

20 Schedule of Environmental Commitments

20.1 Introduction

- 20.1.1 The purpose of this chapter (Schedule of Environmental Commitments) is to collate the mitigation measures identified in the Environmental Statement (ES) that are considered necessary to protect the environment prior to construction, during construction and/or during operation of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme (hereafter referred to as the proposed Scheme). This Chapter is provided for ease of reference and for use by those overseeing the procurement of the proposed Scheme. The Mitigation Item reference numbers listed in Tables 20.1 to 20.12 relate to those detailed in Chapters 7 to 17 of this ES.
- 20.1.2 As described throughout this ES, the design of the proposed Scheme has been progressed taking account of environmental constraints and considerations that have been identified, enabling avoidance of potential environmental impacts.

20.2 Mitigation Schedules

- 20.2.1 Mitigation and environmental commitments that have been identified as general requirements which shall help to avoid, reduce or offset potential impacts that have been detailed in a number of the ES technical assessments are given in Table 20.1. Specific mitigation measures for each of the ES technical assessments are given in Tables 20.2 to 20.12.
- 20.2.2 The timing of the implementation of the mitigation measures is indicated in Table 20.1 to 20.12 as:
- Pre-construction: The design, planning and preparation phase before physical activity is undertaken on site.
 - Construction: The undertaking of the physical works to construct the proposed Scheme.
 - Operation: When the proposed Scheme has opened and traffic is travelling on the route.

Table 20.1: General Requirement Mitigation

Mitigation Item	Description	Timing of the Measure	Technical areas to which mitigation item is applicable										
			Air Quality	Noise & Vibration	Landscape	Visual	Habitats and biodiversity	Geology and Soils	Road Drainage and the Water Environment	Cultural Heritage	Community and Private Assets	Effects on All Travellers	Materials
GR1	<p>A Construction Environment Management Plan (CEMP) shall be prepared by the appointed contractor, in consultation with the relevant competent authorities. The CEMP shall set out the intended methods to manage potential environmental impacts from construction of the proposed Scheme, including, but not limited to:</p> <ul style="list-style-type: none"> • Best practice measures to control fugitive dust in compliance with Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction and agreed with The Highland Council. • Best practice measures to mitigate and manage construction noise impacts in compliance with requirements of BS 5228 Code of practice for noise and vibration control of construction and open sites. • Soil Management Plan (SMP). • Best practice measures associated with storage of oils and fuel in compliance with The Water Environment (Oil Storage) (Scotland) Regulations 2006, SEPA Pollution Prevention Guidelines (PPG) 2 and PPG 26. • Best practice measures for the storage, handling and use of chemicals (Mitigation Item W15). • Best practice measures for pollution prevention in compliance with SEPA PPGs. • Best practice measures for the controls and use of concrete, cement and grout (Mitigation Item W16, W17); • Best practice measures for sewage disposal from site facilities (Mitigation Item W18). 	Pre-Construction Construction	✓	✓			✓	✓	✓		✓	✓	✓

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	<ul style="list-style-type: none"> Best practice measures for the control of invasive non-native species (INNS); soil borne pests, diseases and animal; and, crop diseases through a Biosecurity Management Plan (BMP). Species Protection Plans (SPP) (Mitigation Item E2). Habitat Management Plans (HMP) (Mitigation Item E3). Guidance outlined within Chapter 11: Habitats and Biodiversity, Appendix A11.3: Mitigation Protocol. Soils shall be assessed in line with the Hazardous Waste Technical Guidance WM2 document to determine whether they are hazardous or non-hazardous. Best practice and compliance with all applicable waste management legislation, including the development of a Site Waste Management Plan (SWMP). Measures to alleviate risks to the water environment associated with the construction of watercourse crossings would shall be included in the appointed contractor's CEMP and approved by SEPA. 		✓	✓			✓	✓	✓		✓	✓	✓
GR2	An Environmental Site Manager or a suitably qualified member of the construction team, e.g. Environmental Clerk of Works (EnvCoW), shall ensure that the mitigation measures identified within the CEMP are fully implemented.	Construction	✓	✓			✓	✓	✓			✓	✓
GR3	Implementation of Sustainable Drainage Systems e.g. Basin and Pond (hereafter referred to as SUDS) throughout the proposed Scheme (Mitigation Item W27) to meet SEPA requirements, agreed through consultation. Requires the provision of three levels of treatment for outfalls into the River Nairn and its tributaries and a minimum of two levels of treatment for outfalls into all other SWF. This level of treatment is for the dual carriageway alignment of the proposed Scheme only; one level of treatment shall be	Construction Operation					✓		✓				

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	required for outfalls into SWFs from the majority of the local roads. For each outfall, a 'treatment train' of SUDS shall be incorporated to attenuate the road runoff to pre-development rates, reduce the polluting load carried within this runoff to acceptable levels and significantly reduce the risk of any accidental spillages.							✓		✓				
GR4	<p>The following principles shall be applied to SUDS throughout the proposed Scheme:</p> <ul style="list-style-type: none"> designed to be in keeping with the surrounding landscape; designed with smooth flowing earthwork contours to integrate with the surrounding landform. Abrupt changes in slope, sharp angles and steep side slopes shall be avoided; boundary fencing, where required around ponds, following an appropriate risk assessment, shall be designed to be unobtrusive to minimise visual impact; and, planting of native scrub species shall be undertaken to help screen proposed fencing, outfall and inlet structures, enhance wildlife habitat and provide visual interest. 	Pre-construction Construction			✓	✓	✓							
GR5	<p>The following principles shall be applied to planting throughout the proposed Scheme:</p> <ul style="list-style-type: none"> planting of native scrub species for screening and enhancement of biodiversity at SUDS; planting of trees and scrub for screening along roadside edge of noise barriers/bunds; planting to screen views of the proposed Scheme; planting to reflect and reinforce existing landscape character including individual trees, woodland areas, shelterbelts and hedgerows; 	Construction Operation		✓	✓	✓	✓			✓	✓	✓		

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			Air Quality	Noise & Vibration	Landscape	Visual	Habitats and biodiversity	Geology and Soils	Road Drainage and the Water Environment	Cultural Heritage	Community and Private Assets	Effects on All Travellers	Materials
	<ul style="list-style-type: none"> retention of existing trees and vegetation, wherever possible, and incorporation with new planting proposals (Mitigation Item L6); replacement of trees lost to the proposed Scheme, particularly in areas of ancient woodland (Mitigation Item L8); planting of trees and scrub to integrate and screen bridges and new structures, including lighting, with the landscape (Mitigation Items L12 and L13); designed in association with landform design to maximise integration with the local landscape setting (Mitigation Item L10); use predominantly of native species (Mitigation Item L9); planting mixes shall be designed to reflect locally prevalent assemblages of species and shall be set out in irregular patterns and spacing to replicate naturally occurring vegetation (Mitigation Item L11); use of severed field corners and landlocked areas (Mitigation Item L14); more formal planting at transition points such as roundabouts and junctions (Mitigation Item L15); creation of a woodland (Mitigation Item L5); and, planting to maintain and/or enhance 'View from the Road' (Mitigation Item L16). 			✓	✓	✓	✓			✓	✓	✓	

Table 20.2: Air Quality Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
AQ1	Implementation of CEMP to prevent or reduce potential impacts associated with dust and air quality (refer to Mitigation Item GR1).	Pre-construction Construction	Throughout the proposed Scheme.

Table 20.3: Noise and Vibration Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
NV1	Consultation with The Highland Council shall be undertaken regarding any proposed working out-with agreed normal working hours.	Pre-construction Construction	Throughout the propose Scheme.
NV-2	Potentially affected residents shall be kept informed of the work to be undertaken and of any proposed work out-with normal working hours. Residents shall be provided with a point of contact for any queries or complaints.	Construction	Throughout the propose Scheme.
NV-B1	At the identified location an earthwork bund/barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a bund/barrier height of 1.3m high and 90m in length to the north of the dual carriageway has been indicatively determined to meet the threshold requirements.	Construction Operation	Start at ch1000.
NV -B2	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 2m high and 440m in length to the south of the dual carriageway has been indicatively determined to meet threshold requirements.	Construction Operation	Start at ch1520.
NV - B3	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 2m high and 447m in length to the north of the dual carriageway has been indicatively determined to meet threshold requirements.	Construction Operation	Start at ch2200.
NV - B4	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 2.8m high and 353m in length to the south of the dual carriageway has been indicatively determined to meet threshold requirements.	Construction Operation	Start at ch2570.
NV – B5	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 1.3m high and 100m in length offline has been indicatively determined to meet threshold requirements.	Construction Operation	Offline barrier on Barn Church Road (C1032)

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
NV - B6	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 1.6m high and 321m in length to the south of the dual carriageway has been indicatively determined to meet threshold requirements.	Construction Operation	Start at ch16300.
NV – B7	At the identified location a noise barrier shall be installed to achieve the Noise Mitigation Threshold Criteria defined in Chapter 8: Noise and Vibration, Section 8.2. As per draft Orders a barrier height of 1.5m high and 144m in length to the south of the dual carriageway has been indicatively determined to meet threshold requirements.	Construction Operation	Start at ch18560.
NV3	Low noise road surfacing shall be used on all new road sections on the dual carriageway and slip roads. (with the exception of the slip roads at Brackley Junction and the eastbound off slip at Nairn West Junction)	Construction Operation	Throughout the proposed Scheme.

Table 20.4: Landscape Mitigation (Refer to Figure 9.5)

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
L1	<p>The following mitigation measures shall be implemented by the appointed contractor to avoid or reduce landscape impacts during construction:</p> <ul style="list-style-type: none"> programming of works to minimise disruption, including keeping the construction programme to the minimum practicable time and clearing areas for construction as close as possible in time to the commencement of works; avoidance of night-time working, where possible. Where night-time working is necessary, directed lighting shall be used to minimise light pollution/glare. The appointed contractor required to comply with the specific requirements of the Local Authority, such as providing advice to potentially affected residents; locating of site compounds, plant and material storage areas to minimise their impact on the landscape. Where possible existing features such as trees shall be used to screen construction compounds from identified sensitive visual receptors. Where this is not possible, screening to be achieved using bunds or embankments which may or may not become part of the proposed Scheme. Alternatively, temporary screens can be erected, designed and painted to be as inconspicuous in their surroundings as possible; construction sites to be kept tidy (e.g. free of litter and debris); and vegetation to be retained to be fenced off in advance of works beginning on site to ensure protection. 	Pre-construction Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
L2	<p>Earthwork proposals shall minimise the impact of cuttings and embankment slopes on the surrounding landscape, and allow integration of the road with the surrounding landscape through:</p> <ul style="list-style-type: none"> • sensitive grading of all earthworks to improve integration with the surrounding landform, modifying embankment and cutting slopes to reflect and tie smoothly into existing natural landform and to allow land to be returned to its previous use where appropriate; • avoidance of inappropriate regularly profiled slopes that conflict with the local landform; • softening changes in slope at junctions and overbridges by smoothing out transitions; • rounding off the top and bottom of cuttings and embankments; and • modification of the SUDS earthworks in order to improve integration with surrounding landform. 	Pre-construction Construction	Throughout the proposed Scheme.
L3	<p>The following principles shall be applied to SUDS throughout the proposed Scheme:</p> <ul style="list-style-type: none"> • designed to be in keeping with the surrounding landscape; • designed with smooth flowing earthwork contours to integrate with the surrounding landform. Abrupt changes in slope, sharp angles and steep side slopes shall be avoided; • boundary fencing, where required around ponds, following an appropriate risk assessment, shall be designed to be unobtrusive to minimise visual impact; and • planting of native scrub species shall be undertaken to help screen proposed fencing, outfall and inlet structures, enhance wildlife habitat and provide visual interest. • The development of the SUDs design would be undertaken with reference to the design guidance outlined in DMRB Volume 10, Section 1, Part 1 HA 55/92, New Roads, Landform and Alignment, Chapter 20 and The SuDS Manual (Woods Ballard, B, Wilson, S, Udale-Clarke, H, Illman, S, Scott, T, Ashley, R and Kellagher, R 2015). 	Pre-construction Construction	Throughout the proposed Scheme.
L4	<p>Where proposed noise mitigation shall be in the form of barrier fencing, earth bund or a combination of the two depending on height requirements and space available.</p> <p>Where possible and appropriate to the surrounding landscape character, tree, scrub and/or climbing vegetation shall be planted along the protected side of the noise barrier fencing in order to help screen it from the proposed Scheme and nearby properties.</p> <p>Earth bunds proposed to reduce the number of barrier fences particularly in sensitive locations.</p> <p>The proposals aim assist integration with the surrounding landform through:</p> <ul style="list-style-type: none"> • rounding off at the top and bottom of bunds; • grading out the back slope where possible; and • planting the bunds to marry with surrounding vegetation whilst assisting to reduce potential visual impacts. 	Pre-construction Construction Operation	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
L5	Consideration will be given to creating pleasant and interesting settings for the nine lay-bys along the dual carriageway where possible retaining view out to the surrounding landscape.	Construction Operation	Throughout the proposed Scheme.
L6	Retention of existing trees and vegetation where possible and incorporation with new planting proposals.	Construction Operation	Throughout the proposed Scheme.
L7	Management of sizable areas of retained woodland using methods such as thinning, coppicing and interplanting to enhance sustainability, assist integration with new planting and protect existing screening where possible.	Construction Operation	Throughout the proposed Scheme.
L8	Planting to replace trees lost during the proposed Scheme construction, particularly in areas designated as ancient woodland.	Construction Operation	Throughout the proposed Scheme.
L9	Enhancement of biodiversity through use of predominantly native species, providing new wildlife habitats and complementing existing adjacent habitats.	Construction Operation	Throughout the proposed Scheme.
L10	Planting designed in association with the landform design to provide integration with the local landscape setting.	Construction Operation	Throughout the proposed Scheme.
L11	Planting mixes shall be designed to reflect locally prevalent assemblages of species and shall be set out in irregular patterns and spacing to replicate naturally occurring vegetation areas.	Construction Operation	Throughout the proposed Scheme.
L12	Planting at junctions and bridges to help assimilate the landform and structures into the surrounding landscape.	Construction Operation	Throughout the proposed Scheme.
L13	Planting to provide screening to reduce visual impacts of the dual carriageway, structures, lighting and noise barriers.	Construction Operation	Throughout the proposed Scheme.
L14	Use of severed field corners and landlocked areas as appropriate.	Construction Operation	Throughout the proposed Scheme.
L15	More formal planting at transition points such as roundabouts and junctions to create a 'sense of place' and provide visual interest.	Construction Operation	Throughout the proposed Scheme.
L16	Planting shall assist integration with the local landscape character by using species mixes and planting patterns typical of the local landscape. National Vegetation Classification (NVC) used to inform the selection of plant species. Proposed planting mixes shall be predominantly based on native species, proven by established presence within the area and adapted to local conditions. Non-native species may also be used where they are an established and distinctive feature of current landscape setting or in areas of more formal planting where they would help create a sense of place/enhance visual interest. Young stock easier to establish and would be predominant in mixes. Larger plants used for initial impact in specific locations for screening.	Construction Operation	Throughout the proposed Scheme.

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location						
L17	<p>Planting to enhance the experience of travelling along the proposed Scheme by creating views to a variety of woodland types. This shall take account of aspects such as natural woodland characteristics typical in the locality, designed landscape features, or other requirements such as avoiding creation of tree canopies close to the road.</p> <table border="1"> <tr> <td> <p>Deciduous Woodland Proposed deciduous woodland planting shall comprise trees that range in size from feathered trees to whips and transplants, in order to create a multi-layered woodland dominated by native deciduous trees, with oak as the principal climax community, reflecting surrounding deciduous woodlands.</p> </td> <td> <p>A typical species mix to be used for deciduous woodland shall be:</p> <ul style="list-style-type: none"> • Oak - <i>Quercus robur</i> (20%); • Sessile oak - <i>Quercus petraea</i> (15%); • Silver birch - <i>Betula pendula</i> (15%); • Rowan - <i>Sorbus aucuparia</i> (15%); • Beech - <i>Fagus sylvatica</i> (5%); • Wych elm - <i>Ulmus glabra</i> (10%); • Alder - <i>Alnus glutinosa</i> (10%); and • Aspen - <i>Populus tremula</i> (10%). </td> </tr> <tr> <td> <p>Coniferous Woodland Coniferous woodland refers to woodland where the majority of species present are coniferous and the minority are deciduous. The planting mix for coniferous woodland shall replicate the NVC W18 Scots pine woodland characteristic of Caledonian pinewoods in Scotland.</p> </td> <td> <p>A typical species mix to be used for coniferous woodland shall be:</p> <ul style="list-style-type: none"> • Scots Pine - <i>Pinus sylvestris</i> (60%); • Larch - <i>Larix decidua</i> (10%); • Silver birch - <i>Betula pendula</i> (15%); • Rowan - <i>Sorbus aucuparia</i> (10%); and • Aspen - <i>Populus tremula</i> (5%). </td> </tr> <tr> <td> <p>Mixed Woodland Proposed mixed woodland planting, which requires both broad-leaved and coniferous woodland for visual screening purposes, shall comprise trees that range in size from feathered trees to whips and transplants. The aim is to create a multi-layered woodland with a balanced mix of native deciduous and coniferous trees, including native evergreen understorey. The balance between deciduous and evergreen species shall be varied to achieve year-round screening and reflect existing woodland local to the various sections of the road.</p> </td> <td> <p>A typical species mix to be used for mixed woodland shall be:</p> <ul style="list-style-type: none"> • Scots Pine - <i>Pinus sylvestris</i> (20%); • Oak - <i>Quercus robur</i> (20%); • Alder - <i>Alnus glutinosa</i> (10%); • Larch - <i>Larix decidua</i> (10%); • Holly - <i>Ilex aquifolium</i> (10%); • Aspen - <i>Populus tremula</i> (10%); • Silver Birch - <i>Betula pendula</i> (10%); and • Rowan - <i>Sorbus aucuparia</i> (10%) </td> </tr> </table>	<p>Deciduous Woodland Proposed deciduous woodland planting shall comprise trees that range in size from feathered trees to whips and transplants, in order to create a multi-layered woodland dominated by native deciduous trees, with oak as the principal climax community, reflecting surrounding deciduous woodlands.</p>	<p>A typical species mix to be used for deciduous woodland shall be:</p> <ul style="list-style-type: none"> • Oak - <i>Quercus robur</i> (20%); • Sessile oak - <i>Quercus petraea</i> (15%); • Silver birch - <i>Betula pendula</i> (15%); • Rowan - <i>Sorbus aucuparia</i> (15%); • Beech - <i>Fagus sylvatica</i> (5%); • Wych elm - <i>Ulmus glabra</i> (10%); • Alder - <i>Alnus glutinosa</i> (10%); and • Aspen - <i>Populus tremula</i> (10%). 	<p>Coniferous Woodland Coniferous woodland refers to woodland where the majority of species present are coniferous and the minority are deciduous. 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	<p>Riparian Woodland Riparian woodland is to be planted adjacent to watercourses and ponds and in other areas along flood plains. It shall comprise a mix of sizes of plants such as feathered trees, whips and transplants using wetland species such as Willow, Birch and Alder.</p>		
	<p>Dry Scrub Proposed dry Scrub planting shall comprise native species of local provenance creating a dense medium height canopy. This planting shall be used in areas where a lower height plant cover is more appropriate than the taller woodland mixes. Single species scrub planting shall be used in areas such as junctions for local impact creating a more formal design.</p>		
	<p>Hedgerows Hedgerows shall be planted to tie revised boundaries into existing field boundaries but also to reintroduce a lost or degraded element back into the landscape to enhance the landscape character, increase biodiversity and provide screening where required. The hedge species mix aims to reflect species currently used within hedgerows in the region.</p>		
<p>A typical species mix to be used for riparian woodland shall be:</p> <ul style="list-style-type: none"> • Goat Shallow - <i>Salix caprea</i> (15%); • White Willow - <i>Salix alba</i> (15%); • Birch - <i>Betula pendula</i> (15%); • Alder - <i>Alnus glutinosa</i> (15%); • Aspen - <i>Populus tremula</i> (10%); • Downy Birch - <i>Betula pubescens</i> (10%); • Hazel - <i>Corylus avellana</i> (10%); and • Scots Pine - <i>Pinus sylvestris</i> (10%). 	<p>A typical species mix to be used for dry scrub shall be:</p> <ul style="list-style-type: none"> • Hawthorn - <i>Crataegus monogyna</i> (25%); • Blackthorn - <i>Prunus spinosa</i> (25%); • Juniper - <i>Juniperus communis</i> (25%); and • Dog Rose - <i>Rosa canina</i> (25%). 	<p>A typical species mix to be used for hedgerows shall be:</p> <ul style="list-style-type: none"> • Hawthorn - <i>Crataegus monogyna</i> (50%); • Blackthorn - <i>Prunus spinosa</i> (30%); • Beech - <i>Fagus sylvatica</i> (10%); and • Holly - <i>Ilex aquifolium</i> (10%). <p>Typical hedgerow trees shall include:</p> <ul style="list-style-type: none"> • Oak - <i>Quercus robur</i>; • Rowan - <i>Sorbus aucuparia</i>; and • Cherry - <i>Prunus avium</i>. 	

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<p>Individual Standard Trees and Feathered Trees Groups of individual trees and tree lines shall comprise standard trees in informal or formal groupings and positioned to strengthen the landscape pattern, create distinctive planting and a sense of place at transition points along the proposed Scheme i.e. on approach to and at key junctions and provide screening or filtering of views.</p> <p>Typical native species to be used for individual standard trees shall be:</p> <ul style="list-style-type: none"> • Scots Pine - <i>Pinus sylvestris</i>; • Beech - <i>Fagus sylvatica</i>; • Silver Birch - <i>Betula pendula</i>; • Aspen - <i>Populus tremula</i>; • Rowan - <i>Sorbus aucuparia</i>; and • Alder - <i>Alnus glutinosa</i>. 		
L18	<p>For all disturbed soft areas and road verges, different seed mixes shall be used, dependent on location and final use of the area:</p> <ul style="list-style-type: none"> • roadside verge mix: suited to the roadside location being low maintenance, fast establishing and tolerant of traffic and salt spray; • species-rich grassland mixes: suited for use in all other areas disturbed by construction works, consisting of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring semi-natural flora. As well as enhancing biodiversity by providing foraging resources for birds and pollinators, and visual interest along the proposed Scheme, these types of grasslands shall require minimal maintenance; and • wetland grassland mix: suited for use in the SUDS, low lying poorly drained areas and areas around culverts that are likely to experience wet conditions. 	Construction Operation	Throughout the proposed Scheme
L19	<p>Culloden Estate Farmland LLCA (Refer to Figures 9.5a to c)</p> <ul style="list-style-type: none"> • Roadside verge with bulb under planting to strengthen urban character of proposed Scheme close to Inverness and enhance the approach to Inverness. • Mixed woodland and scrub woodland to strengthen existing landscape character, screen and soften visibility of proposed Scheme from properties at Resaurie and Culloden. • Deciduous woodland planting to strengthen existing landscape character. • Riparian woodland and hedgerow planting to integrate and screen the SUDS, and link with existing woodland and wetland habitats. • Roadside and path-side hedgerow planting to repair severed boundaries, reinforce landscape character, soften and assist screen whilst retaining open views. • Feathered tree planting to reflect landscape character, assist enhance the approach to Inverness and create a sense of arrival. 	Construction Operation	Ch1150 to Ch3950

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> • Standard tree planting at Smithton Junction to strengthen landscape character, enhance approach to Inverness and assist screen visibility of proposed Scheme. • Retention and management of existing vegetation where possible. • Retention of mature Beech trees along Stratton Lodge Road. • Hedgerow with standard beech trees at eastern end of Stratton Lodge Road to replace lost vegetation and strengthen remnant estate landscape character. • Mixed woodland and scrub woodland to assist screen visibility and integrate proposed Scheme into the surrounding landscape. • Scrub and hedgerow planting to provide visual separation. • Scrub woodland planting on noise bunds to assist integration and soften their appearance. • Climbers planted to the protected side of noise barriers to aid integration. 		
L20	<p>Open Coastal Lowland LLCA (Refer to Figure 9.5c to e and 9.5h to m)</p> <ul style="list-style-type: none"> • Roadside and path side hedgerows to reflect the landscape character, screen traffic movement whilst retaining open views. • Roadside hedgerows with trees to provide partial screening, tie with existing vegetation, reinforce landscape character and retain partial distant views. • Riparian and mixed woodland to assist screen SUDS, integrate watercourses and link with existing wetland habitats. • Mixed woodland and scrub woodland planting at Balloch Junction to soften embankments screen visibility of proposed Scheme from Balloch and surrounding scattered properties. • Retention and management of existing vegetation where possible. • Standard tree planting at Balloch Junction to highlight approach to Balloch. • Hedgerow and hedgerow with trees to highlight approach to Inverness Airport and provide screening. • Mixed woodland and standard tree planting at Mid Coul Junction to reinforce landscape character and create sense of place for junction of the airport. • Mixed woodland, scrub woodland, standard trees and hedgerow planting at Brackley Junction to soften earthworks, improve integration with the surrounding landscape and provide screening for local properties. • Mixed woodland planting adjacent to main dual carriageway to screen visibility and improve integration with the surrounding landscape. • Seeding of species rich grassland on embankments, cuttings and flood retention earth bund. • Grubbing up, planting and seeding of stretches of redundant road. 	Construction Operation	ch3950 to ch6300 and ch10500 to ch17800

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> • Scrub woodland to reflect existing local vegetation, assist integration and screen visibility. • Scrub and standard tree planting on cuttings to soften earthworks and enhance approach to Nairn West Junction. • Mixed woodland, scrub and hedge at Gollanfield to reflect existing local vegetation, to complement the overbridge (Gollanfield Road Overbridge) and to screen views from local roads and paths. • Mixed woodland and scrub planting to aid integration, screen and soften views. • Standard tree planting within Nairn West Junction to highlight junction to Nairn and to reduce indirect impacts. 		
L21	<p>Forested Edge Farmland LLCA (Refer to Figure 9.5e to g)</p> <ul style="list-style-type: none"> • Path-side hedgerows to reinforce separation of carriageway and pathway. • Riparian planting adjacent to the SUDS and realigned watercourses to link with existing watercourses and wetland vegetation, and assist integration with surrounding landscape character. • Seeding of species rich grassland on embankments. • Hedgerow planting to enhance landscape integration and provide partial screening. • Scrub woodland to assist integration with surrounding landscape and to soften views. • Retention and management of existing vegetation where possible. • Mixed woodland and scrub woodland planting to assist landscape integration, soften and/ or screen visibility of the proposed Scheme from surrounding properties and tie in to with existing vegetation. • Grading out and sensitive profiling of embankments close to Morayston and Kerrowaird to assist integration with adjacent topography and potential return to agriculture. 	Construction Operation	ch6300 to ch8900
L23	<p>Tornagrain Woods LLCA (Refer to Figure 9.5g to h)</p> <ul style="list-style-type: none"> • Mixed woodland to soften views from local properties and assist integration with the surrounding landscape and screen visibility. • Mixed woodland to replace lost AWI woodland in Tornagrain Woods. • Path-side hedgerows to reinforce separation of road and pathway. • Riparian planting surrounding the SUDS to link with existing wetland habitats and improve integration with surrounding landscape character. • Deciduous woodland planting along Dalcross Station Road to enhance the landscape setting through the use of a diverse range of native plant species. • Standard tree planting within the proposed Mid Coul Junction to highlight junction to the airport and create a sense of place. • Seeding of species rich grassland on embankments. 	Construction Operation	ch8900 to ch10500

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> Hedgerow and standard tree planting along Mid Coul Junction slip roads to enhance and highlight approach to Inverness Airport. Retention and management of existing vegetation where possible. 		
L24	<p>Enclosed Forested Edge Farmland LLCA (Refer to Figure 9.5m to q)</p> <ul style="list-style-type: none"> Mixed woodland to soften views of road for local properties, integrate with existing vegetation and provide additional habitat. Coniferous woodland and shelterbelts to assist integration with the surrounding landscape reinforce existing landscape pattern and screen views towards the proposed Scheme from adjacent properties. Species rich grassland on embankments with boundary hedgerows to retain open views and repair severance of field boundaries. Hedgerow planting to enhance local landscape character to soften view and tie in with existing vegetation. Standard tree planting within Nairn West Junction to enhance and highlight junction to Nairn. Mixed woodland and scrub planting at Nairn West Junction to soften appearance of embankments, integrate the junction in the surrounding landscape and screen views from local properties. Mixed woodland at Moss-Side to assist integration with new structures and embankments, assist soften appearance and provide screening to local properties. Riparian scrub/woodland adjacent to the SUDS and existing watercourses to enhance their appearance and link with existing wetland habitats. Mixed woodland planting and hedgerows on approach to and at B9090 Overbridge to integrate and screen visibility of the proposed scheme. Retention and management of existing vegetation where possible. 	Construction Operation	ch17800 to ch22300
L25	<p>River Nairn LLCA (Refer to Figure 9.5q)</p> <ul style="list-style-type: none"> Deciduous woodland planting along the river corridor and adjacent to the bridge (River Nairn Underbridge and NMU shared use path) and where it has been lost during construction of crossing. Retention and management of existing vegetation where possible. 	Construction Operation	ch22300 to ch22500
L26	<p>Auldearn Forested Rolling Farmland LLCA (Refer to Figure 9.5q to t)</p> <ul style="list-style-type: none"> Mixed and coniferous woodland to integrate proposed Scheme and screen its visibility from local properties. Mixed and coniferous woodland planting to reinforce existing forested character. Coniferous and mixed woodland to replace lost plantation and ancient woodland. Species rich grassland seeding on cuttings and embankments to assist integrate. 	Construction Operation	ch22500 to ch27400

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> • Hedgerow planting to assist screening and repair severance of existing field boundaries. • Earth bund close to East Lodge Cottage to assist in providing additional visual screening along with mixed woodland planting. • Riparian planting and mixed woodland to screen, enhance and integrate SUDS and link with existing wetland habitats. • Scrub and standard tree planting to screen and soften views, enhance approach to Nairn and create sense of place. • Retention and management of existing vegetation where possible. 		
L27	<p>Auldearn Open Farmland LLCA (Refer to Figure 9.5t to v)</p> <ul style="list-style-type: none"> • Species rich grassland seeding on cuttings and embankments to assist integrate the proposed Scheme. • Hedgerow planting to assist repair severance and integrate the proposed Scheme whilst retaining open views where possible. • Riparian and mixed woodland planting to enhance appearance of, screen and integrate SUDS, and link with existing wetland habitats. • Mixed woodland at C1172 Underbridge and Hardmuir Overbridge No 1 to assist integrate the structure and earthworks into the surrounding landscape softening and screening visibility from local properties. 	Construction Operation	ch27400 to ch29650
L28	<p>Hardmuir Forest Edge Farmland LLCA</p> <ul style="list-style-type: none"> • Mixed woodland to replace woodland lost at Hardmuir Woods and provide additional habitat. • Mixed woodland to provide screening, assist integration and link woodland habitats at Wester Hardmuir Wood and Hardmuir Wood. • Mixed woodland planting to provide separation between the proposed Scheme and existing A96. • Boundary hedging along existing A96 to assist in repairing boundary severance. • Hedgerow planting to screen visibility of proposed Scheme included access roads from surrounding properties. • Retain existing vegetation where possible. 	Construction Operation	ch29650 to ch31100
L29	<p>Enclosed Firth LLCA Introduction of roadside planting to integrate road corridor into landscape.</p>	Construction Operation	Ch0 to Ch14400 approx.
L30	<p>Flemington Eskers LLCA Introduction of roadside planting to integrate road corridor into landscape.</p>	Construction Operation	Ch10300 to Ch20200 approx.
L31	<p>Forested Backdrop LLCA Introduction of roadside planting to integrate road corridor into landscape.</p>	Construction Operation	Throughout the proposed Scheme

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
L32	Culloden House GDL Roadside hedgerow and hedgerow trees to integrate road corridor into landscape.	Construction Operation	ch2100 to ch3950 approx.

Table 20.5: Visual Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
V1	All Landscape Mitigation in Table 20.4 will be provided	Pre-construction Construction Operation	Throughout the proposed Scheme.
V1	Where lighting has been identified as part of the DMRB Stage 3 design of the proposed Scheme the appointed contractor shall seek to reduce or avoid excessive, unnecessary and obtrusive lighting through appropriate selection, location and arrangement of lighting elements to achieve the necessary safety standards of useful light, while minimising intrusiveness in the form of spillage, glare and reflection.	Pre-construction Construction Operation	Throughout the proposed Scheme.

Table 20.6: Habitats and Biodiversity Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
E1	A suitably qualified (or team of suitably qualified) Ecological Clerk of Works (ECoW) shall be appointed by the appointed contractor to supervise the construction works, undertake 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. An employer's agent ecologist shall observe that the appointed contractors ECoW(s) to determine that they are suitably qualified to undertake their role, as well as undertake auditing of contractual obligations, with regard to the ecological safe guarding and ecological mitigation requirements.	Pre-construction Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
E2	Species Protection Plans (SPPs) shall be prepared for European Protected Species (and other species, including badgers, as necessary) by the appointed contractor as part of the CEMP, and shall include Mitigation Items E5 to E21, where applicable. The SPPs shall be prepared to ensure that essential mitigation strategies required for safeguarding protected species are implemented as part of the contract, and shall be updated, as appropriate, if any additional licences and mitigation measures or amendments to the agreed mitigation are identified as a result of any design changes made by the appointed contractor or results of further surveys. The SPPs shall be developed in consultation with all applicable stakeholders, including SNH.	Pre-construction Construction	Throughout the proposed Scheme.
E3	HMPs shall be prepared for habitats of conservation interest (including ancient woodland inventory (AWI) woodland and other woodland) by the appointed contractor as part of the CEMP, and shall include Mitigation Items E5 to E21, where applicable. The HMPs shall be prepared to ensure that essential mitigation strategies required for protecting and managing habitats are implemented as part of the contract and shall be updated as appropriate if any additional mitigation measures or amendments to the agreed mitigation are identified as a result of any design changes made by the appointed contractor or results of further surveys. The HMPs shall also make reference to INNS management plans where appropriate.	Pre-construction Construction	Throughout the proposed Scheme.
E4	Implementation of SUDS to treat surface water outflowing to mitigate impact on the Inner Moray Firth SPA and Castle Stuart SSSI (refer Mitigation Item GR3).	Pre-construction Construction	Throughout the proposed Scheme.
E5	AWI woodland (3 'Other' (on Roy map)) River Nairn East Woodland and AWI woodland (3 'Other' (on Roy map)) River Nairn West Woodland New woodland planting to replace lost habitat. Species mixes shall reflect native woodland mixes to replace non-native plantations. Planting shall support local and regional Biodiversity Action Plan (BAP) objectives to enhance structural diversity including: <ul style="list-style-type: none"> • AWI woodland soil shall be re-used, where appropriate, to maintain soil microbial biodiversity and provide a seed bank; • management shall be undertaken in AWI woodland to be retained, to support BAP objectives, including the retention of dead and fallen wood; and, • development of a woodland HMP (in combination with Mitigation Item L6). 	Construction	ch1200 to ch1700; ch1800 to ch2700; ch2800 to ch3000; ch7100 to ch7500; ch8500 to ch9500; ch10200 to ch10500; ch10600 to ch11300; ch12200 to ch12300; ch14100 to ch14300; ch14600 to ch14800; ch16200 to ch16550; ch17600 to ch18300; ch18550 to ch21300; ch21650 to ch22100; ch22400 to ch22450; ch22800 to ch27700; ch28300 to ch29650; and ch29800 to ch30900.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location																																
E6	<p>To allow movement of species across the proposed Scheme crossings shall be provided. Locations for crossing points for particular species have been identified based on connecting habitat types that support the identified species. Crossings could consist of the types identified below, and shall be appropriate for the species type identified. Further guidance is provided in Chapter 11: Habitats and Biodiversity, Appendix 11.3: Mitigation Protocol:</p> <ul style="list-style-type: none"> • culverts suitable for passage by mammals; • Dry Mammal Underpasses (DMU); and, • enhanced overbridge and underpasses. 	Construction	<p>For otters, badger, red squirrel and pine martin:</p> <table border="0"> <tr><td>ch1240</td><td>ch10210</td></tr> <tr><td>ch1750</td><td>ch12600</td></tr> <tr><td>ch2280</td><td>ch12700</td></tr> <tr><td>ch2540</td><td>ch22450</td></tr> <tr><td>ch4710</td><td>ch23400</td></tr> <tr><td>ch6300</td><td>ch26750</td></tr> <tr><td>ch7540</td><td></td></tr> </table> <p>For otters: ch8890</p> <p>For badgers:</p> <table border="0"> <tr><td>ch4400</td><td>ch14600</td></tr> <tr><td>ch5400</td><td>ch18850</td></tr> <tr><td>ch6760</td><td>ch19700</td></tr> <tr><td>ch7100</td><td>ch20650</td></tr> <tr><td>ch7900</td><td>ch25500</td></tr> <tr><td>ch8900</td><td>ch26400</td></tr> <tr><td>ch9150</td><td>ch28300</td></tr> <tr><td>ch10530</td><td>ch29660</td></tr> <tr><td>ch14350.</td><td></td></tr> </table> <p>For badger, red squirrel and pine marten: ch23150.</p> <p>For red squirrel and pine marten: ch17600 ch22900.</p>	ch1240	ch10210	ch1750	ch12600	ch2280	ch12700	ch2540	ch22450	ch4710	ch23400	ch6300	ch26750	ch7540		ch4400	ch14600	ch5400	ch18850	ch6760	ch19700	ch7100	ch20650	ch7900	ch25500	ch8900	ch26400	ch9150	ch28300	ch10530	ch29660	ch14350.	
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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
E7	New scrub woodland planting to mitigate fragmentation of existing habitat and replace habitat to be lost under the footprint of the proposed Scheme for otters, at the identified locations (in combination with Mitigation Item E5) .	Construction	ch1600 to ch2000; ch2600 to ch3800; ch4800 to ch5300; ch8300 to ch8500; ch14000 to ch14200; ch15300 to ch15450; ch15800 to ch16300; ch17100 to ch17550; and ch25900 to ch26000.
E8	Provision of bat boxes to mitigate for habitat loss, and for the fragmentation of commuting routes. Bat boxes to be provided at the following minimum densities at the locations identified (refer Figure 9.5). <ul style="list-style-type: none"> • high potential – 10 boxes per hectare lost; • moderate potential – 5 boxes per hectare lost; and • low potential – 1 box per hectare lost. 	Construction	Bat boxes at (Figure 9.5); <u>High</u> ch1700 ch2950 ch3870 ch22450 <u>Moderate</u> ch2250 ch2750 ch2100 to ch2770 Culloden local road ch20500 ch20650 ch23100 <u>Low</u> ch9200 ch9600 ch14500 ch18900 ch23900; ch24650 ch29630.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
E9	New woodland and hedgerow planting to mitigate fragmentation of existing habitat and replace habitat to be lost under the footprint of the proposed Scheme for bats, at the identified locations (in combination with Mitigation Item E5) .	Construction	<p><u>Woodland</u> BW20 ch1150 to ch1250); BW25, Cairnlaw (ch1550 to ch1800); BW26, Cairnlaw, (ch2250 to ch2300); BW27, Cairnlaw (ch2550); BW28, Milton of Gollanfield (ch3000); BW48, Culloden (ch3900); BW19 Tornagrain, (ch8900), (ch9150), (ch9460), (ch10200); BW31 Balspardon (ch14300 to ch14600); BW42 Balnaspirach (ch20500 to ch20700); BW13/14, Crook (ch22800 to ch22900); River Nairn, BW47 (ch22400 to ch22500); and BW8 (ch29800 to ch30400). <u>Hedgerows:</u> ch2200 to ch2800; ch3000 to ch4000; ch4400 to ch6100; ch6500 to ch7100; ch13000 to ch13200; ch13400 to ch15200; ch15300 to ch16400; ch16600 to ch17100;</p>

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
			<u>Hedgerows continued...</u> ch18000 to ch18600; ch20700 to ch22300; ch23900 to ch24650; ch26100 to ch26500; ch27300 to ch28700; ch29100 to ch29600; and ch30400 to ch31200. Refer to Figure 9.5.
E10	<p>Pre-construction surveys shall be undertaken to update the baseline in order to determine the bat species present and the use of commuting routes. In response to these surveys site-specific mitigation measures may be required, which shall be developed in consultation with an appropriately qualified ecologist and included within the SPP. Specific mitigation measures may include, for example:</p> <ul style="list-style-type: none"> planting or retention of tall mature trees at crossing points to form 'hop-overs' to maintain connectivity with existing landscape features; planting of dense thickets parallel to the road at crossing points to force low flying species such as Myotis and brown long-eared bats to fly up high over the road; for species that can fly through vegetation, such as brown long-eared bats, an additional barrier may be required (e.g. wooden screen or mesh 4 to 5m high); lighting shall be designed to avoid illumination of crossing points; and, mitigation shall be developed and capable of functioning before the barrier effect occurs. 	Construction	Throughout the proposed Scheme.
E11	Provision of culverts, underpasses and the use of overbridges on the proposed Scheme which shall be suitable for multiple species including passage by bats to mitigate fragmentation of habitat, to increase permeability of the road to bats and reduce barrier effects.	Construction Operation	<u>Culverts/Underpasses:</u> C09 (Rough Burn Culvert); ch7525; C18 (Alton Burn Culvert); ch19610; Farm track; ch18850; Unnamed road; ch22900;

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
			C20 (Auldearn Burn Culvert); and ch26750 <u>Overbridges</u> BW48 (Culloden); ch3900; BW19 (Tornagrain); ch9600; BW17; ch17600; BW14 and BW13 (Crook/Skene Park); and ch23850. Refer to Figure 9.5
E12	Lighting shall be designed to avoid illuminating sensitive mammal habitats (e.g. for bats and badgers) in locations such as: adjacent to watercourses; along woodland edges; and, where there is known activity identified through pre-construction ecological surveys.	Pre-construction	Throughout the proposed Scheme.
E13	Provision of replacement badger setts to mitigate for loss of main setts (Chapter 11: Habitats and Biodiversity Appendix CA11.1 Confidential Appendix – Badgers and Otters).	Pre-construction Construction	Confidential Locations.
E14	Provision of mammal proof fencing, at the identifies locations, to: <ul style="list-style-type: none"> prevent access onto the dual carriageway alignment by badger and otter. Fencing shall be positioned in such a way that badger and otter shall be directed to safe crossing points; and reinstatement of existing fencing at ch10500 (Mid Coul Junction, Inverness Airport Road). 	Construction Operation	ch800 to ch3050; ch3900 to ch8300; ch8750 to ch9650; ch9800 to ch10500; ch13850 to ch15100; ch18350 to ch21400; ch22650 to ch27250; ch29200 to ch30200.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
E15	New woodland planting, and enhancement of retained woodland, to mitigate fragmentation of existing habitat and replace habitat to be lost under the footprint of the proposed Scheme for red squirrel and pine marten, at the identified locations (in combination with Mitigation Item E5) .	Construction Operation	Throughout the proposed Scheme. Refer to Figure 9.5.
E16	SUDS and creation of new species rich grassland planting to be provided to support Common lizard and amphibian species (including Great Crested Newt), at the identified locations.	Construction Operation	ch1200, ch1600, ch2200, ch2350, ch2950, ch4950, ch6250, ch6400, ch8500, ch8800, ch10100, ch10250; ch10900, ch1275, ch15800, ch16800, ch22200, ch23350, ch23450, ch26700, ch26800 and ch28850. Refer to Figure 9.5.
E17	Creation of replacement seasonal pond habitat.	Construction Operation	ch18100 to ch18300
E18	Provision of habitat for reptiles reflecting that lost. Including appropriately located hibernacula (hibernation sites) at the identified locations.	Construction Operation	ch16900; ch22200; ch23400; and ch25700. Refer Figure 9.5.
E19	Creation of new species rich grassland planting for great crested newts.	Construction Operation	ch13400 to ch15800, ch19400 to ch21100.
E20	New species rich grassland planting to provide foraging habitat for corn bunting.	Construction Operation	SUDS at Milton of Gollanfield (ch12800) and Gollanfield (ch15700).
E21	Provision of singing posts for corn bunting and creation of hedgerows to provide connectivity for corn bunting.	Construction Operation	Between ch13400 and ch14100, and along access roads to Polfalden.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/ Location
E22	<p>New realigned section of Cairnlaw Burn and Auldearn Burn shall be provided, which shall be of equal or greater quality to the sections lost to the proposed Scheme. This shall include, but not be limited to:</p> <ul style="list-style-type: none"> designing appropriate meanders; creating heterogeneous flow and substrate conditions; and, planting appropriate species in the riparian zone. 	Construction Operation	Approximately 400m of Cairnlaw Burn ch1700 to ch2300 and 140m of Auldearn Burn ch26700.
E23	<p>Any deer fencing damaged or removed during the construction of the proposed Scheme shall be repaired or replaced to maintain existing protection.</p> <p>The appointed contractor shall be required to undertake a deer collision risk assessment, in compliance with Transport Scotland's strategic deer management planning and the operating company deer management plan. Based on the outcomes of the risk assessment the appointed contractor shall be required to take appropriate measures so as to avoid increasing the risk of deer collisions on the highway and to protect new planting areas from browsing/grazing.</p>	Construction	Throughout the proposed Scheme.

Table 20.7: Geology, Soils, Contaminated Land and Groundwater Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
G1	A Peat Management Plan shall be developed by the appointed contractor, during the design refinement process, which shall identify engineering methods, such as piling or in-situ stabilisation that could be adopted to reduce the volumes of potentially excavated peat. In particular in study areas C and D (as per Chapter 12: Geology, Soils, Contaminated Land and Groundwater, Table 12.13). The Peat Management Plan shall be developed in consultation with SEPA and other authorities as relevant.	Pre-construction Construction	Throughout the proposed Scheme, where peat is identified, in particular study areas C and D.
G2	Peat excavation, storage, and any off-site removal required shall be undertaken in accordance with 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 in compliance with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011.	Construction	Throughout the proposed Scheme, where peat is identified, in particular study areas C and D.
G3	Thirteen proposed road cuttings, seventeen proposed SUDS cuttings and seven proposed culvert cuttings are expected to intercept groundwater. The potential volume of groundwater drainage would be considered in the context of potential groundwater abstraction CAR licences prior to works commencing.	Pre-construction	<u>Road cutting locations:</u> ch0 to ch 40; ch0 to ch240; ch60 to ch430;

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
			<p><u>Road cutting locations continued:</u> ch8180-ch8420; ch14650 to ch15500; ch17050 to ch17680; ch17720 to ch17900; ch18260 to ch18410; ch21500 to ch22200; ch23500 to ch25400; ch27460 to ch28360; ch28890 to ch29570; and ch29760 to ch30880.</p> <p><u>SUDS cuttings:</u> ch1350 to ch1450; ch1150 to ch1200; ch1200 to ch1300; ch2000 to ch2250; ch2300 to ch2400; ch2800 to ch3000; ch4800 to ch5000; ch10050 to ch10300; ch12670 to ch12960; ch17000 to ch17130; ch19800 to ch19950; ch22130 to ch22270; ch25700 to ch25800; ch26600 to ch26850; ch28650 to ch28870; ch23300 to ch23500; and ch26600 to ch26850.</p>

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
			Culvert cutting locations: ch4745; ch7525; ch10200; ch10550; ch11390; and ch19610.
G4	A detailed differential settlement assessment shall be undertaken prior to construction in cutting areas identified in Chapter 12: Geology, Soils, Contaminated Land and Groundwater, Table 12.14, resulting in a potential Slight/Moderate significance of impact. In the eventuality of some properties being identified at potential risk, appropriate measures including condition surveys and monitoring of buildings and groundwater level changes may be required.	Pre-construction Construction	See Table 12.14 in Chapter 12.
G5	The appointed contractor shall review areas of groundwater likely to be intercepted by cuttings during construction and implement treatment as required prior to discharge.	Construction	Throughout the proposed Scheme.
G6	Private Water Supply (PWS) GE125 shall be monitored for quality during the construction phase.	Construction	PWS GE125, Abstraction GE411.
G7	A groundwater monitoring network shall be established around the Blackcastle Quarry and surrounding road cuttings to verify changes in groundwater levels and ensure that the abstraction GE411 is protected.	Construction	GE411.
G8	If PWS have been assessed as likely to be impacted, an alternative or replacement supply shall be put in place prior to construction.	Pre-construction Construction	Throughout the proposed Scheme.
G9	The appointed contractor shall undertake a detailed assessment of cuttings identified in Chapter 12: Geology, Soils, Contaminated Land and Groundwater, Table 12.16, using all available ground investigation (GI) data, including the awaited full 2016 data set to assess groundwater effects on surface water to establish if additional mitigation is required.	Pre-construction	Throughout the proposed Scheme See Table 12.16 in Chapter 12.
G10	Establishment of appropriate health and safety and waste management procedures for working with potentially contaminated soils. Waste management procedures shall include but not be limited to: Waste Management Licence Regulations 1994 (as amended by Waste Management Licensing Amendment (Scotland) Regulations 2003), HSE Guideline Note MS13 Asbestos 1998, the Health and Safety Commission Approved Code of Practice and Guidance Note. The appointed contractor shall re-allocate / rebuilt septic tanks directly impacted by the works.	Pre-construction Construction	Throughout the proposed Scheme. At locations of potential contamination. See Figure 12.3.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
G11	The risks to construction workers shall be mitigated by the adoption and use of appropriate personal protective equipment (PPE), which shall be selected on the basis of the completed land contamination section within the ES or subsequent assessments undertaken by the appointed contractor.	Pre-construction Construction	Throughout the proposed Scheme. In particular at locations of potential contamination. See Figure 12.3.
G12	A 'watching brief' shall be implemented during excavation in order to take account of the fact that there may be isolated pockets of previously unidentified contamination.	Construction	Throughout the proposed Scheme. In particular at locations of potential contamination. See Figure 12.3.
G13	The appointed contractor shall undertake air quality monitoring, including occupational exposure and ambient air quality monitoring is to be undertaken.		
G14	An assessment of gassing issues in accordance with CIRIA 665 shall be undertaken following receipt of additional ground gas monitoring results at selected boreholes.	Pre-construction	Throughout the proposed Scheme.
G15	A ground gas monitoring programme shall be prepared prior to construction and adhered to during construction.	Pre-construction Construction	Throughout the proposed Scheme.
G16	Appropriate working methods shall be developed and adopted by the appointed contractor during below ground site construction works (including piling works and excavations). This shall 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 (in combination with Mitigation Items G10, G11, G12, G13 and G14) .	Pre-construction Construction	Throughout the proposed Scheme.
G17	Minimise storage on site (spatially and in duration) and ensure all storage areas are properly lined, and an adequate drainage management in place. This is to ensure that no polluted water percolates into the ground or generate contaminated run-off.	Construction	Throughout the proposed Scheme.
G18	A ground improvement risk assessment shall be undertaken by the appointed contractor, including assessment of risks from migration of groundwater.	Construction	Throughout the proposed Scheme.
G19	The risks to maintenance workers will be mitigated by the adoption and use of appropriate PPE	Operation	Throughout the proposed Scheme.
G20	Ground gas monitoring of confined spaces e.g. service pits, should be undertaken prior to entry.	Operation	Throughout the proposed Scheme.
G21	If significant ground gas issues identified, further post construction monitoring will be undertaken and/or appropriate gas protection measures will be incorporated into the final design.	Operation	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
G22	Where risks to end users have been identified, the appointed contractor's detailed design will incorporate measures to prevent wind blown dust e.g. the use of hard standing areas to cap contaminated soils	Operation	Throughout the proposed Scheme.
G23	Use of clean cover and vegetation on embankment areas constructed using excavation arisings.	Operation	Throughout the proposed Scheme.
G24	Prior to disposal, soils shall be assessed in line with the Hazardous Waste Technical Guidance WM2 document to determine whether they are hazardous or non-hazardous. Management of soils shall be addressed through an SWMP (refer Mitigation Item GR1).	Operation	Throughout the proposed Scheme.
G25	A soil reuse assessment shall be undertaken in order to identify any potential risks posed to the water environment from potentially contaminated soils used in embankments and associated structures. Management of soils shall be addressed through an SWMP (refer Mitigation Item GR1).	Operation	Throughout the proposed Scheme.
G26	Where concrete materials are proposed, reference shall be made to appropriate guidance, such as Building Research Establishment (BRE) SD1:2005 and British Standard (BS) BS8500 (BS 2002), for the selection of construction materials.	Pre-construction Construction Operation	Throughout the proposed Scheme.

Table 20.8: Road Drainage and the Water Environment Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
W1	The appointed contractor shall implement the CEMP to prevent or reduce impacts on the surface water environment (refer to Mitigation Item GR1 and GR2). The CEMP shall be approved by SEPA prior to construction. In addition, the Environmental Site Manager or a suitably qualified member of the construction team, e.g. Environmental Clerk of works (EnvCoW), shall ensure that the mitigation measures identified within the CEMP are fully implemented and activities carried out in such a manner as to prevent or reduce impacts on the surface water environment.	Pre-Construction Construction	Throughout the proposed Scheme.
W2	Measures shall be taken by the appointed contractor to avoid, reduce or control pollution of surface water and groundwater and shall incorporate SEPA requirements and CIRIA guidelines for pollution control, including relevant PPGs and the SEPA (2009) Good Practice Guide: Temporary Construction Methods.	Pre-Construction Construction	Throughout the proposed Scheme.
W3	To reduce potential increases in flows into the receiving watercourses during construction, the period of exposure of bare areas and uncontrolled runoff from newly paved areas shall be limited as far as practicable.	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
W4	During temporary construction works, consideration shall be given to flood impacts. Plant and material shall be stored in safe areas above the 1:200-year flood event flood plain, where practicable, and the aim will be for temporary construction works to be resistant to flood impacts in order to prevent movement or damage during potential flooding events.	Construction	Throughout the proposed Scheme.
W5	<p>The appointed contractor shall be required to prepare construction method statements for any in-stream working for approval by SEPA prior to those specific works. The method statement shall include measures to:</p> <ul style="list-style-type: none"> • protect fish; • deal with flowing water appropriately e.g. temporary diversions, over-pumping; • reduce the risk of mobilisation of sediments to an acceptable level by employing reasonably practicable measures; • protect banks where they are particularly vulnerable to erosion; • undertake diversion of flow back into a channel in a manner that reduces the risk of erosion, with temporary bank stabilisation incorporated if necessary; • avoid unnecessary in-stream working; and • comply with SEPA's Good Practice Guide: Temporary Construction Methods. 	Pre-Construction Construction	Throughout the proposed Scheme.
W6	<p>Where channel realignment is proposed the following principles should be followed where possible:</p> <ul style="list-style-type: none"> • construct the new channel as early as possible prior to diverting flow from the existing channel to the new course to allow vegetation to colonise bank faces; and • minimise the length of channel to be realigned. 	Construction	Throughout the proposed Scheme.
W7	The appointed contractor shall implement temporary drainage systems to alleviate localised flood risk and help to prevent obstruction of surface runoff pathways. This may require temporary reduction of existing flood risk to allow works to proceed safely. Temporary SUDS, or equivalent, shall be used to reduce the potential for contaminated runoff to watercourses. A number of these temporary SUDS may, where appropriate, be incorporated into the operational drainage network when the proposed Scheme is completed, but additional site-specific SUDS may be required during construction and shall be removed once construction is complete. Care must be taken to avoid clogging and/or compaction of SUDS which are to be used during the operational phase.	Construction	Throughout the proposed Scheme.
W8	<p>Appropriate control measures for construction site runoff and sedimentation shall be implemented during construction and detailed within the appointed contractors CEMP (refer Mitigation Item GR1), and may include:</p> <ul style="list-style-type: none"> • cleaning of roads to reduce mud and dust deposits (away from watercourses, into appropriate drainage sites); • limit exposed bare areas and uncontrolled runoff from newly paved areas; • covering and bunding, if required, of soil stockpiles; • use of silt fences where appropriate; 	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> early covering/seeding/planting of exposed surfaces where practicable; where appropriate, provision of peripheral cut-off ditches or drainage system to intercept runoff from outside the working area such that it does not encroach on the working area; lay suitable surfacing materials in site compound and on main access routes; and regular proactive visual inspection of the sedimentation reduction measures, and condition of receiving watercourse. 		
W9	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.	Pre-Construction Construction	Throughout the proposed Scheme.
W10	Where required, CAR authorisation shall be obtained from SEPA and oil interceptor(s) shall be provided for drainage networks to vehicle parking areas, if required by SEPA.	Pre-Construction Construction	Throughout the proposed Scheme.
W11	The appointed contractor shall comply with the relevant sections of BS6031:2009 Code of Practice for Earthworks with respect to protection of water quality and control of site drainage including washings, dewatering, abstractions and surface water.	Construction	Throughout the proposed Scheme.
W12	Where the appointed contractor considers the use of alternative materials for fill, to those assumed within the assessment presented in the ES, consultation will be undertaken with SEPA prior to the use of such alternative materials.	Pre-Construction Construction	Throughout the proposed Scheme.
W13	Where construction activities related to new and extended culverts require in-channel works, to reduce the potential for sediment release the appointed contractor shall ensure that construction activities will be conducted during forecast low flow periods. The length of channel disturbed shall be minimised as far as practicable. Guidance on river crossings and culvert design contained in SEPA's Good Practice Guides and CIRIA C689 shall be followed. Measures to alleviate risks to the water environment associated with the construction of watercourse crossings shall be included in the appointed contractor's CEMP (refer Mitigation Item GR1) in consultation with SEPA. Requirements for grey (hard) bank scour protection (e.g. rock armour, rip-rap, gabion baskets) at culverts shall be limited to that absolutely required and options for use of alternatives such as none or green (soft) bank scour protection (e.g. vegetation, geotextile matting) shall be considered.	Pre-construction Construction	Throughout the proposed Scheme.
W14	Effective mitigation for impacts associated with outfalls shall be based on the following principles, in accordance with SEPA's guidance WAT-SG-28 – Intakes and Outfalls: <ul style="list-style-type: none"> construction of outfalls shall not be conducted during periods of high flow, in order to reduce the risk of scour and erosion around the outfall structures or to the disturbed river bank; limit the extent of channel/bank disturbance; consider the use of set-back outfalls first and use of swales rather than directly excavating into a watercourse; where practicable, provide sediment fences to prevent sediment wash into the watercourses; use of grey bank scour protection (e.g. rock armour, rip-rap, gabion baskets) at outfalls limited to that absolutely required. 	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
	<ul style="list-style-type: none"> Each outfall shall be correctly positioned, informed by a geomorphologist or appropriately qualified person, to limit scour around the outfall. The outfall location and design shall be such that there would be no significant alteration to flow patterns, which may lead to turbulence and/or excessive deflection of flows towards the bed or banks of the channel. The outfall shall not project into the channel and shall not be located where flow converges with river banks causing higher shear stresses or where active bank erosion is occurring. 		
W15	<p>Effective mitigation for impacts associated with storage, handling and use of chemicals shall be based on the following measures, and included within the appointed contractor's CEMP (refer Mitigation Item GR1):</p> <ul style="list-style-type: none"> chemicals stored in drums shall, as far as practicable, be stored within a secondary containment system. Containers without secondary containment shall not be placed within 10m of a watercourse or water body or within 50m of a spring, well or borehole; chemical stores shall be located above the 0.5% AEP (1 in 200-year return period) flood level; and, pesticides, including herbicides, shall only be used if there are no alternative practicable measures, and shall be used in accordance with the manufacturer's instructions and application rates. Pesticides selected shall be those with least harm to the environment (i.e. least toxic and least persistent) suitable for the required purpose. Pesticide use near watercourses shall require prior approval of SEPA. 	Construction	Throughout the proposed Scheme.
W16	<p>Concrete mixing and washing areas shall:</p> <ul style="list-style-type: none"> be located more than 10m from watercourses and water bodies; have settlement and re-circulation systems for water reuse; have a contained area for washing out and cleaning of concrete batching plant or ready mix lorries; and 	Construction	Throughout the proposed Scheme.
W17	Wash-water shall not be discharged to the water environment. These wash waters shall be collect and, where necessary, discharged to foul sewer (with the sewerage provider's permission) or be contained for authorised disposal off-site.	Construction	Throughout the proposed Scheme.
W18	<p>Sewage from site facilities shall be disposed of appropriately either to:</p> <ul style="list-style-type: none"> foul sewer with the permission of Scottish Water; or through appropriate treatment and discharge agreed with Building Control and SEPA in advance of establishment of site facilities in accordance with PPG 4 and CAR. 	Construction	Throughout the proposed Scheme.
W19	Excavations and ground penetration in respect of Private and Public Utilities, shall be carried out in accordance with best practice. Utilities shall be identified using information from the service provider and through survey. Measures shall be taken to prevent damage to utilities and to avoid pollution during service diversions, excavation and ground penetration.	Construction	Throughout the proposed Scheme.
W20	Where works are proposed within areas of potentially contaminated land or where potentially contaminated groundwater is present, appropriate risk management measures shall be implemented to reduce the risk of pollution to surface waters to an acceptably low level (refer to Table 20.7).	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
W21	<p>The construction programme shall be developed to facilitate the practicable implementation of mitigation measures at the stage where their application shall be most effective. In particular:</p> <ul style="list-style-type: none"> SUDS shall be scheduled for construction early in the programme, as far as practicable, 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. Additional temporary settlement ponds may also be required during construction, particularly in the vicinity of sensitive water bodies. In-channel works and works within the flood plain, i.e. construction activities or presence of personnel or construction plant within the 0.5% AEP (1 in 200-year return period) flood plain, shall be avoided during periods of high flow and increased flood risk, for health and safety reasons. In-channel works shall avoid spawning periods in salmonid watercourses. More detailed information on this can be found in Chapter 11 (Habitats and Biodiversity) along with work timings for particular species. 	Construction	Throughout the proposed Scheme.
W22	A detailed method statement for the layout and management of each part of the working area subject to a CAR licence shall be provided to SEPA for approval a minimum of four weeks, or by a date otherwise agreed with SEPA, prior to start of construction.	Pre-construction	Throughout the proposed Scheme.
W23	The appointed contractor shall be required to monitor water quality prior to and during construction, assessing chemical and biological parameters as required by SEPA. Parameters, duration, frequency and limits of sampling shall be agreed with SEPA in advance of construction.	Pre-construction Construction	Throughout the proposed Scheme.
W24	Regular inspections shall be carried out by the identified site environmental role (e.g.EnvCoW/ECow/ or suitably qualified member of the construction team) to identify and recommend appropriate actions for aspects such as unacceptably high pollution risk, or any suspected incidences of pollution.	Construction	Throughout the proposed Scheme.
W25	Where necessary, a Pollution Incident Response Plan shall be prepared and implemented by the appointed contractor, in line with SEPA PPG21 and PPG22. This shall include formulation of emergency procedures to address accidental pollutant releases and spillages, and shall include appropriate staff briefings, toolbox talks and other staff training, as required.	Construction	Throughout the proposed Scheme.
Drainage			
W26	Where it has been identified as necessary for road drainage to discharge to surface water features, mitigation shall be designed to limit the volume of discharge and the risk to water quality. Where required, authorisation for the road drainage discharge under CAR shall be obtained from SEPA.	Operation	Throughout the proposed Scheme.
Retention Basins			
W27	SUDS shall be designed to attenuate and store the 1% AEP (1 in 100 year return period) + 20% climate change flood event and restrict the outflow to the greenfield pre-development runoff rate of 50% AEP (1 in 2 year return period) flood event. SUDS shall be located out-with the functional (0.5% AEP) flood plain.	Pre-construction Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
Outfall Structures			
W28	Each outfall shall be correctly positioned, informed by a geomorphologist or appropriately qualified person, to limit scour potential around the culvert. The outfall location and design shall be such that there shall be no significant alteration to flow patterns which may lead to turbulence and/or excessive deflection of flow towards the bed or banks of the channel. The outfall shall not project into the channel and shall not be located where flow converges with river banks causing higher shear stresses or where active bank erosion is occurring.	Construction Operation	Throughout the proposed Scheme.
W29	Design and construction of outfall structures shall comply with best practice in CIRIA and DMRB and take cognisance of SEPA's Good Practice Guide: Intakes and Outfalls.	Pre-construction Construction	Throughout the proposed Scheme.
Culvert Extensions			
W30	Where existing culverts require extension the existing hydraulic capacity will not be reduced, in line with SEPA guidance. The extensions may lead to building within the existing flood plain. Mitigation for infill within the flood plain may be provided through compensatory storage, if necessary. New culverts shall be designed in accordance with guidance contained in CIRIA C689 and DMRB HA 107/04.	Pre-construction Construction Operation	Throughout the proposed Scheme.
W31	Culvert extensions shall match the form of existing structures, unless this conflicts with commitment W29, to ensure that there is no change in form (widening, narrowing and separation), which could interrupt sediment transport. If a change in form is required, the design shall incorporate the preservation of sediment transport and allow the formation of a natural bed through the structure.	Pre-construction Construction Operation	Throughout the proposed Scheme.
Channel Realignment			
W32	The detailed design of channel realignment shall include the input from a range of appropriate specialists (e.g. engineers, ecologists and geomorphologists), as well as SEPA representatives where appropriate, to incorporate mitigation measures and consider any feasible improvement of the watercourse morphology and habitats.	Pre-construction	SWF02 Scretan Burn, SWF05 tributary of Cairnlaw Burn, SWF06 Kenneth's Black Well, SWF07 Drain at Allanfean, SWF08 Fiddler's Burn, SWF12 Rough Burn, SWF16 tributary of Ardersler Burn, SWF 18 indirect tributary drains of Ardersler Burn, SWF 26 Auldearn Burn.

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
W33	<p>Where channel realignment is proposed the following principles shall be followed where practicable:</p> <ul style="list-style-type: none"> • construct the new channel as early as possible prior to diverting flow from the existing channel to the new course to allow vegetation to colonise bank faces; • minimise length of required realignment; • maintain gradient of watercourse; and • increase sinuosity of channel to create low flow two-stage channel to narrow channel and reduce siltation potential. 	Pre-construction Construction	SWF02 Scretan Burn, SWF05 tributary of Cairnlaw Burn, SWF06 Kenneth's Black Well, SWF07 Drain at Allanfearn, SWF08 Fiddler's Burn, SWF12 Rough Burn, SWF16 tributary of Ardersler Burn, SWF 18 indirect tributary drains of Ardersler Burn, SWF 26 Auldearn Burn.
Compensatory Storage			
W34	Compensatory storage shall be designed to achieve a neutral flood impact, providing the same response as the current floodplain.	Pre-construction Construction Operation	Throughout the proposed Scheme.

Table 20.9: Cultural Heritage Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
CH1	The preferred mitigation option for archaeological sites is to preserve them in situ. However, if this is not feasible, the alternative is preservation by record comprises recording works in advance of or during construction and the dissemination of the results of these works to provide a permanent record of the affected archaeological remains.	Pre-construction Construction	Throughout the proposed Scheme.
CH1	<p>To mitigate potential physical impacts on known and potential unknown archaeological remains, a programme of archaeological works shall be implemented pre construction in consultation with The Highland Council Historic Environment Team (HET) and Transport Scotland's archaeological advisors. This shall comprise a staged programme of trial trenching followed by detailed mitigation. The aims of the evaluation work shall be to:</p> <ul style="list-style-type: none"> • identify any unknown archaeological remains that may be affected by the proposed Scheme and identify appropriate mitigation; and • confirm the proposals for the mitigation of impact on known archaeological remains. <p>Following consultation with The Highland Council HET, trial trenching shall be targeted at known assets or identified features, or in blank areas where no assets or features have been identified. In addition, an earthwork survey shall be undertaken for those assets with upstanding remains which shall be physically impacted by the proposed Scheme. The exact nature, scope and scale of the programme of archaeological works shall be designed and agreed with The Highland Council HET and Transport Scotland's archaeological advisors.</p> <p>The results of the trial trenching will aid the design of detailed mitigation measures, which shall include any of the following:</p> <ul style="list-style-type: none"> • Detailed archaeological excavation shall be undertaken where particularly significant, complex or densely-concentrated archaeological remains are expected to be present, then a detailed archaeological excavation in advance of construction shall be undertaken. • Strip, map and sample works may be appropriate where archaeological remains of relatively low significance and/or complexity are expected to be present, and particularly where they are expected to be spread over a large area at low density, then strip, map and sample works may be appropriate. Topsoil shall be stripped over relatively large, defined areas using methods designed to maximize archaeological visibility, followed by inspection to define the scope of any archaeological recording works that might be required. • Archaeological recording during construction ('watching brief'): where there is some potential for as yet unidentified archaeological remains to be present, but the risk is considered to be low, then archaeological monitoring of the main topsoil/overburden stripping operations, and other excavation works as appropriate, shall be applied, followed by appropriate archaeological investigation and recording of any remains identified. 	Pre-construction / Construction	Throughout the proposed Scheme.
CH1	To mitigate potential damage to the Scheduled Monument 'Possible Pit Circle at Brackley' (Asset 163) during construction it is recommended that the asset is demarcated and fenced off during construction activities.	Construction	Asset 163

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
CH2	Historic building recording of Culblair Farmhouse (Asset 154) shall be undertaken to Level 1 standards in accordance with guidance provided in Understanding Historic Buildings: a guide to good recording practice (Historic England).	Pre-construction	Asset 37 Refer to Figure 9.5
CH2	The appointed contractor shall implement planting to the proposed Scheme corridor to provide screening to: <ul style="list-style-type: none"> • Meikle Kildrummie House (Asset 473; Category B Listed Building); • Allanfearn Farmhouse (Asset 61; Category B Listed Building); and, • Petty United Free Church (Asset 142). 	Construction	Asset 473 Asset 61 Asset142 Refer to Figure 9.5
CH2	Level 1 survey in accordance with Historic England's Understanding the Archaeology of Landscapes – a guide to good recording practice shall be undertaken to record Designed Landscapes HLT2 associated with Stratton Lodge Hotel (Asset 444) prior to construction to record the historic landscape type in its current form, condition and setting.	Pre-construction Construction	HLT2, Asset 444.
CH3	To mitigate the impact of the proposed Scheme on Auldearn Battlefield (HLT 25), a topographic and photographic survey shall be undertaken to record the Battlefield prior to construction to record the historic landscape type in its current form, condition and setting.	Pre-construction	HLT 25 (Auldearn Battlefield)
CH3	Existing mature woodland in close proximity to construction of the proposed Scheme shall be protected and retained for Designed Landscapes HLT2, Managed Woodland HLT4 and Plantation HLT14. Replacement planting shall use species found in the surrounding landscape and is located to integrate the proposed Scheme with the landscape pattern in line with Mitigation Item GR5.	Construction	HLT2, HLT4, HLT14.
CH3	To mitigate the impact of the proposed Scheme on Rectilinear Fields and Farms (HLT3), Planned Rectilinear Fields and Farms (HLT5), Holdings (HLT16) and Rough Grazing (HLT23), where possible, earthworks shall be graded out to assist in integrating the proposed Scheme into the existing surrounding landform and where feasible, that the construction of features such as hedgerows along realigned fragmented boundaries, use materials found in the adjacent landscape.	Construction	HLT3, HLT5, HLT16, HLT23.

Table 20.10: People and Communities – Community and Private Assets Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
CP-R1	During construction, there shall be temporary disturbance on access to/from properties adjacent to the proposed Scheme. To mitigate this, access to/from properties shall be maintained throughout the construction period by means of signed diversions where necessary, and the appointed contractor shall be required to ensure the local community are aware of the estimated duration and locations of diversions ahead of them being put in place.	Construction	Throughout the proposed Scheme.
CP-C1	Access to commercial and industrial properties shall be maintained throughout the construction period, by means of signed diversions where necessary, and the appointed contractor shall be required to ensure that local businesses are aware of the estimated duration and locations of diversions ahead of them being put in place.	Construction	Throughout the proposed Scheme.
CP-C2	Consideration shall be given to possible roadside signage on the proposed Scheme for certain businesses whose access has changed and whose business is particularly dependent upon vehicular movements from the proposed Scheme.	Construction	Throughout the proposed Scheme.
CP-AG1	Measures shall be taken to ensure adequate diversion signage is maintained during construction.	Construction	Throughout the proposed Scheme.
CP-AG2	Loss of agricultural land is to be reduced by implementing re-instatement plans i.e. returning land to agricultural use, where appropriate, post construction. A pre-construction photographic and video survey shall be undertaken to ensure all adjoining land is maintained as near to its original state as is reasonably practicable during construction and operation. These records shall be made available to the owner or occupier.	Construction Operation	Throughout the proposed Scheme.
CP-AG3	Access to agricultural land out with the Draft CPO boundary shall be maintained during the construction phase and post-construction.	Construction Operation	Throughout the proposed Scheme.
CP-AG4	Potential for damage to the agricultural capability of soils shall be minimised by the adoption of appropriate measures during construction and reinstatement. A 'Soil Management Plan' shall be developed to ensure soil resources are managed in accordance with best practice and soil mitigation measures are fully implemented (refer to Mitigation Item GR1).	Construction Operation	Throughout the proposed Scheme.
CP-AG5	Notice of intention to commence construction work to be given to owners and occupiers of adjacent land along the route before works commence. Consultation with landowners and occupiers shall be undertaken when developing the programme of works to reduce disturbance where appropriate and without detriment to the overall programme.	Pre-construction Construction	Throughout the proposed Scheme.
CP-AG6	Temporary fences shall be provided in appropriate locations during construction for the health and safety of the public and animals and to avoid trespass. Where appropriate, fencing of the working area is to be to a standard adequate to excluding any stock kept on adjoining land.	Construction	Throughout the proposed Scheme.
CP-AG7	Where boundary features (e.g. fences, walls and hedges) require temporary or permanent alteration to allow construction, these would be reinstated with appropriate materials to provide a secure field boundary. Opportunities explored in consultation with the landowner/occupier to merge severed field areas to improve field husbandry operations.	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
CP-AG8	Where access points require temporary or permanent alteration as a result of construction, alternative access for stock and machinery shall be provided as appropriate in consultation with the landowner/ occupier. If required, recessed access shall be provided off local roads with loading/unloading area.	Construction	Throughout the proposed Scheme.
CP-AG9	Reasonable precautions shall be taken during construction to avoid the spreading of soil borne pests and diseases, animal and crop diseases and invasive species. Development of a 'Biosecurity Management Plan' (refer to Mitigation Item GR1).	Pre-construction Construction	Throughout the proposed Scheme.
CP-AG10	Particular care shall be taken to reduce damage or disturbance to field and forestry drainage systems. Laying of new drains to be undertaken to maintain drainage systems during construction. Repairing and reinstatement of field drains affected by construction to be agreed with the landowner/occupier to ensure that land capability is maintained and flooding is not exacerbated. Where appropriate the integrity of the drainage system is to be secured in advance through the installation of header drains (cut off drains) to facilitate construction. All remaining remedial works shall be undertaken post construction.	Construction	Throughout the proposed Scheme.
CP-AG11	Water supplies for livestock shall be protected at all times and alternative supplies provided where access is compromised by any works, unless agreed with the landowner.	Construction	Throughout the proposed Scheme.
CP-AG12	Land within the CPO that is declared surplus following completion of construction of the proposed Scheme (including redundant road pavement and/or access tracks) shall be returned to agricultural/forestry use following imposition of appropriate burdens by Transport Scotland.	Construction	Throughout the proposed Scheme.
CP-AG13	Avoid, where practically possible, the siting of temporary construction compounds on prime agricultural land.	Construction	Throughout the proposed Scheme.
CP-F1	Access to woodland out with the Draft CPO boundary to be maintained during the construction process and post construction.	Construction	Throughout the proposed Scheme.
CP-F2	Where boundary features (e.g. gates, fences, walls and hedges) require temporary or permanent alteration to allow construction these are to be reinstated with appropriate materials to provide a secure woodland boundary.	Construction	Throughout the proposed Scheme.
CP-F3	Where individual stands of trees and woodland compartments are to be affected an appropriate arboricultural assessment and/or windthrow assessment (such as ForestGALES) shall be undertaken pre-construction and appropriate mitigation employed to ensure no safety risk to land within the proposed Scheme.	Construction	Throughout the proposed Scheme.
CP-F4	Where there are no windthrow or landscape visual issues, tree felling is to be reduced to that necessary to allow the safe construction and operation of the road, taking cognisance of tree protection plan.	Construction	Throughout the proposed Scheme.
CP-F5	Tree felling shall be avoided where possible in areas of woodland identified as having the potential to be retained for landscape and visual purposes, taking cognisance of tree protection plan and or windthrow assessment.	Construction	Throughout the proposed Scheme.
CP-F6	Avoid, where practically possible, the siting of temporary construction compounds on areas of woodland and forestry.	Construction	Throughout the proposed Scheme.

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Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
CP-F7	Reasonable precautions should be taken during construction to avoid the spread of tree pests and diseases. Development of a 'Biosecurity Management Plan' (refer to Mitigation Item GR1).	Construction	Throughout the proposed Scheme.
CP-S1	Sporting or fishing rights which exist within the working area shall not be accessible during the construction period. Where there are sporting or fishing rights adjacent to the working area, reasonable endeavours shall be taken to minimise interference or enjoyment of them while recognising the primary objective to maintain a safe working environment for both appointed contractors and users of the land.	Construction	Throughout the proposed Scheme.
CP-AG14	The appointed contractor shall locate new field accesses, access underpasses and new vehicular crossings over culverts as required throughout the proposed Scheme.	Construction	<p>New field accesses throughout the proposed Scheme</p> <p>Access Underpass at PS23 Morayston Farm Access Underpass (ch6750) at Mid Coul Farms</p> <p>Vehicular crossings over culverts at C07 Fiddler's Burn Culvert (ch4745), C08 Newton Burn Tributary Culvert (ch6320), C09 Rough Burn Culvert (ch7525) and C23 Cranford Culvert (ch17150) allowing connectivity between fields</p>

Table 20.11: People and Communities – Effects on All travellers Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
AT1	The appointed contractor shall liaise with bus operators with routes affected by the proposed Scheme to ensure minimal disruption in access to bus stops occurs during the construction phase. The appointed contractor shall also liaise with bus operators with regard to re-location/ provision of bus stops relating to the proposed Scheme.	Pre-construction Construction Operation	Throughout the proposed Scheme.
AT2	Alternative routes and diversions for any NMU routes directly impaired by construction works shall be provided where possible following appointed contractor liaison with and seeking permission from The Highland Council.	Construction	Throughout the proposed Scheme.
AT3	The appointed contractor shall set out in its CEMP the typical best practicable measures which would include fencing off construction sites, dust suppression techniques and completion of work during agreed hours (refer Mitigation Item GR1).	Construction	Throughout the proposed Scheme.
AT4	The appointed contractor shall implement a Traffic Management Plan	Construction	Throughout the proposed Scheme.
AT5	The appointed contractor shall liaise with Network Rail to identify the potential need for signposting during both the construction and operational phases to both Inverness and Nairn Railway Stations.	Construction	Throughout the proposed Scheme.
at6	The appointed contractor shall implement the requirements of the NMU design for the proposed Scheme to ensure that connectivity of NMU routes is maintained wherever possible in line with A96 Dualling Inverness to Nairn (including Nairn Bypass) Non-Motorised User Objective Setting and Context Report (Jacobs 2016c).	Operation	Throughout the proposed Scheme.
AT7	Lay-bys shall be included at various locations along the proposed Scheme to provide areas of rest (refer Mitigation Item L4).	Operation	Throughout the proposed Scheme.
AT8	Landscape planting shall be implemented to ensure views from the road are maintained in line with the mitigation proposals outlined in Chapter 9 (Landscape) (refer to Mitigation Item GR5).	Operation	Throughout the proposed Scheme.

Table 20.12: Materials Mitigation

Mitigation Item	Description	Timing of Measure	Approximate Chainage/Location
M1	The appointed contractor shall implement the CEMP, which shall include a SWMP, to prevent or reduce potential impacts associated with materials (refer to Mitigation Item GR1).	Pre-construction Construction	Throughout the proposed Scheme.
M2	Asbestos surveys of the structures to be demolished (property at Smithton, Gollanfield Rail Underbridge, Kildrummie Rail Bridge and Milton of Culloden Shed as shown on Figure 17.2) shall be undertaken prior to any demolition works commencing and appropriate management and disposal routes identified.	Construction	Smithton, Gollanfield Rail Bridge and Kildrummie Rail Bridge.