

22 Summary of Significant Residual Impacts

22.1 Introduction

- 22.1.1 This chapter summarises the significant residual impacts (Tables 22.1 to 22.11) that have been identified due to construction and operation of the proposed scheme. These residual impacts comprise those which remain significant after incorporating the mitigation measures as provided in Chapters 8-18 (where applicable) and as set out in Chapter 21 (Schedule of Environmental Commitments).
- 22.1.2 Within this ES, significant impacts are identified according to the methodology provided for each environmental topic within Chapters 8-18 and Chapter 20, however, impacts are generally defined as significant in the context of the EIA Regulations where they are assessed as Moderate or of greater significance. Residual impacts that have been assessed as not significant are also provided within Chapters 8-18 and Chapter 20, but are not considered within this chapter.
- 22.1.3 There are no significant residual impacts identified relating to air quality (Air Quality: Chapter 16). According to the DMRB guidance impacts on driver stress is assessed using a three-point scale and embodied carbon associated with material resources is assessed using magnitude rather than assigning significance. Driver stress and material resources are assessed in Chapter 9 (People and Communities – All Travellers) and Chapter 18 (Materials) respectively.
- 22.1.4 All residual impacts in Table 22.1 to 22.11 are adverse unless stated otherwise.

Table 22.1 Summary of significant residual impacts – People and Communities: Community and Private Assets (Chapter 8)

Residual Impact	Residual Impact Significance
Construction	
Agricultural, Forestry and Sporting Interests	
<u>Easy Heat Systems</u> Loss of 0.22ha of bankside and River Garry, temporary disturbance to fishing rights on part of the River Garry.	Moderate/Substantial
<u>Land at Glackmore</u> Loss of 0.20ha of bankside and River Garry and 0.38ha of other land, temporary disturbance to fishing rights on part of the River Garry.	Moderate/Substantial
Operation	
Residential Land and Property	
<u>Clunebeg</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling north (1.4km).	North: Moderate
<u>1 Essangal Cottages</u> Partial loss of woodland from SuDS feature, Aldclune Junction and Essangal Underbridge (0.40ha).	Moderate
<u>Glackmore</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling south (12.8km).	South: Substantial
<u>Garrybank</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling north (6.7km).	North: Substantial
<u>Invervack & Balnastuartach</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling south (4.1km).	South: Moderate
<u>Tomban Farmhouse</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling north (1.7km) or south (4.0km).	North: Moderate South: Moderate
<u>Tomchitchen</u> Direct access to existing A9 stopped up resulting in additional journey distance for residents when travelling north (3.8km).	North: Moderate
Commercial/Industrial Property	
<u>Shierglas Quarry</u> Direct access to existing A9 stopped up resulting in reduced journey distance for movement of quarry products, employees and visitors when travelling north (-7.6km) and additional journey distance when travelling south (7.7km).	North: Substantial (beneficial) South: Substantial
Agricultural, Forestry and Sporting Interests	
<u>Coille Essan</u> The farm business would have permanent land-take of 25% of the total farmed area.	Moderate

Residual Impact	Residual Impact Significance
<p><u>House of Urrard</u> The farm business would have permanent land-take of less than 1% of the total farmed area, which would include the loss of pheasant feeding areas and areas used for shooting and stalking.</p>	Moderate/Substantial
<p><u>Balnastuartach Farm</u> The farm business would have permanent land-take of 39% of the total farmed area. Adverse impact on farm business viability (although remaining land would be able to continue to be used for grazing and support livestock systems).</p>	Moderate/Substantial
<p><u>Pitaldonich Farm</u> The farm business would have permanent land-take of 9% of the total farmed area.</p>	Moderate

Table 22.2: Summary of significant residual impacts - People and Communities: All Travellers (NMUs) (Chapter 9)

Residual Impact	Residual Impact Significance
Construction	
<p>Temporary impacts on 13 crossing points and 15 paths:</p> <ul style="list-style-type: none"> CP01 (Path 101), CP02 (Path 105), CP03 (Path 106), CP09 (Path 112), CP10 (Paths 116a, 117 and 120), CP11 (Paths 120 and 121), CP12 (Path 124), CP14 (Path 129), CP15 (Path 130), CP16 (Path134), CP17 (Path 135), CP18 (Path 137), CP19 (Path 138)) as a result of temporary diversions and/or amenity impacts (due to views of construction activities, decreased air quality and/or increased noise). in the vicinity of construction activities; and NMUs using Path 108 and Path 133/NCR7 due to amenity impacts. 	Moderate to Substantial
Access to Dalnamein Forest for users of crossing points CP17 (Path 135) and CP18 (Path137) due to temporary disruption of the crossing points.	Moderate to Substantial
Access to Tulach Hill Viewpoint from Blair Atholl for users of at-grade crossing point CP09 (Path 112) due to temporary disruption of the crossing point.	Moderate to Substantial
Access to woodlands south of Glackmore from Blair Atholl for users of at-grade crossing point CP09 (Path 112) due to temporary disruption of the crossing point.	Moderate to Substantial
Operation	
CP10 (Path 116a and Path 117), Right of Way and Core Path affected due to changes to NMU journey length.	Moderate
CP12 (Path 124), Local Path affected due to changes to NMU journey length and amenity value.	Moderate
New NMU crossing of the River Garry via the new proposed River Garry Underbridge.	Moderate (beneficial)
Provision of a traffic-free segregated route between Blair Atholl and Bruar.	Moderate (beneficial)

Table 22.3: Summary of significant residual impacts – People and Communities: All Travellers (View from the Road) (Chapter 9)

Residual Impact	Residual Impact Significance	
	Winter Year of Opening	Summer (+ 15 years)
Operation		
Residual impacts on the view from the road at Winter Year of Opening, within the Glen Garry: Lower Glen LLCA (ch1200–8800) following the implementation of the proposed mitigation measures but before planting has become established (residual impacts are reduced to not significant in Summer 15 Years after Opening, once planting is established).	Moderate/Substantial	n/a (Slight/Moderate)
Residual impacts on the view from the road at Winter Year of Opening, within the Glen Garry: Mid Glen LLCA (ch8800–14000) following the implementation of the proposed mitigation measures but before planting has become established (residual impacts are reduced to not significant in Summer 15 Years after Opening, once planting is established).	Moderate/Substantial	n/a (Slight/Moderate)
Residual impacts on the view from the road at Winter Year of Opening, within the Glen Garry: Upper Glen LLCA (ch14000) to end of proposed scheme (ch22400) following the implementation of the proposed mitigation measures but before planting has become established (residual impacts are reduced to not significant in Summer 15 Years after Opening, once planting is established).	Moderate/Substantial	n/a (Slight/Moderate)

Table 22.4: Summary of significant residual impacts – Geology, Soils, Contaminated Land and Groundwater (Chapter 10)

Residual Impact	Residual Impact Significance
Construction/Operation	
Groundwater flow within superficial deposits of medium and high sensitivity (glacial deposits/glacial till and alluvium /river terrace deposits).	Moderate to Moderate/Large
Hydrogeological component of three ecological Groundwater Dependent Terrestrial Ecosystems (GWDTE) receptors (TN160-162, TN190-193 and ANF02) affected. However, in terms of ecology and nature conservation, the habitat at these three receptor sites is not of high quality, being relatively species poor due to the effects of land drainage and existing road infrastructure and therefore no significant ecological losses are expected to result from these impacts.	Moderate to Large

Table 22.5: Summary of significant residual impacts – Road Drainage and Water Environment (Chapter 11)

Residual Impact	Residual Impact Significance
Construction	
Flood risk impacts on WF100 (River Garry lower) and WF115 (Allt Bhaic), due to the inherent risks associated with locating temporary structures within the functional floodplain.	Moderate
Operation	
Hydrology and flood risk impacts attributed to WF100 (River Garry lower) and WF115 (Allt Bhaic) due to increases in the fluvial flood depth from the 0.5% AEP (200-year) plus CC event on agricultural land and terrestrial habitat that is not deemed sensitive to increased flood depths.	Very Large
Hydrology and flood risk impacts on WF136 due to a highly localised increase in flood risk to the B847 (+57mm increase in flood depth from a baseline depth of 58mm for the 0.5% AEP (200-year) plus CC event). The increase in flood risk to the B847 would increase predicted flood depths to 115mm indicating that access would still be possible.	Moderate
Beneficial hydrology and flood risk impacts identified for WF134 (small watercourse) due to a localised reduction in flood risk to properties in the vicinity of the Calvine Underpass.	Moderate (beneficial)
Beneficial hydrology and flood risk impacts identified for WF92 due to residential property being taken out of the flood extent for the design flood event, in addition to general decreases in flood depth of >10mm and <50mm.	Moderate (beneficial)
Beneficial hydrology and flood risk impacts identified for WF136 (small watercourse) due to a number of residential properties being taken out of the flood extent for the design flood event. When considering the Moderate adverse significant impact for Wf136 described above, this results in a net minor beneficial magnitude of impact on WF136 overall.	Large (beneficial)

Table 22.6: Summary of significant residual impacts – Ecology and Nature Conservation (Chapter 12)

Residual Impact	Residual Impact Significance
Operation	
Loss of 27.08ha of habitat designated as AWI of which 12.90ha is currently wooded. Measures such as compensation planting of native species in candidate sites will be implemented. The compensation planting will not mitigate for the permanent loss of the biodiversity and intrinsic importance of ancient woodland habitats as a result of the proposed scheme however it will mitigate for the functions and importance of the woodland in respect of habitat connectivity and carrying capacity for other species, and over the long-term, significant residual impacts are predicted to reduce.	Significant

Table 22.7: Summary of significant residual impacts – Landscape (Chapter 13)

Residual Impact	Residual Impact Significance	
	Winter Year of Opening	Summer (+ 15 years)
Construction/Operation		
<p><u>Pass of Killiecrankie LLCA</u></p> <p>Increased prominence of road infrastructure in the landscape caused by the following aspects associated with the proposed scheme:</p> <ul style="list-style-type: none"> Proposed online widening along the northbound carriageway plus associated embankment, resulting in physical changes to the local landform and loss of woodland between ch700 and ch1200. Proposed widening of the existing Old Faskally underbridge at ch1200 and associated localised diversion of the access road to Old Faskally Cottage. <p>Whilst most of these impacts would be limited to a relatively short, narrow corridor closely associated with the existing A9, the proposed scheme in the winter of the year of opening would constitute a more prominent feature within the LLCA.</p>	Moderate	n/a (Slight/Moderate)
<p><u>Glen Garry: Lower Glen LLCA</u></p> <p>Direct, physical impacts associated with the loss and alteration of defining features of the LLCA as a result of the proposed scheme due to:</p> <ul style="list-style-type: none"> Alteration of the natural landform, in particular new embankment slopes extending into agricultural land west and north of Killiecrankie, and east of Aldclune, extensive changes to the hummocky landform at Aldclune due to the new grade separated junction with associated cuttings and embankments, and large scale cuttings visually prominent on the lower slopes of Craig Odhar and Tulach Hill. Loss of areas of pasture at various locations along the length of the proposed scheme. Loss of mature woodland including areas associated with Allt Girnaig and Allt Chluain river valleys, woodlands west and north of the House of Urrard, plantation woodland at Aldclune junction, birch woodland between the A9 and River Garry north of Shierglas Quarry and mixed woodland and a number of large parkland trees within Blair Castle GDL. In addition, a number of areas of well-established roadside woodland planting would be lost, opening up views towards the proposed scheme. Introduction of more prominent road infrastructure into the rural landscape including associated structures and the proposed Essangal Underbridge which would be sited immediately adjacent to the retained existing bridge. <p>While most of the direct impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, in the winter of the year of opening the proposed scheme would be a prominent element within the LLCA and would influence the wider perceptual qualities of the lower glen, particularly when experienced from elevated positions on the Strath slopes and in the surrounding uplands.</p>	Moderate/Substantial	Moderate
<p><u>Glen Garry: Mid Glen LLCA</u></p> <p>Direct, physical impacts associated with the loss of defining features of the LLCA, including areas of pasture along the length of the proposed scheme, modifications to the existing landform including the distinctive rocky knoll south of Pitagowan (ch12220) and the felling of roadside trees.</p> <p>While most of the physical impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, the proposed scheme would, in the winter of the year of opening, be a prominent feature within the LLCA and influence the wider perceptual qualities of the mid glen, particularly when experienced from land adjoining the A9 corridor and from elevated positions in the surrounding upland landscapes overlooking the proposed scheme.</p>	Moderate/Substantial	n/a (Slight/Moderate)

Residual Impact	Residual Impact Significance	
	Winter Year of Opening	Summer (+ 15 years)
<p><u>Glen Garry: Upper Glen LLCA</u></p> <p>Direct, physical impacts associated with the loss of defining features of the LLCA including:</p> <ul style="list-style-type: none"> the areas of pasture along the length of the proposed scheme, areas of mature woodland, particularly the woodlands lining the existing A9 which currently limit visibility of the road and traffic; and established weathered rock cuttings near to Clunes Lodge (ch16000). <p>While most of the physical impacts to the features within the LLCA would be limited to a relatively narrow corridor closely associated with the existing A9, the proposed scheme would, in the winter of the year of opening, be a prominent element within the LLCA and influence the wider perceptual qualities of the upper glen, particularly when experienced from elevated positions in the surrounding uplands in addition to the upper slopes of the glen.</p>	Moderate/Substantial	n/a (Slight/Moderate)

Table 22.8: Summary of significant residual impacts – Visual (Chapter 14)

Residual Impact	Residual Impact Significance
Construction	
People at approximately 77 built receptors (71%) and 28 outdoor receptors (54%) are predicted to be significantly affected by visual impacts of the proposed scheme during construction. However, these impacts will be temporary.	Moderate to Substantial
Operation	
<p>In the Winter Year of Opening of the proposed scheme, people at 74 built receptors (69%) and 27 outdoor receptors (52%) are predicted to be significantly affected by visual impacts of the proposed scheme due to loss of existing roadside vegetation and the increased prominence of new road infrastructure (mainly earthworks, bridges and junctions) compared to the existing A9.</p> <p>By the summer, 15 years after the proposed scheme opening, mitigation mostly in the form of new woodland, scrub and individual tree planting as well as grass and heath establishment will reduce the total number of significant adverse impacts on people at built receptors to 14 (13%) and eight outdoor receptors (15%).</p>	Moderate to Substantial

Table 22.9: Summary of significant residual impacts – Cultural Heritage (Chapter 15)

Residual Impact	Residual Impact Significance
Operation	
Through the widening of the road corridor and the construction of lay-bys, SuDS features and earthworks the proposed scheme would reinforce the existing severance of Killiecrankie Battlefield (HLT 23) caused by the existing A9.	Moderate

Table 22.10: Summary of significant residual impacts – Noise & Vibration (Chapter 17)

Residual Impact	Residual Impact Significance
Operation	
A total of 12 noise sensitive receptors (NSRs) in the short-term assessment, at ground floor level, are considered to have a significant noise impact. These NSR are The Health Clinic, Hillside, Oakwood House, Darroch Cottage, The Shieling, Laurelbank, Garry View, Old School House, Corrie House, Lude East Lodge, Carnliath and 7 Blair Cottages.	Slight/Moderate

Table 22.11: Summary of significant residual impacts – Cumulative Impacts (Chapter 20)

Residual Impact	Residual Impact Significance
Type 1 cumulative operational impacts on nine people/property receptors (Clunebeg Bungalow, Clunebeg Farmhouse, Tigh Bruadar, Garrybank, Glackmore Farm, 1 Essangal Cottage, Tomchitchen, Pitaldonich and Balnastuartach) which are expected to result from residual visual, noise, access and land-take impacts of the proposed scheme.	Significant
There is potential for Type 2 significant cumulative construction impacts on amenity value, as well as, potential temporary diversions of NCR7 arising from A9 dualling Project 07 (Glen Garry to Dalwhinnie), Project 09 (Crubenmore to Kincaig), Project 11 (Dalraddy to Slochd) and Project 12 (Tomatin to Moy) where there is the potential for minor realignments of NCR7.	Significant
Type 2 cumulative operational impact on woodland loss (in particular woodland listed on the Ancient Woodland Inventory (AWI)).	Significant