

# 21 Schedule of Environmental Commitments

## 21.1 Introduction

21.1.1 As described throughout this ES, the design of the Proposed Scheme has been progressed taking account of identified environmental constraints and considerations, enabling avoidance or reduction of potential environmental impacts where practicable. The Schedule of Environmental Commitments provided in this chapter presents the additional mitigation measures identified within Chapters 8 to 18 of this ES, which are considered necessary to further avoid, reduce or offset potentially significant impacts, prior to construction, during construction and/ or during operation of the Proposed Scheme. Standard mitigation measures that are being applied across the A9 Dualling Programme are also included.

21.1.2 This purpose of the Schedule of Environmental Commitments is to collate the identified mitigation measures, both for ease of reference and for use by those overseeing the relevant Contract Documents.

21.1.3 The Schedule of Environmental Commitments tables include the following information:

- Mitigation Item Reference – a unique identification number, assigned to each mitigation item so that it may be easily referenced in the Contract Documents
- Description of the mitigation measure, its purpose and the location(s) it would apply
- Timing of the mitigation measure (i.e. Design, Pre-Construction, Construction, Post-Construction/ Operation) – which identifies when the measure shall be implemented
- Specific monitoring, consultation and approval required for the mitigation item, if necessary.

## 21.2 Mitigation Schedules

21.2.1 **Table 21-1** to **Table 21-11** below present the required mitigation measures per topic for the Proposed Scheme, split into Standard A9 Mitigation Commitments, Embedded Mitigation and Project Specific Mitigation.

21.2.2 Standard A9 Mitigation Commitments have been assigned reference numbers derived from the environmental topic and mitigation item number, i.e. Standard Mitigation Commitment 1 for Community and Private Assets is referenced **SMC-CP1**.

21.2.3 The mitigation reference numbers for the Embedded and Project Specific Mitigation items are derived from the project number, environmental topic and mitigation item number, i.e. Project 9 Ecology measure 1 is referenced **P09-E1**.

Table 21-1: Schedule of Environmental Commitments – Standard Construction Commitments

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-S1	Throughout Proposed Scheme	Pre-Construction and Construction	<p>A Construction Environmental Management Plan (CEMP) will be prepared by the Contractor.</p> <p>The CEMP will set out how the Contractor intends to operate the construction site, including construction-related mitigation measures identified below.</p> <p>The relevant section(s) of the CEMP will be in place prior to the start of construction work.</p> <p>The CEMP will include, but not be limited to, subsidiary plans relating to: agricultural soils, geology and land contamination; surface water and groundwater (including a Flood Response and Pollution Incident Response Plan); ecology (including specific Species and Habitat Management Plans); landscape, cultural heritage, air quality and noise and vibration.</p>	<p>To provide a framework for the implementation of construction activities in accordance with the environmental commitments and mitigation measures in the ES.</p> <p>It will be developed and evolve to avoid, reduce or mitigate construction impacts on the environment and the surrounding community.</p>	Consultation with the relevant local authorities, other statutory bodies and regulatory authorities
SMC-S2	Throughout Proposed Scheme	Pre-Construction and Construction	<p>Prior to construction an Environmental Coordinator and team of suitably qualified Environmental Clerk of Works (EnvCoW) (i.e. professionally qualified in a relevant environmental discipline) will be appointed by the Contractor.</p> <p>The EnvCoW(s) will report to the Environmental Coordinator and be present on site, as required, during the construction period to monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.</p>	<p>To monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.</p>	Approval by Transport Scotland
SMC-S3	Throughout Proposed Scheme	Pre-Construction and Construction	<p>Throughout the construction period the Contractor will, as required, contribute towards the overall communications strategy for the A9 Dualling Programme.</p> <p>As part of this the Contractor will appoint a Community Liaison Officer supported by a liaison team as necessary who will:</p> <ul style="list-style-type: none"> <li>liaise with the following: relevant local authorities; other statutory bodies and regulatory authorities; community councils and relevant community groups; and businesses and residents in local communities affected by the construction works;</li> <li>notify occupiers of nearby properties a minimum of two weeks in advance of the nature and anticipated duration of planned construction works that may affect them;</li> <li>support the production of project communications such as the project website and newsletters; and</li> <li>establish a dedicated freephone helpline together with a dedicated email address and postal address for enquiries and complaints during the construction phase.</li> </ul> <p>The relevant contact numbers, email and postal addresses will as a minimum be displayed on signs around the construction site and will be published on the project website. Enquiries and complaints will be logged in a register and appropriate action will be taken in response to any complaints.</p>	<p>To inform stakeholders and consultees through the construction period.</p>	Consultation with the relevant local authorities, other statutory bodies and regulatory authorities, community councils and relevant community groups, and businesses and residents in local communities affected by the construction works
SMC-S4	Throughout Proposed Scheme	Whole Construction Period	<p>The Contractor will ensure that all site workers receive adequate training relevant to their role prior to working on the construction site, including specific environmental project inductions and 'toolbox talks' as required.</p>	<p>To ensure site workers are aware of best practice construction methods, mitigation measures and how they are implemented.</p>	None required

Table 21-2: Schedule of Environmental Commitments – People and Communities - Community and Private Assets

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-CP1	Throughout Proposed Scheme	Pre-Construction and Construction	Access to/ from residential, commercial and industrial and agricultural, forestry and sporting assets will be maintained throughout the construction period by means of signed diversions, where necessary. The estimated duration and location of these diversions will be communicated to affected parties, as required, before they are put in place.	To maintain access to/ from residential, commercial and industrial and agricultural, forestry and sporting assets	None required
SMC-CP2	Throughout Proposed Scheme	Construction and Post-Construction	Existing access arrangements to agricultural and forestry land outwith the land made available (LMA) boundary will not be prevented by the construction works during or post construction, unless alternative access is provided for.	To maintain access to/ from residential, commercial and agricultural/ forestry land.	None required
SMC-CP3	Throughout Proposed Scheme	Pre-Construction	Consultation with affected landowners and occupiers will be undertaken on the location and timing of planned construction works to reduce disturbance, where practicable, taking into account the overall construction programme.	To reduce disturbance on affected landowners.	Consultation with affected landowners and occupiers
SMC-CP4	All agricultural land	Pre-Construction	Notice of intention to commence construction work will be provided to owners and occupiers of agricultural land adjacent to the Proposed Scheme before works commence.	To ensure owners and occupiers of agricultural land adjacent to the Proposed Scheme are informed of the intention to commence construction work prior to works commencing.	None required
SMC-CP5	All agricultural land	Construction	Where practically possible, temporary construction compounds that are required outwith the LMA boundary will not be sited on prime agricultural land or on areas of woodland and forestry.	To reduce potential impacts arising from temporary construction compounds on prime agricultural land or on areas of woodland and forestry.	None required
SMC-CP6	All agricultural land	Construction and Operation	Where boundary features (e.g. fences, walls and hedges) require temporary or permanent alteration to allow construction, these will be reinstated with appropriate materials to provide a secure boundary. A risk assessment will be undertaken to identify appropriate locations for temporary fences during construction for the health and safety of the public and animals and to avoid trespass.	For the health and safety of the public and animals and to avoid trespass.	None required
SMC-CP7	All agricultural land	Construction	Where boundary features (e.g. fences, walls and hedges) require temporary or permanent alteration to allow construction, these will be reinstated with appropriate materials to provide a secure boundary.	To provide a secure boundary and reduce disruption to agriculture.	None required
SMC-CP8	Throughout Proposed Scheme	Construction	Soil resources will be managed in accordance with the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (Defra, 2009) to ensure that soil mitigation measures are fully implemented, and soil resources are protected. This will include the careful excavation, storage and replacement of topsoil and subsoil. A Soil Management Plan will be developed in consultation with SEPA to ensure that soil resources are managed in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra 2009) and soil mitigation measures are fully implemented.	To ensure that soil mitigation measures are fully implemented, and soil resources are protected.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-CP9	All agricultural land	Construction	Reasonable precautions will be taken during construction to avoid the spreading of soil-borne pests and diseases; animal and crop diseases; tree pests and diseases; and invasive species. A biosecurity protocol will be developed by the Contractor in consultation with the Animal and Plant Health Agency, the Scottish Government's Environment and Forestry Directorate and the Scottish Government's Agriculture, Food and Rural Communities Directorate, taking cognisance of relevant UK and Scottish Government biosecurity guidance.	To avoid the spreading of soil-borne pests and diseases; animal and crop diseases; tree pests and diseases; and invasive species.	Consultation with the Animal and Plant Health Agency, the Scottish Government's Environment and Forestry Directorate and the Scottish Government's Agriculture, Food and Rural Communities Directorate
SMC-CP10	Throughout Proposed Scheme	Pre-Construction	Pre-construction drainage surveys will be undertaken to reduce the likelihood of damage or disturbance to field and forestry drainage systems during construction. Where required, the integrity of the drainage system will be secured in advance of construction. Repairing and reinstatement of drains affected by construction will be agreed with the landowner/ occupier to ensure that land capability is maintained, and the risk of flooding is not exacerbated. Particular care will be taken to reduce damage or disturbance to field and forestry drainage systems during construction.	To reduce the likelihood of damage or disturbance to field and forestry drainage systems during construction.	Consultation with affected landowners and occupiers
SMC-CP11	Throughout Proposed Scheme	Pre-Construction	Water supplies for livestock will be protected at all times and alternative supplies provided where identified pre-construction and where supplies are lost, or access is compromised by any construction works, temporary and/ or permanent, alternative supplies will be provided as unless agreed with the landowner/ occupier.	To reduce disruption to landowners/ occupiers.	Consultation with affected landowners and occupiers
SMC-CP12	Throughout Proposed Scheme	Post-Construction	LMA that is declared surplus following completion of construction of the Proposed Scheme (including redundant road pavement and/ or access tracks) will be offered back to former owners or their successors in accordance with the Crichel Down Rules.	To return surplus land to former owners or their successors in accordance with the Crichel Down Rules.	Consultation with affected landowners and occupiers
SMC-CP13	Throughout Proposed Scheme	Construction	Sporting or fishing rights which exist within working areas will not be accessible during the construction period. Where there are sporting or fishing rights adjacent to the working area, reasonable endeavours will be taken to minimise interference or enjoyment of them while recognising the primary objective to maintain a safe working environment for both Principal Contractors and users of the land and water.	To reduce disruption to landowners/ occupiers.	None required
SMC-CP14	Throughout Proposed Scheme	Pre-Construction	Where stands of trees are to be affected an appropriate arboricultural and/ or windthrow assessment will be undertaken pre-construction and appropriate mitigation employed for the purposes of safety of land and infrastructure.	To address safety risk to land within the Proposed Scheme and reduce impacts to forestry.	None required
SMC-CP15	Throughout Proposed Scheme	Post-Construction	On completion of works, land required temporarily for construction works will be reinstated. A photographic and video survey will be undertaken of any land to be returned to agriculture, to ensure all land is restored as near to its original state as is reasonably practicable.	To ensure appropriate restoration of land following completion of Proposed Scheme.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Embedded Mitigation</b>					
P09-CP01	Throughout Proposed Scheme	Design Construction	Avoidance and minimisation of earthworks encroachment into property boundaries	To minimise impact on all community and private assets	None Required
P09-CP02	Throughout Proposed Scheme	Pre-Construction	Location of drainage and Sustainable Drainage Systems (SuDS) features as close to mainline and junction as possible	To minimise impact on all community and private assets	None required
P09-CP03	ch. 41,650 ch. 46,150 ch. 53,600	Design Construction	Provision of left in/ left out access at ch. 41,650 (Ralia Café/ Glen Truim) Provision of left in/ left out access at ch. 46,150 (Ralia Lodge/ Nuide Farm) Provision of left in/ left out access at ch. 53,600 (Balavil)	To minimise impact on estate operations and accessibility for local residents and businesses	None Required
P09-CP04	ch. 41,275 ch. 43,400 ch. 46,050 ch. 47,350 ch. 48,800 ch. 49,275 ch. 50,750 ch. 52,950 ch. 56,150	Design Construction	Provision of underpass at ch. 41,275 Provision of underbridge at Newtonmore Junction (ch. 43,400) Provision of underpass at ch. 46,050 Provision of underpass at ch. 47,350 Provision of underpass at ch. 48,800 Replacement underbridge at B970 (ch. 49,275) Replacement underbridge at Kingussie Junction (ch. 50,750) Provision of underpass at Chapelpark (ch. 52,950) Replacement underbridge at ch. 56,150 (Highland Wildlife Park)	Provides safe access	None Required
<b>Project Specific Mitigation</b>					
P09-CP05	Throughout Proposed Scheme	Pre-Construction and Construction	An Agricultural and Estates Management Plan will be developed, and a Clerk of Works appointed (covered under <b>Mitigation Item SMC-S2</b> ), in order to employ appropriate mitigation for impacts upon sporting activities at the construction phase, particularly during nesting season and shoot days.  This management plan will include details of the estate, its activities in proximity to the A9, specific seasons (such as deer stalking, grouse or low ground shooting, sheep dipping), an annotated map of principal activity areas, routes and access points, protocols for notifications required and relevant contact details.  In terms of the temporary disturbance to game birds, careful management is required to minimise disturbance which could require exclusion periods or zones during key times of the year for nesting.	To reduce impact on sporting estates	Consultation with affected landowners and occupiers
P09-CP06	Glebe Ponds (ch. 50,500)	Post-Construction	The provision of woodland planting on reprofiled redundant areas of the existing A9 adjacent to Glebe Ponds and restoration of habitats affected during construction.	To reduce the impacts on Glebe Ponds	Consultation with The Highland Council and Kingussie and Vicinity Community Council

Table 21-3: Schedule of Environmental Commitments – People and Communities – Effects on All Travellers

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-AT1	Throughout Proposed Scheme	Construction	As far as reasonably practicable, the construction programme will take into account the need to minimise the length of closures or restrictions of access for NMUs.	To minimise length of closures or restrictions of access for NMUs.	None required
SMC-AT2	Throughout Proposed Scheme	Construction	Where practicable, temporary diversion routes and/or assisted crossings will be provided to maintain safe access for NMUs throughout the construction works. Any closure or re-routing of routes used by NMUs will take cognisance of the 'Roads for All: Good Practice Guides for Roads' (Transport Scotland, 2013). These will be agreed in advance with the relevant local authorities and will be clearly indicated with signage as appropriate.	To maintain safe access for NMUs throughout the construction works.	Any closures will be agreed with Transport Scotland, CNPA and/or THC (local and core paths).
SMC-AT3	Throughout Proposed Scheme	Pre-Construction	In consultation with the relevant Roads Authority and public transport provider, bus stops affected by the works will be relocated safely with a safe access route provided for NMUs. <b>Note - Does not apply to the Proposed Scheme.</b>	To maintain access to Public Transport facilities.	Consultation with the relevant Roads Authority and public transport provider
SMC-AT4	Throughout Proposed Scheme	Construction	The Contractor will produce a traffic management plan that will include measures to avoid or reduce disruption to the road traffic, and in accordance with the Traffic Signs Manual (Department of Transport, 2009). The plan will include consideration of the timing of works, the location of haul roads to reduce site traffic on the public roads and a well-maintained traffic management system with sweeping of roads to reduce construction debris on the carriageway.	To avoid or reduce disruption to the road traffic.	None required
SMC-AT5	Throughout Proposed Scheme	Construction	Reasonable precautions will be taken by the Contractor to avoid or reduce road closures. One lane in each direction will be provided for A9 traffic during peak hours (Mon to Fri) except in exceptional circumstances and for closures which are pre-approved by Transport Scotland e.g. those required during blasting.	To avoid or reduce road closures and resulting disruptions to traffic.	Approval required from Transport Scotland in the event of required A9 lane closures.
SMC-AT6	Throughout Proposed Scheme	Construction	Road diversions will be clearly indicated with road markings and signage as appropriate. Any road closures will be notified in advance through road signage and appropriate signage will be provided for the duration of the closure. The Contractor will also be responsible for identifying any notable changes in patterns of road network use during construction, where such changes may cause significant disruption elsewhere (such as drivers re-routing away from the A9), and will review and update traffic management provisions as appropriate in discussion with Transport Scotland.	To reduce disruption to the road users.	None required
SMC-AT7	Throughout Proposed Scheme	Construction	Appropriate lighting will be provided during any necessary night-time working, taking into account the requirements of <b>Mitigation Items SMC-E10 in Table 21-6 and SMC-LV4 in Table 21-7.</b>	To mitigate potential impacts on driver stress such as fear of potential accidents due to inadequate lighting provision.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-AT8	NMU facilities	Construction	<p>Access for NMUs will be maintained and improved in accordance with the following principles:</p> <ul style="list-style-type: none"> <li>The requirements of the Equality Act 2010 and 'Roads for All: Good Practice Guides for Roads' (Transport Scotland, 2013) shall be incorporated into the Proposed Scheme wherever practicable; e.g. any bridges, ramps or footpaths will not present potential barriers to disabled people such as the gradient or surfacing.</li> <li>NMU access shall be provided in accordance with the objectives set out in the A9 Dualling NMU Access Strategy (Transport Scotland, 2016).</li> <li>Surfacing of any new paths including alongside roads will be considered on a case by case basis, taking into account factors such as safety, the type of user and should comply with current standards.</li> <li>Safety of paths will be considered in accordance with the outcome of the Road Restraints Risk Assessment Process and may require provision of barriers. New cycleways/footpaths will use non-frost susceptible materials to reduce risk of degradation.</li> </ul>	To maintain access for NMUs and provide appropriate facilities based on use and improve access for NMUs.	None required
<i>n/a (note)</i>	<i>n/a</i>	<i>n/a</i>	<i>Further to the above, the mitigation items detailed in Table 21-7 (Landscape and Visual), Table 21-9 (Air Quality) and Table 21-10 (Noise and Vibration) will reduce the adverse amenity impacts on NMU and vehicle travellers during construction.</i>	<i>To reduce the adverse amenity impacts on NMU and vehicle travellers during construction.</i>	<i>n/a</i>
<b>Embedded Mitigation</b>					
P09-AT1	ch. 41,275	Design and Construction	Estate and NMU underpass at Phoines access.	To improve NMU safety and maintain NMU access.	None required
P09-AT2	ch. 43,400	Design and Construction	Vehicle and NMU underpass with segregated footpath at Newtonmore Junction.	To improve NMU safety and maintain NMU access.	None required
P09-AT3	ch. 46,050	Design and Construction	Estate and NMU underpass.	To improve NMU safety and maintain NMU access.	None required
P09-AT4	ch. 48,800	Design and Construction	Estate and NMU underpass.	To improve NMU safety and maintain NMU access.	None required
P09-AT5	ch. 50,225	Design and Construction	Estate and maintenance underpass at the Spey Crossing.	To improve NMU safety and maintain NMU access.	None required
P09-AT6	ch. 52,950	Design and Construction	Replaced underpass at Lynchat; NMU, local access and estate use.	To improve NMU safety and maintain NMU access.	None required
P09-AT7	ch. 45,900 to ch. 48,800	Design and Construction	Estate and NMU access track adjacent to northbound carriageway between ch. 45,900 and ch. 47,500.	To maintain NMU provision and access upon operation of the Proposed Scheme.	None required
P09-AT8	ch. 45,400 to ch. 46,800 and ch. 48,075 to ch. 48,825	Design and Construction	Estate and NMU access track adjacent to southbound carriageway between ch. 45,400 and ch. 46,800 and between ch. 48,075 and ch. 48,825.	To maintain NMU provision and access upon operation of the Proposed Scheme.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-AT9	ch. 50,950 to ch. 51,250	Design and Construction	Private access track and NMU from Kerrow Cottage, adjacent to the northbound carriageway between ch. 50,950 and ch. 51,250 to Kerrow Farm (removing at-grade CP16).	To maintain NMU provision and access upon operation of the Proposed Scheme.	None required
P09-AT10	ch. 50,950 to ch. 54,400	Design and Construction	NMU link from Kingussie to Kincaig (on-road and off-road.)	To enhance NMU access and connectivity.	None required
P09-AT11	Throughout Proposed Scheme	Design and Construction	Sensitive slope design with input from a Landscape Architect to soften earthworks; refer to <b>Mitigation Item P09-LV1</b> in <b>Table 21-7</b> .	To lessen the visual impact of the scheme and blend earthworks into the surrounding landscape.	None required
P09-AT12	Throughout Proposed Scheme	Design and Construction	SuDS design to integrate with roadside slopes at all locations where SuDS are adjacent to these slopes. SuDS basins to look as natural as possible to blend into surrounding very open landscape. Refer to <b>Mitigation Item P09-LV4</b> in <b>Table 21-7</b> .	To lessen the visual impact and changes in views from the road/amenity value of NMU routes.	None required
<b>Project Specific Mitigation</b>					
P09-AT13	Crubenmore to Newtonmore	Construction	Pick up/ drop off 'NMU shuttle' service to operate during working hours for the duration of any closure of NMU1 (NCN7) as well as 'out of hours' access in the form of a temporary diversion suitable for walkers and cyclists.	Any closures will be agreed with Transport Scotland and CNPA.	Any closures will be agreed with Transport Scotland, and/or CNPA (local and Core Paths).
P09-AT14	ch. 43,600 to ch. 45,800 northbound	Construction	The Contractor is required to maintain NMU access along NMU7 during minor works.	Maintain access along NMU7.	None required
P09-AT15	ch. 49,300	Construction	The Contractor is required to provide an NMU diversion during closure of the B970 to construct the extended A9 underbridge.	Continuity of NMU network (NMU1 and NMU19) including long distance NMU routes accessing community land/facilities.	Any closures will be agreed with Transport Scotland, and/ or CNPA (local and Core Paths).
P09-AT16	ch. 50,600 to ch. 50,900	Construction	The Contractor is required to operate an NMU diversion using local community footpaths, to be agreed prior to construction.	Maintain access along NMU23.	Any closures will be agreed with Transport Scotland, and/ or CNPA (local and Core Paths).
P09-AT17	Throughout Proposed Scheme	Construction	The Contractor is required to maintain NMU access or provide a suitable diversion where the NMU corresponds with a track to a residential property. Refer to <b>Mitigation Item SMC-CP1</b> of <b>Table 21-2</b> .	Maintain access to NMU12, 13 and 14	None required
P09-AT18	Throughout Proposed Scheme	Design, Construction and Operation	Appropriate planting and seeding to either side of the road. To be as specified on the <b>Environmental Mitigation Drawings 6.1-6.12</b> , contained within <b>Volume 3</b> of this report. Refer to Project Specific <b>Mitigation Item P09-LV10</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road and visual amenity from the NMU network.	Not Applicable
P09-AT19	Throughout Proposed Scheme	Design, Construction and Operation	Minimisation of roadscape features such as signs and barriers at more open areas. These items are expected along a road scheme of this nature with signage helping to reduce driver stress for vehicle travellers, however minimising them to the necessary requirements will help with the enjoyment of the high-quality landscape surrounding. Refer to Project Specific <b>Mitigation Item P09-LV11</b> in <b>Table 21-7</b> .	Reduce impact on views from the road and visual amenity from the NMU network.	Not Applicable



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-AT20	ch. 41,500 to ch. 42,000	Design, Construction and Operation	Planting to the Ralia left-in left-out Junction to be as specified on the <b>Environmental Mitigation Drawings 6.1 to 6.12</b> , contained within <b>Volume 3</b> of this report. Planting will comprise trees, shrubs and low-level heath and grassland to suit landscape and mitigate the loss of tree planting at this location. Refer to Project Specific <b>Mitigation Item P09-LV13</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road and NMU visual amenity.	Not Applicable
P09-AT21	ch. 43,000 to ch. 43,600	Design, Construction and Operation	Planting to the Newtonmore Junction to be as specified on the <b>Environmental Mitigation Drawings 6.1 to 6.12</b> , contained within <b>Volume 3</b> of this report. Planting will comprise trees, shrubs and low-level heath and grassland to suit landscape, to allow certain aspects of the engineered junction to be screened, and to mitigate the loss of tree planting at this location. Refer to Project Specific <b>Mitigation Item P09-LV14</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road and NMU visual amenity.	Not Applicable
P09-AT22	ch. 50,200 to ch. 51,600	Design, Construction and Operation	Planting to the Kingussie Junction is to be as specified on the <b>Environmental Mitigation Drawings 6.1 to 6.12</b> , contained within <b>Volume 3</b> of this report. Planting will comprise trees, shrubs and low-level heath and grassland to suit landscape and allow certain aspects of the engineered junction to be screened, and to replace planting lost to the Glebe Pond area. Refer to Project Specific <b>Mitigation Item P09-LV20</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road and NMU visual amenity.	Not Applicable
P09-AT23	ch. 52,200 to ch. 53,100	Design, Construction and Operation	Planting and refinement of SuDS and slopes around the access tracks at Lynchat, planting to be as specified on the <b>Environmental Mitigation Drawings 6.1 to 6.12</b> , contained within <b>Volume 3</b> of this report. Refer to Project Specific <b>Mitigation Item P09-LV23</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road	Not Applicable
P09-AT24	ch. 44,800 to ch. 45,100 Approx. ch. 43,670 to ch. 43,900 (SB) – Variable height (max 10m, min 1.65m), 230m long. Approx. ch. 44,650 to ch. 45,050 (SB) – Variable height (max 14m, min 3.7m), 400m long.	Design, Construction and Operation	Within areas of soil nailing and rock cutting, pockets should be installed within the area of soil nailing to allow larger planting to take place, such as shrub and tree planting to soften the appearance of the soil nailing. Refer to Project Specific <b>Mitigation Item P09-LV8</b> and <b>P09-LV15</b> in <b>Table 21-7</b> .	To reduce the impact on views from the road and NMU visual amenity.	Not Applicable
P09-AT25	NB ch. 48,800 to ch. 49,150 SB ch. 49,300 to ch. 49,550 SB ch. 55750 to ch. 56,000	Design and Construction	Northbound and Southbound lay-bys at Ruthven and lay-by at Insh Marshes with viewing facilities 3 no. DMRB Type A Lay-bys within the Proposed Scheme with viewing facilities. Refer to <b>Chapter 13</b> for further information.	To offer increased enjoyment of the surrounding landscape for NMUs with more pleasant rest stops.	Transport Scotland and landowners

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-AT26	ch. 48,389 to ch. 48,610 (SB) – 4m high ch. 51,100 to ch. 51,350 (SB) – 3m high ch. 52,460 to ch. 52,635 (NB) – 3m high ch. 52,635 to ch. 52,700 (SB) – 3m high ch. 52,495 to ch. 52,650 (SB) – 2.5m high ch. 53,490 to ch. 53,590 (NB) – 2.5m high	Design, Construction and Operation	Treatment to noise barriers to be as follows; <ul style="list-style-type: none"> <li>• ch. 48,389 to ch. 48,610 – 4m high green screen with surrounding vegetation</li> <li>• ch. 51,100 to ch. 51,350 – 3m high earthwork bund</li> <li>• ch. 52,460 to ch. 52,635 – 3m high green screen with surrounding vegetation</li> <li>• ch. 52,635 to ch. 52,700 – 3m high green screen with surrounding vegetation</li> <li>• ch. 52,495 to ch. 52,650 – 2.5m high earthwork bund</li> <li>• ch. 53,490 to ch. 53,590 – 2.5m high stone wall</li> </ul> These items relate to the mitigation as detailed within <b>Chapter 17, Mitigation Items P09-NV1 to P09-NV6 in Table 21-10.</b> Refer to Project Specific <b>Mitigation Item P09-LV26 in Table 21-7.</b>	To reduce the impact on views from the road and NMU visual amenity.	Transport Scotland in consultation with HES and CNPA

Table 21-4: Schedule of Environmental Commitments – Geology, Soils and Groundwater

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-G1	Throughout Proposed Scheme	Pre-Construction	Prior to construction, consultation will be undertaken with the relevant local authorities and SEPA regarding works in relation to land affected by contamination to support the obligations set out in 'Planning Advice Note 33: Development of Contaminated Land' (Scottish Government, 2000). Any remedial action undertaken in relation to land affected by contamination will be carried out under the appropriate remediation licencing.	To reduce impacts from contaminated land sources.	Consultation with THC (and SEPA as required).
SMC-G2	Throughout Proposed Scheme	Pre-Construction	Prior to construction and where potential contamination has been identified, further site investigations sufficient to determine the extent and type of contaminants present will be undertaken as necessary to inform identification of appropriate construction methods and any additional mitigation.	To determine the extent and type of contaminants present and to inform identification of appropriate construction methods and any additional mitigation.	None required
SMC-G3	Throughout Proposed Scheme	Pre-Construction and Construction	Prior to construction, appropriate health and safety and waste management procedures for working with potentially contaminated soils will be established. Waste management procedures will take account of inter alia: Waste Management Licence (Scotland) Regulations 2011 (as amended by the Waste Management Licensing (Scotland) Amendment Regulations 2016), HSE Guidance Note MS31 (HSE, 2012) and the Health and Safety Commission Approved Code of Practice and Guidance Note. These procedures will be implemented as appropriate during construction.	To ensure appropriate health and safety and waste management procedures for working with potentially contaminated soils are followed.	None required
SMC-G4	Throughout Proposed Scheme	Construction and Post-Construction/ Operation	Risks to construction and maintenance staff working with/near contaminated land will be mitigated by the implementation of <b>Mitigation Item SMC-G3</b> in combination with the adoption of appropriate systems of work, including personal protective equipment (PPE) as a last resort. In the event that unrecorded contamination is encountered, works should be stopped and the working procedures reassessed to confirm the working methods remain appropriate. Construction staff will be trained to identify asbestos containing material.	To reduce impacts from contaminated land sources and confirm the safety of construction and maintenance staff.	None required
SMC-G5	Throughout Proposed Scheme	Construction	Appropriate training will be provided for personnel involved in earthworks activities to enable implementation of a watching brief to identify presence of previously unidentified contamination.	To identify potential presence of previously unidentified contamination.	None required
SMC-G6	Throughout Proposed Scheme	Pre-Construction and Construction	Where required, landowner consultation and site visits will be undertaken to confirm the location of septic tanks and associated infrastructure. Where septic tanks are located within the LMA they will be relocated subject to discussion and agreement with the affected landowner(s).	To mitigate the loss of any septic tanks.	Approval from landowners
SMC-G7	Throughout Proposed Scheme	Construction	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination, the Contractor will undertake a Piling Risk Assessment and adhere to appropriate guidance including the 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, National Groundwater and Contaminated Land Centre Report NC/99/77'.	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-G8	Throughout Proposed Scheme	Construction	Excavated soils deemed unsuitable for reuse will be assessed in line with the 'Waste Classification: Guidance on the Classification and Assessment of Waste' (Technical Guidance WM3) (Natural Resources Wales, SEPA, Northern Ireland Environment Agency, Environment Agency, May 2015) to determine whether they are hazardous or non-hazardous. This will establish the most appropriate and cost-effective waste stream for the waste materials.	To determine whether disposed soils are hazardous or non-hazardous.	None required
SMC-G9	Throughout Proposed Scheme	Pre-Construction	To maximise the re-use of site-won materials on-site (and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy") whilst ensuring that no risks are posed to human health nor the water environment, a soil reuse assessment will be undertaken prior to construction. The soil reuse assessment will identify any potential risks posed to both human health and the water environment from potentially contaminated soils reused throughout the Proposed Scheme.	To identify any potential risks posed to human health and the water environment. In addition, this mitigation item would maximise re-use of site-won materials on-site and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy" through re-use of excavation arisings (refer to <b>Mitigation Item M3 in Table 21-11</b> ).	None required
SMC-G10	Throughout Proposed Scheme	Construction	Where peat is encountered during construction, it will be excavated, stored and re-used if possible, taking cognisance of 'Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables and SEPA, 2012) and The Waste Management Licensing (Scotland) Regulations 2011. This will be captured in a Peat Management Plan that will be developed by the Contractor. <b>Does not apply to Project 9, more specific mitigation required for this Scheme.</b>	To comply with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011 and reduce impacts on peatlands.	Consultation with SEPA
SMC-G11	Throughout Proposed Scheme	Pre-Construction and Construction	Where concrete materials are proposed to be used, appropriate guidance such as 'Building Research Establishment (BRE) SD1:2005' and 'British Standard (BS) BS8500' should be followed to ensure that ground conditions are appropriate for the use of concrete at each given location.	To ensure that ground conditions are appropriate for the use of concrete at each given location.	None required
SMC-G12	Contamination sources: (CK-177)	Pre-Construction, Construction & Post-Construction/ Operation	Where potential pollutant pathways for ground gas have been identified, a ground gas monitoring programme will be developed prior to construction in adherence to 'BS 8485:2015 - Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'. This will include an assessment of gassing issues following receipt of additional ground gas monitoring results at selected boreholes. Appropriate working methods will be developed and adopted during below ground site construction works (including piling works and excavations). This should include as a minimum, gas monitoring undertaken prior to any entry into excavations, confined spaces or below ground structures and use of PPE as a last resort. If ground gas issues are identified during construction, further post construction monitoring will be undertaken and/or appropriate gas protection measures will be incorporated into the final design.	To mitigate against potential impacts on human health during construction, and on Off Site Receptors (Local residents, transient traffic (foot, road and rail traffic) in the surrounding area) due to ground gas.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-G13	Throughout Proposed Scheme	Construction	Unless it can be demonstrated by the Contractor via a Quantitative Risk Assessment that no water quality impacts will occur due to leaching from SuDS retention ponds and detention basins, operational SuDS features will be lined. Any potential water quality impacts due to leaching from SuDS features will be addressed through the CAR process.	To mitigate against potential impacts on water quality due to leaching from SuDS features.	SEPA
SMC-G14	Throughout Proposed Scheme	Construction	Storage of excavated soils and made ground will be minimised on site (spatially and in duration) and storage areas will be appropriately lined, with adequate drainage management in place.	To ensure that no polluted water percolates into the ground or contaminated run-off is generated.	None required
SMC-G15	Throughout Proposed Scheme	Pre-Construction	Risk assessments will be undertaken before explosives can be used on site.	To minimise or control the impact of blasting on bedrock geology.	None required
<i>n/a (note)</i>	<i>n/a</i>	<i>n/a</i>	<i>Further to the above, the implementation of Mitigation Items detailed in Table 21-5 (Road Drainage and the Water Environment) and the measures detailed in Table 21-9 (Air Quality).</i>	<i>To mitigate the water pollution risk to groundwater and avoid the creation of a statutory nuisance associated with dust and air pollution when working with contaminated land.</i>	<i>n/a</i>
<b>Project Specific Mitigation</b>					
P09-G1	Throughout Proposed Scheme	Pre-Construction, Construction and Post-construction	Prior to construction, a suitably qualified (or team of suitably qualified) and experienced Environmental Clerk of Works (EnvCoW) shall be appointed by the Contractor to oversee implementation of mitigation and monitoring relating to soils, potential contamination, groundwater, PWS and the management of waste materials. A suitably qualified (or team of suitably qualified) and experienced Ecological Clerk of Works (ECoW) shall also be appointed prior to construction, to oversee and provide specific inputs to the implementation of proposed mitigation and monitoring relating to peat and GWDTE.	To oversee implementation of mitigation and monitoring relating to soils, potential contamination, groundwater, PWS, the management of waste materials, peat and GWDTE.	None required
P09-G2	ch. 43,600 to ch. 44,025 ch. 44,425 to ch. 45,625 ch. 54,300 to ch. 56,000	Design, Pre-Construction and Construction	Naturalistic rock cutting may be possible in areas of widening and cutting identified as being likely to intercept bedrock, the extent of which shall be determined during the detailed design by the Contractor and following risk assessment ( <b>Mitigation Item SMC-G15</b> ). During construction, rock mapping and inspections shall be undertaken by a suitably qualified and experienced engineering geologist appointed by the Contractor in those areas determined, with the cuts being profiled to be as natural as possible and minimise visible engineered elements.	To review stability and minimise the requirement for meshing or other stabilisation measures within final rock cut profiles.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G3	ch. 47,800 to ch. 48,050	Construction	<p>An exclusion zone will be established during the construction period at Lochan an Tairbh, as shown in <b>Environmental Mitigation Drawing 6.6 (Volume 3)</b>, to restrict construction activities and permanent works to only what is necessary for the establishment of the pre-earthworks drainage, watercourse diversions and carriageway in the vicinity.</p> <p>During the construction of the pre-earthworks drainage, watercourse diversions and carriageway, the Contractor shall minimise disturbance of the natural soil profile and landform in the area as far as is practicable and re-instate work areas that are utilised appropriately.</p> <p>Damage to water quality and sediments within the lochan shall be avoided through set-backs as required and appropriate working procedures shall be adopted as per <b>Mitigation Items SMC-W1 to SMC-W9 and SMC-W13 to SMC-W17 in Table 21-5</b> in relation to pollution prevention, sediment control and drainage.</p>	To minimise disturbance to the lochan, soils, landform, sediment and water quality	Consultation with SNH, CNPA and SEPA
P09-G4	Throughout Proposed Scheme	Pre-Construction and Construction	The Contractor shall develop a Soil Management Plan prior to construction, for implementation during construction, with cognisance of the requirements identified in relation to peaty soils and peat ( <b>Mitigation Items P09-G5 and P09-G6</b> ) and adopting principles from the 'Scottish Soil Framework' (Scottish Government, 2009) and other voluntary or industry regulated Codes of Practice, including 'Promoting the Sustainable Reuse of Greenfield Soils in Construction' (SEPA, 2010) and the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (DEFRA, 2009).	To document and ensure that soil resources and soils of conservation value are excavated, managed, re-used and replaced sustainably and appropriately	Consultation with SEPA
P09-G5	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	<p>Prior to construction, the Contractor shall refine the OPMP (<b>Appendix 10.6 (Volume 2)</b> of the ES) for implementation prior to, during and following construction as the Construction-stage Peat Management Plan (PMP).</p> <p>The Construction-stage PMP shall adopt the principles and best practice measures detailed in the OPMP, with refinements made by the Contractor to include the establishment of detailed site-specific method statements related to construction techniques and locations, estimated excavation volumes, excavation procedures, temporary works activities, temporary storage, transportation, handling, proposed peat re-uses and method statements for this.</p> <p>Monitoring requirements and timescales for prior to, during and following construction, particularly with regards re-use works, shall be established and implemented by the Contractor as necessary, with all refinements made taking cognisance of best practice in 'Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables and SEPA, 2012) and others, as necessary.</p>	To comply with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011 and manage, reduce and monitor impacts on peat and peaty soils	Consultation with SNH, SEPA and CNPA required to agree on the Construction-stage Peat Management Plan (PMP) and any proposed peat re-uses
P09-G6	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	<p>Through adoption and refinement of the OPMP, the Contractor shall identify and propose environmentally beneficial re-uses of peat that is excavated during construction.</p> <p>Following re-use, dedicated monitoring of the water table and vegetation in the re-use areas adopted shall be undertaken by the Contractor where necessary (<b>Mitigation Item P09-G5</b>) and the requirements for additional treatment work such as but not limited to, seeding, compaction, tapering and removal of invasive species, established on an ongoing basis in consultation with SEPA, SNH and CNPA.</p>	To provide mitigation for peat excavation and disturbance	See <b>Mitigation Item P09-G5</b>

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G7	Throughout Proposed Scheme	Design, Pre-Construction and Construction	Where peat conditions and depths permit, the Contractor shall design and include measures (such as floated access tracks and piled or bridged solutions for embankments or structures) to avoid or minimise peat excavation and disturbance. This shall take account of the unique peat characteristics, and follow guidance on the design, duration and timing of construction, the sequencing of construction and hydrology considerations in 'Floating Roads on Peat: A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland' (SNH/ FCS, 2010) and others, as necessary.	To reduce peaty soil and peat disturbance and resultant excavation volumes	See <b>Mitigation Item P09-G5</b>
P09-G8	Throughout Proposed Scheme	Pre-Construction and Construction	Temporary storage of excavated peat shall be avoided by transporting it to identified re-use locations as soon as is practicable, and the time spent in storage shall be kept to a minimum where possible. Where this is not possible during construction, the Contractor shall take account of the Preliminary Peat Landslide Risk Assessment findings ( <b>Appendix 10.5 (Volume 2)</b> of the ES), undertake additional quantitative assessment where necessary and identify appropriate storage areas for excavated peat, including, varying or additional to those provisionally highlighted in <b>Drawings 10.47 to 10.58 (Volume 3)</b> .	To minimise peat volumes in storage and the likelihood of drying.	See <b>Mitigation Item P09-G5</b>
P09-G9	Throughout Proposed Scheme	Pre-Construction and Construction	Where excavated peat does require temporary storage, the areas for this shall avoid being near watercourses through appropriate set-backs. Areas of GWDTE assessed as likely moderate and/ or highly dependent on groundwater in <b>Appendix 10.2 (Volume 2)</b> of the ES shall also be avoided where possible – particularly areas of or containing seepage, flush, spring, fen and swamp vegetation. Where possible, peat will be extracted and relocated as 300mm to 500mm deep turves. If peat turves need to be stored for any length of time, they will be stored vegetation side up, stacked no more than 1.00m high, and monitored during all weather conditions and kept wet as necessary to prevent them from drying out.	To minimise peat volumes in storage, the likelihood of drying and potential effects on GWDTE	See <b>Mitigation Item P09-G5</b>
P09-G10	Throughout Proposed Scheme	Design, Pre-construction, Construction and Post-Construction	For temporary construction-stage SuDS and related drainage, the Contractor shall avoid areas of deep peat and GWDTE assessed as being likely moderate and/ or highly dependent on groundwater in <b>Appendix 10.2 (Volume 2)</b> of the ES where possible. This shall be achieved through micro-siting during detailed design and the use of above-ground solutions requiring no or limited excavation, such as siltbusters, where possible, during construction. Areas of peat or GWDTE habitat which are unavoidable and in which excavation is required for temporary SuDS and drainage shall be re-instated by the Contractor as soon as possible following the completion of construction works. Such re-instatement shall return the areas to their former habitat type as far as is practicable, with any seeding and planting of bare ground areas undertaken as soon as possible after completion of the construction works using species appropriate to the environment and of local provenance.	To reduce peaty soil and peat disturbance, resultant excavation volumes and re-instate areas which are disturbed	See <b>Mitigation Item P09-G5</b>

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G11	Throughout Proposed Scheme	Design, Construction and Post-Construction	<p>For temporary haul roads or access tracks required during construction, the Contractor shall avoid areas of deep peat and GWDTE assessed as being likely moderate and/ or highly dependent on groundwater in <b>Appendix 10.2 (Volume 2)</b> of the ES where possible.</p> <p>Where unavoidable, floated track construction shall be considered where conditions and depths permit, with guidance from 'Floating Roads on Peat: A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland' (SNH/ FCS, 2010) and others, as necessary.</p> <p>All temporary haul roads and access tracks created during construction shall be fully re-instated by the Contractor following construction.</p>	To reduce peaty soil and peat disturbance, resultant excavation volumes and re-instate those areas which are temporarily disturbed	See <b>Mitigation Item P09-G5</b>
P09-G12	Throughout Proposed Scheme	Design, Pre-Construction, Construction and Post-Construction	<p>Where potential peat landslide or bog burst risks have been identified in the Preliminary Peat Landslide Risk Assessment and Preliminary Risk Register in <b>Appendix 10.5 (Volume 2)</b> of the ES, the Contractor shall undertake additional quantitative assessment of these where necessary prior to construction and follow guidance within 'Peat Landslide Hazard and Risk Assessments: Best Practice for Proposed Electricity Generation Developments' (Scottish Government, 2017) to inform additional micro-siting of Proposed Scheme elements during detailed design if needed, and to determine and implement any required mitigation such as catch ditches, fences, walkovers and inspections during and following construction.</p>	To identify and mitigate against potential peat landslide or bog burst risks	Consultation with SNH, SEPA and CNPA
P09-G13	Throughout Proposed Scheme	Pre-Construction	<p>A number of widening or other cuttings have been identified as having the potential to intercept groundwater, while sub-artesian conditions may be encountered during piling for the River Spey bridge crossing.</p> <p>Volumes of groundwater drainage will need to be considered in the context of potential groundwater abstraction CAR licenses prior to construction works commencing.</p>	To comply with CAR license requirements and protect the water environment	Consultation with and approval from SEPA
P09-G14	Throughout Proposed Scheme	Design, Pre-Construction, Construction and Operation	<p>Additional detailed assessment will be undertaken for areas of widening, cutting or other works anticipated to result in indirect impacts on GWDTE and surface water features. This shall be completed prior to construction using all available GI data, including any available additional monitoring and testing data from the Preliminary, Detailed and Supplementary GI.</p> <p>Based on this, a specific GWDTE and surface water monitoring and mitigation plan will be developed, with drainage designs, groundwater exclusion, containment or other control measures determined by the Contractor during detailed design and implemented during construction to reduce drawdown and indirect impacts at affected receptors and to maintain or facilitate groundwater through-flows during construction and operation where necessary.</p> <p>Permeable fill materials should also be used in embankment construction with cross-formation drains to maintain through-flows where possible, taking cognisance of the findings from pre-construction drainage surveys (<b>Mitigation SMC-CP10 in Table 21-2</b>).</p> <p>Drainage and pumping from excavations or other works will otherwise be carefully monitored during construction, with additional mitigation such as redirecting abstracted water to affected receptors implemented as necessary.</p>	To determine GWDTE and surface water risks, assess changes in groundwater level and quality and ensure that GWDTE and surface waters are protected	Consultation with SEPA



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G15	Throughout Proposed Scheme	Design, Pre-Construction and Construction	A differential settlement assessment shall be undertaken by the Contractor prior to construction in excavation areas that have the potential to intercept groundwater and which are located in proximity to existing infrastructure. This shall be completed using all available GI data, including any additional available monitoring data from the Preliminary, Detailed and Supplementary GI. Should potential settlement risks be identified, mitigation measures shall be implemented by the Contractor during construction where necessary and may include monitoring of groundwater level variations, implementation of condition surveys and monitoring of infrastructure.	To determine if adjacent or surrounding infrastructure is at risk of settlement and implement mitigation where required	None required
P09-G16	Throughout Proposed Scheme	Design, Pre-Construction and Construction	The Contractor shall review areas of groundwater likely to be intercepted by excavations or other works and implement treatment as required prior to discharge. This shall be completed using all available GI data, including any available additional groundwater monitoring and testing data from the Preliminary, Detailed and Supplementary GI; in the preparation of discharge licensing considerations. Containment facilities and discharge locations for abstracted groundwater during construction shall be defined by the Contractor taking water quality characteristics into account.	To determine treatment and discharge requirements for intercepted groundwater	Consultation with SEPA
P09-G17	Throughout Proposed Scheme	Construction	Any excavations within or alongside areas of deep peat or blanket bog habitat should be bunded with sheets of plastic or metal sheet piling to assist retaining water and preventing local drainage of the adjacent or surrounding peat mass margins where practicable.	To minimise dewatering of areas of peat	See <b>Mitigation Item P09-G5</b>
P09-G18	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	A groundwater monitoring network shall be established within and adjacent to areas of GWDTE identified to be at potential risk of impact, with monitoring completed in accordance with 'LUPS-GU31 Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems, Version 3' (SEPA, 2017). Such monitoring shall involve groundwater level and quality readings, as well as repeated NVC surveys based on the GWDTE monitoring and mitigation plan developed in <b>Mitigation Item P09-G14</b> .	To determine GWDTE risks, assess changes in groundwater level and quality and ensure GWDTE are protected	Consultation with SEPA
P09-G19	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	The Contractor shall establish a Groundwater and Surface Water Management Plan with associated monitoring programme prior to construction, to be adhered to during construction, and post construction, as required by the regulatory bodies. This shall be prepared with cognisance of <b>Mitigation Items SMC-W1 to SMC-W17</b> detailed in <b>Table 21-5</b> and monitoring requirements related to GWDTE where necessary ( <b>Mitigation Item P09-G14</b> ).	To document and ensure mitigation and monitoring measures are in place to protect the water environment	Consultation with SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G20	Throughout Proposed Scheme	Design, Pre-Construction and Construction	<p><b>Mitigation Items SMC-W3 and SMC-W6 to SMC-W8</b> detailed in <b>Table 21-5</b> will offer protection of the groundwater environment, wetlands and GWDTE in relation to control of sediments, run-off and pollution prevention.</p> <p>To avoid hydrological damage and to maintain hydrological connectivity between and within wetland and GWDTE habitats, minimum buffer zones of 10m shall also be established as far as practicable by the Contractor around watercourses and otherwise, sensitive features such as areas of swamp, standing or moving water (seepages, flushes and springs).</p> <p>The buffer zone should be marked out on the ground and avoided where possible. Any works within the buffer zone shall be supervised by a suitably qualified and experienced ECoW appointed by the Contractor and shall be planned to maintain unpolluted and natural water flows.</p>	To mitigate and control potential effects on GWDTE during construction	Consultation with SEPA
P09-G21	Private Water Supplies: Nuide Farm (ABS 9.6a, ABS 9.6b), Inverton (ABS 9.8b), Ruthven Cottage/ Knappach Cottage (ABS 9.9) and Balavil Estate (ABS 9.13)	Pre-Construction and Construction	<p>Additional surveys shall be undertaken prior to construction, to confirm the exact location and extent of the PWS source and networks within the LMA for the properties at Nuide Farm (ABS 9.6a and ABS 9.6b), Inverton (ABS 9.8b), Ruthven Cottage and Knappach Cottage (ABS 9.9) and Balavil Estate, Lynchat Farm, East Lodge and Railway Cottage (ABS 9.13).</p> <p>If impacts to a PWS source and/ or network are confirmed, the Contractor shall incorporate protective measures during construction, combined with monitoring (with permission from landowners and residents), to ensure the PWS infrastructure is not damaged during construction or in the long-term by the Proposed Scheme.</p> <p>If protection is not possible, alternative sources of water or replacement/ diverted networks shall be put in place.</p> <p>The Contractor will be required to prepare a specific monitoring plan and mitigation strategy for each supply, in consultation with affected landowners, residents, THC and SEPA.</p>	To protect and monitor PWS and implement corrective actions as necessary	Liaison with landowners and residents, and consultation with THC and SEPA
P09-G22	Private Water Supplies: Ruthven Farm (ABS 9.10) and Ruthven Steading (ABS 9.11)	Pre-Construction and Construction	<p><b>Mitigation Items SMC-W3 and SMC-W6 to SMC-W8</b> detailed in <b>Table 21-5</b> will offer protection of the groundwater environment and PWS.</p> <p>However, the borehole PWS at Ruthven Farm (ABS 9.10) and Ruthven Steading (ABS 9.11) identified as potentially at risk of quality impacts shall also be monitored, with permission from the landowners and residents.</p> <p>Should a significant impact on a PWS be confirmed, corrective actions will be undertaken by the Contractor and could include the provision of a temporary or long-term alternative source of water.</p> <p>To this effect, the Contractor will be required to prepare a specific monitoring plan and mitigation strategy for each supply in consultation with affected landowners, residents, THC and SEPA.</p>	To monitor PWS and implement corrective actions as necessary	Liaison with landowners and residents, and consultation with THC and SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-G23	Private Water Supplies: Torra Dhaimh/ Ralia Café (PW 9.15)	Pre-Construction and Construction	<p>Additional surveys shall be undertaken prior to construction, to confirm the location, status, depth and use of the possible water supply feature at Torra Dhaimh/ Ralia Café (PW 9.15) and any associated supply network within the LMA.</p> <p>If this is confirmed as an active water supply source and significant impacts are identified, the Contractor shall incorporate protective measures, combined with monitoring (with permission from the landowner and residents), to ensure the PWS infrastructure is not damaged during construction or in the long-term by the Proposed Scheme.</p> <p>If protection is not possible, an alternative source of water or replacement/ diverted network shall be put in place. If the feature is confirmed as redundant, decommissioning shall be undertaken by the Contractor in accordance with 'Good Practice for Decommissioning Redundant Boreholes and Wells' (SEPA, 2010) and others, as necessary.</p> <p>The Contractor will be required to prepare a specific monitoring plan and mitigation strategy in consultation with affected landowners, residents, THC and SEPA.</p>	To protect and monitor PWS and implement corrective actions or decommissioning as necessary	Liaison with landowner and residents, and consultation with THC and SEPA
P09-G24	Private Water Supplies: Ralia Beag/ Ptarmigan Cottage (ABS 9.4) and Coulintyre Cottage (ABS 9.16)	Pre-Construction and Construction	<p>Additional surveys shall be undertaken prior to construction, to confirm the exact location and extent of the PWS source and networks within the LMA for the properties at Ralia Beag and Ptarmigan Cottage (ABS 9.4) and Coulintyre Cottage (ABS 9.16).</p> <p>As these are known to be or assumed as likely to be no longer active, decommissioning of the networks within the LMA shall be undertaken by the Contractor in accordance with 'Good Practice for Decommissioning Redundant Boreholes and Wells' (SEPA, 2010) and others, in consultation with the affected landowner, residents, THC and SEPA where necessary.</p>	To decommission redundant PWS and networks that may be affected by construction	Liaison with landowner and residents, and consultation with THC and SEPA
(note)	n/a	n/a	<p><i>Further to the above, Mitigation Items P09-E6, P09-E10, P09-E11, P09-E12, P09-E13, P09-E24, P09-E25, P09-E26 and P09-E30 detailed in Table 21-6 (Ecology and Nature Conservation) will be implemented in relation to construction works and peaty soil, peat and wetland habitats, habitat and species management, habitat re-instatement and proposals to create circa 36 ha of wader habitat (including wet grasslands, marshy grasslands and other riparian habitat enhancements) at the Dellmore of Kingussie, as outlined in Appendix 6.2 (Volume 2).</i></p> <p><i>The implementation of Mitigation Items detailed in Table 21-5 (Road Drainage and the Water Environment) will also mitigate pollution-related risks to groundwater, GWDTE and PWS.</i></p>	<i>To reduce temporary impacts on peaty soil, peat or wetland-based habitats and deliver specific mitigation measures to re-instate or create habitats that are impacted</i>	n/a

Table 21-5: Schedule of Environmental Commitments - Road Drainage and the Water Environment

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-W1	Throughout Proposed Scheme	Design, Pre-Construction and Construction	In relation to <u>authorisations under CAR</u> , the Contractor will be required to provide a detailed Construction Method Statement which will include proposed mitigation measures for specific activities including any requirements identified through the pre-CAR application consultation process.	To mitigate construction impacts on the water environment.	CAR applications require approval from SEPA
SMC-W2	Throughout Proposed Scheme	Pre-Construction and Construction	<p>In relation to flood risk, the Contractor will implement the following mitigation measures during construction:</p> <ul style="list-style-type: none"> <li>• The Flood Response Plan (as part of the CEMP, refer to <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b> of Chapter 21 (Schedule of Environmental Commitments)) will set out the following mitigation measures to be implemented when working within the functional floodplain (defined here as the 0.5% AEP (200-year) flood extent): <ul style="list-style-type: none"> <li>➢ Routinely check the Met Office Weather Warnings and the SEPA Floodline alert service for potential storm events (or snow melt), flood alerts and warnings relevant to the area of the construction works.</li> <li>➢ During periods of heavy rainfall or extended periods of wet weather (in the immediate locality or wider river catchment) river levels will be monitored using for example SEPA Water Level Data when available/ visual inspection of water features. The Contractor will assess any change from base flow condition and be familiar with the normal dry weather flow conditions for the water feature, and be familiar with the likely hydrological response of the water feature to heavy rainfall (in terms of time to peak, likely flood extents) and windows of opportunity to respond should river levels rise.</li> <li>➢ Should flooding be predicted, works close or within the water features should be immediately withdrawn (where practicable) from high risk areas (defined as: within the channel or within the bankfull channel zone - usually the 50% (2-year) AEP flood extent). Works should retreat to above the 10% AEP (10-year) flood extent) with monitoring and alerts for further mobilisation outside the functional floodplain should river levels continue to rise.</li> </ul> </li> <li>• Plant and materials will be stored in areas outside the functional floodplain where practicable, with the aim for temporary construction works to be resistant or resilient to flooding impacts, to minimise/ prevent movement or damage during potential flooding events. Where this is not possible, agreement will be required with the Environmental Clerk of Works (EnvCoW).</li> <li>• Stockpiling of material within the functional floodplain, if unavoidable, will be carefully controlled with limits to the extent of stockpiling within an area, to prevent compartmentalisation of the floodplain, and stockpiles will be located &gt;10m from watercourse banks.</li> <li>• Temporary drainage systems will be implemented to alleviate localised surface water flood risk and prevent obstruction of existing surface runoff pathways. Where practicable, temporary haul routes will be located outside of the functional floodplain.</li> </ul>	To reduce the risk of flooding impacts on construction works.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W3	Throughout Proposed Scheme	Pre-Construction Construction and Post-Construction/ Operation	<p>In relation to <u>construction site runoff and sedimentation</u>, the Contractor will adhere to GPPs/ PGGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• avoiding unnecessary stockpiling of materials and exposure of bare surfaces, limiting topsoil stripping to areas where bulk earthworks are immediately programmed</li> <li>• installation of temporary drainage systems/ SuDS systems (or equivalent) including pre-earthworks drainage</li> <li>• pre-earthworks drainage/ SuDS with appropriate outfalls to be in place prior to any earthworks activities</li> <li>• treatment facilities to be scheduled for construction early in the programme, to allow settlement and treatment of any pollutants contained in site runoff and to control the rate of flow before water is discharged into a receiving watercourse</li> <li>• the adoption of silt fences, check dams, settlement lagoons, soakaways and other sediment trap structures as appropriate</li> <li>• the maintenance and regrading of haulage route surfaces where issues are encountered with the breakdown of the existing surface and generation of fine sediment</li> <li>• provision of wheel washes at appropriate locations (in terms of proposed construction activities) and &gt;10m from water features</li> <li>• protecting soil stockpiles using bunds, silt fencing and peripheral cut-off ditches, and location of stockpiles at distances &gt;10m from water features; and</li> <li>• restoration of bare surfaces (seeding and planting) throughout the construction period as soon as possible after the work has been completed, or protecting exposed ground with geotextiles if to be left exposed</li> </ul>	To implement appropriate controls for site runoff and sedimentation and reduce impacts on the water environment.	<p>If flocculants are considered necessary to aid settlement of fine suspended solids, such as clay particles, the chemicals used must first be approved by SEPA.</p> <p>Where required, temporary discharge consents to be obtained from SEPA through the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended).</p> <p>Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).</p>
SMC-W4	Throughout Proposed Scheme	Pre-Construction and Construction	<p>In relation to <u>in-channel working</u>, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• undertaking in-channel works during low flow periods (i.e. when flows are at or below the mean average) as far as reasonably practicable to reduce the potential for sediment release and scour</li> <li>• no in-channel working during the salmonid spawning seasons unless permitted within any CAR licence</li> <li>• minimise the length of channel disturbed and size of working corridor, with the use of silt fences or bunds where appropriate to prevent sediment being washed into the water feature</li> <li>• limit the removal of vegetation from the riparian corridor, and retaining vegetated buffer zone wherever reasonably practicable</li> <li>• limit the amount of tracking adjacent to watercourses and avoid creation of new flow paths between exposed areas and new or existing channels.</li> </ul>	To reduce impacts on the water environment during in-channel working.	Method statements for any in-channel working require approval by SEPA Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W5	Throughout Proposed Scheme	Construction	<p>Where <u>channel realignment</u> is necessary, the Contractor will adhere to good practice guidance (section 11.2) and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• Once a new channel is constructed, the flow should, where practicable, be diverted from the existing channel to the new course under normal/ low flow conditions</li> <li>• diverting flow to a new channel should be timed to avoid forecast heavy rainfall events at the location and higher up in the catchment (the optimum time will be the spring and early summer months to allow vegetation establishment to help stabilise the new channel banks)</li> <li>• with offline realignments, the flow will be diverted with a steady release of water into the newly constructed realignment to avoid entrainment of fine sediment or erosion of the new channel</li> <li>• any proposed realignment works will be supervised by a suitably qualified fluvial geomorphologist.</li> </ul>	To reduce impacts on the water environment where channel realignment is proposed.	Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).
SMC-W6	Throughout Proposed Scheme	Construction	<p>In relation to <u>refuelling and storage of fuels</u>, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• only designated trained and competent operatives will be authorised to refuel plant</li> <li>• refuelling will be undertaken at designated refuelling areas (e.g. on hardstanding, with spill kits available, and &gt;10m from water features) where practicable</li> <li>• appropriate measures will be adopted to avoid spillages (refer to <b>Mitigation Item SMC-W7</b>)</li> <li>• compliance with the Pollution Incident Control Plan (refer to <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b>).</li> </ul>	To avoid spillages and reduce impacts on the water environment in relation to refuelling.	Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).
SMC-W7	Throughout Proposed Scheme	Construction	<p>In relation to <u>oil/ fuel leaks and spillages</u>, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• stationary plant will be fitted with drip trays and emptied regularly</li> <li>• plant machinery will be regularly inspected for leaks with maintenance as required</li> <li>• spillage kits will be stored at key locations on-site and detailed within the Construction Environmental Management Plan (CEMP) (refer to <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b>)</li> <li>• construction activities will comply with the Pollution Incident Control Plan (refer to <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b>)</li> </ul>	To reduce impacts on the water environment in relation to oil/ fuel leaks and spillages.	Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W8	Throughout Proposed Scheme	Construction	<p>In relation to <u>chemical storage, handling and reuse</u>, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>chemical, fuel and oil storage will be undertaken within a site compound, which will be located on stable ground at a low risk of flooding and &gt;10m from any watercourse</li> <li>chemical, fuel and oil stores will be locked and sited on an impervious base within a secured bund with 110% of the storage capacity</li> <li>pesticides, including herbicides, will only be used if there are no alternative practicable measures, and will be used in accordance with CAR requirements, the manufacturer's instructions and application rates.</li> </ul>	To reduce impacts on the water environment in relation to chemical storage, handling and reuse.	Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).
SMC-W9	Throughout Proposed Scheme	Construction	<p>In relation to <u>concrete, cement and grout</u>, the Contractor will adhere to GPPs/ PPGs (SEPA, 2006-2017) and other good practice guidance (section 11.2), and implement appropriate measures which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>concrete mixing and washing areas will:                             <ul style="list-style-type: none"> <li>➢ be located more than 10m from water bodies</li> <li>➢ have settlement and re-circulation systems for water reuse</li> <li>➢ have a contained area for washing out and cleaning of concrete batching plant or ready-mix lorries.</li> </ul> </li> <li>wash-water will not be discharged to the water environment and will be disposed of appropriately either to the foul sewer (with permission from Scottish Water), or through containment and disposal to an authorised site</li> <li>where concrete pouring is required within a channel, a dry working area will be created</li> <li>where concrete pouring is required within 10m of a water feature or over a water feature, appropriate protection will be put in place to prevent spills entering the channel (e.g. isolation of working area, protective sheeting)</li> <li>quick setting products (cement, concrete and grout) will be used for structures that are in or near to watercourses.</li> </ul>	To reduce impacts on the water environment in relation to concrete, cement and grout.	Permission required from Scottish Water. Consultation with SEPA. Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).
SMC-W10	Site Compound/ Facilities	Construction	<p><u>Sewage from site facilities</u> will be disposed of appropriately either to a foul sewer (with the permission of Scottish Water) or via appropriate treatment and discharge agreed with SEPA in advance of construction and in accordance with 'GPP04 Treatment and Disposal of Sewage' (SEPA, 2003 – 2013).</p>	To ensure sewage from site facilities is disposed of appropriately.	Permission required from Scottish Water for disposal to foul sewer or SEPA, in advance of construction, for appropriate treatment and discharge to a water course  Construction Site Licence (CSL) under CAR and the associated Pollution Prevention Plan (PPP).

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W11	Throughout Proposed Scheme	Construction	In relation to <u>service diversions and to avoid damage to existing services</u> from excavations and ground penetration, including temporary severance of public and private water supplies through damage to infrastructure, the Contractor will: <ul style="list-style-type: none"> <li>locate and map all private or public water supply assets and other service infrastructure prior to construction</li> <li>take measures to prevent damage to services and to avoid pollution during service diversions, excavations and ground works</li> <li>provide a temporary alternative water supply (e.g. bottled or tankered) if services are to be disrupted or diverted by the works.</li> </ul>	To mitigate service diversions and disruptions from excavations and ground penetration.	Consultation with SEPA
SMC-W12	Throughout Proposed Scheme	Construction	For works within areas identified as potentially containing <u>contaminated land and sediment</u> the Contractor will reduce the risk of surface water pollution to an acceptably low level through: <ul style="list-style-type: none"> <li>further site investigation to determine the level of contamination prior to construction to beginning</li> <li>the installation of temporary treatment facilities to enable removal of pollutants from surface waters</li> <li>adoption of mitigation measures relating to contaminated land as outlined in <b>Table 21-4</b></li> </ul>	To reduce risk of surface water pollution from areas identified as potentially contaminated land to an acceptably low level.	Details of any temporary treatment measures to be agreed with SEPA prior to commencement of construction
SMC-W13	Throughout Proposed Scheme	Design	In relation to <u>bank reinforcement</u> , design principles and mitigation measures will adhere to good practice (SEPA, 2008), which will include, but may not be limited to: <ul style="list-style-type: none"> <li>non-engineering solutions and green engineering (e.g. vegetation, geotextile matting) to be the preference during options appraisal</li> <li>requirements for grey engineering to control/ prevent scour (e.g. rock armour, rip-rap, gabion baskets) to be minimised</li> <li>post project appraisal to identify if there are issues that can be investigated and addressed at an early stage</li> </ul>	To reduce impacts of in-channel structures on the water environment.	Consultation with and approval of SEPA
SMC-W14	Throughout Proposed Scheme	Design	In relation to <u>outfalls</u> , specimen and detailed design will ensure compliance with good practice (e.g. CIRIA, 2015; The Highways Agency et al., 2004; SEPA, 2008), which will include, but may not be limited to: <ul style="list-style-type: none"> <li>directing each outfall downstream to minimise impacts to flow patterns</li> <li>avoiding projecting the outfall into the watercourse channel</li> <li>avoid installation of outfalls at locations of known historical channel migration</li> <li>avoid positioning in flow convergence zones or where there is evidence of active bank erosion/ instability</li> <li>directing an outfall away from the banks of a river to minimise any potential risk of erosion (particularly on the opposite bank)</li> <li>minimising the size/ extent of the outfall headwall where possible to reduce the potential impact on the banks</li> <li>post project appraisal to identify if there are issues that can be investigated and addressed at an early stage</li> </ul>	To reduce impacts of outfalls on the water environment.	Consultation with and approval of SEPA



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W15	Throughout Proposed Scheme	Design	<p>In relation to watercourse crossings, specimen and detailed design will ensure compliance with good practice (SEPA, 2010), which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• Detailed design will mitigate flood risk impacts through appropriate hydraulic design of culvert structures. Flood risk will be assessed against the 0.5%AEP (200-year) plus an allowance for climate change design flood event. Detailed design will mitigate any loss of existing floodplain storage volume where required by appropriate provision of compensatory storage. Where culvert extension is not practicable or presents adverse impact on the water environment, appropriately designed replacement culverts may be installed.</li> <li>• Detailed design will mitigate impacts on the water environment through appropriate design of culvert structures and watercourse modifications (e.g. realignments) with respect to fluvial geomorphology, and both riparian and aquatic ecology.</li> <li>• Detailed design of culverts and associated watercourse modifications will incorporate wherever practical:               <ul style="list-style-type: none"> <li>➢ adherence to design standards and good practice guidance (Section 11.2)</li> <li>➢ allowance for the appropriate conveyance of water and sediment for a range of flows (including at low flow conditions)</li> <li>➢ maintenance of the existing channel gradient to avoid erosion at the head (upstream) or tail (downstream) end of a culvert</li> <li>➢ avoidance of reduction of watercourse length through shortening of watercourse planform</li> <li>➢ minimisation of culvert length</li> <li>➢ close alignment of the culvert with the existing water feature</li> <li>➢ depressing the invert of culverts to allow for formation of a more natural bed (embedment of the culvert invert to a depth of at least 0.15m to 0.3m)</li> <li>➢ roughening of culvert inverts to help reduce water velocities.</li> </ul> </li> <li>• Post project appraisal of watercourse crossings will be undertaken to identify if there are issues that can be investigated and addressed at an early stage.</li> </ul>	To reduce impacts of culverts on the water environment.	Consultation with and approval of SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-W16	Throughout Proposed Scheme	Design and Construction	<p>In relation to <u>channel realignments</u>, specimen and detailed design will ensure compliance with good practice (section 11.2), which will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• minimising the length of the realignment, with the existing gradient maintained where possible</li> <li>• design of the realignment in accordance with channel type and gradient;</li> <li>• if required, low flow channels or other design features to reduce the potential for siltation and provide an opportunity to improve the geomorphology of the water feature</li> <li>• realignment designs will be led by a suitably qualified fluvial geomorphologist</li> <li>• where realignments result in an increase or decrease of channel gradient, the following principles will be applied:                             <ul style="list-style-type: none"> <li>➢ an increased gradient within the channel (resulting in higher stream energies) will require mitigation in the form of energy dissipation, which could include the creation of a step-pool sequence; boulder bed-checks; plunge pools at realignment outfalls; and/ or; increased sinuosity</li> <li>➢ a decrease in gradient within the channel will require mitigation in the form of the construction of a low flow channel to minimise the impacts on locally varying flow conditions and reduce the risk of siltation of the channel</li> </ul> </li> <li>• Post project appraisal to identify if there are issues that can be investigated and addressed at an early stage.</li> </ul>	To reduce impacts of channel realignment on the water environment.	Consultation with and approval of SEPA
SMC-W17	Throughout Proposed Scheme	Design and Construction	<p>In relation to <u>SuDS</u>, the following mitigation measures will be implemented:</p> <ul style="list-style-type: none"> <li>• detailed design to adhere to design standards and good practice guidance (section 11.2), including The SuDS Manual (CIRIA, 2015) and SuDS for Roads (SCOTS, 2010)</li> <li>• for each drainage run, a minimum of two levels of SuDS treatment within a 'treatment train' (see <b>Table 1 of Appendix 11.2</b> for further details) to limit the volume of discharge and risk to water quality</li> <li>• management of vegetation within ponds and drains through grass cutting, pruning of any marginal or aquatic vegetation (as appropriate to the SuDS component) and removal of any nuisance plants, especially trees</li> <li>• SuDS retention ponds will be designed with an impermeable liner to maintain a body of standing water and provide treatment volume</li> <li>• inspect inlets, outlets, banksides, structures and pipework for any blockage and/or structural damage and remediate where appropriate</li> <li>• regular inspection and removal of accumulated sediment, litter and debris from inlets, outlets, drains and ponds to avoid sub-optimal operation of SuDS</li> <li>• adherence to the maintenance plans specific to each SuDS component type as detailed within the SuDS Manual (CIRIA, 2015)</li> </ul>	To reduce impacts of drainage discharges on the water environment.	Where required, authorisation for the road drainage discharge under CAR 2011 (as amended) would be obtained from SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Embedded Mitigation</b>					
P09-W1	ch. 50,700/ southbound side of A9	Design and Construction	<p><b>SuDS basin*</b></p> <p>Dry detention basins shall be sized to attenuate and store extreme flood events and restrict outflow to 'greenfield' runoff rates and provide long-term storage (i.e. the difference between the predicted development runoff volume and the estimated greenfield volume) until floodwaters have abated.</p> <p>Spillage containment features shall be included in SuDS facilities (emergency shut-off valve chambers on basin outlet); SuDS are to be lined to prevent adverse impacts to groundwater and/ or to provide permanently wetted areas required for ecological enhancement</p> <p>(*Or equivalent SuDS measure agreed through consultation with regulatory authorities. Any changes made to the design by the Contractor must still comply with the residual effects determined through the EIA process (i.e. be no worse than the Proposed Scheme)).</p>	Water quality treatment to road runoff as well as providing attenuation and storage to offset increased runoff area, reducing potentially adverse hydrological/ flood risk issues.	The Water Environment (Controlled Activities) (Scotland) Regulations (CAR) 2011 authorisation; SEPA consultation/ approval
P09-W1a	Multiple discrete locations throughout Proposed Scheme – all un-kerbed roads	Design and Construction	All un-kerbed roads to be provided with 'over-edge' drainage via filter drains (or conveyance swales)	Providing source control and first treatment stage	SEPA consultation/ approval; CAR authorisation; CNPA consultation
P09-W2	ch. 41,750/ northbound side of A9 ch. 43,400/ northbound side of A9 ch. 45,800/ northbound side of A9 ch. 46,100/ northbound side of A9 ch. 47,450/ northbound side of A9 ch. 48,700/ northbound side of A9 ch. 49,000/ northbound side of A9 ch. 49,300/ southbound side of A9 ch. 53,400/ southbound side of A9 ch. 53,700/ southbound side of A9	Design and Construction	<p><b>SuDS basin*</b></p> <p>As per <b>Mitigation Item P09-W1</b> with inclusion of a micro-pool (i.e. 'a pool at the outlet that is permanently wet and improves the pollutant removal system. The ecological value of the system can also be enhanced by including micro-pools or wetland zones at the base' (CIRIA, 2015))</p> <p>(*Or equivalent SuDS measure agreed through consultation with regulatory authorities. Any changes made to the design by the Contractor must still comply with the residual effects determined through the EIA process (i.e. be no worse than the Proposed Scheme)).</p>	Providing additional/ enhanced treatment where required to meet water quality thresholds. Where SuDS encroach into sensitive habitat, provision of micro-pool mitigates potential impact by providing compensatory habitat	SEPA consultation/ approval; CAR authorisation; CNPA consultation

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W3	ch. 42,700/ southbound side of A9 ch. 50,900/ southbound side of A9 ch. 51,300/ southbound side of A9 ch. 53,000/ southbound side of A9	Design and Construction	<b>SuDS pond*</b> Wet retention ponds shall be sized to attenuate and store extreme flood events and restrict outflow to 'greenfield' runoff rates and provide long-term storage. Spillage containment features shall be included in SuDS facilities (emergency shut-off valve chambers on basin outlet); SuDS are to be lined to prevent adverse impacts to groundwater and/ or to provide permanently wetted areas required for ecological enhancement.  (*Or equivalent SuDS measure agreed through consultation with regulatory authorities. Any changes made to the design by the Contractor must still comply with the residual effects determined through the EIA process (i.e. be no worse than the Proposed Scheme)).	Water quality treatment to road runoff as well as providing attenuation and storage to offset increased runoff area, reducing potentially adverse hydrological/ flood risk issues.	SEPA consultation/ approval; CAR authorisation; CNPA consultation
P09-W4	ch. 50,200/ northbound and southbound side of A9	Design and Construction	<b>Swale*</b> Swale sized to attenuate road runoff and provide second stage of treatment. Spillage containment features shall be included in SuDS facilities (emergency shut-off valve chambers at the outlet); SuDS are to be lined to prevent adverse impacts to groundwater and/ or to provide permanently wetted areas required for ecological enhancement.  (*Or equivalent SuDS measure agreed through consultation with regulatory authorities. Any changes made to the design by the Contractor must still comply with the residual effects determined through the EIA process (i.e. be no worse than the Proposed Scheme)).	Water quality treatment to road runoff as well as providing attenuation and storage to offset increased runoff area, reducing potentially adverse hydrological/ flood risk issues.	SEPA consultation/ approval; CAR authorisation; CNPA consultation
P09-W5	ch. 56,150/ southbound side of A9 ch. 56,300/ southbound side of A9	Design and Construction	<b>Tank Sewer &amp; Vortex separator*</b> Use of proprietary SuDS where conventional treatment cannot be accommodated due to spatial constraints (in line with WAT-RM-08 and the SuDS Manual). Spillage containment features shall be included in SuDS facilities (emergency shut-off valve chambers at the outlet).  (*Or equivalent SuDS measure agreed through consultation with regulatory authorities. Any changes made to the design by the Contractor must still comply with the residual effects determined through the EIA process (i.e. be no worse than the Proposed Scheme)).	Providing additional/ enhanced treatment where required to meet water quality thresholds.	SEPA consultation/ approval; CAR authorisation
P09-W6	ch. 45,950 to ch. 46,000/ upstream of Hydro ID 146 ch. 45,900 to ch. 46,100/ downstream of Hydro ID 145 ch. 50,650 to ch. 50,700/ 125m east of A9 mainline ch. 53,050 to ch. 53,150/ 120m west of Chapelpark ch. 53,200 to ch. 53,450/ upstream of Hydro ID 162 ch. 55,200 to ch. 55,250/ upstream of Hydro ID 166	Design and Construction	<b>Compensatory storage areas</b> Size compensatory flood storage to compensate for loss of 200yr functional floodplain. (Final refinement of the road design after the conclusion of DMRB Stage 3 will dictate the exact volumes required and the level breakdown of the provision. Full details shall be provided to SEPA to demonstrate that full like-for-like storage (or the alternative expected) is being provided as has been set out as a requirement in the FRA)	Included to offset any flood storage volume lost due to encroachments (mainline, access, SuDS) into the functional floodplain and avoid increased flood risk downstream	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.*  (Final refinement of the road design after the conclusion of DMRB Stage 3 will dictate the exact volumes required and the level breakdown of the provision. Full details shall be provided to SEPA to demonstrate that full like-for-like storage (or the alternative expected) is being provided as has been set out as a requirement in the FRA)

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W7	All watercourse diversions throughout the Project 9 Proposed Scheme extent	Design and Construction	<b>Watercourse diversions</b> Inclusion of a low flow channel (designed for a 1:2year flow).	Restoration of channels to more natural river morphology facilitating natural channel processes and encouraging sediment transfer through the catchment	CAR authorisation
P09-W8a	ch. 40,450/ Hydro ID 134 ch. 46,050/ Hydro ID 146 ch. 48,350/ Hydro ID 149 ch. 52,600/ Hydro ID 159 ch. 55,250/ Hydro ID 166 ch. 55,600/ Hydro ID 168	Design and Construction	<b>Culverts</b> Adopting a shorter length of culvert where possible	A shorter culvert length will reduce problems associated with blockage, as well as providing ecological benefits as fish will migrate through a short culvert (but be discouraged by a long culvert)	SEPA consultation/ approval/ CAR authorisation
P09-W8b	ch. 51,200/ downstream of Hydro ID 155	Design and Construction	<b>Watercourse Diversion</b> Extended channel to a point downstream of the receptors (properties, B-road) to provide a full 200yr capacity until it ties in with the existing channel.	Avoids directing more water towards residential and non-residential receptors' This regrading of the channel reduces flood risk to the receptors relative to the existing case.	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.*
P09-W8c	ch. 51,250/ upstream of Hydro ID 155	Design and Construction	<b>Drainage channel/ ditch</b> Drainage channel/ ditch provided upstream of track to intercept and divert overland flow away from the track and return it to the channel at the inlet to the culvert.	Reduce overland flow flood risk to access track upstream of watercourse Hydro ID155.	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.  Where the detailed final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.
<b>Project Specific Mitigation</b>					
P09-W9	All culverts throughout Proposed Scheme	Design and Construction	<b>Culverts</b> Inclusion of a low flow channel through the crossing; incorporate an erodible bed through culvert; add scour pool downstream of culvert to dissipate energy; add suitable grade, size, shape and geology of material to culvert bed; increase the roughness of all culvert inverts to help reduce water velocities and keep bed material in the culverts using baffles or embedded cobbles.	To dissipate energy and reduce risk of erosion in line with current standards. Encouraging sediment transfer through the catchment	SEPA consultation/ approval; CAR authorisation

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W10	All structures throughout Proposed Scheme	Design and Construction	<b>Structures</b> Where possible, bridge abutments should be set back from the top of the river banks to limit the requirement for erosion and scour protection. Low flow channels should be maintained or created.	To allow natural migration/ evolution of river morphology, allow natural channel migration and encourage sediment transfer through the catchment without compromising structural integrity, low flow channels to maintain minimum water depth	SEPA consultation/ approval; CAR authorisation
P09-W11	All culverts throughout Proposed Scheme	Design and Construction	<b>Channel restoration</b> Remove the existing hard engineering associated with the existing A9 channels where feasible, within the extents of the Proposed Scheme and replace with varied bank profiles and bed forms, and a natural bed, of a river type suitable for the channel setting.	Restoration to more natural river morphology facilitating natural channel migration and encouraging sediment transfer through the catchment	SEPA consultation/ approval; CAR authorisation
P09-W12	All watercourse diversions throughout Proposed Scheme	Design and Construction	<b>Watercourse diversions</b> Re-create natural planforms with low flow channels, and ensure a suitable channel typology for the setting with varied bed and bank morphology suitable for the channel gradient and type; and use suitable size, shape, geology and grade of substrate material for channel conditions; If erosion protection is deemed necessary at detailed design stage use green bank protection works where feasible. Backfill channels after they have been diverted where this does not compromise land-drainage, to reduce the risk of high flows entering the old channels and causing scour.	Restoration to more natural river morphology facilitating natural channel migration and encouraging sediment transfer through the catchment.	SEPA consultation/ approval; CAR authorisation
P09-W13	All structures throughout Proposed Scheme	Design and Construction	<b>Outfall headwalls</b> Minimise the size/ extent of hard engineering and use green engineering to reduce potential impact on the bed and banks. Direct flow from outfalls downstream to minimise impacts to flow patterns and to reduce the risk of erosion (to the outfall structure and channel bank). Design outfalls (SuDS and drains) to take into account potential future changes in bank and bed position of the receiving channel (to minimise potential impact to engineering works and to allow channel to migrate across floodplain).	Reduce risk of erosion in line with current standards.	SEPA consultation/ approval; CAR authorisation
P09-W14	ch. 47,300/ downstream of Hydro ID 147	Design and Construction	<b>Access Track</b> Realign the access track to Inverton cottage to reduce volume of the encroachment. The crossing will be sized to achieve a neutral or better effect on downstream flood risk.	Significantly reduce volume of encroachment by removing access track from floodplain	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction. Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W15	ch. 50,250/ SuDS basin 493	Design and Construction	<b>SuDS</b> Subject to agreement with SEPA and THC, reduce standard of protection for SuDS basins to minimise encroachment.	Reduce volume of encroachment into floodplain	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction. Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.
P09-W16	ch. 53,400/ downstream of Hydro ID 162	Design and Construction	<b>Access track</b> Lower access track to SuDS basin 534 as far as possible along its full length to mitigate or reduce impacts relating to the changes in flow patterns.	Reduce volume of encroachment by removing access track from floodplain	SEPA and THC consultation/ approval
P09-W17	ch. 52,650/ upstream of Hydro ID 159	Design and Construction	<b>Drainage channel</b> A channel sized to accommodate the 200yr flow in the upstream watercourse will be provided along the top of the cut slope until it reaches the higher ground to the west.	Mitigate effects of the removal of a ridge of high ground that prevents overland flow from the watercourse reaching the road.	SEPA and THC consultation/ approval
P09-W18	ch. 51,200/ downstream of Hydro ID 155	Design	<b>Watercourse Diversion</b> The channel capacity downstream of crossing ID 155 will be increased to mitigate the impact to the non-residential receptor.	Mitigate the impact to the non-residential receptor and minimise likelihood of the channel flowing out of bank at any location along its length in the 200 year event.	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction. Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W19	ch. 40,450/ Hydro ID 134 ch. 40,760/ Hydro ID 136 ch. 44,160/ Hydro ID 143 ch. 44,375/ Hydro ID 144 ch. 46,040/ Hydro ID 146 ch. 48,040/ Hydro ID 148 ch. 51,710/ Hydro ID 157 ch. 52,600/ Hydro ID 159 ch. 55,270/ Hydro ID 166 ch. 52,650/ 159 – Access Track 1 ch. 55,600/ 168 – Access Track 2	Design and Construction	<b>Culverts</b> Baffles or embedded cobbles or similar will be provided on steeper channel crossings.	To increase the roughness of culvert inverts and help reduce water velocities, dissipate energy, reduce downstream scour, and keep bed material in the culverts.	SEPA consultation/ approval; CAR authorisation
P09-W20	ch. 51,200/ upstream of Hydro ID 155	Design	<b>Watercourse Diversion</b> Extend upstream interception channel to the west to mitigate the remaining inundation of the access track.	Mitigate the remaining inundation of the access track.	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.  Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.
P09-W21	ch. 56,200/ Hydro ID 170	Design	<b>Structure Headwall</b> The headwall on the upstream and downstream side of the crossing will be extended to reduce or fully remove the encroachment.	Fully remove the encroachment from functional floodplain.	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.  Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-W22	Throughout the Project 9 Proposed Scheme extent	Design	<b>SuDS</b> Alternate SuDS measures (e.g. swale/ grassed channel) should be considered where HAWRAT results are marginal (i.e. Networks 531 and 537) to optimise treatment efficiency.	Optimise SuDS treatment in spatially constrained area utilising latest information available from Ground Investigation	SEPA consultation/ approval
P09-W23	Throughout the Project 9 Proposed Scheme extent	Operation	<b>Maintenance</b> Risk of blockage of watercourse crossings/ structures will be reduced by regular inspection and maintenance.	Minimise potential flood risk to the Proposed Scheme	SEPA and THC to be consulted specifically on flood risk on the final detailed design prior to construction.  Where the final design deviates from the outline designs on which this ES is based, further flood risk assessment may be required to ensure the effect on flood risk remains neutral.

Table 21-6: Schedule of Environmental Commitments - Ecology and Nature Conservation

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-E1	Throughout Proposed Scheme	Pre-Construction	Pre-construction surveys will be undertaken to verify and, where required, update the baseline ecological conditions set out in the ES. The scope of the pre-construction surveys will be confirmed with SNH prior to them being undertaken.	To update the baseline ecological conditions set out in the ES	SNH
SMC-E2	Throughout Proposed Scheme	Pre-Construction and Construction	<p>Prior to construction a suitably qualified (or team of suitably qualified) Ecological Clerk of Works (ECoW) will be appointed by the Contractor and will be responsible for implementation of the Ecological Management Plan. The ECoW will:</p> <ul style="list-style-type: none"> <li>• Provide ecological advice over the entire construction programme</li> <li>• Undertake or oversee pre-construction surveys for protected species in the areas affected by the proposed scheme; and ensure mitigation measures are implemented to avoid and reduce impacts on ecological features</li> <li>• Monitor the implementation of the mitigation measures during the construction phase to ensure compliance with protected species legislation and commitments within the ES.</li> </ul> <p>The ECoW will be a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and will have previous experience in similar ECoW roles. All ECoWs will be approved by Transport Scotland and be appropriately qualified for the role and compliance will be monitored by the Employer's ecologist.</p> <p>The ECoW will be appointed in advance of the main construction programme commencing to ensure pre-construction surveys are undertaken and any advance mitigation measures required are implemented.</p>	To ensure the implementation of the Ecological Management Plan.	Approval from TS required
SMC-E3	At watercourses throughout Proposed Scheme	Construction	Noise and vibration will be reduced by working back from the river bank where possible or working within a dry area to avoid implications to fish, such as avoidance behaviour and hearing damage. In addition, soft-start techniques will be applied to piling work procedures to enable sensitive species to evacuate the area.	To protect fish species from noise and vibration.	Consultation with the relevant fisheries board
SMC-E4	At watercourses throughout Proposed Scheme	Construction	Where watercourses require temporary dewatering to permit construction activities, fish will be removed by means of electrofishing and relocated prior to dewatering (SFCC, 2007).	To protect fish species during de-watering of watercourse sections.	CAR Licence approved by SEPA
SMC-E5	At watercourses throughout Proposed Scheme	Construction	Water flow/passage will be sufficiently maintained to permit movement of all fish species past areas of dewatering and/or significant alteration of water movement during any construction works within the watercourses. Suitable temporary channels or gravity fed flumes/pipes may be implemented so that movement between areas of habitat can be maintained. Where any over-pumping is required, screens will be used to prevent fish from entering pumps.	To protect fish species during in-channel works.	CAR Licence approved by SEPA
SMC-E6	Throughout Proposed Scheme	Pre-Construction	The Contractor will obtain and comply with the requirements of any protected species derogation licences in respect of works necessary to construct the proposed scheme that are likely to breach all applicable conservation legislation. Licensing may be for the UK and/or European protected species.	To comply with conservation legislation.	SNH

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-E7	Throughout Proposed Scheme	Pre-Construction & Construction	<p>Tree felling and vegetation clearance to be reduced as far as practicable and undertaken outside the core bird nesting season (01 March to 31 August) to avoid damage or destruction of occupied nests or harm to breeding birds.</p> <p>If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for nesting birds by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken.</p> <p>If any nesting birds are identified during the survey, they will be left in situ for their entire nesting period until the young birds have fledged.</p> <p>Alternative approaches to the work will need to be proposed e.g. leaving an exclusion zone around the nest to avoid disturbance.</p> <p>All cleared vegetation will be rendered unsuitable for nesting birds, for example, by covering or chipping depending on the end purpose of the vegetation or will be removed from the works area.</p>	To protect habitat and fauna during bird nesting season.	None required
SMC-E8	Throughout Proposed Scheme	Pre-Construction/ Construction	Any tree felling will be carried out by experienced contractors to reduce direct mortality of protected species according to agreed felling methods between contractors and the ECoW.	To prevent injury or mortality to protected species during tree felling.	None required
SMC-E9	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	Plant and personnel will be constrained to a prescribed working corridor (developed on site) through the use of, where practicable, temporary barriers to minimise the damage to habitats and potential direct mortality and disturbance to animals located within and adjacent to the proposed scheme working corridor.	To protect habitats and fauna.	None required
SMC-E10	Throughout Proposed Scheme	Construction	<p>A construction lighting plan and method statement will be developed by the Contractor. The plan, part of the Species Protection Plans (<b>Mitigation Item P09 – E14</b>), will detail specific mitigation requirements and consider guidance on lighting (e.g. Bat Conservation Trust (2009), Institution of Lighting Professionals (2011) and the Royal Commission on Environmental Pollution (2009)).</p> <p>Where this is not possible the Contractor will agree any exceptions with SNH. Construction lighting design will consider the need to avoid illuminating sensitive fish and mammal (e.g. for bats, otter and badger) habitats in locations such as: adjacent to watercourses; along woodland edges; and, where there is known activity identified through pre-construction ecological surveys (refer to <b>Mitigation Item SMC E1</b>).</p>	To protect sensitive mammal habitats from illumination.	Exceptions to be agreed with SNH
SMC-E11	Throughout Proposed Scheme	Construction	<p>During construction trees will be protected in line with guidelines provided in 'BS 5837 Trees in relation to Construction' (British Standards Institute, 2016). This includes the following:</p> <ul style="list-style-type: none"> <li>• establishment of Root Protection Areas (RPA);</li> <li>• protective fencing will be erected around the RPA to reduce risks associated with vehicles trafficking over roots system or beneath canopies;</li> <li>• selective removal of lower branches of trees to reduce risk of damage by construction plant and vehicles;</li> <li>• prevent soil compaction measures; and</li> <li>• maintain vegetation buffer strips (where practicable).</li> </ul>	To comply with guidelines provided in 'BS 5837 Trees in relation to Construction' (British Standards Institute, 2012).	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-E12	Throughout Proposed Scheme	Construction and Post-Construction	Planting will be undertaken to replace any trees that were intended to be retained which are felled or die as a result of construction works. The size, species and location of replacement trees will be approved by Transport Scotland and other relevant stakeholders.	Replacement of trees lost that are to be retained.	Transport Scotland and other relevant stakeholders
SMC-E13	Throughout Proposed Scheme	Construction	Trenches, holes and pits will be kept covered at night or provide a means of escape for mammals that may become entrapped. Gates to compound areas will be designed sensitively to prevent mammals from gaining access and will be closed at night.	To avoid mammals becoming entrapped in and around compound areas during construction.	None required
SMC-E14	Throughout Proposed Scheme	Construction	Temporary mammal-resistant fencing will be provided around construction compounds following a specification agreed through consultation with Transport Scotland.	To avoid mammals becoming entrapped in and around compound areas during construction.	Transport Scotland
SMC-E15	Throughout Proposed Scheme	Construction	The Contractor will describe within the CEMP the biosecurity strategy to be implemented for the appropriate treatment of invasive, non-native species (INNS). The strategy will set out appropriate construction, handling, treatment and disposal procedures to prevent the spread of INNS in line with recognised best practice.	To prevent the spread of INNS.	None required
<b>Embedded Mitigation</b>					
P09-E1	ch. 40,760/ Hydro ID 134 ch. 41,300 ch. 42,890 (recommended dry mammal underpass) ch. 43,400 (recommended dry mammal underpass) ch. 43,545/ Hydro ID 140 ch. 44,170 ch. 46,100 ch. 48,360/ Hydro ID 149 ch. 48,800 ch. 49,300 ch. 50,100 ch. 50,700 ch. 51,710/ Hydro ID 157 ch. 52,800 ch. 54,395/ Hydro ID 165 ch. 56,200	Design and Construction	Mammal crossings to be provided in the form of a dry ledge through culverts or a dry mammal underpass (where no watercourse is present) above the 1 in 50 year flood level. Dry mammal underpasses are recommended at ch. 42,890 and ch. 43,4000. These will be subject to embankment height and clearance. Where structures have been sized to accommodate larger mammals (e.g. deer) no specific ledges are proposed. This is applicable to the Glentruim Underpass (ch. 41,300), Newtonmore Junction (ch. 43, 400), Knappach Underpass (ch. 48,800), Ruthven Road Underbridge (ch. 49,300), Kerrow Underbridge (ch. 50,700), Chapelpark Underpass (ch. 52,800) and the Wildlife Park Underpass (ch. 56,200). See <b>Environmental Mitigation Drawings 6.1 to 6.12, Volume 3</b> for the location of these features.	To reduce the risk of mortality, allow safe passage of mammals and prevent habitat severance.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E2	ch. 40,450/ Hydro ID 134 ch. 40,760/ Hydro ID 136 ch. 42,050, Hydro ID 138 ch. 43,535/ Hydro ID 140 ch. 43,800/ Hydro ID 142 ch. 44,160/ Hydro ID 143 ch. 44,375/ Hydro ID 144 ch. 45,650/ Hydro ID 145 ch. 46,040/ Hydro ID 146 ch. 48,040/ Hydro ID 148 ch. 48,360/ Hydro ID 149 ch. 51,100/ Hydro ID 154 ch. 51,250/ Hydro ID 155 ch. 51,450/ Hydro ID 156 ch. 51,710/ Hydro ID 157 ch. 51, 890/ Hydro ID 158 ch. 52,650/ Hydro ID 159 ch. 54,395/ Hydro ID 165 ch. 55,270/ Hydro ID 166 ch. 55,590/ Hydro ID 168 ch. 56,150/ Hydro ID 170	Design and Construction	Watercourse/ culvert crossings where natural bed material will be incorporated.	To create suitable hydro-morphological habitat for aquatic species.	None required
P09-E3	Throughout the Proposed Scheme	Design and Construction	Additional information on embedded SuDS mitigation is provided in <b>Chapter 11, Volume 1</b> and <b>Table 21-5</b> .	To provide long-term improvement to water quality within the River Spey Catchment	SEPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Project Specific Mitigation</b>					
P09-E4	Throughout Proposed Scheme	Design and Construction	<p>Temporary construction stage SuDS features will comply with current standards. The relevant Guidance Documents with respect to construction stage SuDS are as follows:</p> <ol style="list-style-type: none"> <li>1. CIRIA C648 – Control of water pollution from linear construction projects, 2006</li> <li>2. CIRIA C649 - Control of water pollution from linear construction projects - Site Guide 2006</li> <li>3. CIRIA C532 – Control of water pollution from construction sites: Guidance for consultants and contractors, 2001</li> <li>4. SP156 – Control of water pollution from construction sites – Guide to Good Practice 2006</li> </ol> <p>Any in-channel works must adopt appropriate sediment control measures to prevent a reduction in water quality downstream</p> <p>Sediment control barriers will be used in works areas adjacent to all watercourses to prevent sediment runoff</p> <p>These barriers will be regularly inspected and maintained; removing large sediment build up and repairing fencing when compromised</p> <p>More information on water quality management and control can be found in <b>Chapter 11, Volume 1</b> and <b>Table 21-5</b>.</p>	To prevent pollution events in the River Spey Catchment and prevent adverse impacts on the following interest features: Atlantic salmon, sea lamprey, FWPM, otter and Arctic charr, foraging osprey.	Consultation with SEPA
P09-E5	Throughout Proposed Scheme and specifically demolition works at the A9 River Spey crossing (ch. 50,200)	Pre-Construction and Construction	<p>Water quality monitoring will continuously be in place in strategically important areas downstream of working areas. These water quality stations will be permanent and remain in the same place throughout construction, data will be logged and reviewed weekly by the site ECoW.</p> <p>In the event pollution incidents occur, this will be investigated to ensure the cause is determined and prevented in future construction works</p> <p>A visual water quality assessment will be made on all tributaries where works are required within the watercourse, or within 10m of the watercourse. Turbidity will be monitored as well as any leaks/ spills from construction works.</p> <p>In the event water becomes turbid or a leak/ spill is suspected, all works must cease, and the water quality stations reviewed for significant changes in water quality.</p> <p>During the demolition of the existing River Spey crossing, a method of catching concrete rubble is required to prevent debris falling into the River Spey. There would include either scaffold out below the bridge to provide a 'crash-deck' for the rubble or provide a form of hanging scaffold to prevent material entering the River Spey.</p> <p>In the worst case, it may be necessary to provide encapsulation of the deck using a proprietary system such as Tufcoat shrink wrap material, Hyspec or similar.</p> <p>Where hydro-demolition is used close to waterbodies, a water recycling system should be used to prevent any contaminated material entering the watercourse. SNH and SEPA will require consultation on demolition working method statements and control measures.</p>	To prevent pollution events in the River Spey Catchment and prevent adverse impacts on the following interest features: Atlantic salmon, sea lamprey, FWPM, otter and Arctic charr.	Consultation with SEPA and SNH

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E6	Throughout Proposed Scheme Additional area for pre-construction drainage investigation at ch. 52,850 (east of existing A9)	Pre-Construction and Construction	<p>A minimum buffer zone of 10m will be in place around watercourses where there are no works currently being undertaken to reduce risk of pollution events or sedimentation. Any works within the 10m buffer zone should be supervised by an ECoW and works should be planned to maintain water flow through the area.</p> <p>This buffer zone will also include areas of flowing surface water such as flushes and springs, which should be marked out and avoided if possible, to prevent loss of hydro-connectivity.</p> <p>Avoid hydrological damage to notable habitats (e.g. blanket bog and flushes, fens and swamps) through control of sediment and chemical run-off using filter drains, soakaways and oil separators.</p> <p>Maintain hydrological connectivity through retention of natural water channels, flushes and wet habitats.</p> <p>Drainage investigation works within the additional area beyond the HML Railway at ch. 52,850 (east of the existing A9) will be supervised by an ECoW to restrict works within SAC qualifying habitats transition mires and quaking bogs and ensure hydrological connectivity to this habitat is maintained. This area is labelled on <b>Environmental Mitigation Drawing 6.9, Volume 3.</b></p>	<p>To reduce the impact on notable habitats and SSSI floodplain fen</p> <p>To prevent pollution events in the River Spey Catchment and prevent adverse impacts on the following interest features: Atlantic salmon, sea lamprey, FWPM, otter and Arctic charr</p> <p>To reduce impact on SAC qualifying habitat transition mires and quaking bogs (additional area).</p>	None required
P09-E7	Throughout Proposed Scheme	Construction	Where watercourses require in-channel works that requires the alteration of the channel, a temporary watercourse diversion will be built to ensure channel connectivity, the diversion will be supervised by the ECoW and fish rescue undertaken when the diversion takes place.	To prevent adverse impacts on Atlantic salmon, sea lamprey and Arctic charr.	None required
P09-E8	Burn of Inverton crossing (ch. 47,350) River Spey crossing (ch. 50,200) Raitts Burn crossing (ch. 53,450)	Pre-Construction, Construction and Post-Construction	<p>The Contractor will undertake pre-construction surveys to confirm the presence of freshwater fish using watercourses within the Proposed Scheme extents. The Contractor will seek to avoid in-channel or bankside works during sensitive periods for relevant species:</p> <ul style="list-style-type: none"> <li>Atlantic salmon: <b>November to May</b> (SNH, 2006)</li> <li>Sea lamprey: <b>June to July</b> (SNH, 2006)</li> <li>Arctic charr: <b>September to January</b> (Walker, 2006)</li> </ul> <p>In addition, percussive construction works (e.g. piling and blasting) in proximity to suitable watercourses will also seek to avoid the sensitive periods for these species, notably migratory fish.</p> <p>If avoidance of percussive works is not possible during these seasons, the Contractor will agree relevant mitigation in consultation with SNH/ SFB based on the results of pre-construction surveys and ongoing monitoring on a case by case basis for each works location which requires percussive construction or demolition.</p> <p>These measures may include:</p> <ul style="list-style-type: none"> <li>bubble curtain within the river</li> <li>a neoprene 'dolly' and interstitial device between the pile and piling hammer</li> <li>'soft start' techniques to reduce hammer drop height</li> </ul> <p>Riparian vegetation should be retained where practicable and excluded from the works areas to avoid incidental loss. If bankside vegetation requires removal to facilitate construction works, these areas will be re-planted upon completion of works.</p>	To prevent disturbance and mortality to Atlantic salmon, sea lamprey and Arctic charr during important life stages.	Consultation with SNH and Spey Fishery Board (SFB)

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E9	Confidential <i>(Refer to Appendix 12.10, Volume 2)</i>	Pre-Construction, Construction and Post-Construction	If pre-construction surveys identify a population of FWPM that could be directly impacted by in-channel working, the Contractor will liaise with SNH to obtain a licence to translocate the FWPMs to a suitable pre-determined receptor site beyond disturbance from the construction works. Riparian habitat along watercourses which support FWPM should be retained where practicable. If riparian vegetation is cleared it should be reinstated post construction.	To prevent damage or mortality to FWPM; and reduce habitat alteration	Consultation with SNH to obtain a licence
P09-E10	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	Where possible, the Contractor will seek to limit the extent and duration of works to minimise habitat disturbance. The Contractor's ECoW will review areas identified for compounds, storage areas, working areas and accesses; and will advise the Contractor on their suitability to avoid disturbance to sensitive habitats. Habitats disturbed or damaged during construction will be reinstated to baseline conditions as shown on <b>Environmental Mitigation Drawings 6.1 to 6.12, Volume 3</b> . In these areas, the Contractor's ECoW will seek to identify new benefit opportunities for biodiversity and advise on how these will be achieved. Specific measures to ameliorate habitats damaged during the construction period will be incorporated into the Contractor's Habitat Management Plan (see <b>Mitigation Item P09-E11</b> ). Areas of trees and woodland felled during construction will be re-planted in-situ using native species of local provenance. However, specific areas have been identified to mitigate impacts on ancient woodland sites felled during construction (see <b>Mitigation Item P09-E12</b> ). Dust emissions from earthworks, material storage and concrete batching will be minimised according to standard construction mitigation provided in detail in <b>Mitigation Item SMC-AQ1</b> in <b>Table 21-9</b> .	To reduce adverse impacts on SSSI floodplain fen, Insh Marshes SAC qualifying habitat alluvial forest ( <i>dust emissions only</i> ) and other notable habitats during construction.	Consultation with SNH and CNPA (where habitat falls outside of designated areas)
P09-E11	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	The Contractor will develop and comply with information presented in the Outline Habitat Management Plan (see <b>Appendix 12.13, Volume 2</b> ) including update surveys, detailed working methods, control measures and monitoring requirements for the restoration of notable habitats damaged during the construction phase.	To reduce adverse impacts on notable habitats (particularly woodland and dry heath) and to reduce adverse impacts on other features (breeding waders and invertebrates) through habitat management.	Consultation with SNH and CNPA
P09-E12	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	Proposed European dry heath and ancient woodland mitigation areas are detailed in the Outline Habitat Management Plan, <b>Appendix 12.13, Volume 2</b> and illustrated on <b>Drawings 6.1 to 6.12, Volume 3</b> . Details of native woodland and shrub planting are provided within the Landscape Chapter (see <b>Chapter 13, Volume 1</b> ) and shown on <b>Environmental Mitigation Drawings 6.1 to 6.12, Volume 3</b> .	To mitigate permanent loss of woodland (including ancient woodland) and dry heath.	Consultation with SNH and CNPA
P09-E13	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	The Contractor will develop and comply with information presented in the Outline Peat Management Plan (see <b>Appendix 10.6, Volume 2</b> ), including an update from pre-construction surveys/ activities, to detail the process and control measures for peat excavation, storage and re-use.	To allow the successful reinstatement of peat habitats such as blanket bog and heath habitats.	Consultation with SNH, SEPA and CNPA



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E14	Throughout Proposed Scheme	Pre-Construction, Construction and Post-Construction	The Contractor will develop and comply with information presented in the Outline Species Protection Plan (see <b>Appendix 12.14, Volume 2</b> ) including: update surveys, detailed working methods, control measures and monitoring requirements for works affecting protected species and their habitats.	To avoid damage or destruction of structures used for shelter by protected species; and avoid mortality of, or disturbance to, protected species.	Consultation with SNH to obtain a licence
P09-E15	Drainage ditch east of the existing A9 (ch. 51,250)	Pre-Construction and Construction	The Contractor will undertake pre-construction surveys to confirm the population of water vole and extent of burrows within the works area. The Contractor will liaise with SNH to acquire a protected species licence in advance of any construction activity, which will specify working methods to limit damage or disturbance to water vole and their burrows during the construction period. This will detail any specific mitigation/ compensation for any loss of burrows including location of receptor sites and methods for translocating affected water vole.	To prevent destruction of water vole burrows; and avoid mortality or injury to water vole.	Consultation with SNH to obtain a licence
P09-E16	Chapelark east of the existing A9 (ch. 52,800 to ch. 53,000)	Construction and Post – Construction	The Contractor will seek to minimise woodland loss around the Chapelark area. Woodland/ scrub affected during the construction period will be re-planted in areas surrounding Chapelark upon the completion of works (see label on <b>Environmental Mitigation Drawing 6.9, Volume 3</b> ).	To reduce the impact of habitat loss (commuting corridors) on bats roosting in the farm steading at Chapelark.	None required
P09-E17	East of the existing A9 between ch. 54,800 and ch. 55,800 Glentruim railway bridge (ch. 40,600) and Coulintyre Cottage (ch. 56,200)	Pre-Construction and Construction	Lighting required for construction will avoid illuminating woodland habitat present to the east of the existing A9 between ch. 54,800 and ch. 55,800 where high bat activity was recorded. Pre-construction surveys will be undertaken to confirm the number of bats roosting within Glentruim railway bridge and Coulintyre Cottage. If bats are present, the Contractor will liaise with SNH to acquire a European protected species licence in advance of any construction activity which will specify working methods and detail specific mitigation.	To prevent light disturbance to foraging bats. To prevent destruction of bat roosts and avoid mortality or injury to bats.	Consultation with SNH to obtain a European Protected Species licence
P09-E18	Throughout Proposed Scheme	Pre-Construction and Construction	The Contractor will undertake pre-construction surveys to confirm the presence and extent of red squirrel within the Proposed Scheme extents. The Contractor will seek to minimise loss of woodland containing red squirrel dreys. Where loss of woodland is unavoidable, the Contractor will obtain a licence from SNH in advance of any tree-felling works. The SNH licence will detail pre-construction survey findings, relevant working methods and control measures. Where works are undertaken during the red squirrel breeding season (February – September) a 50m exclusion zone should be provided around any breeding dreys. If monitoring confirms dreys in proximity to works are not used for breeding a smaller protection zone will be required. Blasting works to the east of the existing A9 between ch. 43,700 to ch. 43,900 and ch. 44,600 to ch. 45,000 should avoid the red squirrel breeding season. If avoidance is not possible, a 100m exclusion zone should be provided around any breeding dreys identified during pre-construction surveys. If monitoring confirms any dreys in proximity to blasting are not used for breeding an alternative buffer zone can be agreed through consultation with SNH.	To prevent destruction or damage of dreys; and avoid mortality and disturbance to red squirrel.	Consultation with SNH to obtain a licence and agree appropriate exclusion zones

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E19	West of the existing A9, ch. 43,500	Post Construction	Compensatory tree-planting surrounding Ralia Lodge will seek to incorporate species that are suitable for red squirrel (see <b>Environmental Mitigation Drawing 6.3, Volume 3</b> ).	To mitigate the permanent loss of red squirrel habitat around the Newtonmore Junction.	None required
P09-E20	Throughout Proposed Scheme	Construction	The Contractor will have regard to the potential presence of reptiles within the Proposed Scheme. As required, the Contractor will liaise with the ECoW to programme works to avoid impacts on active reptiles (e.g. April to October inclusive) including phased vegetation clearance (to displace animals in adjoining habitats unaffected by construction activities) and avoid storing material/ equipment directly on the ground. Should reptiles be found during clearance works, the ECoW will carefully move them from the works area to a nearby area of quality habitat with suitable linkages to the wider area where they can disperse from construction activities. Dismantling of potential hibernacula habitat (e.g. rock piles, log piles and stone walls) shall not be carried out during the hibernation season (e.g. November to March inclusive).	To prevent reptile mortality or injury during construction.	None required
P09-E21	Throughout Proposed Scheme	Pre – Construction and Construction	To ensure effective use of underpasses, minimum of 100m otter-proof fencing will be provided either side of the underpass and on each side of the road, in advance of the operational stage for crossings where mammal ledges are provided. Deer-proof fencing 500m either side of underpasses and on each side of the road, will be incorporated into boundary fencing installed around ch. 41300; ch. 48,800; ch. 49,300; ch. 52,800; and ch. 56,200. Where both otter and deer fencing are required in the same location, an integrated fence suitable for both will be incorporated to avoid unnecessary double fencing. See <b>Environmental Mitigation Drawings 6.1 to 6.12, Volume 3</b> for the location of fencing within the Proposed Scheme.	To reduce the risk of otter road mortality and deer vehicle collisions.	None required
P09-E22	Throughout Proposed Scheme	Construction	Where possible, works over major watercourse crossings should be undertaken during daylight hours. As far as practicable, the Contractor will phase works over major watercourse crossings to maintain otter permeability under the road network and minimise potential increase in otter road mortality.	To reduce risk of otter road mortality and fragmentation of otter habitat.	None required
P09-E23	Throughout Proposed Scheme	Construction	Where possible, works on bridge and culvert structures will be restricted to daylight hours and permeability through the road network should be maintained throughout construction.	To reduce the risk of wildcat road mortality	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E24	ch. 45,200 to ch. 47,000 (Nuide Farm) east/ west of existing A9. ch. 51,700 to ch. 52,200 (Cemetery Marsh compartment) east of existing A9. Additional area to facilitate pre-construction drainage investigations at ch. 52,850 (Lynchat compartment) east of existing A9.	Design and Construction	<p><b>Nuide Farm:</b> Excavation works associated with the Compensatory Flood Storage Areas (CFSAs) and SuDS features will be undertaken outwith the breeding bird season (March to August inclusive). The two CFSAs around Nuide Farm will be designed to create suitable habitat for breeding waders. These areas are labelled on <b>Environmental Mitigation Drawing 6.5, Volume 3</b>. Further detail regarding the management of these areas provided Section 7 of the OHMP <b>Appendix 12.13, Volume 2</b>.</p> <p><b>Cemetery Marsh compartment:</b> Works associated with the drainage outfall east of the existing A9 (ch. 52,000) within Cemetery Marsh will be undertaken outwith the breeding season (March to August inclusive). Where practicable visual screening will be installed around temporary works areas / haul routes and pedestrian access routes in close proximity to Cemetery Marsh NNR compartment to minimise visual disturbance due to the presence of people and plant.</p> <p><b>Lynchat compartment:</b> Drainage investigation works within the additional area of land beyond the HML railway will be undertaken out with the breeding bird season (March to August inclusive). This area is labelled on <b>Environmental Mitigation Drawing 6.9, Volume 3</b>.</p>	To avoid damage to wader ground nests and avoid disturbance to breeding wigeon, SSSI breeding bird assemblage and Strathspey breeding bird assemblage; and to mitigate permanent loss of wader habitat around Nuide Farm.	None required
P09-E25	Dellmore of Kingussie	Functional prior to the first affected breeding season	Creation of a minimum of 36 ha of breeding wader habitat within Dellmore of Kingussie through a combination of hydrological and vegetation management (see <b>Appendix 6.2, Volume 2</b> ).	To mitigate habitat loss, displacement and disturbance to SSSI and Strathspey breeding waders within the Insh Marshes NNR around the A9 River Spey crossing (primarily within the Ruthven compartment).	Consultation with SEPA regarding works affecting the water environment; and SNH for works affecting protected species.

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E26	A9 River Spey crossing and A9 HML Railway crossing (ch. 49,300 to ch. 50,600)	Construction	<p>The Contractor will programme works to commence within Insh Marshes once alternative breeding habitat is available within Dellmore of Kingussie, which will be functional prior to the first affected breeding season.</p> <p>The Contractor will install temporary stock-proof fencing within Insh Marshes to demarcate the extent of the works areas; and minimise incidental damage/ disturbance to adjoining bird habitats within Insh Marshes.</p> <p>The Contractor will where necessary modify potential nesting habitats within the works areas. Modifications will be advised by the ECoW in consultation with SNH and RSPB prior to the nesting bird season (March to August inclusive).</p> <p>Suitable measures will also be taken to deter the precocial (quickly mobile) young of waders and wildfowl entering the embankment. This will include incorporating ground-level physical barriers into fencing along the embankment (e.g. narrow-mesh fencing). Fencing will be present during the construction and operational phase.</p> <p>Where practicable visual screening will be installed around temporary works areas / haul routes and pedestrian access routes through Insh Marshes to the east of the site boundary to minimise visual disturbance due to the presence of people and plant. Acoustic protection will be placed around stationary plant such as generators.</p> <p>Should percussive works (e.g. piling or mechanical concrete breaking) be required during bird breeding season (March to August inclusive), pre-works monitoring for breeding wigeon presence and consultation with SNH and RSPB is required to agree local controls on works exclusion zones or time.</p> <p>Excavation works associated with the drainage outfall pipe east of the existing A9 (ch. 50,500) will be undertaken outwith the breeding bird season (March to August inclusive).</p> <p>Where possible no works will be undertaken between sunset and sunrise to avoid disturbance to non-breeding hen harrier. Demolition of the HML crossing is likely to be required at night during the overwintering period. To ensure active hen harrier roosts are not disturbed monitoring of bird activity at dusk will be undertaken to check for presence of roosts within 500m.</p> <p>The ECoW will monitor whooper swans within adjoining habitats and advise on any specific mitigation required to minimise disturbance, particularly during flood conditions and extremely cold weather when overwintering birds are more vulnerable to disturbance.</p> <p>Restoration of any temporary works areas required within the SPA/ NNR will be undertaken to pre-construction conditions, or to a specification agreed with SNH / RSPB which aligns with habitat management aims for the site using best practice habitat restoration methodology. Restoration measures will be described in greater detail in the final Habitat Management Plan (HMP).</p> <p>The northbound embankment of the existing A9 will be lowered to the same level as the surrounding land. This area will be managed to create wader habitat and is labelled on <b>Environmental Mitigation Drawing 6.7, Volume 3</b>. Some further detail regarding the management of this area is provided in Section 7 of the OHMP <b>Appendix 12.13, Volume 2</b> however, full details will be provided in the HMP.</p>	<p>To reduce adverse impacts to breeding and non-breeding birds associated with the River Spey - Insh Marshes SPA, SSSI and NNR (including Strathspey breeding wader assemblage).</p> <p>To prevent direct mortality of wader chicks through collision with vehicles.</p> <p>Dellmore provides mitigation for habitat loss, disturbance and displacement of SSSI/ Strathspey breeding waders from habitats around the A9 River Spey crossing (primarily within the Ruthven compartment).</p>	<p>Consultation with SNH and RSPB</p>

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-E27	A9 River Spey crossing and A9 HML Railway crossing (ch. 49,300 to ch. 50,600)	Construction	Piling operations will use a soft start method for a minimum of the first 20 minutes of each driven pile or period of piling to minimise disturbance to breeding and non-breeding birds.	To avoid disturbance to notable breeding and non-breeding bird species.	None required
P09-E28	Throughout Proposed Scheme (crossbill) East of existing A9 between ch. 40,000 to ch. 43,000 (black grouse)	Pre-construction and Construction	<p><b>Standard Mitigation Item SMC-E7</b> specifies tree-felling and vegetation clearance will be undertaken out with the core breeding bird season (i.e. works will be undertaken between September to February).</p> <p>Crossbill species begin breeding earlier in the season (January and February) therefore the Contractor will programme tree-felling works to be carried out between September and December inclusive.</p> <p>If this is not possible, the ECoW will monitor conifer trees for evidence of nesting crossbill in advance of works, which will include a specific visual check of potential nesting habitat 24 hours before tree felling works are carried out.</p> <p>Should any nesting crossbill be detected, tree-felling will be rescheduled once breeding has been completed, as confirmed by the ECoW.</p> <p>Works within 500m of black grouse lek sites (confirmed through pre-construction surveys and ongoing monitoring) will be timed to avoid disturbance to grouse at lek sites.</p> <p>Construction work will be avoided 1 hour before dawn and 1 hour after dawn during the spring lekking period (March and April).</p>	To prevent disturbance to breeding crossbill and black grouse lek sites	None required
<b>Project Monitoring Requirements</b>					
P09-E29	As described in Mitigation Item P09-E1	Post-construction	<p>Inspections of mammal ledges and tunnels will be undertaken during operational years. Inspections need to include checking for evidence of use on the lead up to and in and around the ledges.</p> <p>This will include footprints, spraint, feeding remains and any other field signs which will indicate their use.</p>	To determine if structures are being used by target species	Transport Scotland
P09-E30	Throughout Proposed Scheme	Post-Construction	<p>The Contractor will specify relevant specific monitoring requirements for habitat and species mitigation in the relevant Habitat Management Plan, Species Protection Plan and/ or SNH licence.</p> <p>Long-term monitoring requirements will be agreed between Transport Scotland and the relevant statutory consultees.</p>	To determine if mitigation and/ or habitat restoration is successful	SNH Transport Scotland/ Operating Company

Table 21-7: Schedule of Environmental Commitments - Landscape and Visual

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-LV1	Throughout Proposed Scheme	Construction	The construction programme will be kept to the minimum practicable time to reduce the duration of any landscape and visual impacts and areas will be cleared for construction as close as possible to works commencing and topsoiling, reseeding and planting shall be undertaken as soon as practicable after sections of work are complete.	To reduce the duration of any landscape and visual impacts	None required
SMC-LV2	Throughout Proposed Scheme	Pre-Construction and Construction	As far as practicable, construction plant and materials storage areas will be appropriately sited to minimise their landscape and visual impact.	To reduce landscape and visual impact of plant and material storage areas.	None required
SMC-LV3	Throughout Proposed Scheme	Construction	Construction sites will be kept tidy (e.g. free of litter and debris).	To reduce visual impact of construction sites	None required
SMC-LV4	Throughout Proposed Scheme	Construction	Work during hours of darkness will be avoided as far as practicable, and where necessary, directed lighting will be used to minimise light pollution/glare. Lighting levels will be kept to the minimum necessary for security and safety.	To reduce light pollution/glare during night-time working.	None required
SMC-LV5	Throughout Proposed Scheme	Construction	To protect soil quality for the purposes of landscape planting, the following measures will be implemented: <ul style="list-style-type: none"> <li>• Uncontaminated topsoil for re-use shall be stored in un-compacted mounds no more than 2m in height, and stored separately from subsoil material. Topsoil stripped from areas designated as Ancient Woodland shall be stored separately to all other topsoil and sub-soil material, in un-compacted mounds no more than 2m in height.</li> <li>• Stripped topsoil shall be used in areas of the same proposed vegetation type to utilise the existing natural seed bank.</li> <li>• Subsoil in planting areas shall be replaced after construction and ripped to a minimum of 450 mm prior to topsoiling and planting.</li> </ul> Proposed planting areas in existing arable and pasture land, not subject to construction activity, will be ripped to 600 mm to alleviate compaction.	To protect soil quality for the purposes of landscape planting.	None required
SMC-LV6	Throughout Proposed Scheme	Construction	The construction will be managed such that the loss of any existing woodland, scrub, heath, mire, grassland vegetation, marshland, swamps and isolated trees and shrubs not affected by the permanent works is minimised.	To limit vegetation loss as far as practicable.	None required
SMC-LV7	Throughout Proposed Scheme	Pre-Construction	All existing trees and shrubs not affected by the construction of the permanent works shall be fenced off with a suitable type of temporary fencing in accordance with BS5837. Fencing shall extend to the drip line of the tree canopies (unless otherwise agreed by an arboricultural advisor), and shall be erected prior to any construction activities in that area and shall remain for the entire period of construction in that area.	To protect existing trees and shrubs unaffected by the Proposed Scheme.	None required
n/a (note)	n/a	n/a	Further to the above, mitigation items SMC-E7 and SMC-E8 (as detailed in Chapter 12 and Table 21-6 (Ecology and Nature Conservation)) will be implemented to protect vegetation which is identified to be retained.	To protect vegetation which is identified to be retained	n/a

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Embedded Mitigation</b>					
P09-LV1	<p><b>Level 3 chainages:</b> Southbound: ch. 40,050 to ch. 41,150 ch. 46,800 to ch. 47,350 ch. 47,400 to ch. 48,050 ch. 49,400 to ch. 49,950 ch. 50,200 to ch. 50,500</p> <p><b>Level 3 chainages:</b> Northbound: ch. 46,300 to ch. 47,050 ch. 49,300 to ch. 49,950 ch. 50,200 to ch. 50,500 ch. 53,600 to ch. 54,300</p>	Design and Construction	<p><b>Slope treatment</b> Landscape Architects have assisted in setting the slope gradients from the A9 verge to the surrounding land. The assessment within <b>Chapter 13</b> and initial design work has identified three levels of landform sensitivity as follows:</p> <p>Level 1: Slopes where it is appropriate to plant trees, and sections of rock cut Level 2: Open landscapes that have relatively minor topographic variation that only require specification to ensure that the earthworks are softened and reflect the surrounding landform to some extent Level 3 Priority Areas: There are some specific locations that are within open landscape and therefore landform sensitive areas that will require a detailed specification of slope. Most of these are specific locations within the Level 2 overall area but there are also some isolated locations.</p> <p>Level 1 areas are generally of limited size and length and will be identified at detailed design. Level 2 areas are likewise limited in extent and will be identified at detailed design stage Level 3 Priority areas have been identified between the chainages indicated in the column to the left. See <b>Mitigation Item P09-LV6</b> for further information.</p>	To mitigate adverse landscape and visual effects of the Proposed Scheme from sensitive receptors/ users; slopes to have a natural appearance so that they blend into the very open surrounding landscape and contain appropriate planting as shown on the <b>Environmental Mitigation Drawings and Indicative Cross Sections 6.1 to 6.19 in Volume 3.</b>	Not Applicable

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV2	<p>Approx. ch. 40,640 to ch. 40,710 (C1137 retention) – 7.5m high and 70m long</p> <p>Approx. ch. 535 to ch. 605 (Ralia Café) – 1.95m high, 70m long</p> <p>Approx. ch. 625 to ch. 665 (Ralia Café) – 1.35m high, 40m long</p> <p>Approx. ch. 685 to ch. 775 (Ralia Café) – 1.7m high, 90m long</p> <p>Approx. ch. 42,750 to ch. 42,850 (NB) (A9 at Raliabeag) – 1m high, 100m long</p> <p>Approx. ch. 44,360 to ch. 44,480 (NB) (U3063 retention between A9 and side road) – 1m high, 120m long</p> <p>Approx. ch. 44,700 to ch. 44,730 (NB) (U3063 retention between A9 and side road) – Variable height (max 900mm, min 300mm), 30m long</p> <p>Approx. ch. 44,810 to ch. 44,855 (NB) (U3063 retention between A9 and side road) – 2.1m high, 45m long</p> <p>Approx. ch. 45,055 to ch. 45,130 (NB) (U3063 retention between A9 and side road) – Variable height (max 3m, min 2m), 75m long</p> <p>Approx. ch. 52,020 to ch. 52,380 (NB) (Raitts Cave Lay-by) – Variable height (max 4.5m, min 3m), 360m long</p>	Design and Construction	<p><b>Retaining Walls</b></p> <p>These have been considered in regard the surrounding topography, to reduce the footprint of the scheme within the landscape.</p> <p>Detailed design drawings and specifications for each location shall be produced as part of the contract documents, and as indicated on the <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> subject to detailed design.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Lynchat and Balavil LLCA.</p> <p>Also to mitigate adverse visual effects on views from vehicle user and residents of Lynchat and Balavil. To optimise traveller experience while fitting into the open surrounding landscape.</p>	Transport Scotland



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV2 (continued)	Approx. ch. 52,430 to ch. 52,500 (SB) (Lynchat retention between A9 and track) – 1.2m high, 70m long Approx. ch. 53,475 to ch. 53,590 (NB) (Balavil Entrance Wall) – 2.5m high, 122m long Approx. ch. 53,610 to ch. 53,685 (NB) (Balavil Entrance Wall) – 2.5m high, 80m long Approx. ch. 52,430 to ch. 52,500 (NB) (Balavil Ha-Ha) – 3.5m high, 115m long Approx. ch. 53,810 to ch. 53,850 (Balavil Ha-Ha) – 3.5m high, 40m long Approx. ch. 55,500 to ch. 55,640 (Highland Wildlife Park Service Road) – 10.6m high, 140m long Approx. ch. 55,710 to ch. 55,950 (Highland Wildlife Park Service Road) – 7m high, 240m long	Design and Construction	<p><b>Retaining Walls</b></p> <p>These have been considered in regard the surrounding topography, to reduce the footprint of the scheme within the landscape.</p> <p>Detailed design drawings and specifications for each location shall be produced as part of the contract documents, and as indicated on the <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> subject to detailed design.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Lynchat and Balavil LLCA.</p> <p>Also to mitigate adverse visual effects on views from vehicle user and residents of Lynchat and Balavil. To optimise traveller experience while fitting into the open surrounding landscape.</p>	Transport Scotland
P09-LV3	Approx. ch. 43,670 to ch. 43,900 (SB) – Variable height (max 10m, min 1.65m), 230m long Approx. ch. 44,650 to ch. 45,050 (SB) – Variable height (max 14m, min 3.7m), 400m long	Design and Construction	<p><b>Rock Cutting</b></p> <p>Geotechnical advice should be followed together with that of landscape architects, with regards the design of these cuttings in relation to stability, the need for artificial support, and slope angles, and they should aim to achieve a natural feature to reflect the existing local landscape character as part of the contract documents, and as indicated on <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> of this report, subject to detailed design.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Ralia and Cairn/ Nuide LLCAs.</p> <p>Also to mitigate adverse visual effects and optimise traveller experience while fitting into the open surrounding landscape.</p>	Transport Scotland

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV4	Throughout Proposed Scheme	Design and Construction	<p><b>SuDS basins</b></p> <p>Landscape Architects have influenced the design of the SuDS that form part of the Proposed Scheme and will continue to work alongside engineers within the detailed design to finalise the SuDS basins.</p> <p>These have been shaped as best possible to blend into surrounding topography and to look like natural features within this open landscape.</p> <p>See <b>Mitigation Item P09-LV9</b> and <b>Indicative SuDS Drawings 6.20 to 6.23</b> within <b>Volume 3</b> for further information.</p>	To mitigate adverse landscape and visual effects of the SuDS basins from sensitive receptors.	None required
P09-LV5	ch. 49,900 to ch. 50,250	Design, Construction and Operation	<p><b>Bridge over the River Spey</b></p> <p>The Bridge over the River Spey has been designed to be a low profile option, so that it sits low on the horizon line (similar to the existing).</p> <p>See <b>Mitigation Item P09-LV18</b> and <b>P09-LV19</b> and <b>Drawings 14.74 to 14.76</b> in <b>Volume 3</b> for indicative photomontages.</p>	To mitigate adverse landscape and visual effects of the Spey bridge from sensitive receptors.	None required
<b>Project Specific Mitigation</b>					
P09-LV6	Throughout Proposed Scheme	Design and Construction	<p><b>Slope treatment</b></p> <p>New embankments and cuttings for all level 1, 2 and 3 slopes shall be feathered into the toe/ top of existing gradients at varying profiles to form slopes of natural appearance that integrate into the sensitive landscape context.</p> <p>For Level 3 Priority Areas, drawings and specifications for each location shall be produced as part of the contract documents, subject to detail design and TS approval.</p> <p>This will detail the desired contours, with cross sections to indicate how these slopes should be finished.</p> <p>Types of planting will be location specific and in line with the developed <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b>, contained within <b>Volume 3</b> of this report.</p>	To mitigate adverse landscape and visual effects of the Proposed Scheme from sensitive receptors; slopes shall have a natural appearance so that they blend into the very open surrounding landscape and contain appropriate planting as shown on the <b>Environmental Mitigation Drawings and Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> .	Transport Scotland

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV7	<p>Approx. ch. 40,640 to ch. 40,710 (C1137 retention) – 7.5m high and 70m long</p> <p>Approx. ch. 535 to ch. 605 (Ralia Café) – 1.95m high, 70m long</p> <p>Approx. ch. 625 to ch. 665 (Ralia Café) – 1.35m high, 40m long</p> <p>Approx. ch. 685 to ch. 775 (Ralia Café) – 1.7m high, 90m long</p> <p>Approx. ch. 42,750 to ch. 42,850 (NB) (A9 at Raliabeag) – 1m high, 100m long</p> <p>Approx. ch. 44,360 to ch. 44,480 (NB) (U3063 retention between A9 and side road) – 1m high, 120m long</p> <p>Approx. ch. 44,700 to ch. 44,730 (NB) (U3063 retention between A9 and side road) – Variable height (max 900mm, min 300mm), 30m long</p> <p>Approx. ch. 44,810 to ch. 44,855 (NB) (U3063 retention between A9 and side road) – 2.1m high, 45m long</p> <p>Approx. ch. 45,055 to ch. 45,130 (NB) (U3063 retention between A9 and side road) – Variable height (max 3m, min 2m), 75m long</p> <p>Approx. ch. 52,020 to ch. 52,380 (NB) (Raitts Cave Lay-by) – Variable height (max 4.5m, min 3m), 360m long</p>	Design and Construction	<p><b>Retaining Walls</b></p> <p>Landscape Architects will be involved in the detail design of the natural stone treatment to the retaining walls that form part of the Proposed Scheme at detail design.</p> <p>Retaining wall facades shall be faced with a natural stone treatment.</p> <p>Detailed design drawings and specifications for each location shall be produced as part of the contract documents, and as indicated on the indicated on <b>Environmental Mitigation Drawings and Indicative Cross Sections 6.1 to 6.19 in Volume 3</b> of this report, subject to detailed design as additional mitigation.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Lynchat and Balavil LLCA.</p> <p>Also to mitigate adverse visual effects and to optimise traveller experience while fitting into the open surrounding landscape.</p> <p>The combined use of materials/ treatment of the extensive retaining walls would diffuse the incongruous appearance of the homogenous concrete retaining walls therefore reducing their impact, and improving their fit within the wider landscape.</p>	Transport Scotland

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV7 (continued)	Approx. ch. 52,430 to ch. 52,500 (SB) (Lynchat retention between A9 and track) – 1.2m high, 70m long Approx. ch. 53,475 to ch. 53,590 (NB) (Balavil Entrance Wall) – 2.5m high, 122m long Approx. ch. 53,610 to ch. 53,685 (NB) (Balavil Entrance Wall) – 2.5m high, 80m long Approx. ch. 52,430 to ch. 52,500 (NB) (Balavil Ha-Ha) – 3.5m high, 115m long Approx. ch. 53,810 to ch. 53,850 (NB) (Balavil Ha-Ha) – 3.5m high, 40m long Approx. ch. 55,500 to ch. 55,640 (Highland Wildlife Park Service Road) – 10.6m high, 140m long Approx. ch. 55,710 to ch. 55,950 (Highland Wildlife Park Service Road) – 7m high, 240m long	Design and Construction	<p><b>Retaining Walls</b></p> <p>Landscape Architects will be involved in the detail design of the natural stone treatment to the retaining walls that form part of the Proposed Scheme at detail design.</p> <p>Retaining wall facades shall be faced with a natural stone treatment.</p> <p>Detailed design drawings and specifications for each location shall be produced as part of the contract documents, and as indicated on the indicated on <b>Environmental Mitigation Drawings and Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> of this report, subject to detailed design as additional mitigation.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Lynchat and Balavil LLCA.</p> <p>Also to mitigate adverse visual effects and to optimise traveller experience while fitting into the open surrounding landscape.</p> <p>The combined use of materials/ treatment of the extensive retaining walls would diffuse the incongruous appearance of the homogenous concrete retaining walls therefore reducing their impact, and improving their fit within the wider landscape.</p>	Transport Scotland
P09-LV8	Approx. ch. 43,670 to ch. 43,900 (SB) – Variable height (max 10m, min 1.65m), 230m long Approx. ch. 44,650 to ch. 45,050 (SB) – Variable height (max 14m, min 3.7m), 400m long	Design and Construction	<p><b>Rock Cutting: Planting</b></p> <p>Landscape architects shall advice regarding the planting in pockets within rock cut areas, in conjunction with geotechnical engineer’s advice, as part of the contract documents, and as indicated on the indicated on <b>Environmental Mitigation Drawings and Indicative Cross Sections 6.1 to 6.19</b> in <b>Volume 3</b> of this report, subject to detailed design as additional mitigation.</p>	<p>To mitigate adverse landscape effects on the landscape characteristics of the LCA, LLCAs, landscape features and landscape perceptions, particularly Ralia and Cairn/Nuide LLCAs.</p> <p>Also to mitigate adverse visual effects and to optimise traveller experience while fitting into the open surrounding landscape/ view.</p>	Transport Scotland

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV9	Throughout Proposed Scheme	Design and Construction	<p><b>SuDS basins design refinement</b></p> <p>Further design shall integrate SuDS basins with roadside slopes (including slopes to access tracks) at all SuDS basins.</p> <p>SuDS basins are landform sensitive and shall look as natural as possible to blend into the surrounding open landscape.</p> <p>Appropriate seeding and planting is required as specified on <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b> contained within <b>Volume 3</b> of this report.</p> <p>Please also refer to <b>Indicative SuDS Mitigation Drawings 6.20 to 6.23</b> within <b>Volume 3</b>.</p>	To mitigate adverse landscape and visual effects of the SuDS basins from sensitive receptors.	Transport Scotland
P09-LV10	Throughout Proposed Scheme	Design, Construction and Operation	<p><b>Planting (including seeding) to either side of the road</b></p> <p>Planting should be as specified on <b>Environmental Mitigation Drawings</b> and <b>Indicative Cross Sections 6.1 to 6.19</b>, contained within <b>Volume 3</b> of this report.</p> <p>All planting has been designed to be appropriate to the setting of the scheme and to reduce adverse visual effects from sensitive receptors.</p>	To ensure the enjoyment of the highly scenic landscape is possible and reduce adverse landscape and visual effects of the Proposed Scheme.	None required
P09-LV11	Throughout Proposed Scheme	Design, Construction and Operation	<p><b>Road signage/ furniture</b></p> <p>Minimisation of roadscape features such as signs and barriers at more open areas.</p> <p>These items are expected along a road scheme of this nature, however minimising them to the necessary requirements will help with the enjoyment of the high quality landscape surrounding.</p>	To ensure the enjoyment of the highly scenic landscape is possible for visual receptors, primarily road users, NCN7 users and HML railway users, and to reduce adverse landscape effects of the Proposed Scheme, primarily to the character of the LLCA, NCN7 and HML railway.	None required
P09-LV12	ch. 42,800, ch. 43,100 to ch. 43,200 and ch. 48,600 to ch. 48,800	Design, Construction and Operation	<p><b>Landform Areas</b></p> <p>Parcels of land at the aforementioned chainages have been identified that require land re-profiling. Material will be placed in these areas and sculpted based on designs from Landscape Architects to tie into existing landform and topography.</p>	To ensure landform in adjacent areas to the A9 ties into the existing topography, re-profiling areas with a natural gradient and thereby minimising adverse landscape effects to the LLCA and LCA.	None required
P09-LV13	ch. 41,500 to ch. 42,000 (NB)	Design, Construction and Operation	<p><b>Ralia left in left out and SuDS basin 417</b></p> <p>Planting to the Ralia left in left out is to be delivered as specified on <b>Environmental Mitigation Drawings 6.1 to 6.12</b>, contained within <b>Volume 3</b>.</p> <p>Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.14 (Section D-D')</b>, contained within <b>Volume 3</b>.</p> <p>Planting structure around the junction will comprise trees, shrubs and low level heath and grassland to suit landscape.</p> <p>This will mitigate the loss of tree planting at this location. Appropriate planting to SuDS basin 417 as this will likely be visible from this junction.</p>	To reduce adverse landscape and visual effects from sensitive landscape and visual receptors, road users, HML railway users and NMUs, to reinstate any vegetation removal and to aid some screening of the Proposed Scheme.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV14	ch. 43,000 to ch. 43,600	Design, Construction and Operation	<p><b>Newtonmore Junction</b> Slopes to the Newtonmore Junction require further detailed design mitigation as a landform sensitive area as noted in <b>Mitigation Item P09-LV1</b>. Planting to the Newtonmore Junction is to be delivered as specified on <b>Environmental Mitigation Drawings 6.1 to 6.12</b>, contained within <b>Volume 3</b>. Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.13 (Section A-A')</b>, contained within <b>Volume 3</b>. Planting structure around the junction will comprise trees, shrubs and low level heath and grassland to suit landscape, to allow certain aspects of the engineered junction to be screened. Planting structure around the junction will comprise trees, shrubs and low level heath and grassland to suit landscape. This will mitigate the loss of tree planting at this location.</p>	To mitigate adverse landscape and visual effects of the new junction infrastructure.	None required
P09-LV15	ch. 44,800 to ch. 45,100	Design, Construction and Operation	<p><b>Soil nailing</b> Pockets should be installed within the area of soil nailing to allow larger planting to take place, such as shrub and tree planting to soften the appearance of the soil nailing.</p>	To mitigate adverse landscape and visual effects of the soil nailing.	Transport Scotland
P09-LV16	ch. 48,800 to ch. 49,300	Design, Construction and Operation	<p><b>Profiling of landform along mainline at Ruthven Properties</b> Along the southbound carriageway, the earthworks along the mainline will be mounded and then blended into the adjacent field to create a feature that protects landscape character and visual amenity. This is as indicated on Environmental <b>Mitigation Drawing 6.7 and Indicative Mitigation Cross Section drawing 6.15 (Section J-J')</b>, in <b>Volume 3</b> subject to detailed design.</p>	To mitigate adverse landscape effects of the Proposed Scheme on the landscape character of the land adjacent to Ruthven Cottage, Ruthven Park, Ruthven House and Ruthven Steadings and on the LLCA and LCA. To also screen views from these properties from the Proposed Scheme.	None required
P09-LV17	NB ch. 48,800 to ch. 49,150 SB ch. 49,300 to ch. 49,550 SB ch. 55750 to ch. 56,000	Design, Construction and Operation	<p><b>DMRB Type A Lay-bys with Viewing Facilities at Ruthven and Insh Marsh</b> 3 no. Type A Lay-bys within the Proposed Scheme with viewing facilities for visitors as shown on <b>Environmental Mitigation Drawings 6.7 and 6.11, Volume 3</b>, subject to detailed design.</p>	To provide a rest and stopping area to optimise traveller experience, while complementing the view of the landscape including features such as Ruthven Barracks, hill ranges beyond Kingussie and Insh Marshes.	Transport Scotland in consultation with HES, CNPA and The Highland Council

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV18	ch. 43,400 at Newtonmore Junction ch. 48,800 GWMR at Knappach ch. 92,275 B970 at Ruthven ch. 49,950 southern Spey bridge abutment ch. 50,210 northern Spey bridge abutment ch. 50,700 B9152 at Kingussie ch. 52,920 at Lynchat ch. 56,100 to ch. 56,200 at the HWP	Design, Construction and Operation	<b>Treatment of the A9 underbridges at B9150, GWMR/ NMU at Knappach, B970, the Spey bridge, B9152 at Kingussie, the Balavil underbridge at Lynchat and the road to the Highland Wildlife Park from the B9152</b> Aesthetic consideration will be focussed on slope design on the approach road embankments and the design and material selection of the bridge finish, including natural stone treatment to the sub-structure. Planting to the embankments will be in keeping with existing planting and mixed native trees. Planting to the Spey Crossing is to be delivered as specified on <b>Environmental Mitigation Drawings 6.7 to 6.8</b> , contained within <b>Volume 3</b> .	To mitigate adverse landscape effects of the new bridge structures on the LLCA and LCA. To mitigate adverse visual effects of the new bridge structures that are highly visible from a number of sensitive receptors.	None required
P09-LV19	ch. 49,300 to ch. 50,500	Design, Construction and Operation	<b>Approach to and Bridge over the River Spey</b> Aesthetic considerations will be focussed on slope design on the approach road embankments and the design and material selection of the bridge finish, including natural stone treatment to the bridge abutment sub-structure. Native and wet woodland tree species will be planted on the northbound side of the embankment between ch. 49,300 and ch. 49,430, and to the southbound side of the embankment from ch. 49,300 to ch. 49,400, to replace trees lost to construction. Planting to the remaining areas of the new approach embankment and reinstatement of locally disturbed ground will be limited to native grassland species in order to avoid introduction of habitats that are not compatible with conservation objectives for breeding waders within the Insh Marshes NNR. Planting in the vicinity of the Spey crossing is to be delivered as specified on <b>Environmental Mitigation Drawings 6.7 to 6.8</b> , contained within <b>Volume 3</b> . Please also refer to <b>Indicative Photomontage Drawings 14.74 to 14.76</b> , contained within <b>Volume 3</b> .	To mitigate adverse landscape effects of the new bridge structure, upon the setting of a number of sensitive receptors and on the LLCA and LCA. Also to mitigate adverse visual effects of the new bridge structure, which is highly visible from a number of sensitive receptors.	Transport Scotland in consultation with HES, CNPA and The Highland Council
P09-LV20	ch. 50,200 to ch. 51,600	Design, Construction and Operation	<b>Kingussie Junctions (northbound and southbound)</b> Planting structure around the junction will comprise trees, shrubs and low level heath and grassland to suit landscape, to allow certain aspects of the engineered junction to be screened and to replace planting lost to the Glebe Pond area. Planting to the Kingussie Junctions is to be delivered as specified on <b>Environmental Mitigation Drawings 6.8 and Indicative Mitigation Cross Section Drawing 6.16 (Section M-M')</b> , contained within <b>Volume 3</b> .	To mitigate adverse landscape and visual effects of the new junction infrastructure.	None required

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV21	ch. 51,100 to ch. 51,400	Design, Construction and Operation	<p><b>Landform at Laggan Properties (northbound and southbound)</b>                      Bunds will be provided near to the mainline and SuDS basin 513, that replicate existing local landform to mitigate noise as detailed within <b>Mitigation Items P09-NV2 and P09-NV5</b> in <b>Table 21-10</b>.                      Planting at Laggan is to be delivered as specified on the <b>Environmental Mitigation Drawing 6.8</b>, contained within <b>Volume 3</b>.                      Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.17 (Sections P-P' and Q-Q')</b>, contained within <b>Volume 3</b>.</p>	<p>To mitigate adverse landscape effects of the Proposed Scheme and the LLCA and LCA.                      Also to provide visual screening from Laggan properties and to visually mitigate the noise mitigation.</p>	None required
P09-LV22	NB ch. 52,000 to ch. 52,250	Design, Construction and Operation	<p><b>Raitts Cave Souterrain landform and planting</b>                      Landform will be re-profiled and tree planting as shown on <b>Environmental Mitigation Drawings 6.9</b> will be planted along the mainline.                      Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.18 (Section R-R')</b>, contained within <b>Volume 3</b>.</p>	<p>To mitigate adverse landscape effects of the Proposed Scheme on the setting of Raitts Cave Souterrain Scheduled Monument, and the LLCA and LCA.                      Also to mitigate adverse visual effects of the Proposed Scheme on the view from Raitts Cave Souterrain Scheduled Monument.</p>	Heritage Environment Scotland
P09-LV23	ch. 52,200 to ch. 53,100	Design, Construction and Operation	<p><b>Underbridge and access tracks and earthworks to the north of the mainline and SuDS basin 530 at Lynchat</b>                      Refinement of slopes to the access track, planting to drainage features and refinement and planting of SuDS basin 530.                      Planting to be delivered as specified on <b>Environmental Mitigation Drawings 6.1 to 6.12</b>, contained within <b>Volume 3</b>.                      Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.18 (Section S-S')</b>, contained within <b>Volume 3</b>.</p>	<p>To mitigate adverse landscape and visual effects of the Proposed Scheme.</p>	None required
P09-LV24	ch. 53,600 to ch. 54,400	Design, Construction and Operation	<p><b>Balavil access, landform and planting</b>                      Within the garden between the mainline and the proposed access track for Balavil Estate use, additional mitigation has been designed to create a terraced false cutting between the A9 and Balavil House and garden.                      There will be tree planting to both the northbound and southbound carriageway and Kingussie to Kincaig NMU link, combined with a natural stone treatment to the noise attenuation barrier.                      Planting to be delivered as specified on <b>Environmental Mitigation Drawing 6.10</b>, contained within <b>Volume 3</b>.                      Please also refer to <b>Indicative Mitigation Cross Section Drawing 6.18 (Section T-T')</b>, contained within <b>Volume 3</b>.</p>	<p>To mitigate adverse landscape effects of the Proposed Scheme on the setting of Balavil Estate and the LLCA and LCA.                      Also to screen views of the Highland Wildlife Park boundary from the Croftcarnoch access track, to mitigate adverse visual effects of the Proposed Scheme.</p>	Heritage Environment Scotland



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-LV25	ch. 54,400 to ch. 55,200	Design, Construction and Operation	<p><b>Croftcarnoch planting and access track</b></p> <p>The mainline and Kingussie to Kincaig NMU link is in cutting and will not be visible from this property.</p> <p>There will be tree planting to both the northbound and southbound carriageways. Along the new access track for this property, existing trees will be retained where possible and tree planting will also take place along the track.</p> <p>Please refer to <b>Environmental Mitigation Drawing 6.10</b> and <b>Indicative Mitigation Cross Section Drawing 6.19 (Section U-U')</b>, contained within <b>Volume 3</b>.</p>	To mitigate adverse landscape and visual effects of the Proposed Scheme.	None required
P09-LV26	ch. 48,389 to ch. 48,610 (SB) – 4m high ch. 51,100 to ch. 51,350 (SB) – 3m high ch. 52,460 to ch. 52,635 (NB) – 3m high ch. 52,635 to ch. 52,700 (SB) – 3m high ch. 52,495 to ch. 52,650 (SB) – 2.5m high ch. 53,490 to ch. 53,590 (NB) – 2.5m high	Design, Construction and Operation	<p><b>Noise Barriers</b></p> <p>Treatment to noise barriers to be as follows;</p> <ul style="list-style-type: none"> <li>• ch. 48,389 to ch. 48,610 – 4m high green screen with surrounding vegetation</li> <li>• ch. 51,100 to ch. 51,350 – 3m high earthwork bund</li> <li>• ch. 52,460 to ch. 52,635 – 3m high green screen with surrounding vegetation</li> <li>• ch. 52,635 to ch. 52,700 – 3m high green screen with surrounding vegetation</li> <li>• ch. 52,495 to ch. 52,650 – 2.5m high earthwork bund</li> <li>• ch. 53,490 to ch. 53,590 – 2.5m high stone wall</li> </ul> <p>These items relate to the mitigation detailed within <b>Chapter 17, Mitigation Items P09-NV1 to P09-NV6</b> in <b>Table 21-10</b>.</p> <p>Detailed design drawings and specifications for each location shall be produced, in line with the <b>Environmental Mitigation Drawings 6.1 to 6.12</b> in <b>Volume 3</b> of this report, subject to detailed design as additional mitigation.</p> <p>Refer also to <b>Indicative Mitigation Cross Section Drawings 6.13 to 6.19</b>, contained within <b>Volume 3</b>.</p>	To mitigate adverse landscape and visual effects of the Proposed Scheme.	Transport Scotland in consultation with HES, CNPA and The Highland Council

Table 21-8: Schedule of Environmental Commitments - Cultural Heritage

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-CH1	Throughout Proposed Scheme	Construction	The Contractor will consult with the relevant local authority and Transport Scotland’s cultural heritage advisor should any archaeological or cultural heritage finds or sites be discovered or revealed during construction, to enable appropriate measures to be implemented to mitigate potential impacts.	To enable appropriate mitigation measures to be implemented to mitigate impacts on assets found during construction.	Transport Scotland’s cultural heritage advisor Historic Environment Scotland if affecting Scheduled Monument, Category A Listed Building, Historic Battlefield or Garden & Designed Landscape
<b>Embedded Mitigation</b>					
P09-CH1	Assets 9.16 and 9.28	Design, Construction and Operation	Sensitive slope design and planting with input from a Landscape Architect is proposed at these assets as outlined in <b>Table 21-7</b> .	To reduce and mitigate visual impacts on the assets.	None required
P09-CH2	Asset 9.28	Design	Sensitive design of the River Spey bridge to reduce the visual impact of the Proposed Scheme on the asset and to ensure that the minimum impact possible occurs to the setting of Ruthven Barracks.	To reduce visual impacts on the assets.	None required
<b>Project Specific Mitigation</b>					
P09-CH3	Throughout Proposed Scheme	Pre-Construction	An Archaeological Management Plan shall be produced to outline the cultural heritage works.	To ensure heritage assets are mitigated appropriately.	Historic Environment Scotland and The Highland Council Historic Environment Team
P09-CH4	Throughout Proposed Scheme	Pre-construction and Construction	The preferred mitigation for archaeological remains is preservation <i>in situ</i> . The preferred mitigation for historic buildings is non-destructive. Where this is not feasible, a programme of preservation by record must be undertaken.	To ensure heritage assets are mitigated appropriately.	The Highland Council Historic Environment Team
P09-CH5	Throughout Proposed Scheme	Pre-construction or Construction	To mitigate potential impacts on previously unknown archaeological remains, archaeological works and recording shall be implemented in consultation with The Highland Council Historic Environment Team and Historic Environment Scotland (HES). This may include geophysical survey and/ or trial trenching and archaeological excavation.	To ensure unknown archaeological assets are identified and mitigated appropriately.	The Highland Council Historic Environment Team
P09-CH6	Assets 9.14, 9.19, 9.26, 9.30, 9.39, 9.53, 9.54 and 9.56	Construction	The areas defined as requiring an archaeological watching brief shall be determined in consultation with The Highland Council Historic Environment Team.	Preserve assets by record.	The Highland Council Historic Environment Team

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-CH7	Assets 9.9, 9.10, 9.13, 9.23, 9.27 and 9.69	Pre-Construction	To identify the presence or absence of the assets survival within the Proposed Scheme, evaluation by geophysical survey and trial trenching shall be undertaken. If buried archaeological remains are found, a programme of strip, map and sample will be undertaken. The areas defined as requiring trial trenching or excavation shall be determined in consultation with The Highland Council Historic Environment Team.	To ensure unknown archaeological assets are mitigated appropriately and to preserve assets by record.	The Highland Council Historic Environment Team
P09-CH8	Assets 9.11 and 9.63	Pre-Construction	To mitigate the impacts on these assets, topographic surveys shall be undertaken in accordance with the guidance provided in Understanding Historic Landscapes: A Guide to Good Recording Practice (Historic England 2017). A date should be retrieved from Asset 9.63 if appropriate.	Preserve assets by record.	The Highland Council Historic Environment Team
P09-CH9	Assets 9.16, 9.28, 9.42, 9.43, 9.45, 9.47 and 9.48	Pre-Construction	To record the current settings of the assets, Historic Building Recording (Basic) shall be carried out in line with Historic Building Recording Guidance (ALGAO: Scotland 2013) and in accordance with Understanding Historic Buildings: a guide to good recording practice (Historic England 2016).	Record the assets current setting.	The Highland Council Historic Environment Team
P09-CH10	Assets 9.56, 9.60 and 9.65	Pre-Construction or Construction	To mitigate the impact on these assets, a section should be recorded through the asset and a date retrieved if possible.	Preserve the asset by record.	The Highland Council Historic Environment Team
P09-CH11	Assets 9.61 and 9.64	Pre-Construction	To characterise and date the asset, evaluation by trial trenching shall be undertaken and a date retrieved if appropriate. The areas defined as requiring trial trenching or excavation shall be determined in consultation with The Highland Council Historic Environment Team.	Preserve the asset by record.	The Highland Council Historic Environment Team
P09-CH12	Asset 9.73	Pre-Construction	Further evaluation by trial trenching shall be undertaken on this asset. If significant archaeological remains are found, targeted excavation shall be undertaken. The areas defined as requiring trial trenching or excavation shall be determined in consultation with The Highland Council Historic Environment Team.	To ensure heritage assets are mitigated appropriately.	Historic Environment Scotland and The Highland Council Historic Environment Team
P09-CH13	Assets 9.45, 9.47 and HLT5	Construction and Operation	Landscaping and planting will be undertaken as outlined in <b>Mitigation Item P09-LV24 in Table 21-7</b> . Landform will be altered and includes a terraced false cutting between the A9 and the grounds of Balavil House. Planting to be delivered as specified on <b>Environmental Mitigation Drawing 6.10</b> , contained within <b>Volume 3</b> . Refer also to <b>Indicative Mitigation Cross Section Drawing 6.18 (Section T-T')</b> , contained within <b>Volume 3</b> .	To mitigate the impacts of the Proposed Scheme on the Balavil Estate and associated cultural heritage assets.	The Highland Council Historic Environment Team
P09-CH14	Asset 9.16	Design, Construction and Operation	Include DMRB 'Type A' lay-by within the Proposed Scheme near Ruthven Barracks as outlined in <b>Mitigation Item P09-LV17 in Table 21-7</b> . Includes a wide segregation strip and potential links to NMU routes as shown on <b>Environmental Mitigation Drawing 6.7</b> , contained within <b>Volume 3</b> , subject to detailed design.	Provide viewing point of Ruthven Barracks for A9 users.	Transport Scotland in consultation with HES and CNPA

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
P09-CH15	Asset 9.28	Design, Construction and Operation	The landform near Raitts Cave souterrain will be reprofiled and tree planting along the mainline will be carried out as per <b>Mitigation Item P09-LV22</b> in <b>Table 21-7</b> and as shown on <b>Environmental Mitigation Drawing 6.9</b> , contained within <b>Volume 3</b> . Refer also to <b>Indicative Mitigation Cross Section Drawing 6.18 (Section R-R')</b> , contained within <b>Volume 3</b> .	To mitigate the adverse impact of the Proposed Scheme on the setting of Raitts Cave Souterrain Scheduled Monument and the lessen the visual impact on viewers at the monument.	Historic Environment Scotland and The Highland Council Historic Environment Team
P09-CH16	Assets 9.16 and 9.28	Pre-Construction	Photographic surveys shall be undertaken of Ruthven Barracks (Asset 9.16) and Raitts Cave souterrain (Asset 9.28).	To record the assets current setting to inform subsequent actions.	Historic Environment Scotland
P09-CH17	Asset 9.28	Design	The design of the River Spey bridge will be further developed during the detailed design stage; road signage should be kept to a minimum. See <b>Mitigation Items P09-LV5, P09-LV11 and P09-LV19</b> in <b>Table 21-7</b> . A cultural heritage specialist should be involved in the detailed design of the River Spey bridge.	To reduce visual impacts on the assets.	Transport Scotland in consultation with HES, CNPA and The Highland Council

Table 21-9: Schedule of Environmental Commitments - Air Quality

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-AQ1	Throughout Proposed Scheme	Construction	<p>In relation to minimising fugitive dust emissions from earthworks, material storage and concrete batching the following mitigation items will be implemented:</p> <ul style="list-style-type: none"> <li>stockpiles and mounds will be at a suitable angle of repose to prevent material slippage, will be enclosed or securely sheeted, and/or kept damped as necessary during dry weather;</li> <li>the surfaces of any long-term stockpiles which give rise to a risk of dust or air pollution will be covered with appropriate sheeting or will be treated to stabilise the surfaces;</li> <li>mixing of large quantities of concrete will be carried out only in enclosed or shielded areas;</li> <li>all handling areas will be maintained in a dust free state as far as is practicable with sprinklers and hoses used to prevent dust escaping from the site boundaries; and</li> <li>procedures will be established so that the site is regularly inspected for spillage of dusty or potentially dusty materials and any such spillage would be dealt with promptly where necessary to prevent dust nuisance.</li> </ul>	To reduce fugitive dust emissions from earthworks, material storage and concrete batching.	None required
SMC-AQ2	Throughout Proposed Scheme	Construction	<p>In relation to minimising dust from vehicle movements within the site the following mitigation items will be implemented:</p> <ul style="list-style-type: none"> <li>the Contractor will employ appropriate measures, such as covering materials deliveries or loads entering and leaving the construction site by a fixed cover or sheeting appropriately fixed and suitable for the purposes of preventing materials and dust spillage;</li> <li>where unsurfaced routes are identified as creating dust emissions during periods of dry weather, surfaces will be regularly dampened down using water bowsers; and</li> <li>appropriate speed limits will be established and enforced over all unmade surfaces.</li> </ul>	To reduce dust from vehicle movements	None required
SMC-AQ3	Throughout Proposed Scheme	Construction	<p>In relation to appropriate cleaning of public roads the following mitigation items will be implemented:</p> <ul style="list-style-type: none"> <li>wheel washing facilities will be installed as required and heavy vehicles will be required to use the facilities prior to leaving the site;</li> <li>subject to approval from the Roads Authority, public roads immediately outside the site entrance will be cleaned using vacuum sweeper brushes and other specialised road cleaning equipment as necessary to maintain an appropriate state of cleanliness; and</li> <li>roads and footpaths adjacent to the Proposed Scheme will be cleaned, with damping if necessary.</li> </ul>	To reduce potential of dust from public roads	None required
<b>Project-Specific Mitigation</b>					
P09-AQ1	Throughout Proposed Scheme	Construction	<p>In relation to preparing and maintaining the site, the following additional mitigation item will be implemented:</p> <ul style="list-style-type: none"> <li>Plan site layout so that machinery and dust causing activities are located as far as practicable from receptors.</li> </ul> <p>This is particularly relevant around the Newtonmore and Kingussie junctions where the greatest number of receptors are located.</p>	Ensuring the site layout minimises the risk of dust emissions.	None required

Table 21-10: Schedule of Environmental Commitments - Noise and Vibration

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-NV1	Throughout Proposed Scheme	Pre-Construction and Construction	<p>A scheme of noise and vibration monitoring will therefore be agreed with the Environmental Health Officer Department, and noise and vibration limits will be contained within the CEMP (refer to <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b>).</p> <p>The contractor will be required to develop and implement a Noise and Vibration Management Plan to meet these requirements. The assessment will include the design of any necessary NSR specific construction mitigation over and above the standard mitigation included within this ES chapter.</p>	<p>To predict the noise and vibration levels during the construction of the Proposed Scheme.</p> <p>It will include the design of receptor specific mitigation, over and above the standard mitigation detailed in <b>Mitigation Item SMC-NV2</b>, where required.</p>	Local Authority Environmental Health Officer
SMC-NV2	Throughout Proposed Scheme	Pre-Construction and Construction	<p>Best Practicable Means will be used to limit the level of noise to which operators and others in the vicinity of site operations would be exposed.</p> <p>This includes the following:</p> <ul style="list-style-type: none"> <li>the hours of working will be planned and account will be taken of the effects of noise upon persons in areas surrounding site operations and upon persons working on site, taking into account the nature of land use in the areas concerned, the duration of work and the likely consequence of any lengthening of work periods;</li> <li>any work outside of normal working hours will be agreed with the relevant local authority;</li> <li>where reasonably practicable, quiet working methods will be employed, including use of the most suitable plant, reasonable hours of working for noisy operations, and economy and speed of operations;</li> <li>permanent noise mitigation measures such as acoustic screens and earthwork bunds are to be constructed as early as practical;</li> <li>noise will be controlled at source, for example, by modification of existing plant/equipment, its use and location and ensuring maintenance of all noise-generating equipment;</li> <li>the spread of noise will be limited, i.e. by distance between source and receiver and/or screening;</li> <li>on-site noise levels will be monitored regularly, particularly if changes in machinery or project designs are introduced, by a suitably qualified person appointed specifically for the purpose. A method of noise measurement would be agreed with the local authority prior to the commencement of site works;</li> <li>on those parts of a site where high levels of noise are likely to be a hazard to persons working on the site, prominent warning notices will be displayed and, where necessary, ear protectors will be provided;</li> <li>proper use of plant with respect to minimising noise emissions and regular maintenance in line with plant manuals;</li> <li>where practicable, vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and will be maintained in good, efficient working order;</li> </ul>	<p>To reduce, as far as practicable, the level of noise to which operators and others in the vicinity of site operations would be exposed.</p>	Local Authority if any working outwith normal working hours

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
			<ul style="list-style-type: none"> <li>where appropriate, inherently quiet plant will be selected. All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;</li> <li>machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum;</li> <li>all ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided; and</li> <li>adherence to the codes of practice for construction working and piling given in British Standard 'BS 5228:2009+A1:2014' and the guidance given therein minimising noise emissions from the site.</li> </ul> <p>In addition, the relevant Local Authority would be consulted regarding any proposed working out-with normal working hours.</p>		
n/a (note)			<i>In addition to the above, Mitigation Item SMC-S3 in Table 21-1 will also mitigate potential for noise disturbance through the overall communications strategy for the A9 Dualling Programme and appointed Community Liaison Officer and liaison team.</i>		
<b>Project Specific Mitigation</b>					
P09-NV1	ch. 48,389 to ch. 48,610	Design and Construction	Noise Barrier (reflective) of 4m height relative to ground level located along the top of the embankment, south of the A9.	To reduce road traffic noise levels for the dwelling 'Knappach Cottage'	None required
P09-NV2	ch. 51,100 to ch. 51,350	Design and Construction	Noise Barrier (absorptive) of 3m height relative to ground level located along the top of the embankment, south of the A9.	To reduce road traffic noise levels for the dwelling 'Laggan One'	None required
P09-NV3	ch. 52,460 to ch. 52,635	Design and Construction	Noise Barrier (absorptive) of 3m height relative to ground level located along the top of the embankment, north of the A9. To be constructed together with <b>Mitigation Item P09-NV4</b> .	To reduce road traffic noise levels for the dwelling 'Lynvoan'	None required
P09-NV4	ch. 52,635 to ch. 52,700	Design and Construction	Noise Barrier (absorptive) of 3m height relative to ground level located along the top of the embankment, north of the A9. To be constructed together with <b>Mitigation Item P09-NV3</b> .	To reduce road traffic noise levels for the dwelling 'Lynvoan'	None required
P09-NV5	ch. 52,495 to ch. 52,650	Design and Construction	Noise Barrier (absorptive) of 2.5m height relative to ground level located along the top of the embankment, south of the A9.	To reduce road traffic noise levels for the dwelling 'Bruach'	None required
P09-NV6	ch. 53,490 to ch. 53,590	Design and Construction	Noise Barrier (absorptive) of 2.5m height relative to ground level located along the top of the embankment, north of the A9.	To reduce road traffic noise levels for the dwelling 'Balavil Mains'	None required

Table 21-11: Schedule of Environmental Commitments – Materials

Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
<b>Standard A9 Mitigation</b>					
SMC-M1	Throughout Proposed Scheme	Pre-construction and Construction	<p>Prior to construction a Site Waste Management Plan (SWMP) will be developed as part of the CEMP (see <b>Mitigation Item SMC-S1</b> in <b>Table 21-1</b>) to set out how all construction phase materials will be managed and it will be updated regularly during the construction of the Proposed Scheme.</p> <p>The SWMP will identify, identify, prior to the start of construction works, the types and likely quantities of wastes that may be generated and it will set out, in an auditable manner, how waste will be reduced, re-used, managed and disposed of in accordance with relevant Zero Waste Scotland Guidance.</p> <p>The SWMP will include specific materials management and soil management plans developed under voluntary and industry regulated Codes of Practice including:</p> <ul style="list-style-type: none"> <li>• Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009);</li> <li>• Land Remediation and Waste Management Guidelines (SEPA, 2009); and</li> <li>• Promoting the Sustainable Re-use of Greenfield Soils in Construction (SEPA, 2010).</li> </ul> <p>Appropriate waste minimisation and associated KPI targets will also be included.</p>	To set out how all construction phase materials will be managed.	Consultation and approval from the Local Authority and/or SEPA as applicable to regulatory requirements
SMC-M2	Throughout Proposed Scheme	Pre-construction and Construction	The Contractor will comply with all relevant waste legislation in relation to waste handling, storage, transport and disposal (e.g. The Waste Framework Directive) and consultation with SEPA for advice on waste practice, licences and exemptions where appropriate.	To ensure waste handling, storage, transport and disposal is compliant with all relevant waste legislation.	Consultation with SEPA
SMC-M3	Throughout Proposed Scheme	Pre-construction and Construction	<p>The Contractor will apply the principles of the 'Waste Hierarchy' (Prevention, Preparing for Re-use, Recycling, Other Recovery, Disposal) to minimise waste generation, maximise re-use of site-won materials on-site and minimise the need for disposal of waste.</p> <p>Where re-use is not possible within the Proposed Scheme, alternative re-use and recycling options will be sought off-site with disposal the final option, with clear justification of options provided.</p>	To reduce waste generation, maximise re-use of site-won materials on-site and reduce the need for disposal of waste.	None required
SMC-M4	Throughout Proposed Scheme	Pre-construction and Construction	The Contractor will implement Zero Waste Scotland's Design for Resource Efficient Construction Principles.	To make the best use of materials, over the lifecycle of the Proposed Scheme's built assets, to reduce embodied carbon emissions	None required
SMC-M5	Throughout Proposed Scheme	Pre-construction and Construction	The key material elements (i.e. aggregates, asphalt, cement, precast concrete products, ready-mixed concrete and steel) used within the Proposed Scheme shall be specified to be responsibly sourced.	To reduce impacts associated with the extraction and manufacture of materials.	None required



Item Ref.	Approximate Chainage/ Location	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required
SMC-M6	Throughout Proposed Scheme	Pre-construction and Construction	All timber and timber products shall be sourced from independently verifiable legal and sustainable sources.	To reduce impacts associated with the extraction and manufacture of materials.	None required
SMC-M7	Throughout Proposed Scheme	Design, Pre-construction and Construction	Alternatives to primary aggregates shall be investigated, including opportunities to use recycled or secondary aggregates in the construction of the Proposed Scheme; either sourced from construction, demolition and excavation waste obtained on-site or off-site; or secondary aggregates obtained from a non-construction or post-consumer or industrial by-product source.	To reduce impacts associated with the extraction, manufacture and transport of materials and to reduce waste generation, maximise re-use of site-won materials on-site and reduce the need for disposal of waste.	None required

