduce the carbon footprint of construction operations;
- Wildlife crossings and passages should be incorporated into the design and laid in the construction stage to help safeguard protected wildlife and avoid potential road traffic accidents;
- Replacement tree and shrub planting or details of landscape treatment to be provided to compensate removal and to enhance the setting of the scheme;
- Archaeological evaluation where it is likely that archaeological remains may exist. This is in line with Scottish Historic Environment Policy 2011.
- Development proposals which, individually or cumulatively, may adversely affect the air quality in an area to a level which could cause harm to human health and wellbeing or the natural environment must be accompanied by appropriate provisions, such as an Air Quality Assessment, (deemed satisfactory to the Local Authority and SEPA as appropriate) which demonstrate how such impacts will be mitigated.

19.6. Conclusions

19.6.1. An assessment of DMRB Stage 2 route options on plans and policies has been undertaken. Further assessment will be undertaken at Stage 3 for the preferred option (see Section 19.8). The effects and impacts of the Proposed Scheme Options upon policies and plans have been assessed using the DMRB guidelines.

19.6.2. Planning policy documents at national, regional and local levels highlight the importance of improving the A9 trunk road as a means of connecting local communities and those travelling between Perth and Inverness. Furthermore, upgrading the A9 would offer improved economic links and safety benefits, as outlined within NPF3.

19.6.3. The transport aspirations set out at national and regional level are echoed in the CNPLDP and HwLDP where priority will be given to transport measures which develop rural transport links and integrate various transport methods.

19.6.4. The CNPLDP and HwLDP also include focus on environmental policies and the importance of protecting the area's natural and cultural heritage. These policies are supported by national planning policy.

19.6.5. Although the upgrading of the A9 is consistent with national and local polices, the Proposed Scheme would be required to comply with other key environmental policies in the development plan and incorporate appropriate environmental mitigation measures.

19.6.6. All Proposed Scheme Options would deliver the Spatial Priority for Change outlined in NPF3, which seeks the completion of the A9 dualling by 2025, as well as the spatial

strategy for the Inner Moray Firth and objectives of national, regional and local transport and economic strategies.

19.6.7. With regards to adverse impacts, all Mainline Alignment and Junction options trigger the policies and guidance listed in Tables 19.4 – 19.7 below. The level of conflict with a number of these policies is, for the most part, consistent amongst all options. However, the level of conflict does vary in relation to some sub-topic areas, which is also summarised in Tables 19.4 – 19.7.

19.6.8. As previously stated, it is important to note that once appropriate mitigation measures are identified at the detailed design stage (which will occur at DMRB Stage 3) the level of conflict with planning policies has the potential to change.

19.7. Summary of Route Option Impacts

Table 19.4: Summary of Impacts: Mainline Alignment Options

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
Ecology and Nature Conservation	National Policy SPP – Valuing the Natural Environment Highland wide Local Development Plan Policy 51 (Trees and Development) Policy 52 (Principle of Development in Woodland) Policy 58 (Protected Species) Policy 59 (Other Important Species) Policy 60 (Other Important Habitats and Article 10 Features) Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage)	1, 1A	The route option travels through large areas of Ancient Woodland and would result in partial additional loss of such areas. The route option also travels through areas of semi-natural woodland, resulting in additional loss. There is potential for the route option to impact on a number of protected/priority species. The route option also impacts on deer fence lines. The route option is also likely to impact on designated areas of ecological value such as the Craigellachie National Nature Reserve, remaining area of the Craigellachie SSSI, and Special Area of Conservation at Carrbridge.	Option 2 has greater conflict with HwLDP Policies 51 and 52, as well as CNPLDP Policy 4 due to larger impact on Craigellachie SSSI. Given the potential impacts of all options it will be necessary to demonstrate that, following mitigation, the scheme will not damage the integrity of the area or that the national economic benefits clearly outweigh any impacts. This is essential to ensure compliance with CNPLDP Policy 4.
		2	Same impacts as outlined for Route Options 1 and 1A with the additional impact of: Greater impact on the Craigellachie SSSI.	

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
	The Highland Council Supplementary Guidance Highlands Statutory Protected Species SG Trees, Woodlands & Development SG Cairngorms National Park Authority Supplementary Guidance Policy 4 – Natural Heritage SG			
Cultural Heritage	National Policy SPP - Historic Environment Cairngorms National Park Local Development Plan Policy 9 (Cultural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 9 – Cultural Heritage Non-statutory Guidance	1, 1A	There is potential for the route option to impact on the setting of listed buildings and a Scheduled Monument. This includes the setting of numerous Category B and C listed buildings, as well as the Avielochan, Tor Beag, Fort Scheduled Monument. Cultural heritage policies seek to protect the setting of heritage assets and prevent development that would have a significant impact. As all Mainline Alignment options are within the setting of heritage assets, it would be necessary to demonstrate that the scheme will protect and have no unacceptable impact. Should the scheme be found to have a significant impact it will be necessary, as required by CNPLDP Policy 9, to demonstrate this is outweighed by social and economic benefits, as well as mitigate any adverse impacts.	Option 2 has greater conflict with CNPLDP Policy 9 due to potential direct impact on Scheduled Monument.
		2	Also potential for impact on the setting of listed buildings as described above. However, this option has the potential to directly impact on the	

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
			Avielochan, Tor Beag Fort Scheduled Monument. Planning policies prohibit any adverse impact on Scheduled Monuments and requires remains to be preserved in situ and in an appropriate setting unless exceptional circumstances can be demonstrated. It would be essential to demonstrate that the benefits of the scheme outweigh any significant impact on the asset to ensure compliance with planning policy.	
Landscape and Visual	National Policy SPP – Valuing the Natural Environment SPP – Rural Development Cairngorms National Park Local Development Plan Policy 5 (Landscape) Cairngorms National Park Authority Supplementary Guidance Policy 5 – Landscape Non-statutory Guidance	All Options	The Mainline Alignment options are located within the Cairngorms Landscape Character Area and consideration will therefore need to be given to potential impact on landscape characteristics. In addition, the Mainline Alignment options travel through a number of Glen Strath Landscape Character Areas and also have the potential to have a small impact on the Upland Landscape Character Area to the west of the A9. The options also have the potential to impact on the landscape value of the Cairngorm National Park. It is important that the scheme is designed so that it does not harm the character of the local landscape, particularly within the Cairngorms National Park.	All Options have equal potential planning policy impacts related to landscape and visual. Compliance with these policies will require adverse impact on landscape character, particularly within the National Park, to be mitigated as far as possible. In addition, it will need to be demonstrated that the national benefit of the scheme outweighs any residual harm.
Road Drainage and Water Environment	National Policy SPP – Managing Flood Risk and Drainage Cairngorms National Park Local Development Plan	1, 1A	The route option will have some impact on areas of SEPA wetlands. The route option also intersects areas of Medium Flood Risk. In addition, the route has the potential to impact the River Dulnain, as well as a number of waterbodies.	Option 2 has greater conflict with CNPLDP Policy 10 due to impact on Loch Puladdernn. It will be essential to demonstrate that that any impacts on the water environment can be mitigated in order to comply with CNPLDP Policy 10,
		2	Same impacts as outlined for Route Options 1 and 1A, with additional impact on Loch Puladdern.	

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
	Policy 10 (Resources) Highland-wide Local Development Plan Policy 63: Water Environment Cairngorms National Park Authority Supplementary Guidance Policy 10 – Resources Non-statutory Guidance			which also presumes against the culverting of watercourses.
Non-Motorised Users	Highland-wide Local Development Plan Policy 77 (Public Access) Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design)	All Options	All Mainline Alignment route option intersect and have the potential to impact upon a number of crossing points for non-motorised users. This includes Public Rights of Way and Core Paths. The extinguishment or temporary stopping up of any Core Paths will require convenient alternative access to be provided as per Policy 77, and to ensure compliance with Policy 3. All Mainline Alignment options also potentially impact on a National Cycle Route, which would require small diversions.	All Options have equal potential planning policy impacts on non-motorised users.
Community and Private Assets	Highland-wide Local Development Plan Policy 28 (Sustainable Design) Cairngorms National Park Local Development Plan	1, 1A	The route option will result in the partial loss of class 3.2, 4.2, 5.2, 5.3 and 6.3 agricultural land. It will also impact on a number of road crossings, particularly to and from Aviemore, which has the potential to restrict access to residential properties in rural areas. The route option will have a partial impact on land occupied by the High Range Holiday Complex in Aviemore. It will also have a Small impact on approved planning application for a touring caravan	Greater impact of Options 1 and 1A on the holiday complex and land associated with planning application 16/02611/FUL. Unlike Option 2, Options 1 and 1A also impact on land associated with planning permission 05/306/CP. Therefore greater level of conflict with NCPLDP Policy 2.

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
	Spatial Strategy Policy 2 (Supporting Economic Growth)		park (application reference 2012/0188/DET) north of Aviemore. Impact on the approved caravan park and holiday complex has the potential to conflict with CNPLDP Policy 2, which supports the development of tourist facilities. It will also impact on land associated with planning application 16/02611/FUL and planning permission 05/306/CP, representing potential conflict with the CNPLDP spatial strategy.	
		2	Same impacts as outlined for Mainline Alignment Options 1 and 1A, with the exception of: Reduced impact on land occupied by High Range Holiday Complex and land associated with planning application 16/02611/FUL, as well as no impact on planning permission 05/306/CP.	
Air Quality	National Policy SPP – Valuing the Natural Environment Highland-wide Local Development Plan Policy 28 (Sustainable Design) Policy 72 (Pollution) Policy 73 (Air Quality)	All Options	For all Proposed Scheme Options there are no significant changes in concentrations of emission on human health or at designated ecological sites.	There are no significant differences between all options in relation to impacts on air quality.
Geology and Soils	Highland-wide Local Development Plan Policy 28 (Sustainable Design) Policy 55 (Peats and Soils) Policy 62 (Geodiversity)	All Options	The route option travels through a Geological Conservation Review Site at Slochd. Planning policy seeks to prevent harm to such sites. It is therefore important to demonstrate the following to ensure compliance with CNPLDP Policy 4: the objectives of the identified site and overall integrity of the identified area would not be compromised; or	All Options have equal potential planning policy impacts on geology and soils.

Sub-Topic	Planning Documents / Policy	Mainline Alignment Options Affected	Potential Impact	Comparative Appraisal
	Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage)		any significant adverse effects on the qualities for which the area or site has been identified are mitigated by the provision of features of commensurate or greater importance to those that are lost.	
Noise and Vibration	National Policy SPP – Valuing the Natural Environment Highland-wide Local Development Plan Policy 72 (Pollution)	All Options	None of the Proposed Scheme Options are predicted to give rise to any major adverse noise or vibration impacts. As such, the scheme is compliant with national policy and HwLDP Policy 72.	All Options have equal potential planning policy impacts on noise and vibration.
Materials	Highland-wide Local Development Plan Policy 28 (Sustainable Design) Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design) Policy 10 (Resources)	1, 1A	In terms of resource and waste volumes the level of impact if consistent across all mainline options.	Option 2 has a slightly greater level of conflict with planning policy related to materials.
		2	Same as above in relation to resource and waste volumes. However, this option has greater adverse impact based on earthworks and pavement resource qualities.	

Table 19.5: Summary of Impacts: Aviemore South Junction Options

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
Ecology and Nature Conservation	National Policy SPP – Valuing the Natural Environment Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 4 – Natural Heritage SG	A2, A09	Impact on areas of Ancient Woodland and semi-natural woodland, resulting in partial loss of such areas. There is also potential for impact on protected/priority species.	Option A18 has slightly greater conflict with CNPLDP Policy 4 due to potential small impact on Alvie SSSI.
		A18	Same impacts as outlined for Aviemore South A02 and A09 but with additional impact of: Potential small impact on Alvie SSSI.	
Cultural Heritage	National Policy SPP - Historic Environment Cairngorms National Park Local Development Plan Policy 9 (Cultural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 9 – Cultural Heritage Non-statutory Guidance	All Options	No apparent impact on cultural heritage assets. Therefore compliant with relevant planning policies.	All Options have equal potential planning policy impacts on cultural heritage.
Landscape and Visual	National Policy SPP – Valuing the Natural Environment SPP – Rural Development Cairngorms National Park Local Development Plan Policy 5 (Landscape)	All Options	All Options are located outside of the Upland Landscape Character Area. Located within the Cairngorms Landscape Character Area and Badenoch: Loch Alvie to Inverdruie Character Area	All Options have equal potential planning policy impacts on landscape and visual.

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
	Cairngorms National Park Authority Supplementary Guidance Policy 5 – Landscape Non-statutory Guidance			
Road Drainage and Water Environment	National Policy SPP – Managing Flood Risk and Drainage Cairngorms National Park Local Development Plan Policy 10 (Resources) Cairngorms National Park Authority Supplementary Guidance Policy 10 – Resources Non-statutory Guidance	A02, A09	No impact on Water Environment.	Option A18 has slightly greater conflict with CNPLDP Policy 10 due to potential impact on SEPA Wetland.
		A18	Potential small impact on area of SEPA Wetland.	
Non-Motorised Users	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design)	All Options	Cuts off crossing points with a Core Path. As such, alternative access provision required for compliance with Policy 3.	All Options have equal potential planning policy impacts on non-motorised users.
Community and Private Assets	Cairngorms National Park Local Development Plan Policy 2 (Supporting Economic Growth)	All Options	Will result in the loss of class 3.20 and 4.20 agricultural land. May require alteration to a track used by Lynwilg Farm.	All Options have equal potential planning policy impacts on community and private assets.
Air Quality	National Policy SPP – Valuing the Natural Environment	All Options	For all Proposed Scheme Options there are no significant changes in concentrations of emission on human health or at designated ecological sites.	There are no significant differences between all options in relation to impacts on air quality.
Geology and Soils	Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage)	All Options	No impact on Geological Conservation Review Sites	All Options have equal potential planning policy impacts on geology and soils.

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
Noise and Vibration	National Policy SPP – Valuing the Natural Environment	All Options	None of the Proposed Scheme Options are predicted to give rise to any major adverse noise or vibration impacts, as demonstrated by the Noise Assessment Report. As such, the scheme is compliant with national policy.	All Options have equal potential planning policy impacts on noise and vibration.
Materials	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design) Policy 10 (Resources)	A2, A18	In terms of resource and waste volumes the level of impact if consistent across all Aviemore South junction options.	Option A09 has a slightly greater level of conflict with planning policy related to materials.
		A09	Same as above in relation to resource and waste volumes. However, this option has greater adverse impact based on earthworks and pavement resource qualities.	

Table 19.6: Summary of Impacts: Granish Junction Options

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
Ecology and Nature Conservation	National Policy SPP – Valuing the Natural Environment Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 4 – Natural Heritage SG	All Options	Substantial loss of Ancient Woodland and semi-natural woodland, as well as potential impact on protected/priority species.	All Options have equal potential planning policy impacts on ecology and nature conservation.
Cultural Heritage	National Policy SPP - Historic Environment Cairngorms National Park Local Development Plan Policy 9 (Cultural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 9 – Cultural Heritage Non-statutory Guidance	All Options	No apparent impact on cultural heritage assets. Therefore compliant with relevant planning policies.	All Options have equal potential planning policy impacts on cultural heritage.
Landscape and Visual	National Policy SPP – Valuing the Natural Environment SPP – Rural Development Cairngorms National Park Local Development Plan Policy 5 (Landscape)	All Options	Although located outside of the Upland Landscape Character Area the Granish Options have greater potential to impact on the Character Area. Cairngorms Landscape Character Area and Strathspey: Pityoulish to Boat of Garten Character Area.	All Options have equal potential planning policy impacts on landscape and visual.

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
	Cairngorms National Park Supplementary Guidance Policy 5 – Landscape Non-statutory Guidance			
Road Drainage and Water Environment	National Policy SPP – Managing Flood Risk and Drainage Cairngorms National Park Local Development Plan Policy 10 (Resources) Cairngorms National Park Authority Supplementary Guidance Policy 10 – Resources Non-statutory Guidance	All Options	Impact on area of SEPA Wetland and potential impact on a waterbody.	All Options have equal potential planning policy impacts on road drainage and water environment.
Non-Motorised Users	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design)	C31, C34	Extinguishes a Core Path Alternative access provision required for compliance with Policy 3.	Options C21 and C18 have slightly greater conflict with CNPLDP Policy 3 due to marginally greater impact on Core Paths.
		C18, C21	Cuts off a crossing point with a Core Path and will require the diversion of a small section of a Core Path. Alternative access provision required for compliance with Policy 3.	
Community and Private Assets	Cairngorms National Park Local Development Plan Policy 2 (Supporting Economic Growth)	C18, C21, C34	Will result in the loss of class 4.20 and 6.30 agricultural land. Will also have a partial impact on approved planning application for a touring caravan park (application reference 2012/0188/DET).	Option C31 has slightly greater conflict with CDPLDP Policy 2 due to slightly greater impact on planning application reference 2012/0188/DET.

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
		C31	Same as other Granish Options but will have a slightly greater impact on planning application reference 2012/0188/DET.	
Air Quality	National Policy SPP – Valuing the Natural Environment	All Options	For all Proposed Scheme Options there are no significant changes in concentrations of emission on human health or at designated ecological sites.	There are no significant differences between all options in relation to impacts on air quality.
Geology and Soils	Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage)	All Options	No impact on Geological Conservation Review Sites	All Options have equal potential planning policy impacts on geology and soils.
Noise and Vibration	National Policy SPP – Valuing the Natural Environment	All Options	None of the Proposed Scheme Options are predicted to give rise to any major adverse noise or vibration impacts, as demonstrated by the Noise Assessment Report. As such, the scheme is compliant with national policy.	All Options have equal potential planning policy impacts on noise and vibration.
Materials	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design) Policy 10 (Resources)	C18, C31, C34	In terms of resource and waste volumes the level of impact if consistent across all Granish junction options.	Option C21 has a slightly greater level of conflict with planning policy related to materials.
		C21	Same as above in relation to resource and waste volumes. However, this option has greater adverse impact based on earthworks and pavement resource qualities.	

Table 19.7: Summary of Impacts: Black Mount Junction Options

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
Ecology and Nature Conservation	National Policy SPF – Valuing the Natural Environment Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 4 – Natural Heritage SG	Black Mount D03, D13	Loss of semi-natural woodland and small loss of Ancient Woodland. There is also potential for impact on protected/priority species.	Options D51 and D07 have the greatest conflict with CNPLDP Policy 4 due to greater impact on Ancient Woodland. The level of conflict is followed by D12 and D02, which have greater impact than D03 and D13.
		Black Mount D12, D02	Loss of semi-natural woodland and greater loss of Ancient Woodland than Options D03 and D13. There is also potential for impact on protected/priority species.	
		Black Mount D51 , D07	Loss of semi-natural woodland and substantial loss of Ancient Woodland (greater impact than other Black Mount options). There is also potential for impact on protected/priority species.	
Cultural Heritage	National Policy SPF - Historic Environment Cairngorms National Park Local Development Plan Policy 9 (Cultural Heritage) Cairngorms National Park Authority Supplementary Guidance Policy 9 – Cultural Heritage Non-statutory Guidance	All Options	No apparent impact on cultural heritage assets. Therefore compliant with relevant planning policies.	All Options have equal potential planning policy impacts on cultural heritage.
Landscape and Visual	National Policy SPF – Valuing the Natural Environment	All Options	All Options are located outside of the Upland Landscape Character	All Options have equal potential planning policy impacts on landscape and visual.

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
	SPF – Rural Development Cairngorms National Park Local Development Plan Policy 5 (Landscape) Cairngorms National Park Authority Supplementary Guidance Policy 5 – Landscape Non-statutory Guidance		Area. Cairngorms Landscape Character Area and The Slochd Character Area.	
Road Drainage and Water Environment	National Policy SPP – Managing Flood Risk and Drainage Cairngorms National Park Local Development Plan Policy 10 (Resources) Cairngorms National Park Authority Supplementary Guidance Policy 10 – Resources Non-statutory Guidance	All Options	No impact on water environment	All Options have equal potential planning policy impacts on road drainage and environment.
Non-Motorised Users	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design)	All Options	Extinguishes a Core Path. Alternative access provision required for compliance with Policy 3.	All Options have equal potential planning policy impacts on non-motorised users.
Community and Private Assets	Cairngorms National Park Local Development Plan Policy 2 (Supporting Economic Growth)	D02, D03, D12, D13	Will result in the loss of class 4.20 agricultural land.	Slightly greater conflict with CNPLDP Policy 2 associated with Options D07 and D51 which also result in loss of class 5.20 agricultural land.
		D07, D51	Will result in loss of class 4.20 agricultural land and loss of small	

Environmental Topic	Planning Documents / Policy	Junction Options Affected	Potential Impacts	Comparative Appraisal
			area of class 5.30 agricultural land.	
Air Quality	National Policy SPP – Valuing the Natural Environment	All Options	For all Proposed Scheme Options there are no significant changes in concentrations of emission on human health or at designated ecological sites.	There are no significant differences between all options in relation to impacts on air quality.
Geology and Soils	Cairngorms National Park Local Development Plan Policy 4 (Natural Heritage)	All Options	No impact on Geological Conservation Review Sites.	All Options have equal potential planning policy impacts on geology and soils.
Noise and Vibration	National Policy SPP – Valuing the Natural Environment	All Options	None of the Proposed Scheme Options are predicted to give rise to any major adverse noise or vibration impacts, as demonstrated by the Noise Assessment Report. As such, the scheme is compliant with national policy.	All Options have equal potential planning policy impacts on noise and vibration.
Materials	Cairngorms National Park Local Development Plan Policy 3 (Sustainable Design) Policy 10 (Resources)	D02, D03, D12, D13, D51	In terms of resource and waste volumes the level of impact is consistent across all Black Mount junction options.	Option D07 has a slightly greater level of conflict with planning policy related to materials.
		D07	Same as above in relation to resource and waste volumes. However, this option has greater adverse impact based on earthworks and pavement resource qualities.	

19.8. Scope of DMRB Stage 3 Assessment

19.8.1. At Stage 3, the objective is to undertake sufficient assessment to determine the significance of the impacts associated with a preferred option on the achievement of national and local planning policy objectives.

19.8.2. The steps to be taken at Stage 3 are as follows:

- Check that the information obtained at Stage 2 is still accurate;
- Update the schedule of policies produced for Stage 2, as necessary;
- Carry out an assessment of the likely impact of the preferred option on the policy objectives in the schedule; and
- Obtain the views of the relevant planning authorities on the impact of the preferred option on planning policy objectives.

19.8.3. The assessment of policies on plans at Stage 3 will be described in the Environmental Statement, consisting of the following:

- A schedule of the relevant national and local planning policies; and
- A commentary setting out the significance of the impact of the preferred option on each policy objective.

[ii] Highways Agency et al. (2001), Design Manual for Road and Bridges, Volume 11, Section 3, Part 12 Impact of Road Schemes on Policies and Plans (as amended)
[ii] The Roads (Scotland) Act 1984
[iii] Transport Scotland, (June 2013), A9 Dualling Programme Strategic Environmental Assessment
[iv] Transport Scotland, (June 2014), A9 Dualling Programme Strategic Environmental Assessment – Environmental Report Addendum
[v] Scottish Government, (June 2014), National Planning Framework 3
[vi] Scottish Government, (June 2014), Scottish Planning Policy
[vii] Scottish Government (October 2000), PAN 33: Development of Contaminated Land
[viii] Scottish Government, (August 2000), PAN 60: Planning for Natural Heritage
[ix] Scottish Government, (July 2001), PAN 61: Planning and Sustainable Urban Drainage Systems
[x] Scottish Government (June 2008), PAN 65: Planning and Open Space
[xi] Scottish Government (August 2005), PAN 75: Planning for Transport
[xii] Scottish Government, (September 2006), PAN 79: Water and Drainage
[xiii] Scottish Government, (September 2011), PAN 1/2011 Planning and Noise
[xiv] Scottish Government, (July 2011), PAN 2/2011 Planning and Archaeology
[xv] Transport Scotland, (January 2016), Scotland's National Transport Strategy
[xvi] Scottish Government, (December 2015), Infrastructure Investment Plan 2015
[xvii] Scottish Government, (March 2015), Scotland's Economic Strategy 2015
[xviii] Historic Environment Scotland, (June 2016), Historic Environment Scotland Policy Statement
[xix] Cairngorms National Park Authority, (April 2015), Cairngorm National Park Local Development Plan
[xx] The Highland Council, (April 2012), Highland-wide Local Development Plan
[xxi] The Highland Council, (July 2015), Inner Moray Firth Local Development Plan
[xxii] The Highland Council, (Various Dates), Supplementary Planning Guidance
[xxiii] Cairngorms National Park Authority, (Various Dates), Supplementary Planning Guidance
[xxiv] Highlands and Islands Transport Partnership, (March 2008), Regional Transport Strategy
[xxv] The Highland Council, (August 2010), Local Transport Strategy