11 Landscape

This chapter details the landscape assessment of the Northern Leg of the proposed scheme. The existing landscape is described and classified into areas of distinctive character which assist in the evaluation of the sensitivity of the landscape and the development of mitigation proposals. Impacts are assessed for both the winter year of opening (when all mitigation elements will be in place but the mitigation planting is not fully effective) and during the summer 15 years after opening (when mitigation planting has become established and contributes to screening).

Appropriate grading of earthworks has been incorporated into the scheme design, and planting (including grassed areas, scrub and woodland) is proposed to improve the fit within the surrounding landscape. Fencing and replacement drystone walling is also proposed to tie in with existing field boundaries.

Residual adverse impacts are predicted due to the severance of the open and wooded farmlands, hill and valley landscapes, and the introduction of the road corridor, its associated embankments and cuttings, overbridges, junctions, lighting and vehicle movement. The most significant impacts are predicted as the road severs dense mature woodlands at Craibstone, and open undulating farmlands and river valley at Goval to the north of the River Don. Significant impacts are also predicted as the road curves around the lower slopes of Tyrebagger Hill and severs the open farmlands around Kirkhill and Dyce, and between Goval and Blackdog.

11.1 Introduction

11.1.1 This chapter details the landscape assessment of the proposed scheme for the Northern Leg. The assessment methodologies are explained, including details of the main sources of information that were utilised. The baseline conditions are described and an assessment made of impacts on the landscape resource that would result from the proposed scheme. This includes an assessment of the changes in the character and quality of the landscape (including settlement), which are likely to occur. Mitigation measures are also developed to address potential impacts.

11.1.2 A summary of landscape character, landscape sensitivity, magnitude and potential impacts is presented in Appendix A11.1. Detailed landscape mitigation proposals are summarised in Appendix A11.2. Background information on the landscape character assessment is contained in Appendices A11.3 and A11.4.

11.1.3 The landscape assessment is primarily concerned with:

- direct and indirect impacts on specific landscape features and elements;
- effects on the overall pattern of elements which together determine the landscape character and regional/local distinctiveness;
- impacts on areas of special interest or value such as designated landscapes, conservation sites and cultural associations; and
- changes to perceptual or experiential characteristics of the landscape such as tranquillity and remoteness.

11.1.4 The purpose of the landscape assessment is both to identify potential impacts of the proposed scheme and to assist in the design of appropriate mitigation measures.

11.1.5 The impact of the proposed scheme on the character of views and visual amenity, which is an important consideration in the assessment of landscape effects, is addressed in Chapter 12 (Visual). The assessment of the views from the new road, as they would be experienced by vehicle travellers, is contained in Chapter 17 (Vehicle Travellers).

11.1.6 The extent of the Northern Leg study area for the landscape assessment is illustrated on Figure 11.1 and occupies the area of land extending approximately 3km either side of the line of the proposed scheme, based on the professional judgement that beyond this, due to topography and distance from the proposed scheme, indirect landscape impacts would be negligible.

11.2 Approach and Methods

11.2.1 The landscape assessment was undertaken in accordance with the Design Manual for Roads and Bridges, Volume 11 (DMRB) Section 3 Part 5, Landscape & Visual Assessment Supplementary Guidance, published by the Scottish Executive in February 2002 and Guidelines for Landscape and Visual Impact Assessment, Second Edition published in 2002 by the Landscape Institute and Institute of Environmental Management & Assessment.

11.2.2 The design of landscape mitigation measures was undertaken in accordance with 'Cost Effective Landscapes: Learning from Nature' (CEL:LFN) (Scottish Executive, 1998), DMRB Volume 10 (Highways Agency et al., 1993) and PAN 58: Environmental Impact Assessment (SEDD, 1998).

11.2.3 The five main steps in the landscape assessment process were:

- description;
- classification; and
- evaluation; leading to
- impact assessment; and
- mitigation proposals.

11.2.4 Landscape assessment consists initially of the collection of baseline data relating to the individual elements (e.g. hills, valleys, woodlands, hedges, buildings etc), character (i.e. the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how it is perceived by people) and characteristics (elements or combinations of elements that make a particular contribution to the character of an area, including experiential characteristics such as tranquillity and wildness) of the landscape.

11.2.5 SNH has published two Landscape Character Assessments covering the Northern Leg study area, namely Aberdeen City (ALCA), and South and Central Aberdeenshire (SCALCA), both of which were used as a source of information and provided a basis for the Landscape Character Assessment. These documents divide the Northern Leg study area into various areas (Landscape Character Areas (LCAs) of particular Landscape Character Type (LCT). Extracts from the SNH documents are shown in Appendix A11.3. Detailed desk based and field assessment has been undertaken to allow the distribution and boundaries of Landscape Character Types and Areas to be refined and considered at a more local scale, in order to provide a level of detail to enable sensitivity evaluation and impact assessment. In some cases, this has meant the subdivision of land which is identified in the SNH assessments as being of a single Landscape Type into smaller scale units, Local Landscape Character Areas (LLCAs) to better reflect local variations in character. The table in Appendix A11.4 provides details of how these changes have been made.

11.2.6 An overview of the LLCAs is shown on Figure 11.1 and in detail on Figures 11.2a-d. Photographs of the LLCA are shown on Figures 11.4a-k.

11.2.7 In undertaking the landscape assessment, consideration was given to the following:

- an experience of the landscape is not only visual, but involves all of the senses;
- data relating to the elements of the landscape, its character and value will include that dealt with in separate related sections of this Environmental Statement (e.g. Ecology, Cultural Heritage);
- the value placed on an area is dependant not only on its aesthetic qualities but also on its situation, rarity and usage;
- historical and cultural associations or ecological importance may contribute to the value placed on landscape not generally considered to be of visual or other importance; and
- landscapes which, although not designated, may be of great local or wider value.

11.2.8 Data collection to supplement the information provided in ALCA and SCALCA was by way of a desk study and field survey (2005-2007), the latter principally by car and by foot from the surrounding minor roads and tracks and undertaken by teams of at least two landscape architects. In addition baseline data contained in Stage 2 Environmental Assessments undertaken by Mouchel Consulting Ltd. (2002 and 2003) was utilised, where relevant. Data related to built-up areas, identified simply as 'Settlement' in ALCA and SCALCA was gathered in order to provide a meaningful baseline against which to assess potential impacts on their character and setting, (for example though noise and visual impacts). As landscape and visual impact assessments are closely related, the data collected were used for both, as appropriate. The visual impact assessment is provided in Chapter 12.

Desk Study

11.2.9 Structure and Local Plans were consulted to establish the presence of areas of statutory designation and protection. Aerial photographs of the route corridor and current 1:25,000 (Nos. 406 and 421) and 1:50,000 (Nos.38) scale Ordnance Survey maps were studied to help identify landscape elements and patterns.

11.2.10 Data relating to landscape (including baseline landscape character descriptions produced by Mouchell 2003), archaeology, ecology, buildings and settlements were examined to provide a thorough knowledge of conservation interest. Other human interests were established by analysing data relating to recreation and public rights of way.

11.2.11 Consultations were undertaken with statutory and other bodies as discussed in Chapter 6 to supplement the desk study data collection.

11.2.12 Information of relevance to the proposed scheme was extracted from these sources and the following topics were explored:

- pattern and scale of landform, land cover and built development;
- special values including national and local landscape designations, Conservation Areas and historical and cultural associations; and
- specific potential receptors of landscape and visual impact, including important parts of the landscape, residents, visitors, travellers and other groups of viewers.

Field Survey

11.2.13 The Northern Leg study area was visited to conduct an up-to-date field survey (2005-2007) that included identification of specific landscape constraints and verification/supplementation of data collected in the desk assessment.

11.2.14 Observation of the levels of public use of open spaces, roads and footpaths was made in the field and used to assist in the assessment. Further information on public usage of footpaths, cycle paths and bridleways is contained in Chapter 16.

Evaluation of Sensitivity to Change, Magnitude of Change and Impact Significance

11.2.15 Two impact assessments of the proposed scheme were undertaken. Firstly impacts were assessed for the scheme during the winter, year of opening taking account only of mitigation measures which would have an immediate effect (e.g. grading out of slopes, noise barrier fencing, stone walling). An assessment of impacts was then made for summer 15 years after scheme opening, when proposed mitigation planting would have become established.

11.2.16 An initial indication of impact significance was gained by combining sensitivity to change and magnitude of change. Professional judgement based on experience was then used to confirm impact significance.

11.2.17 In accordance with Landscape & Visual Assessment Supplementary Guidance, evaluation of sensitivity to change combines a review of "susceptibility" (i.e. the ability to accommodate change arising from the proposed road without adverse effect) and "value", as applied to the main elements of the landscape. Susceptibility and value take into account information about the various factors considered in arriving at the sensitivity evaluation, such as key features and characteristics, quality and value/importance, which together create a sense of place. The evaluation of sensitivity of landscape and settlement character areas remote from the proposed route, but where people's experience of these could be altered by the proposals (for example through visual impacts or increases in traffic noise) focuses primarily on perceptual qualities such as remoteness and tranquillity and the nature of views potentially affected by the route. Outlined below in Table 11.1 are the criteria used to define the overall evaluation of landscape sensitivity.

Table 11.1 – Landscape Sensitivity Criteria

Sensitivity	Criteria
High	Landscape or landscape elements of particular distinctive character, highly valued and considered susceptible to relatively small changes
Medium	A landscape of moderately valued characteristics considered reasonably tolerant of change
Low	A landscape of generally low valued characteristics considered potentially tolerant of substantial change

11.2.18 Evaluation of the magnitude of the proposed changes upon the elements of the landscape, brought about by the proposed scheme, involved a review of the nature and scale of the change, together with its duration and degree of permanence, using the criteria outlined below in Table 11.2. The results of this evaluation are presented in Appendix A11.1 (Table 11.1.27).

Table 11.2 – Landscape Magnitude of Change Criteria

Magnitude	Criteria
High	Notable change in landscape characteristics over an extensive area ranging to very intensive change over a more limited area.
Medium	Minor changes in landscape characteristics over a wide area ranging to notable changes in a more limited area.
Low	Minor or virtually imperceptible change in any area or landscape components.

Impact Assessment

11.2.19 The framework shown below in Table 11.3 was used to help determine impact significance (adverse or beneficial) from the differing combinations of levels of sensitivity and magnitude.

11.2.20 It should be noted, however, that this is only a framework to aid consistency of reporting and provide an initial indication of the likely impact arising from the assessment of magnitude and sensitivity. Given that the criteria low/ medium/ high represent levels on a continuum or continuous gradation, application of the framework also requires judgement and awareness of the relative balance of importance between sensitivity and magnitude.

11.2.21 Impacts assessed as of Moderate or Substantial significance are considered to represent key landscape changes, and mitigation was therefore incorporated into the scheme proposals to address any such adverse impacts wherever possible.

Table 11.3 – Impact Significance Criteria for Landscape

Magnitude	Sensitivity		
	High	**Medium**	**Low**
High	Severe	Substantial	Moderate
Medium	Substantial	Moderate	Slight
Low	Moderate	Slight	Negligible

Limitations to Assessment

11.2.22 This assessment has been undertaken on the proposed scheme design of May 2007. With regard to the assessment of landscape impacts in accordance with DMRB, no limitations to this assessment were identified.

11.3 Baseline Conditions

11.3.1 This section provides an overview of the baseline conditions along the route of the Northern Leg and its environs and considers the regional context of the proposed scheme and features that influence the landscape including geology, soils, topography, drainage, historic context, settlement, land use and vegetation.

Regional Context

11.3.2 The Northern Leg study area is located in the north east corner of Scotland. Buchan and the Moray Firth lie to the north, the Firth of Tay to the south, and the Grampian Highlands to the west. Aberdeen is the closest large centre of population.

11.3.3 The Northern Leg study area lies within an area known as the North East Lowlands region (Eastern Scotland Sheet 5: The Macaulay Institute for Soil Research Aberdeen 1982: Soil Survey Physiographic Regions). To the west of the study area lies the higher ground of the Grampian Highlands which contains the Cairngorm Mountains and the Grampian Foothills and Uplands. To the south of the study area are the Central Lowlands, consisting of the Strathmore and Sidlaw Hills and the Fife Lowlands and Uplands.

11.3.4 The North East Lowlands are drained by several rivers, namely the Dee, Don, Ythan, North and South Ugie, Deveron and Spey, all of which originate in the high ground of the Grampian Highlands and drain either to the North Sea in the east or to the Moray Firth in the north. The land is generally gently rolling terrain in agricultural use.

11.3.5 Within the North East Lowlands region, there are 3 sub-regions: the Buchan Platform, which contains the Northern Leg study area, is gently undulating, intensively farmed land, stretching from Aberdeen to the Moray Firth; the Skene Lowlands to the south is generally rolling, smoothly sloped, extensively cultivated land, stretching from Aberdeen to the Grampian Foothills; and the Upper Buchan Platform, which lies northwest of the Northern Leg study area, is generally broadly rolling, extensively cultivated land, with hills aligned in a northwest to south-east direction.

Landscape and other Statutory Designations

Green Belt – Aberdeen City

11.3.6 Aberdeen City Council identifies their Green Belt areas in the adopted Aberdeen City Local Plan, September 1991, and the Finalised Aberdeen Local Plan, August 2004, 'Green Spaces: New Places' (with Modifications 2005). These are areas of countryside around cities and towns where planning controls are applied in order to:

- maintain the identity of towns by defining their physical boundaries clearly and preventing coalescence and urban sprawl;
- provide land for countryside recreational and other appropriate purposes; and
- maintain the landscape setting of towns.

Green Space Network – Aberdeen City

11.3.7 Aberdeen City Council identifies a Green Space Network in the Finalised Aberdeen City Local Plan, August 2004, 'Green Spaces: New Places' (with Modifications 2005). The network covers those parts of Aberdeen that are considered the most intrinsically valuable from an ecological, landscape or especially recreational viewpoint and will provide Aberdeen with a linked and enhanced leisure, recreation and green space resource. The Green Space Network overlays other local plan policy areas such as Green Belt and Urban Green Space and adds a further layer of protection which advocates landscape, wildlife and recreational enhancement. The designation protects and enhances wildlife, recreational, landscape and access value. Development that destroys or erodes the character and function of the Green Space Network will not be permitted. The intent of this network is not to devalue or reduce other areas of Green Belt.

11.3.8 The Finalised Aberdeen City Local Plan, August 2004, 'Green Spaces: New Places' (with Modifications 2005) states that where major infrastructure projects necessitate crossing the Green Space Network, such development shall take into account as far as practicable, the coherence of the Network. In doing so measures should be taken to allow access across roads for wildlife and outdoor recreation purposes along key corridors.

Green Belt – Aberdeenshire Council

11.3.9 Aberdeenshire Council identifies their areas of Green Belt in the Aberdeenshire Local Plan Adopted June 2006. The Aberdeenshire Green Belt links into the Aberdeen City Green Belt and exists to provide countryside for informal recreational purposes and to maintain the landscape setting of Aberdeen. Allowances are only made for developments considered suitable in Green Belt and which accord to structure plan and national planning policy and guidance.

Area of Local Landscape Significance – Aberdeen City Council

11.3.10 Aberdeen City Council's Landscape Strategy, Parts 1 and 2, August 2002, identifies Areas of Local Landscape Significance. These are areas which conform to one or more of the following criteria and merit safeguarding from inappropriate forms of development:

- landscape elements which contribute to, or provide, a distinct 'sense of place' which point to being either in or around 'Aberdeen' or a particular part of it;
- vantage points, or intermediate areas which allow particular views of city landscape, townscape, landmarks or features, or offer a diversity of landscape character types and landscape elements which help to enrich the local landscape experience of residents and visitors;
- valuable resources for recreation, wildlife habitat, the local economy and culture, including trees, forests and woodlands; or
- green spaces, or 'buffers' of countryside, that prevent settlements with individual identities and a sense of place from merging together, and which provide opportunities for rural pursuits, 'doorstep' recreation, green linkages with other places, or for general enjoyment of the countryside.

11.3.11 A series of maps in Appendix 1 illustrate: Landscape Character; Primary Landscape Elements; Vantage Points/Intermediate areas; Natural Resources; Green Spaces/ Buffers; and Areas Contributing to Landscape Setting. This information has been used to inform the assessment.

Area of Landscape Significance (ALS) – Aberdeenshire Council

11.3.12 The Aberdeenshire Local Plan Adopted 2006 identifies an Area of Landscape Significance (ALS) north of the River Don. The ALS is identified as being important not only for the physical landforms and the fauna and flora it supports, but also for the environmental assets that it represents. The Local Plan states that development within or adjacent to an ALS will not be permitted where its scale, location or design will detract from the quality or character of the landscape, either in part or as a whole. It goes on to state that where acceptable in principle, development is required to conform to various environmental and landscape design criteria set out in the appendices to the Local Plan and in all cases the highest standards of design, in terms of location, scale, siting, aesthetics and landscaping, will be required within an ALS.

11.3.13 The specific location and extent of the Area of Landscape Significance is shown in the Aberdeenshire Local Plan Adopted 2006 and on Figures 11.2b-d.

Gardens and Designed Landscapes

11.3.14 There are no Gardens and Designed Landscapes as identified in the SNH and Historic Scotland publication 'Inventory of Gardens and Designed Landscapes in Scotland' (1987), within the Northern Leg study area.

11.3.15 Chapter 13 (Cultural Heritage) lists cultural heritage sites within the study area.

Tree Preservation Orders

11.3.16 Tree Preservation Orders (TPOs) are designated by local planning authorities and may apply to a single tree or to an area of trees. There are several TPOs within the Northern Leg study area, as shown on Figures 11.2b-d.

11.3.17 Although there are several TPOs designated by Aberdeen City Council within the Northern Leg study area, none of these are close to the road corridor.

11.3.18 One TPO designated by Aberdeenshire Council is located close to the Northern Leg road corridor. at Parkhill Wood, Dyce. This is shown on Figures 11.2b-c.

Geology and Soils

11.3.19 Geology and soils are considered in detail in Chapter 8 (Geology, Contaminated Land and Groundwater). However, geology and soils also influence landform and in the context of the landscape assessment are briefly summarised in paragraphs 11.3.20 to 11.3.24 below.

Solid Geology

11.3.20 The Northern Leg study area lies in an area of mainly metamorphic rock which also contains outcrops of igneous rock such as granite. The metamorphic rocks tend to be schist, gneiss and psammite, with the most resistant being quartzite which is associated with the areas of higher ground such as Tyrebagger and Brimmond Hills. Numerous igneous outcrops lie beneath the west of the city, illustrated by the presence of Rubislaw quarry which provided granite for many Aberdeen buildings.

Drift Geology

11.3.21 Erosion and depositional processes have acted upon the parent material, with the more resistant rocks being left to form the higher ground and the softer rocks being more prone to erosion therefore forming areas of lower ground. Glaciers travelled eastwards from the Cairngorms, depositing eroded material and carving out weaker areas in the lower ground in the east.

11.3.22 As a result, the Northern Leg study area is predominantly covered with boulder clay and morainic drift, with areas of glacial sand, gravel and alluvium concentrated along the River Don valleys and its tributary valleys.

Soils

11.3.23 Soils are broadly classified according to the parent material from which they are formed. Most of the soil in the Northern Leg study area is formed from glacial till which is derived from granitic rocks. The stony nature of the glacial till derived soils has resulted in a widespread clearance of stone from fields and creation of drystone dykes along field boundaries.

11.3.24 The dominant soil within the Northern Leg study area is known as Countesswells Association which is derived from granitic rocks and is generally found on undulating lowlands and hills. Along the River Don valley and around Corby Loch soils known as Corby Association, which are fluvioglacial, and raised beach sands and gravels derived from acid rocks are found. Within the River Don alluvial soils are present along the valley floor. An area of organic soils, known as basin and valley peat are found at Red Moss.

Topography and Drainage

11.3.25 The topography and drainage of the Northern Leg study area is illustrated on Figure 11.3. Within the Northern Leg study area, the River Don flows northwest to southeast. The highest ground is found in the west at Elrick Hill, Tyrebagger Hill and Brimmond Hill (266m, the highest point in the Northern Leg study area) which form the northern edge of a rolling ridge which extends to the south of the study area, The topographical trend is a gradual slope from this ridge down to sea level in the east.

11.3.26 Brimmond Hill, Tyrebagger Hill (250m), the Hill of Marcus (233m) and Elrick Hill (approximately 200m) define the western limit of the city hinterland. One or all are visible from most view points within the western parts of the Northern Leg study area. These hills form the watershed for tributaries of the Don including the Bucks Burn which flows north east into the River Don, and the Craibstone Burn, Gough Burn and the Green Burn which flow north east from the slopes of Elrick Hill and Brimmond Hill towards the River Don. Bogenjoss Burn flows northwards to join the River Don just north of Pitmedden House. West of the Hill of Marcus, Begs Burn and the Black Burn flow northwards to join the River Don upstream from Hatton of Fintray.

11.3.27 The River Don follows a meandering course through a narrow floodplain. The land either side of the river generally slopes gently, with localised steeper sided banks and bluff slopes cut by erosion. Upstream from Dyce, the banks of the River Don are generally in agricultural land use with scattered residential development. Downstream from Dyce, the south bank of the river is heavily developed with housing and industry, whilst the north bank is more rural with only scattered residential development.

11.3.28 North of the River Don, the land undulates between 50 and 100m AOD with several slightly higher areas, above 100m AOD, around Red Moss, Newmachar and north of Hatton of Fintray. In this northern part of the study area there are a number of burns which feed the River Don. The Elrick Burn and the Goval Burn flow through a shallow, north south, U-shaped valley to join the Don near Goval. Potterton Burn, Blackdog Burn and the Burn of Mundurno follow small valleys that break up the plateau, and drain east towards the North Sea. The most northerly of these, Potterton Burn, drains higher land to the north west of the Northern Leg study area and flows through the picturesque valley that divides the settlements of Potterton and Belhelvie. The north of the study area contains the highest concentration of waterbodies including Corby Loch and Lily Loch as well as a number of small ponds formed by the damming of minor burns, typically associated with mature wooded estate landscapes such as that at Parkhill House and Newmachar Golf Course north of Dyce.

Historical Context

11.3.29 The history of the Aberdeen area is considered in detail in Chapter 13 (Cultural Heritage). However, historical land use also influences the present landscape, and in this context is briefly summarised in paragraphs 11.3.30 to 11.3.50 below.

Aberdeen City

11.3.30 The Burgh of Aberdeen began to develop around the natural harbour at the mouth of the River Dee, and was named a Royal Burgh during the reign of David I (1124 – 1153). The River Don was not suitable for harbour development and a religious settlement, known as Old Aberdeen, developed close to the River Don in the 12th century. This settlement was distinct from the settlement of Aberdeen, further south at the River Dee, until the two merged in 1891.

11.3.31 The street pattern of Aberdeen, which was first established in the 1300s, survived till the late 1700s, when streets such as Union Street, King Street, George Street, St. Nicholas Street and Rosemount Viaduct were constructed to open up access to the city. The construction of Victoria Bridge over the River Dee encouraged expansion of the city to the south and west.

11.3.32 Watercourses around the city provided power for town mills and water for industrial activities. The River Don, due to its steep gradient between land and sea, was utilised particularly for mill development along its banks. The Don canal was constructed at the turn of the 19th century to link Inverurie to the north west of the city.

11.3.33 Timber was used for building in the 12th to 14th centuries and reduced much of the surrounding native forest to pasture or open heath. Use of granite for building began around the 16th century.

11.3.34 Pre 19th century, rough tracks were the main transport routes from Aberdeen inland to Kintore, Inverurie and Huntly until the Turnpike Act of the early 19th century encouraged the construction of more improved roads to link the city to the surrounding country areas.

11.3.35 In the mid 19th century the railway reached Aberdeen, arriving in the south of the city, encouraging more residential and industrial development along the River Dee corridor.

11.3.36 During the 20th century the rapid expansion of Aberdeen continued, growing from 27km² in the early 20th century to approximately 200km² in the late 20th century. Areas which are now part of the city such as Dyce were once small farming communities.

Aberdeenshire

11.3.37 Mesolithic flints found amongst the sand dunes along the coast north of Aberdeen at Foveran and along the River Dee corridor are evidence of the earliest known semi-permanent hunter gatherer presence in the Aberdeenshire area. Evidence of Neolithic settlement has also been discovered around Aberdeenshire close to the sites of long cairns built and utilised as places of burial and ritual. During the Bronze Age, numerous stone circles were constructed and the recumbent type is unique to the North East. In addition, there is evidence of a growth in arable farming and a corresponding decrease in woodland cover to facilitate cereal crop growth at this time. Numerous Iron Age Hillforts attest to increasing conflict around this time immediately followed by numerous Roman Temporary Marching Camps. During the 1st century A.D the Pictish presence is attested by the widespread distribution of Pictish symbol stones.

11.3.38 Medieval and post-medieval landscape from the 11th century to the 18th century generally consisted of castles, open farmland, small areas of woodland, small settlements built of timber and stones and boulders cleared from the land. Centres of trading such as Kintore and Inverurie were established around the 13th century.

11.3.39 The agricultural revolution between the late 18th and early 19th centuries altered the landscape from the existing runrig system to fields enclosed with stone walls or earth bunds. As agriculture was changing, the harnessing of water power increased to enable industrial production, and more mills developed along watercourses in Aberdeenshire. These in turn encouraged the diversification and expansion of cropping systems. Aberdeenshire became a major agricultural production area within the United Kingdom and the landscape developed into what we are familiar with today; fields enclosed by hedging, fencing or stone walls with limited natural landcover.

11.3.40 Burghs such as Kintore and Inverurie grew with the agricultural expansion and roads, railways and canals were constructed which encouraged growth in rural areas.

11.3.41 During the 20th century, the landscape kept a similar field pattern, despite the removal of some stone walls and boundaries to allow larger field systems. A programme of forestry planting was undertaken by Forest Enterprise on less productive land which altered the character of the landscape within Aberdeenshire.

11.3.42 The depopulation of farming communities in Aberdeenshire due to the agricultural revolution was in some way reversed due to the oil boom of the late 20th century which encouraged the repopulation of rural areas within commuting distance of Aberdeen. Existing small settlements such as Westhill, Blackburn and Newmachar are all Aberdeenshire towns which have seen continued expansion into the surrounding rural landscape.

Settlement and Land Use

11.3.43 Settlement expansion occurred to the north, south and east of Aberdeen port and along the Dee and Don river valleys. The current pattern still reflects this with both valleys acting as transport and settlement corridors. Along the Don Valley, the settlements of Bucksburn and Dyce have gradually expanded away from the river. These settlements date from the latter half of the 20th century, although most also have an historic core.

11.3.44 North of the city, on areas of higher ground, the settlement of Bridge of Don has been steadily expanding over a number of years.

11.3.45 Outwith the main settlement areas, there is a fairly consistent scattering of rural residential development on land between all the major settlement areas, with the exception of the high ground of Brimmond Hill and Kirkhill. Rural settlement varies between small villages such as Newmachar, Potterton, Blackdog and Balmedie, established farms, converted steadings and individually designed detached houses. There are also a number of estates within the Northern Leg study area including the Scottish Agricultural College, Rowett Research Institute close to Dyce, Pitmedden House and Parkhill House in the Don Valley.

11.3.46 The extent and direction of views from the main settlement areas varies throughout the Northern Leg study area. The north western extremities of Aberdeen at Northfield can gain views in all directions, north across the Don valley to Bridge of Don, east towards the city centre and the North Sea, south towards Hazlehead and the Dee valley, and west towards Kingswells and Brimmond Hill. In the north west of Aberdeen, Bucksburn has views north across the Don valley and west towards Brimmond Hill. From Dyce, the views to the east are restricted by the higher ground east of the River Don. Views to the west from Dyce are open across the industrial estate and the airport, and focus on Tyrebagger Hill, Elrick Hill and Brimmond Hill. Bridge of Don is located on south facing slopes looking towards Aberdeen city. Settlement at the edges of Bridge of Don have rural views to the north and west.

11.3.47 Industrial land uses within the Northern Leg study area are concentrated at Bridge of Don, Dyce and Dyce Airport. In addition, there are concentrations of waste disposal sites and quarries around the A90 road corridor near Blackdog.

11.3.48 Main transport corridors radiate in several directions from Aberdeen. The A96 radiates westwards from the city and connects Aberdeen and Inverness passing through Bankhead in the north west

corner of the city. The A947 links Aberdeen and Banff and passes through Dyce in the north west corner of the city and the expanding village of Newmachar located approximately 5km north of Dyce. The A90 northwards connects Aberdeen and Fraserburgh and passes close to Potterton and Balmedie, both of which have expanded in recent years. There are a number of heavily used minor routes around the city which link into the major routes.

11.3.49 Areas which are not settled or otherwise developed are mostly agricultural or woodland/forestry landuse. Over the Northern Leg study area, the most common land use is agriculture, either pastoral or arable. The second most common land use is woodland/forestry. Further details on land use are provided in Chapter 7 (Land Use).

11.3.50 The majority of the agricultural land within the Northern Leg study area lies within Classes 3_1 and 3_2 which are capable of producing a moderate range of arable crops. There are some areas of lower capability, on the higher, more exposed ground such as Brimmond Hill, Tyrebagger Hill and Red Moss. Areas of lower capability tend to be used for rough grazing and forestry.

Vegetation other than agricultural land (pasture and crops)

11.3.51 Vegetation cover is described in Chapter 10 (Ecology and Nature Conservation), and is a key component of the landscape, as discussed below in paragraphs 11.3.52 to 11.3.54.

11.3.52 The type and extent of vegetation cover varies over the Northern Leg study area. Typical vegetation types comprise coniferous forestry plantation, broadleaved woodland, mixed woodland, mature tree belts, scrub vegetation, designed estate planting, scrub, heath, bog and grassland.

11.3.53 South of the River Don valley, there are dense stands of conifer plantations at Kirkhill Forest which contrast visually with the surrounding agricultural land. Areas of broadleaved and mixed woodland are much smaller and tend to be related to housing or alongside minor roads and access tracks. There are several designed estate landscapes in this area, such as in the grounds of the Scottish Agricultural College near Bucksburn and Pitmedden House in the Don valley which have small-scale mixed woodland surroundings. Higher ground at Brimmond Hill has vegetation cover of heath, scrub and rough grassland.

11.3.54 North of the River Don, there are fewer coniferous plantations than in the other areas. The coniferous plantations at Goval and Red Moss are relatively small compared to plantations at Kirkhill. There are several small irregular shaped areas of mixed woodland in this area which tend to be located next to farms, roads and waterbodies and as discussed further in Chapter 7: Land Use. The floodplain of the Don is fairly open in character with little woodland, although there are frequent mature woodland blocks associated with scattered settlement on the valley slopes. There are several non-designated designed estate landscapes such as at Parkhill House near Dyce and Potterton House. Notable features in the north are the mature tree belts located on field boundaries around the B999 road corridor which are prominent features and visible on the skyline of the rolling landform, as most of this area is relatively open with little vegetation apart from scrub along field boundaries.

SNH Landscape Character Assessments

11.3.55 The Landscape Character Map of Scotland, produced by Scottish Natural Heritage, identifies the whole of the Northern Leg study area at a regional level as being within the Agricultural Lowland of the North East, and as discussed in Section 11.2 (Approach and Methods), SNH has separate LCAs covering South and Central Aberdeenshire (SCALA) and Aberdeen City (ALCA).

11.3.56 SCALCA further divides the Northern Leg study area into two Landscape Character Types: Agricultural Heartlands and Coastal Strip. The Agricultural Heartlands type is further subdivided into two Landscape Character Areas: Central Wooded Estates and Formartine Lowlands. The Coastal Strip comprises one LCA: Formartine Links and Dunes.

11.3.57 ALCA further divides the area within the Aberdeen City administrative boundary into five Landscape Character Types, namely Hill, Open Farmland, Wooded Farmland, Valley and Coast.

- The Hill type is subdivided into two LCAs: Tyrebagger Hill/Kirkhill and Brimmond Hill.
- The Open Farmland is subdivided into seven LCAs: Perwinnes; Potterton; Murcar; Clinterty/West Brimmond; East Elrick; Newhills; and Maidencraig.
- The Wooded Farmland is subdivided into two LCAs: Braes of Don and Craibstone;
- The Valley is subdivided into three LCAs: Upper Don Valley, Dyce, and Lower Don Valley; and
- The Coast Landscape Character Type is not subdivided.

11.3.58 Extracts from SCALCA and ALCA are contained within Appendix A11.3.

Landscape Character Area (LCA) and Local Landscape Character Area (LLCA) Descriptions

11.3.59 For the purpose of this assessment, eight different LCA types have been identified within the Northern Leg study area. These have been subdivided into LLCA areas.

11.3.60 A description of each LCA type is provided below, with a photograph illustrating typical appearance. The LLCAs for each of the LCA types, along with their sensitivity rating are also provided. Detailed descriptions of each of the LLCAs, together with an assessment of their sensitivity, are contained in Appendix A11.1. LLCA boundaries are illustrated in Figures 11.2a-d, which also show locations where photographs have been taken to illustrate each of the LLCAs. The viewpoints from which these photographs were taken (01-25) are provided in Figures 11.4a-k.

11.3.61 As discussed in Section 11.2, details of how the LLCA boundaries relate to SCALCA and ALCA character area boundaries are contained in Appendix A11.4.

<u>Hill Type</u>

11.3.62 The Hill landscape character type comprises the highest ground in the Northern Leg study area and forms distinctive landmarks or skyline features when viewed from within, or approaching the city. It is characterised by a gently rounded landform with predominantly smooth slopes. The vegetation cover on summits varies from open moorland to plantation woodland. Man-made elements, such as buildings or telecommunication masts, are limited in number, but tend to be more visible due to their higher elevation (extract from SNH Report No 80, Aberdeen, 1996).

Table 11.4 – Hill Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Brimmond Hill	11.2a	1	Hill	Medium to High
Elrick Hill	11.2a	2	Hill	Medium to High
Tyrebagger Hill / Kirkhill	11.2b	3	Hill	Medium to High
Foresterseat	11.2b and 11.2c	4	Hill	Medium

Open Farmland Type

11.3.63 Open Farmland is an extensive landscape character type which forms much of Aberdeen's agricultural hinterland. It has a gently rolling landform of open character with relatively few trees. Farmsteads are scattered, often associated with small clumps of trees. Fields are often bordered by drystone dykes, many of which have been replaced, by post and wire fences (extract from SNH Report No 80, Aberdeen, 1996). Closer to the coast the open farmland has been used for and altered by industrial activities and the natural landform has been changed to give an abrupt, artificial appearance.

Table 11.5 – Open Farmland Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Greenferns	11.2a	5	Open Farmland	Low to Medium
Overhills	11.2a	6	Open Farmland	Low to Medium
Newton	11.2b	7	Open Farmland	Low to Medium
Goval	11.2b and 11.2c	8	Open Farmland	Medium to High
Perwinnes	11.2c and 11.2d	9	Open Farmland	Low to Medium
Potterton	11.2c and 11.2d	10	Open Farmland	Medium
Cloverhill	11.2d	11	Open Farmland	Low to Medium
Blackdog	11.2d	12	Open Farmland	Low

Wooded Farmland Type

11.3.64 The Wooded Farmland landscape character type is a diverse, undulating and rural landscape which tends to be located close to the major river valleys. It is mainly agricultural but contains a high proportion and variety of woodland cover, either as plantations, shelterbelts or clumps of trees around scattered, traditional-style buildings. The congruity of open fields to woodland is an important characteristic (extract from SNH Report No 80, Aberdeen, 1996).

Table 11.6 – Wooded Farmland Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Craibstone	11.2a and 11.2b	13	Wooded Farmland	Medium to High
Braes of Don	11.2b and 11.2c	14	Wooded Farmland	Medium to High
Red Moss	11.2c	15	Wooded Farmland	Medium

Valley Type

11.3.65 This character type comprises the valleys of the Rivers Dee and Don. The vegetation cover is broadly similar throughout, with open ground on the valley floors and mature woodland on the side slopes. Major arterial roads and development follow the valley landform. The built characteristics of each valley are different. The residential developments on the Dee are partially screened by woodland; housing areas along the Don tend to be more exposed. The Don valley also exhibits an historical industrial component of mill buildings along the riverside, which is absent from the Dee. (extract from SNH Report No 80, Aberdeen, 1996).

Table 11.7 – Valley Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Lower Don Valley	11.2a and 11.2b	16	Valley	Medium
Upper Don Valley	11.2b	17	Valley	Medium to High
St. Fergus	11.2b	18	Valley	Low to Medium
Lower Goval	11.2b	19	Valley	Medium to High

Coast Type

11.3.66 The Coast landscape character type is a highly distinctive linear and relatively narrow landscape character type. It ranges from smooth sandy beaches and dunes around Aberdeen Bay, to the rocky cliffs to the south of Girdleness. The vegetation is primarily semi-natural with farmland generally running along its western edge. Closer to the built-up area, the character type has a recreational emphasis. (extract from SNH Report No 80, Aberdeen, 1996).

Table 11.8 – Coast Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Balgownie Links	11.2d	20	Coast	Low to Medium

Recreational Type

11.3.67 The Recreational landscape character types are characterised by their primary use for recreation to the exclusion of other land uses, and within the Northern Leg study area, cover a number of golf courses. The vegetation cover is typically structure planting alongside large areas of well-maintained grass. Man-made elements such as club houses, cafés and car parks tend to be clustered together in part of the area. The recreational types are small in relation to the other landscape character types in the Northern Leg study area.

Table 11.9 – Recreational Type LLCAs

LLCA	Figure Number	Photograph Viewpoint	Landscape Character Type	Overall Sensitivity
Auchmill Golf Course	11.2a	21	Recreational	Low to Medium
Craibstone Golf Course	11.2a	22	Recreational	Low to Medium
Newmachar Golf Course	11.2c	23	Recreational	Low to Medium
East Aberdeenshire Golf Course	11.2d	24	Recreational	Low to Medium

Urban Type

11.3.68 Within the Northern Leg study area the residential commuter areas of Potterton and Balmedie lie to the north of the proposed road. Potterton has a semi-rural character and Balmedie is a predominantly residential coastal settlement. Kirkhill Industrial Estate/Aberdeen Airport, Dyce, Bucksburn and Denmore to the south of the road have areas in residential use but are more closely associated with industrial land uses.

Table 11.10 – Urban Type

LLCA	Figure Number	Landscape Character Type	Overall Sensitivity
Bucksburn	11.2a	Urban	Medium
Kirkhill Estate	11.2b	Urban	Low
Dyce	11.2b	Urban	Low
Potterton	11.2d	Urban	Medium
Balmedie	11.2d	Urban	Medium
Denmore	11.2d	Urban	Low

11.4 Potential Impacts

11.4.1 Without appropriate mitigation, landscape impacts may include the following:

- alteration of the character of the landscape due to the introduction of the road in an essentially rural landscape;
- alteration of the character of surrounding landscape and settlement areas due to the loss of arable land, improved and semi-improved grasslands, trees, woodlands, drystone walls and disruption to watercourses;
- alteration of the landform due to the introduction of new elements including road surface, noise barriers and bunds, detention ponds, bridges, underpass, culverts, signage and lighting; and
- potential increases in noise, pollution and visual impact on the surrounding landscape, properties and settlements.

11.4.2 Landscape impacts are discussed in detail within Section 11.6 Residual Impacts and also in Appendix A11.1.

11.5 Mitigation

Introduction

11.5.1 Landscape mitigation proposals have been designed in accordance with the policy documents, 'Cost Effective Landscapes: Learning from Nature' (CEL:LfN) (Scottish Executive, 1998), 'DMRB

Volume 10' (The Highways Agency et al., 1993) and 'Planning Advice Note (PAN) 58: Environmental Impact Assessment (Scottish Executive Development Department, 1999). The principles in CEL:LfN have three central themes that are to be applied throughout the planning, design and implementation of a road proposal:

- use natural characteristics (e.g. use of native plants species which occur locally);
- exploration of alternatives (e.g. consideration of different methods of noise attenuation such as barriers or bunds); and
- wise use of resources (e.g. reuse of stone from walls lost to the route).

11.5.2 Proposed landscape mitigation measures relate to earthworks, rock cuttings, detention ponds, noise barriers, structures, planting, seeding and drystone walling.

11.5.3 Land required for landscape purposes is identified on Figures 11.5a-p (showing Landscape Mitigation Proposals and Landscape Planting Proposals) and will be used principally to modify landform and to create or enhance habitats.

11.5.4 The land will be acquired as part of the Compulsory Purchase Order (CPO), although where land is assessed to be of agricultural value and has the potential to be returned to agricultural use, this may be sold back to the landowners once mitigation has been implemented. If the land is not purchased back it will remain within the ownership of the Scottish Executive and be maintained within the road corridor. For the purposes of this assessment it has been assumed that the latter will be the case so that the 'worst case scenario, is assessed.

11.5.5 Landscape mitigation is concerned primarily with mitigation of adverse impacts although, in some situations, opportunities to provide enhancement of the landscape of the road corridor may be taken. The measures described below are those upon which the assessment has been based. Mitigation of adverse impacts falls into 3 categories: Prevention, Reduction, Offsetting.

11.5.6 Prevention: avoidance of both the loss of significant landscape elements and visual impacts on nearby settlements through scheme design; includes sensitive routeing of the road alignment and consideration of the height of the road and other structures.

11.5.7 Reduction: lessening of those adverse effects that cannot be eliminated by prevention (e.g. roadside mounding and planting to screen visual impact from property or publicly used areas).

11.5.8 Offsetting: provision of alternative or compensatory measures where appropriate and feasible (e.g. replacing drystone walls where appropriate).

11.5.9 Further, more detailed development of the landscape mitigation proposals will be progressed and the details incorporated within Contract Documents of which this document will form a part, along with the Employer's Requirements and specification. This will include a requirement that the Final Design meets the objectives of the mitigation and that the details are agreed in consultation with SNH. In addition a Design Guide will be produced to provide further details of how specific mitigation measures are to be implemented and how design aesthetics are to be addressed.

Application of Mitigation Principles

11.5.10 The following prevention, reduction and offsetting approaches have been applied during the planning and design of the proposed scheme:

Prevention

11.5.11 Measures used to prevent adverse effects, which will be developed in the Employer's Requirements, include the following:

Alignment

11.5.12 The achievement of best fit with existing landform where possible; avoidance where possible of the loss or damage to landscape features such as existing trees and woodland, walls, water features or field systems; avoidance where possible of the loss or damage to sites of ecological or archaeological interest (refer to Chapters 10 and 13 respectively).

Reduce / Offset

11.5.13 The elements of the landscape design for the scheme, which include measures designed to reduce and offset adverse impacts, and which will be included in the Employer's Requirements are summarised below.

11.5.14 Location specific measures are described in Appendix A11.1 (Landscape Character, Landscape Sensitivity, Magnitude and Impacts) and illustrated on Figures 11.5a-p (Landscape and Ecological Mitigation), and on Figures 11.6a-m (Landscape Mitigation Cross-Sections).

Earthworks

11.5.15 Earthworks proposals aim to minimise the impact of cuttings and embankment slopes and to allow integration of the road with surrounding land, through:

- modification of embankment and cutting slopes to tie smoothly into existing landform and allow land to be returned to agricultural use where appropriate;
- softening changes in slope at junctions and overbridges by smoothing out transitions between slopes;
- rounding off top and bottom of cuttings and embankments.

Rock Cuttings

11.5.16 Where rock cuttings are proposed, the aim is to integrate them into the landscape as far as possible by:

- creating irregular, naturalistic looking rock faces.
- scattering pockets of soil and native seed onto ledges and terraces to encourage random areas of vegetation to establish.

11.5.17 Where the proposed scheme passes through areas of rock cutting, appropriate measures, as detailed below, will be taken to achieve slopes which reflect the natural strata and the existing rugged terrain, providing ledges, niches and benches for the re-establishment of vegetation. All rock cut profiles shall therefore exploit the nature of the discontinuities and character of the natural rock mass so as to create a profile with a natural appearance, avoiding the creation of uniform smooth faces. Rock traps are to be placed alongside the road, where required for safety.

11.5.18 Bulk blasting as well as pre-split methods will be used and a variety of techniques will be used.

11.5.19 Peat or topsoil will be trickled over the rock slope or placed in irregular ledges, niches and in-slope benches to soften the visual impact of the slopes and encourage the establishment of shallow rooted vegetation. The peat or topsoil will be placed so that it is stable in the short and long term and will be seeded, or hydroseeded, with shallow rooted native plant species.

Drystone Walling

11.5.20 Walls are proposed along sections of the road corridor to maintain and reinforce the distinctive pattern of walling so typical of Aberdeenshire. Wherever possible new drystone walls will tie into existing walls to reflect the existing landscape pattern.

11.5.21 Drystone walls will be constructed to the local and traditional design, approximately 1m high and 0.5m wide. The stone used will be selected from dismantled walls severed by the road corridor. Where no stone from dismantled walls is available, the stone will be selected from local sources and, as far as possible, will reflect the characteristics in size and colour of the existing walls in the local area.

Treatment Ponds and Detention Basins

11.5.22 Treatment ponds and detention basins, required as part of the road drainage system, provide the opportunity to create new positive features within the landscape and habitat for wildlife. They will be sited within naturally low areas and designed to look as natural as possible. Surrounding earthworks will be designed with smooth flowing contours to integrate naturalistically with the surrounding landform. Abrupt changes in slope, sharp angles and steep side slopes will be avoided. Boundary fencing around treatment ponds will be designed to be as unobtrusive as possible, with the fence type and alignment designed to minimise visual impact. Planting of native scrub species will be undertaken to help screen proposed fencing, outfall and inlet structures, enhance wildlife habitat and provide visual interest. Where required the detention basins will be lined with gravel. Open ground in the areas of the treatment ponds and detention basins will be seeded with native grasses and wildflowers to provide added wildlife habitat and visual interest.

Noise Barriers

11.5.23 Noise barrier fencing is proposed in a number of locations and has the potential to be visually intrusive when viewed from the road corridor. Under the Design and Build contract proposed for the scheme, the detailed design of the noise fencing will be undertaken by the contractor responsible for the works. Where possible, tree and shrub planting is proposed along the roadside edge of the noise barrier fencing in order to help screen it from the road and help maintain a woodland character along the road corridor.

Structures

11.5.24 Design of structures such as bridges along the length of the route, and elements of the landscape mitigation, have been informed by a combination of specialist aesthetic advice, design workshops and consultation with Architecture & Design Scotland.

Planting

11.5.25 Aberdeen Airport is located approximately 1km from the proposed scheme, immediately to the west of Dyce. British Airports Authority (BAA) has a responsibility for aerodrome safety at Aberdeen Airport and has therefore been consulted with regard to the AWPR mitigation planting proposals, to ensure that the risk of bird strikes is not increased through habitat creation/enhancement. To deter particular bird species it is likely that there will be some restriction to planting mixes in the vicinity of the airport, however, planting species mixes will not be finalised until detailed design and as such consultation with BAA is ongoing. The objective will be to achieve an acceptable solution which meets the aims of landscape and ecological mitigation without increasing bird strike risk.

<u>Planting Proposals</u>

11.5.26 The proposals related to new planting comprise:

- planting to replace trees lost to the scheme construction;
- use of predominantly native species, improving biodiversity; providing new wildlife habitats and complementing existing adjacent habitats. Planting proposals have been developed in consultation with ecological specialists. Refer also to Chapter 10 (Ecology and Nature Conservation).
- mass planting at junctions and bridges to help assimilate the new structures into the surrounding landscape;

- planting to provide a screen to reduce visual impacts of the road, structures, lighting and noise barriers;
- use of severed field corners and landlocked areas where appropriate; and
- introduction of planting at focal points, particularly at roundabouts, junctions and in cuttings.

11.5.27 Planting mixes will be based predominantly on native species, proven by established presence within the area and adapted to local conditions. Young stock is generally easier to establish and will therefore be predominant in mixes, although larger plants will be used for initial impact in specific locations, for example where screening is required.

11.5.28 Planting will enhance the experience of travelling along the new road by creating a diverse and interesting range of woodland types.

11.5.29 Planting will assist integration with the local landscape character by using species mixes and planting patterns typical of the local landscape. National Vegetation Classification (NVC), which is used to describe and categorise the vegetation covering the land, will inform the selection of plant species however non native species may also be used where they are an established and distinctive feature of the current landscape setting.

11.5.30 The contractor appointed to construct the road will be required to take appropriate measures to ensure that planting areas are protected from rabbits and other browsing animals.

Proposed Broad-leaved Woodland Planting

11.5.31 This will comprise of a mix of sizes of plants such as feathered trees, whips and transplants to create a multi-layered woodland dominated by native deciduous trees, with oak/ash as the principal climax community.

11.5.32 Broad-leaved woodland planting schemes are derived from canopy compositions of NVC dry-land woodlands. These woodlands are generally classified based on the acidity of the soil, with oak-birch woodland on acidic and mesotrophic soils (neither very acid nor very alkaline) and mixed deciduous woodland on more base-rich (calcium-rich) and free-draining soils. The NVC classification for these types of woodlands is often derived from differences in the ground and shrub layer rather than the canopy composition, therefore the planting proposals are designed to develop into broad types of broad-leaved woodland, rather than distinct NVC communities.

Proposed Coniferous Woodland Planting

11.5.33 Coniferous woodland refers to woodland which comprises a majority percentage of coniferous species and a smaller percentage of deciduous species. The planting mix for coniferous woodland should replicate the NVC W18 Scots pine woodland characteristic of Caledonian pinewoods in Scotland. This woodland has Scots pine as the most abundant species, with smaller percentages of birch, rowan and aspen.

Proposed Mixed Woodland Planting

11.5.34 Mixed woodland refers to woodland where the planting requires a mixture of broad-leaved and coniferous woodland for visual screening purposes and will comprise a mix of sizes of plants such as feathered trees, whips and transplants. This will aim to create a multi-layered woodland with a balanced mix of native deciduous and coniferous trees and including native evergreen understorey. The balance between deciduous and evergreen species will be varied to suit desirable density for year-round screening and reflect established planting local to the various sections of the road. As in the Coniferous Woodland mix, the coniferous species within the Mixed Woodland should be dominated by the native species Scots pine, with non-native species limited to larch and Norway spruce.

Proposed Scrub Planting

11.5.35 This will comprise small to medium sized native species such as hawthorn, hazel, blackthorn, elder, dog rose and honeysuckle. This mix is used in areas where a lower height plant cover is more appropriate than the taller woodland mixes.

Proposed Feathered Tree Planting

11.5.36 Feathered trees will be introduced in areas where scrubby groups of trees are a feature of the landscape.

11.5.37 They will be planted in groups of 10 minimum at approximately 5m centres to reflect the existing landscape character and provide impact at an early stage.

Proposed Extra Heavy and Semi-mature Tree Planting

11.5.38 Extra heavy standard trees will be planted at appropriate spacings in areas where individual trees are a feature of the landscape such as in the Potterton character area. Semi-mature trees are proposed at a major junction on entrance to the City of Aberdeen where immediately effective mitigation is particularly important.

Proposed Rock Cut Seeding

11.5.39 This will comprise native grass and wildflower species which are able to establish in small areas of thin soil on the cut rock face. The objective is to create pockets of vegetation which look naturally established.

Proposed Grass Seeding

11.5.40 Three different seed mixes will be used, dependant on location and use of the area:

- Roadside Verge Mix: This mix is suited to the road-side location being low maintenance, fast establishing and tolerant of traffic and salt spray.
- Species Rich Grassland Mix: This mix is suited for use in all other areas disturbed by construction works. It consists of a mixture of native, non-invasive grasses and wildflower species to reflect locally occurring semi-natural flora.
- Agricultural Mix: This mix is used in all areas to be returned to agriculture and will consist of a mix specified by consultation with the landowner.

Proposed Habitat Creation for Ecological Mitigation

11.5.41 In addition to following the general objective of enhancing biodiversity through the landscape mitigation, specific proposals for wildlife habitat creation are described in more detail in Chapter 10 (Ecology and Nature Conservation).

<u>Design of Focal Points/ Gateways</u>

11.5.42 Two locations along the Northern Leg have been identified where the design features which occur or link together can create a combined effect. These have been considered as focal points or gateways where mitigation proposals are required to address the specific combinations of issues arising and meet landscape mitigation.

11.5.43 The following locations on the Northern Leg will be included: A96 Junction area at Craibstone (gateway to Aberdeen City and Airport and to the west/Banchory), and A90 Junction area at Blackdog (gateway to Aberdeen City and to the north east/Peterhead).

11.6 Residual Impacts

11.6.1 The landscape impacts of the proposed scheme have been assessed taking the proposed mitigation into account. Appendix A11.1 provides a detailed description of the landscape character, sensitivity, the magnitude of change and impacts on each LLCA. In this section, Table 11.11 shows the residual impacts on directly affected areas (those impacts remaining after mitigation), with the LLCAs provided in the order that the proposed scheme passes through them from south to north. The LLCAs which are indirectly affected are also provided in Table 11.12 in order that the proposed scheme passes them from south to north.

11.6.2 Photographs from a number of key viewpoints and key receptor locations as shown on Figure 11.7 are show in the photomontage and wireline photographs provided in Figures 11.8a to 11.8t. These illustrate both the existing view and the proposed scheme and were used to inform the assessment of impacts.

11.6.3 In the Northern Leg, the most significant impacts occur in the Craibstone and Goval LLCAs. The impacts on these character areas will be severe and adverse in the winter year of opening, reducing to a substantial adverse in the summer 15 years after opening.

11.6.4 The existing landscape character in Craibstone LLCA is steeply undulating and densely wooded. The introduction of the Northern Leg and the A96 underbridge, A96 link road and the A96 roundabout and the drainage treatment ponds and detention basins will result in severance of the landform and the loss of significant areas of mature woodlands which will have direct, negative, large scale impacts. Mitigation such as easing out embankment slopes to improve integration with the surrounding landform and false cuttings to assist screening views of traffic movement and car headlights from nearby properties, and in distant views, is built into the proposed design. In addition mixed, coniferous, riparian and scrub woodland planting is proposed along the road corridor to integrate with the existing woodlands and provide enclosure and screening of the road corridor.

11.6.5 In Goval LLCA the northern bank of the River Don, and the open undulating farmland have been designated as an Area of Landscape Significance (ALS) by Aberdeenshire Council, increasing the overall sensitivity of the area. The introduction of the Northern Leg, Goval junction, drainage treatment ponds and detention basins and the realignment of the A947 result in direct, negative, medium to large scale impacts. Mitigation such as grading out the embankment slopes of the realigned A947 to reflect the existing undulating landform, false cuttings around the Goval junction to screen views of the road and junction, traffic movement and car headlights, from local properties, easing embankments to improve integration with the land and allow potential return to agriculture are built into the proposed design. In addition, large areas of broadleaved, mixed, riparian and scrub woodland planting are proposed to screen movement of traffic on the Northern Leg and A947 from nearby properties and assist in the integration of the road corridor.

11.6.6 Significant impacts will also occur in Lower Goval LLCA, which lies to the north of the River Don, and which partly falls within the designated Area of Landscape Significance (ALS) increasing the overall sensitivity of the area. The introduction of a new River Don bridge crossing, drainage treatment ponds and detention basins and the realignment of the B977 will result in direct, negative, large scale impacts. The proposed design incorporates mitigation such as eased gradients on the Don bridge embankments and the B977 realignment. Drystone walls are also proposed alongside the B977 to tie into existing walls and reflect the existing landscape pattern, and a false cutting is proposed to provide screening of traffic movement and car headlights for Goval Villa. In addition, areas of riparian and scrub woodland planting are proposed to frame views and assist in the integration of the road corridor. In winter year of opening the impact is assessed as Substantial adverse however in the summer 15 years after opening, as planting matures, the impact will reduce to Moderate-Substantial adverse.

11.6.7 Other directly affected LLCAs in the Northern Leg which have significant residual impacts are Newton (south), Tyrebagger Hill, Red Moss, Potterton and Perwinnes. The introduction of traffic movement and car headlights, cuttings and embankments, realigned side roads, overbridges and

junctions introduce direct, negative, small to large scale impacts in all these areas. Mitigation proposals built into the proposed design, include an easing of embankment slopes to improve integration of the road into the surroundings, as well as allowing potential return to agriculture. False cuttings will also be provided to provide screening of the road and traffic movement and car headlights from nearby properties. The easing of overbridge embankments will improve integration of the structure into the surroundings. Due to the introduction of the Northern Leg and related junctions and side roads, all these LLCAs have been assessed as having a substantial adverse impact in the winter year of opening, apart from Perwinnes which would obtain a moderate-substantial adverse impact. Planting mitigation such as scrub and mixed woodland will provide limited benefit in winter year of opening but in summer 15 years after opening it will provide screening and will have lessened the intrusion of the new infrastructure and traffic movement and car headlights in the landscape, therefore reducing the impact to Moderate adverse in all these LLCAs.

11.6.8 Newton (north), Braes of Don and Overhills LLCAs all reduce to less than significant impact levels in summer 15 years after opening.

11.6.9 Beneficial residual impacts will be incurred to the scattered settlement area of Newhills in Overhills LLCA and in Blackdog LLCA due to a reduction of traffic on local roads.

11.6.10 Of the LLCAs which are indirectly affected, none of them have significant residual impacts. With the exception of St. Fergus which is slight adverse after 15 years, due to its proximity to the proposed River Don bridge and embankments, they are all Negligible adverse.

Table 11.11 – Residual Impacts on Landscape Character: Directly Affected Areas

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Open Farmland : Overhills (ch314800-316300)							
Low to Medium	farmland	High	Medium	- groups of feathered trees. - scrub woodland planting. - treatment of rock cutting. - drystone walls. - false cutting and scrub woodland.	- direct negative impacts on rural character due to introduction of the road: at grade, on embankment and in cutting; Kepplestone and Ashtown overbridges; an underbridge at North Kingswells junction; slip roads and the severance of farmlands and local roads. - direct negative impacts on rural setting due to visual and aural impact of new road. - reduction of negative impacts due to the introduction of drystone walls, false cutting and planting. - reduction of negative impacts on scattered settlements between Kingswells and Bucksburn due to reduced volume of traffic and realignment of local roads.	Slight to Moderate adverse	Slight adverse
	local roads	Medium	Low				
	scattered settlement	Low	Low				
Wooded Farmland: Craibstone (ch316300-317500)							
Medium to High	A96 road corridor	High	Low	- semi mature tree planting - mixed woodland planting. - false cuttings - scrub woodland planting - noise barrier and visual screen - riparian and mixed woodland around ponds - protection of existing woodland - links to existing footpaths - introduction of terraced ponds, planting and/or feature to highlight approach to Aberdeen and airport - coniferous, mixed woodland planting	- direct negative impacts on the A96 approach to Aberdeen through widening of the A96 road corridor and introduction of an at grade roundabout, slip roads, lighting and signage. - direct negative impact due to the introduction of the Northern Leg on bridge over the A96 and the realignment of the Green Burn. - direct negative impacts on the wooded character of the Craibstone SAC estate due to the introduction of the A96 link underbridge and slip roads in cutting and on embankment, ponds and the severance and loss of mature woodlands. -direct negative impacts on rural setting due to visual and aural impact of new road. - indirect negative impacts on woodland and farmlands to the west of SAC due to visual and aural impacts. -reduction of negative impacts on the A96 road corridor due to graded landform. planting / feature within roundabout and terraced ponds along the northern edge of the A96 to highlight approach to Aberdeen Airport. - reduction of negative impacts due to the introduction of mixed and coniferous woodland to reinforce the wooded character of Craibstone. - reduction of negative impacts due to an easing of embankments, the introduction of false cuttings, noise barriers, footpath links and planting to assist in screening views to the road and improve integration with surroundings.	Severe adverse	Substantial adverse
	Craibstone SAC Estate	High	Medium				
	woodland and farmland west of Craibstone SAC Estate	Medium	Low				

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Open Farmland: Newton (ch317500-318900)							
Low to Medium	farmland on the eastern slopes of Tyrebagger Hill	High	Medium	- easing of embankments (with potential to return some land to agriculture) - drystone walls - feathered tree planting and native scrub - false cutting, noise barrier and landscape bunding - scrub woodland planting	- direct negative impacts on semi-rural setting and farmlands due to the introduction of the road. - direct negative impacts on semi-rural setting due visual and aural impact of road - direct and indirect negative impacts on minor road to Dyce due to severance - direct negative impact due to the introduction of ponds within farmland alongside A96 - reduction of negative impacts on open farmlands due to easing of embankments and the introduction of drystone walls and planting to visually integrate road with surrounding landform and reflect existing landscape pattern - reduction of negative impacts on properties by introduction of false cuttings, noise barrier and planting to provide screening and noise attenuation	Substantial adverse	Moderate adverse
	Minor road between A96 and Kirkhill Industrial Estate	Medium	Low				
Hill: Tyrebagger Hill / Kirkhill (ch318900-322300)							
Medium to High	commercial plantations	High	Low to Medium	- mixed woodland planting - treatment of rock cuttings - riparian woodland planting alongside watercourses - scrub woodland planting - easing of gradients (with the potential to return some land to agricultural use) - drystone walls - false cutting - noise barrier	- direct negative impacts on commercial plantations due to introduction of the road on embankment and cutting and the loss of coniferous plantation on the woodland edge and severance of the field pattern. - direct negative impacts due to visual and aural impacts on footpaths within woodlands and lower slopes. - direct negative impacts due to the realignment of the Boganjoss Burn, the introduction of a wildlife overbridge and ponds. -direct negative impacts on rural setting due to visual and aural impact of new road. - indirect negative impacts on Pitmedden House Estate due to visual and aural impact. - reduction of negative impacts due to easing of gradients to improve integration with the surrounding landscape and the introduction of drystone walls and planting. - reduction of negative impacts on properties due to the introduction of Kirkhill overbridge to provide access, noise barrier and planting to provide screening and noise attenuation. - reduction of negative impacts due to the introduction of a false cutting and planting to screen traffic movement from the wider landscape.	Substantial adverse	Moderate adverse
	farmland on eastern slopes	High	Medium				
	farmland on north facing slopes	High	Medium				
	Pitmedden House Estate	Medium	Low				

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Open Farmland Type: Newton (ch322300-322800)							
Low to Medium	farmland north of airport	High	Medium	- easing of embankments (with the potential to allow a return of some land to agricultural use) - noise barrier - scrub woodland planting and easing of embankments on bridge approaches - false cuttings	- direct negative impacts on farmlands, on Dyce Drive, railway corridor and industrial edge due to the introduction of the road on embankment, ditch and bridges over Pitmedden Road and the Aberdeen to Inverness railway and severance of farmlands. - direct negative impacts on setting due to visual and aural impact of new road. - reduction of negative impacts on properties and the wider landscape due to an easing of embankments and the introduction of noise barrier, false cuttings and planting to screen views. - reduction of negative impacts due to eased embankments and planting to complement the bridge over the River Don.	Moderate to Substantial adverse	Moderate to Slight adverse
	Dyce drive, railway corridor and industrial edge	Medium	Medium				
Valley Type: Lower Goval (ch322800-324000)							
Medium to High	farmland south of river	High	Medium	- scrub woodland planting and easing of embankments on bridge approaches - scrub woodland planting - drystone walls - false cutting - easing of embankments (with the potential to return some land to agricultural use) - riparian woodland planting at ponds	- direct negative impacts due to the introduction of the road on embankment and bridge over the River Don, ponds and access roads. realignment of the B977 onto an overbridge and severance of farmlands. - direct negative impacts due to the realignment of Goval Mill Lade onto Parkhill Pumping station aqueduct and severance of the Goval Burn. - direct negative impacts on rural setting due to visual and aural impact of new road. - direct reduction of negative impacts on valley landscape due an easing of embankments on bridge approaches and planting to complement structures and improve integration with surrounding landform. - reduction of negative impacts on farmlands due to an easing of gradients and the introduction of false cuttings to screen traffic movement, drystone walls and planting to reflect landscape character. - reduction of negative impacts on local property due to false cutting and planting to screen views.	Substantial adverse	Moderate to Substantial adverse
	farmland north of river	High	Medium				
Open Farmland Type: Goval (ch324000-325350)							
Medium to High	open farmland north of Goval belt	Low	Low	- broadleaved woodland planting - scrub and mixed woodland planting. - false cuttings	- direct negative impacts on farmlands north of the Goval Belt the introduction of the realigned A947, loss of woodland and visual impacts. - direct negative impacts on farmlands south of the Goval Belt due to severance and the introduction of the road on embankment, roundabout junction at grade, slip roads and realignment of the B977.	Severe adverse	Substantial adverse
	open farmland south of Goval Belt	High	Medium				

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
	Formartine and Buchan Way	High	Medium	- easing of embankments (with the potential to return some land to agricultural use). - riparian woodland planting	- direct negative impacts due to the introduction of ponds, severance of Goval Burn and loss of mature trees. - direct negative impacts on Formartine and Buchan Way due to severance and loss of vegetation. - direct negative impacts on rural setting due to visual and aural impact of new road. - reduction of negative impacts on open farmland due to easing of embankments and planting to improve integration of the road in the rural landscape. - reduction of negative impacts due to the introduction of the A947 overbridge by grading of bankings alongside A947, to reflect undulating landform to reduce impact of the overbridge and improve integration of the road in the rural landscape. - reduction of negative impacts around Goval junction and the A947 by the introduction of false cuttings and planting to assist in screening views from properties and Formartine and Buchan Way. - reduction of noise impacts on property by introduction of a drystone wall.		
Wooded Farmland: Braes of Don (A947 realignment)							
Medium to High	Northern part of the area	Medium to High	Low	- proposed mixed woodland planting - broadleaved woodland planting - easing of gradients - false cuttings - riparian woodland	- direct negative impacts due to the realignment of the A947 and the B977, introduction of new access road and the loss of mature trees. - direct negative impacts on rural setting due to visual and aural impact of new road. -reduction of negative impacts by easing of embankments either side of the realigned A947 to reflect undulating landform and visually integrate with surroundings. - reduction of negative impacts on property by the introduction of a noise barrier to provide screening and noise attenuation. - reduction of negative impacts on properties by planting to screen traffic movement on the A947. - reduction of negative impacts by tree planting to replace valuable trees lost to the road.	Moderate adverse	Slight adverse
Wooded Farmland Type: Red Moss (ch325350-326000)							
Medium to High	Littlejohns Wood area	Medium	Low	- mixed woodland planting - treatment of rock cutting - easing of gradients	- direct negative impacts due to the introduction of the road in cutting, realignment of the B977 onto overbridge, introduction of an access road and loss of vegetation. - direct negative impacts on rural setting due to visual and aural impact of new road. - reduction of negative impacts due to an easing of overbridge embankments and planting to improve integration with the surrounding landform.	Substantial adverse	Moderate adverse

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Open Farmland Type: Perwinnes (ch326000-328200)							
Low to Medium	Open farmland at Perwinnes, Leuchlands, Lochgreens	High	Medium	- false cutting - mixed woodland planting - extra heavy tree planting - easing of embankments (with the potential to allow al return of some land to agricultural use) - feathered tree planting - drystone walls - riparian woodland planting	- direct negative impacts due to introduction of the road at grade, on embankment and in cutting, new access road and realignment of Lochgreens Road onto an overbridge and severance of farmlands. - direct negative impacts due to visual and aural impact of new road. - direct negative impacts due to the introduction of new ponds, ditches and access track and the severance of Lochgreens Pond and Red Moss burn. -direct negative impacts due to visual and aural impact of new road. - indirect negative impacts on Lily Loch and Corby Loch Perwines Moss / Scotstown Moor due to slight visual and aural impacts. - reduction of negative impacts due to introduction of false cutting, and planting to screen views from properties east of Littlejohns Wood reflecting landscape pattern. - reduction of negative impacts by easing overbridge embankments and embankments alongside the road to improve landscape integration. - reduction of negative impacts on property due to the introduction of false cutting and noise barrier to provide screening and noise attenuation. - reduction of negative impacts due to the introduction of drystone walls and planting to improve integration.	Moderate to Substantial adverse	Moderate adverse
	Lily Loch and Corby Loch	Medium	Low				
	Perwinnes Moss / Scotstown Moor	Low	Low				
Open Farmland Type: Potterton (ch328200-A90 North junction)							
Medium	Open farmland	High	Low	- drystone walls - scrub woodland planting - riparian woodland planting - extra heavy tree planting - easing of gradients (with the potential to allow a return of some land to agricultural use)	- direct negative impacts due to the introduction of the road at grade, in cutting and on embankment, realignment of local roads, new access roads and the introduction of an overbridge on the B999 and loss of mature trees and severance of farmlands. - direct negative impacts due to severance of Blackdog Burn and introduction of ponds and a ditch. - direct negative impacts due to widening of the A90 and the introduction of an elevated roundabout junction and ponds. - direct negative impacts on rural setting due to visual and aural impact of new road. - reduction of negative impacts due to the introduction of a sculpted landform and coastal grasses within central roundabout to provide a focal point. - reduction of negative impacts on open farmlands due to easing of embankments on B999 overbridge and at Blackdog Burn, drystone walls and planting to improve integration with surroundings.	Substantial adverse	Moderate adverse
	A90 road corridor	High	Medium				
	B999 road corridor	Medium	Low				

Overall Sensitivity	Landscape Component	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Significance of Impact	
		Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Open Farmland Type: Blackdog							
Low	Blackdog settlement	Low to Medium	Low	- scrub woodland - easing of gradients - riparian woodland - mixed woodland	- direct negative impacts on rural setting due to visual and aural impact of new road. - direct negative impacts due to widening of the A90 and the introduction of an elevated roundabout junction and ponds. - direct negative impacts on rural setting due to the introduction of the access road to Blackdog settlement from the A90 roundabout and severance of community woodland. - direct negative impacts on rural setting due to the realignment of the Tarbothill access road. - reduction of negative impacts due to an easing of gradients and planting alongside Blackdog access road to assist in the integration of the road, to strengthen the edge of the community woodland and assist in screening views of the road. - reduction of negative impacts due to planting alongside Tarbothill access road to assist in the integration of the road and ponds. - reduction of negative impacts on Wester Hatton Farm, Blackdog industrial estate and Wester Hatton Cottages due to the realignment of access roads and the introduction of false cuttings and planting to screen views.	Slight Adverse	Negligible
	Blackdog Industrial Estate	Low	Low				
	A90 Road corridor	Low	Low				
	Man-made/ industrial areas	Low	Low				

Table 11.12 – Residual Impacts on Landscape Character: Indirectly Affected Areas

Overall Sensitivity	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Impact Significance on Landscape Character Area	
	Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Hill: Brimmond Hill						
Medium to High	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on Brimmond Hill. - indirect reduced negative impacts on hill area due to mitigation planting.	Slight to Moderate adverse	Negligible adverse
Recreation: Craibstone Golf Course						
Low to Medium	Low	Low	- feathered trees - coniferous woodland	- indirect negative impacts on golf course. - indirect reduced negative impacts on golf course due to mitigation planting.	Slight adverse	Slight to Negligible adverse
Hill: Elrick Hill						
Medium to High	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on hill. - indirect reduced negative impacts on hill area due to mitigation planting.	Slight adverse	Negligible adverse
Open Farmland: Greenferns						
Low to Medium	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on open farmland. - indirect reduced negative impacts on open farmland due to mitigation planting.	Slight adverse	Negligible adverse
Recreation: Auchmill Golf Course						
Low to Medium	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on golf course. - indirect reduced negative impacts on golf course due to planting.	Slight adverse	Negligible adverse
Urban: Bucksburn						
Medium	Low	Negligible	- none	- indirect negative impacts on urban area.	Slight adverse	Negligible adverse
Urban: Kirkhill Industrial Estate						
Low	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on industrial estate. - indirect reduced negative impacts on industrial estate due to planting.	Negligible adverse	Negligible adverse
Urban: Dyce						
Low	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on urban area. - indirect reduced negative impacts on urban area due to planting.	Negligible adverse	Negligible adverse
Valley: Lower Don Valley						
Medium	No change	No change	- none	n/a	n/a	n/a

Overall Sensitivity	Magnitude of Change		Summary of Mitigation Proposals	Summary of Residual Impacts	Impact Significance on Landscape Character Area	
	Winter Year of Opening	Summer, 15 years after opening			Winter, year of opening	Summer, 15 years after opening
Valley Type: Upper Don Valley						
Medium to High	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on valley. - indirect reduced negative impacts on urban area due to mitigation planting.	Negligible adverse	Negligible adverse
Valley Type: St. Fergus						
Low to Medium	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on valley. - indirect reduced negative impacts on valley due to mitigation planting.	Slight adverse	Slight adverse
Hill Type: Foresterseat						
Medium	Low	Negligible	- none	- indirect negative impacts on hill.	Slight adverse	Negligible adverse
Recreation Type: Newmachar Golf Course						
Low to Medium	Low	Negligible	- none	- indirect negative impacts on golf course.	Slight adverse	Negligible adverse
Urban Area Type: Potterton						
Medium	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on open farmland. - indirect reduced negative impacts on open farmland due to mitigation planting.	Slight adverse	Negligible adverse
Urban Area Type: Balmedie						
Medium	No change	No change	- none	n/a	n/a	n/a
Recreation Type: East Aberdeenshire Golf Course						
Low to Medium	Low	Low	- mitigation planting - easing of gradients	- indirect negative impacts on golf course. - indirect reduced negative impacts on golf course due to mitigation planting.	Slight adverse	Negligible adverse
Urban Area Type: Denmore						
Low	Low	Negligible	- none	n/a	Negligible adverse	Negligible adverse
Open Farmland: Cloverhill						
Low to Medium	Low	Negligible	- none	- indirect negative impacts on open farmland.	Slight adverse	Negligible adverse
Coast Type: Balgownie Links						
Low to Medium	Low	Negligible	- none	- indirect negative impacts on coastal landscape	Slight adverse	Negligible adverse

11.7 References

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