

**SEStran**

Edinburgh Orbital Bus Project STAG 1  
Environmental Report

July 2008

**Halcrow Group Limited**

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# **SEStran**

## **Edinburgh Orbital Bus Project STAG 1 Environmental Report**

### **Contents Amendment Record**

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# 1 Introduction

## 1.1 *Introduction*

1.1.1 This environmental appraisal assesses the potential environmental impacts for the five options (and sub options) that have been proposed for the Edinburgh Orbital Bus Project (EOBP). The appraisal is set at a necessarily high level as the detailed proposals for the scheme have yet to be identified. These will be assessed in detail during the Part 2 appraisal. The five route sections, each constructed to two different degrees of segregation from road traffic, that are to be assessed within this Scottish Transport Appraisal Guidance (STAG) Part 1 appraisal are detailed in Section 1.2.

## 1.2 *Route Description*

1.2.1 It is envisaged that the Edinburgh Orbital Bus (EOB) will be a high quality public transport system which provides a reliable express service. Various engineering measures will be required in order to provide priority over general traffic and bypass congestion and provide features of a Bus Rapid Transport System (BRT). These measures could include, but not necessarily be limited to:

- New Off-road busways;
- On-road bus lanes;
- Bus gates;
- Local road widening; and
- Traffic signal priority.

1.2.2 When considering the route options preference was given to measures that are required to achieve the desired priority balanced against the likely cost and feasibility. Where possible, existing bus priority measures have been used along the route.

1.2.3 The route options were initially considered during a route selection process which examined the various land uses, interchanges, park and ride sites and road infrastructure within the route corridor area. These options were further discussed during the EOBP workshop (23 November 2007), at which, Stakeholders raised new ideas that have subsequently been considered.

1.2.4 The initial route selection process identified that the EOBP was likely to operate between the Park and Ride site at Wallyford and Inverkeithing Railway Station in Fife. In order to help limit the route alignment variations and stopping points between these two destinations decisions were made through reference to environmental issues, key land uses, modelling analysis and workshop discussions. Destinations within the route corridor that were considered as key areas were:

- Queen Margaret University / Musselburgh Station;
- Edinburgh Royal Infirmary (ERI);
- Sheriffhall
- Straiton
- Lothianburn
- Hermiston Park and Ride;
- Edinburgh Park;
- RBS HQ Gogarburn; and
- Edinburgh Airport.

1.2.5 The EOB has been broken down into five corridor sections:

- Wallyford Park & Ride to Edinburgh Royal Infirmary;
- Edinburgh Royal Infirmary to Straiton Park & Ride;
- Straiton Park & Ride to Hermiston Park & Ride;
- Hermiston Park & Ride to The Gyle; and
- The Gyle to the North-West (Inverkeithing)

1.2.6 Each of the above sections has been examined in detail to determine suitable route alignments along their length. For each link between the interchanges two options that have significantly different levels of improvements (associated with running speed and infrastructure costs) have been examined as follows:

- lower segregated option – easier to implement, lower cost measures, and
- higher segregated option – showcase route, no capped costs.

1.2.7 The different route alignments and the associated environmental constraints are shown on the Figures contained within Appendix A.

### **1.3**

#### ***Planning Context***

1.3.1

Within the SEStran RTS, the Orbital Bus was identified as a priority, and described as a high quality orbital bus route linking a number of key transport interchanges and areas of employment with the SEStran region.

1.3.2

The environmental objectives that have been set out for the Edinburgh Orbital Bus Project mirror those that were detailed within the SEStran RTS, and are as follows:

- To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions;
- To minimise the negative impacts of transport on natural and cultural resources;
- To promote more sustainable travel;
- To increase transport choices, reducing dependency upon the private car;
- To meet or better all statutory air quality requirements; and
- To reduce the impacts of transport noise.

### **1.4**

#### ***Option Appraisal***

1.4.1

The methods used for the undertaking of the environmental appraisal are detailed in the following sections. The options have been assessed against the various STAG environmental topics using the baseline information and considering the effects of the proposals. In addition each option has been appraised to check whether it meets the relevant environmental planning objectives. The findings of the appraisals are summarised within the option Appraisal Summary Tables (AST).

## 2 Methodology

### 2.1 *Introduction*

2.1.1 This section sets out the methods that were used to identify the baseline environmental conditions within the proposed study corridor. The assessment criteria that have been used to evaluate the environmental impacts of the EOBP are described. This has followed STAG and used a seven point scale to appraise the environmental effects of the options (ranging from Major Adverse to Major Beneficial). Broad mitigation measures have also been suggested in order to prevent or reduce environmental impacts where they may occur.

2.1.2 The baseline conditions within the study corridor and the potential environmental impacts are outlined in Sections 3-8.

### 2.2 *The Identification of Baseline Conditions*

2.2.1 Due to time constraints in the preparation of this STAG Part 1 Environmental Appraisal no consultation has been undertaken with Statutory Consultees or local interest groups, however, it is recommended that extensive consultation is undertaken as part of a STAG Part 2 assessment of any options taken forward in order to help inform the assessment.

2.2.2 The data gathering for the STAG Part 1 Environmental Appraisal has been primarily through a desk based literature review supplemented by a site visit by the study team on 13 November 2007 and 7 April 2008 and key environmental constraints maps (Appendix A). Information has been obtained from the following sources:

- Data from relevant websites;
- SEStran Regional Transport Strategy 2008 – 2023 SEA Environmental Report;
- Fife Council, Fife Structure Plan 2001-2011, Written Statement;
- Fife Council, Finalised Fife Structure Plan 2006-2026, Written Statement;

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<sup>1</sup> This has been detailed within the SESTRAN Regional Transport Strategy Strategic Environmental Assessment Report 2008-2023.

- Fife Council, Dunfermline and the Coast Adopted Local Plan (April 2002);
- Edinburgh and Lothians Structure Plan 2015, Written Statement;
- Finalised Rural West Edinburgh Local Plan 2003, Deposit Version;
- The City of Edinburgh Council South East Edinburgh Local Plan, 2005; and
- Finalised Midlothian Local Plan (2006)
- ASH Consulting Group 1998, The Lothians Landscape Character Assessment, Scottish Natural Heritage, Review No. 91.

## **2.3**

### 2.3.1

#### ***The Assessment Process***

The environmental assessment was carried out as following:

- (i) The environmental resources and the receptors that could potentially be affected by both the construction works and the operation of the new construction were identified.
- (ii) The sensitivity of any environmental resources which are likely to be affected was established.
- (iii) The likely impacts that the receptors will experience during the construction and operation of the scheme were considered.
- (iv) Mitigation measures were identified.
- (v) The significance of the impact upon the identified receptors and the environmental resources was then assessed using the criteria set out in Table 2-1 and taking account of the sensitivity of the resource and the magnitude of the predicted impact.
- (vi) Broad mitigation measures for the various environmental topics have then been recommended where potential adverse impacts have been predicted.

### 2.3.2

The assessment process was used to check the potential impacts of each option and also to assess whether they met the overall environmental planning objectives.

Value		Criteria
Major negative		These are negative impacts which, depending upon the scale or severity of the impact, the planner should take into consideration when assessing a proposal's eligibility for funding.
Moderate negative		Impacts which taken into isolation may not determine a proposal's eligibility for funding, but taken together could do so
Minor negative		Impacts that are worth noting, but the planner believes that they are not likely to contribute materially to determining whether a proposal is funded or otherwise.
Negligible		No impact or no discernible impact
Minor positive		Impacts that are worth noting, but the planner believes that they are not likely to contribute materially to determining whether a proposal is funded or otherwise.
Moderate positive		Impacts which taken into isolation may not determine a proposal's eligibility for funding, but taken together could do so
Major positive		These are positive impacts which, depending upon the scale or severity of the impact, the planner feels should be a principal consideration when assessing a proposal's eligibility for funding.

**Table 2-1: The criteria for classifying the magnitude of environmental impact**

## 3 Baseline Information

### 3.1

#### *Site Location*

#### 3.1.1

This chapter describes the environmental baseline of the proposed study area. The study area is from Wallyford Park & Ride in the east of the study area to Inverkeithing Railway Station in the North-West of the study area. Relevant local planning policy for the area covered by the EOBP is contained within Appendix B, selected policies have been highlighted within the main body of the report, however, they will be considered in more detail during the STAG Part 2 appraisal.

#### Air Quality

#### 3.1.2

Within the study area there are a number of different sources of pollution which include Edinburgh Airport, railway locomotives and construction works, however, the key influence on air quality in the area is from road traffic emissions. The key pollutants that are associated with vehicular pollution are Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>). Within the study area four local councils undertake a variety of air quality monitoring, a summary of which is shown in Table 3-1.



Council	Nitrogen Dioxide (NO2)	No2 Exceedences	Particulate Matter (PM10)	PM10 Exceedences	Other	Other Exceedences
City of Edinburgh Council (2003)	4 real time monitors 39 PDTs	2 PDT outwith the AQMA, 3 within the AQMA, 3 mobile exceedences	3 mobile monitoring stations	3 locations exceeded average annual levels and 24hr mean more than 7 times	N/A	N/A
East Lothian Council (2004)	1 continuous analyser 12 PDTs	None	3 monitoring stations	None	Sulphur Dioxide	None
Fife Council (2003)	1 real time monitor 34 PDTs	1 mobile location and 4 PDTs	1 mobile TEOM analyser	2 occasions with exceedance of 24hr AQS Objective	N/A	N/A
Midlothian Council (2003)	13 PDTs	No Data	N/A	No Data	Carbon Monoxide, Benzene, 1,3-Butadiene, Lead and Sulphur Dioxide	No Data

**Table 3-1: Local Authority Air Quality Monitoring and Exceedences of Targets<sup>2</sup>**

3.1.3

The nearest Air Quality Management Area (AQMA3) to the study area is located in central Edinburgh and it has been designated for NO2 levels. This AQMA is unlikely to be directly affected by the Orbital Bus proposals, however, in areas where there is a large volume of traffic, congestion, or heavily trafficked junctions there is likely to be locally reduced air quality. The introduction of the Orbital Bus service has the potential to contribute to an improvement in air quality through the modal shift from private transport to the use of the bus service which may help improve air quality in the AQMA.

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<sup>2</sup> SEStran Regional Transport Strategy 2008 – 2023 SEA Environmental Report

<sup>3</sup> AQMA – an area declared by the Local Authority in which national air quality objectives are not likely to be achieved.

#### Noise and Vibration

3.1.4 The key sources of noise relate to vehicular traffic, air traffic and railway trains moving throughout the transport network.

3.1.5 The main trunk road within the study area is the Edinburgh Bypass (A720), figures from the SEStran Regional Transport Strategy SEA show that traffic flows along the bypass increased by 16.5% between 2000 and 2005. This increase will have resulted in increased levels of noise and vibration for receptors along the road corridor with some resultant disbenefits for local residents.

#### Geological Resource

3.1.6 The baseline information for the study area has been obtained from the following maps:

- BGS (Scotland) Geological Survey Sheet 32E (Edinburgh), Solid and Drift Edition (Scale 1:50,000)
- BGS (Scotland) Geological Survey Sheet 32, Edinburgh Drift Geology (Scale 1:63,630)
- BGS (Scotland) Geological Survey Sheet 32W, Livingston Solid Geology (Scale 1:50,000)

3.1.7 The shaping of the study corridor has been heavily influenced by glacial activities; however, there is a significant difference in the geology between the southern end of the study corridor, and the geology along the Firth of Forth to the north. Across the region igneous/volcanic bedrock is present and this includes rocks of the Upper Silurian – Lower Devonian. Furthermore, throughout this area of Scotland there are some localised areas of volcanic rock especially around the Pentland Hills which border the study corridor to the South.

3.1.8 The western end of the corridor is underlain by carboniferous sedimentary rocks primarily of the upper and lower Oil-shale groups which include mudstones, sandstones, marine and non-marine limestones amongst others.

- 3.1.9 The road network is clearly depicted on the geological maps and is shown as being underlain by made ground<sup>4</sup> along much of the bypass route. This will have to be taken into account during the construction process in case of contaminated material being present.
- 3.1.10 In the north of the study corridor the drift geology underlying Fife is composed of igneous intrusions of Permo-Carboniferous and Carboniferous groups.
- 3.1.11 Till underlays a large amount of the study area and is composed of clasts from the Devonian and Carboniferous igneous and sedimentary rocks. The eastern end of the study corridor also includes raised marine deposits as well as glacio-fluvial sheet deposits including sand and gravel.
- 3.1.12 There are two mixed (biological and geological) SSSIs<sup>5</sup> located along the study corridor. It is also possible that there are some Regionally Important Geological Sites (RIGS<sup>6</sup>), however, at this time the data was unavailable, consultation with the relevant local authorities and the UKRIGS will help to provide the information required to highlight whether there is any potential to affect any RIGS and this will be addressed in the Part 2 STAG assessment.
- 3.1.13 Throughout the SEStran region the availability of groundwater is extremely important as a supply for the public. The groundwater vulnerability maps that have been produced by SEPA have been utilised to gain a better understanding of the groundwater situation for the study corridor.
- 3.1.14 The aquifer maps were derived by the British Geological Society (BGS) in consultation with SEPA; the Groundwater Vulnerability Map was also produced

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<sup>4</sup> Made Ground – Ground formed by filling in areas with hardcore or rubbish.

<sup>5</sup> Site of Special Scientific Interest (SSSI) - an area that has been notified as being of special interest due to its flora, fauna, geological or physiographical features under the Wildlife and Countryside Act 1981 and the Nature Conservation (Scotland) Act, 2004

<sup>6</sup> RIGS – Regionally Important Geological Sites – they are designated by local criteria and they are currently the most important geological/geomorphological areas outwith the statutory designations such as SSSIs.

by the BGS and the Macaulay Land Use Research Institute under contract to SNIFFER and in consultation with various other organisations.

3.1.15 The SEPA groundwater vulnerability map shows that there are some areas of the most vulnerable groundwater class (Class 5) located in the east of the study area. The south and western areas are generally less vulnerable with classes 1-3 being common. The majority of the study area is underlain by a bedrock aquifer which has an interangular fracture flow and has a moderate productivity. To the west there are some aquifers which are dominantly interangular flow with a high productivity, and in the south-east the productivity is low-very low with either a fracture or interangular flow.

3.1.16 The superficial aquifers of the region are mainly of an interangular flow of high productivity and are mainly concentrated in the south-west. In the north-east there are superficial aquifers with moderate productivity and interangular flow.

#### Agriculture and Soils

3.1.17 The Macaulay Land Use Research Institute (MLURI) produces the Land Capability Classification for Agriculture (LCA). This integrates soil data with topographic knowledge and grades the land based upon its suitability for both agricultural crops and management practices. The Classification divides the land into seven classes, some of which are then further subdivided. Classes 1, 2, and 3/1 are regarded as 'prime agricultural land'<sup>7</sup>.

3.1.18 Within Scotland prime agricultural land covers approximately 6% of the land, and following the Scottish Executive's decision to remove the protection previously afforded to Prime Agricultural Land in Scotland, the protection that it is provided is now contained within the relevant local plans for an area.

3.1.19 Agricultural land within the study area is primarily located in the Western and Eastern Sections of the study corridor although a small amount maybe directly affected in the Southern Section to the south of the City Bypass. It is recommended that as part of the STAG Part 2 Assessment that the Macaulay

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<sup>7</sup> Circular 18/1987 Development Involving Agricultural Land.

Maps for the proposed route corridor are analysed to determine which classes of agricultural land will be impacted.

#### Water Quality

3.1.20 The most important watercourse in the study area is the River Forth and its associated tributaries. Within the study area the water resources are important for a variety of reasons including agriculture, biodiversity, fishing, recreation and private water supplies. The Scottish Environmental Protection Agency (SEPA) has undertaken a Water Quality Classification Scheme<sup>8</sup> where rivers are monitored at various locations along their length and a class can be calculated (ecological and chemical monitoring are used to determine the class of a stretch of river). The results are then graded into the following categories which show how the quality of a watercourse changes along its length:

A1 – Excellent;  
A2 – Good;  
B – Fair;  
C – Poor; and  
D – Severely Polluted.

3.1.21 Table 3-2 shows the watercourses that could potentially be impacted as a result of the proposed scheme. Although not all of the monitoring points are directly adjacent to the scheme there is a potential for those further downstream to be impacted by the proposals.

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<sup>8</sup> [www.sepa.org.uk](http://www.sepa.org.uk)

Area Affected	Watercourse/Coastal Stretch	Monitoring Point	Stretch Length/Area	Overall Classification
Edinburgh West (Inverkeithing to The Gyle)	Forth Estuary	N/A	76.229 km <sup>2</sup>	B
	Dolphinton Burn	Dalmeny Tank Farm	3.67 km	C
		U/s Tank Farm	1.79 km	B
	River Almond	Craigiehall	5.65 km	C
		Kirkliston	0.68 km	B
	Niddry Burn	Breast Mill	1.71 km	B
Swine Burn	Scotmalt Complex	2.32 km	A2	
Gogar Burn	Daltons	6.16 km	B	
Edinburgh South (The Gyle to Straiton)	Union Canal	Hermiston	3.46km	C
	Murray Burn	U/s Canal Culvert	2.13km	B
	Water of Leith	Juniper Green	4.73km	A2
	Braid Burn	Torduff	2.04 km	A2
	Brunstane Burn	Newhales Estate	4.06 km	C
	Burdiehouse Burn	Ellens Glen Road	4.66km	A2
		Straiton	3.56km	A2
Swanston Burn	Bow Bridge	2.06 km	C	
Edinburgh East (Straiton to Wallyford)	May Burn	Edgefield Industrial Estate	2.17 km	C
	Park Burn	Gilmerton Bing	4.61 km	C
	River Esk	D/s Inveresk Weir	2.9km	A2
	Cairnie Burn	Confluence with the River Esk	2.81 km	A2

**Table 3-2: Watercourse Classification within the Study Area.**

3.1.22 Within the study area there is also the potential for flooding to occur within the proposed corridor. The Flood Risk Map that SEPA has prepared shows the watercourses and areas at risk from flooding along the proposed route. This flood risk map is available at [www.sepa.org.uk](http://www.sepa.org.uk).

#### Landscape

3.1.23 Scottish Natural Heritage (SNH) has produced Landscape Character Assessments for the area and these indicate that there are a number of different Landscape Character Areas. The study corridor runs through the following Landscape

Character Areas which are defined in detail in the Fife<sup>9</sup>, and the Lothians<sup>10</sup> Landscape Character Assessments:

- Urban (Fife/Lothian)
- Coastal Hills (Fife) – these are undulating hills, that are similar to the Lowland Hills and Valleys but they are directly influenced by the coast.
- Lowland Plains (Lothian) – broad swathe of gently rolling drift-covered plain forms the heart of the Lothians region, divided into eastern and western sectors by the Pentland Hills, and the urban mass of Edinburgh. In addition to its subdued relief it is characterised by the predominance of arable farmland.
- Uplands (Lothian) – Uplands include three subdivisions of the Southern Uplands range, together with the Pentland Hills, which lie within the Midland Valley. They are characterised chiefly by their altitude, generally ranging from around 300 metres to over 500 metres, and have a distinctive land cover dominated by heather moorland, peatland and rough grassland vegetation types.
- Lowland River Valleys (Lothian) – distinguished primarily by their landform, they include the incised headwaters of the River Tyne system, and the gorge-like valleys of the North and South Esk. Their steep slopes carry a relatively high proportion of broadleaved woodland cover.
- Lowland Hills and Ridges (Lothian) - within the lowland part of the region, areas of higher ground occur characterised by common elements of topography; landform and land cover which differ significantly from the adjoining plains and valleys. These differences may be traced to underlying factors including igneous rock type, less fertile soils, and wetter local climate.
- Coastal Margins (Lothian) – The proximity of the Forth Estuary is the dominant influence on a group of landscapes forming a coastal fringe along the northern boundary of the region. The landform is generally flat to gently undulating, although there are prominent local variations including igneous outcrops, raised beaches, and dunelands. Land cover is dominated by arable farmland, which includes areas of Class 1 Agricultural

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<sup>9</sup> David Tyldesley and Associates 1999. Fife landscape character assessment

<sup>10</sup> ASH Consulting Group 1998. The Lothians landscape character assessment .

Land, interrupted by a concentrated strip of developed urban land stretching from Silverknowes in North West Edinburgh through to Prestonpans in the east.

3.1.24 Specifically the off road sections of the EOBP run broadly through five main character types.

- LCA (Landscape Character Area) No.5 Upland fringes. North West Pentlands Fringe
- LCA No.13 Lowland River Valley. North Esk
- LCA No.21 Lowland Plains. Lower Almond Farmlands
- LCA No.25 Coastal Margins. Musselburgh/Prestonpans Fringe
- Urban Character Area

3.1.25 The character areas and their sensitivity to the development will be discussed in more detail in the following chapters.

#### Ecology and Nature Conservation

3.1.26 There is a diverse range of species located within the study area; some of the species that could be found within the study corridor such as Red Squirrels are listed as priority species within one or more of the Fife<sup>11</sup>, Midlothian<sup>12</sup>, East Lothian<sup>13</sup> and Edinburgh<sup>14</sup> Biodiversity Action Plans. Within the study area there are also numerous designations which have been designated for

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<sup>11</sup> Fife Local Biodiversity Action Plan - <http://www.ukbap.org.uk/lbap.aspx?ID=391>

<sup>12</sup> Edinburgh Biodiversity Partnership, Local Biodiversity Action Plan - <http://www.ukbap.org.uk/lbap.aspx?ID=381>

<sup>13</sup> Midlothian Local Biodiversity Action Plan - <http://www.ukbap.org.uk/lbap.aspx?ID=422>

<sup>14</sup> East Lothian Biodiversity, Local Biodiversity Action Plan - <http://www.ukbap.org.uk/lbap.aspx?ID=380>



biodiversity/biological reasons including Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA<sup>15</sup>) and Ramsar Site.

- 3.1.27 The natural landscape of the area is such that it has the potential to support a wide range of protected species such as otter and bats which are protected under Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna, and therefore through law in the United Kingdom by The Conservation (Natural Habitats & c.) Regulations, 1994. There is also the possibility that a number of other protected species such as badger and water vole are present within the proposed study corridor.
- 3.1.28 Within the study area there are a number of designations that have been afforded their national/internal designations status for biological reasons, the designations which are located within the study area are listed in Table 3-3.

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<sup>15</sup> SPA – classified under the EC Directive on the Conservation of Wild Birds (79/409/EEC), commonly known as the Birds Directive. The directive requires member states of the EC to identify and classify the most suitable Territories in size and number, for certain rare or vulnerable species (listed in Annex 1 of the Directive) and for regularly occurring migrating species. SPAs are intended to safeguard the habitats of the species for which they are selected and to protect the birds from significant disturbance (Source – [www.snh.org.uk](http://www.snh.org.uk))

Area Affected	Site Name	Designation	Area Covered (Ha)	Reason for Designation
Edinburgh West	Ferry Hills	SSSI	22.16	Mixed
	St Margaret's Marsh	SSSI	26.41	Biological
	Firth of Forth	SSSI	7423.19	Mixed
	Firth of Forth	SPA	6313.68	
	Firth of Forth	Ramsar <sup>16</sup>	214665.12	
	Long Craig Island	SSSI	2.09	Biological
Edinburgh East	Dalkeith Oakwood	SSSI	26.48	Biological

**Table 3-3: National/International designations located along the study corridor.**

3.1.29 As well as these International/National designations there are also local designations such as Sites of Importance for Nature Conservation (SINCs)<sup>17</sup> examples of which are the River Almond and the Dalmeny Estate which are both located within the study corridor, information on these sites will be available from the relevant local authorities through consultation with the appropriate officer, or through accessing the information via the local authority website.

3.1.30 The effects of the proposals on designated sites (and in particular European sites) and on protected species will need to be carefully considered and relevant mitigation identified.

#### Cultural Heritage

3.1.31 There are several sites that are designated for their cultural heritage value in the study area. Table 3-4 shows a breakdown of the types of sites that are located along the study corridor and the approximate number that could potentially be impacted as a result of the proposal.

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<sup>16</sup> Ramsar – the aim of Ramsar sites is the conservation and the wise use of wetland areas through national actions and international co-operation. They are designated under the Conservation of Wetlands of International Importance.

<sup>17</sup> SINC – Site of Importance for Nature Conservation – a non-statutory designation that is used to identify high quality wildlife sites within a Local Authority area.

Designation	Number within the Study Area
<p><b>Listed Buildings (A-Cs):</b>            Certain Buildings which are of historic or architectural interest are designated to retain their character whilst also remaining both useful and valuable. Category A represent buildings of National importance, Category B Regional importance, and Category C(s) more local importance.</p>	c.490
<p><b>Scheduled Ancient Monuments:</b>            These Ancient Monuments consist of archaeological sites, ruins, structures, and buildings. These monuments are of national importance and are protected under law through the Ancient Monuments and Archaeological Areas Act, 1979.</p>	c.15
<p><b>Gardens and Designed Landscapes:</b>            These gardens and landscapes are valuable assets at National, Regional and Local level. Historic Scotland identifies these resources and offer guidance on management so the resource is preserved for future generations.</p>	c.11

**Table 3-4: Cultural Heritage designations that are located along the study corridor<sup>18</sup>.**

- 3.1.32 The impact of the route upon the Gardens and Designed Landscapes located along the route have been assessed under the Landscape and Visual section and will therefore not be considered within this section of the assessment. In addition to this, given the large numbers of National Monument Record of Scotland sites that are located along the route it has been decided not to assess the impacts upon these given that a definitive route corridor has yet to be determined.
- 3.1.33 There are also numerous National Monument Records of Scotland (NMRS<sup>19</sup>) that are located along the route which also have the potential to be impacted as a result of the proposed bus route.
- 3.1.34 Given the historical significance of the Edinburgh area there is the potential for buried archaeological remains to be disturbed during any construction works associated with the bus route. Consultation will be maintained with Historic Scotland and the relevant archaeological officers from the local authorities affected.

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<sup>18</sup> Source – [www.pastmap.org.uk](http://www.pastmap.org.uk)

<sup>19</sup> NMRS – National Monument Records of Scotland – a collection of material on the archaeological and architectural heritage of Scotland.

# 4

## Section 1: Wallyford Park & Ride to Edinburgh Royal Infirmary

### 4.1

#### 4.1.1

#### *Introduction*

Worksheets for Section 1 from Wallyford Park and Ride to the Edinburgh Royal Infirmary detailing the likely environmental impacts that may result during construction and operation, and how this option compares against the planning objectives that have been set for this scheme. Figure 4-1 (Appendix A) shows the proposed road layout for the lower and higher segregated sections of the route.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Wallyford Park & Ride to Edinburgh Royal Infirmary - Lower Segregated section
Noise and Vibration	Minor Adverse	Minor Beneficial	During construction given that only one section of the lower segregated option requires to be constructed noise and vibration impacts will be minimised in the short-term. In the longer term during the operation of the scheme there is the potential for improvements to noise and vibration through a modal shift from the private car to the EOBP, this will be especially beneficial at sensitive receptors along the EOBP route such as residential receptors and the Edinburgh Royal Infirmary.
Air Quality	Minor Adverse	Minor Beneficial	During construction given that groundbreaking and construction processes are necessary along the section adjacent to the Edinburgh Royal Infirmary it is likely that there will be some short-term impacts upon air quality. In the longer term during the operation of the scheme there is the potential for improvements to local air quality through a modal shift from the private car to the EOBP, this will be especially beneficial at sensitive receptors along the EOBP route such as residential receptors and the Edinburgh Royal Infirmary.
Water Quality	Minor Adverse	Neutral	The only area that requires construction is that adjacent to the Royal Infirmary and processes could potentially impact upon local watercourses (e.g. Burdiehouse Burn) and groundwater, however the implementation of effective mitigation measures will help to minimise any impacts. It is unlikely that there will be any impacts to the water quality of the area during the operation of the lower segregated option given that it is run on-street. Policy DQ 4 of the South East Edinburgh Local Plan states that any development within the South-East Wedge should also be models of good sustainable drainage practice.
Geological Resource	Minor Adverse	Neutral	During construction there will be some impacts to the geological resource of the area with groundbreaking and other construction techniques required in order to implement the scheme along this area, however during and operation of the lower segregated option

Key Environmental Area	Construction Impact	Operational Impact	Comments – Wallyford Park & Ride to Edinburgh Royal Infirmary - Lower Segregated section
			given that it is run on-street it is unlikely here will be any impacts upon the geological resource.
Ecology	Minor Adverse	Neutral	There is the potential for the ecology and nature conservation of the area adjacent to the Edinburgh Royal Infirmary to be impacted during construction however, protected species surveys should be undertaken prior to construction in order to help minimise any future impacts during operation
Landscape and Visual	Neutral	Neutral	During the construction of the scheme there are unlikely to be any impacts however, during the operation of the scheme the negative impact of the presence of extra buses in the area passing sensitive receptors such as residential properties and businesses will be offset by the reduction in private car journeys seen through a modal shift from private to public transport. The landscape character of this area is Coastal margin, Lowland river valley and Urban. As this option has lower segregation the effects on the landscape character should be minimal.
Agriculture and Soils	Minor Adverse	Minor Adverse	The impacts upon agriculture and soils will be focused upon the area adjacent to the Edinburgh Royal Infirmary with farmland impacted, however, implementing mitigation such as the maintenance of access will help to limit the impacts. During the operation of the lower segregated option given that it is run on-street there are unlikely to be any impacts.
Cultural Heritage	Neutral	Neutral	It is unlikely that there will be any impacts to the cultural heritage receptors of the lower segregated section of the route during either the construction or the operation given that the option is run on-street. However, consultation should be maintained with the relevant authorities and a watching brief maintained during the construction alongside the Royal Infirmary.

**Table 4-1: The environmental impacts of implementing the lower segregated option from Wallyford Park & Ride to Edinburgh Royal Infirmary.**

4.1.2

Worksheet 4-2 showing the environmental impacts associated with the higher segregated option of implementing the EOBP between the Park & Ride site at Wallyford at the Edinburgh Royal Infirmary.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Wallyford Park & Ride to Edinburgh Royal Infirmary - Higher Segregated Option
Noise and Vibration	Moderate Adverse	Minor Beneficial	Within this section the higher segregated option will require construction processes such as groundbreaking and the laying of new road surfaces as well as the provision of bus stops and other associated infrastructure. These processes will have adverse impacts at sensitive receptors along the route such as at local residential receptors and at the Edinburgh Royal Infirmary. Along these off-road sections there will be adverse impacts however, in the long-term these are likely to be offset by a shift from private vehicles to the use of public transport within the study area.
Air Quality	Moderate Adverse	Minor Beneficial	During construction there is likely to be a short-term adverse impact as a result of construction processes such as groundbreaking which may generate dust. Mitigation measures such as best practice techniques will help to minimise dust creation thereby helping to limit impacts. During operation there will be local impacts in areas such as the off-road section between Queen Margaret University and Newcraighall Road with reductions in air quality experienced at local sensitive receptors and people utilising the area for recreational purpose. However, the modal shift from private transport to public transport will help to offset these negative impacts leading to improvements in air quality in the long-term.
Water Quality	Minor Adverse	Minor Adverse	Construction processes along the higher segregated section have the potential to impact upon the water resources of the area and therefore construction sites, compounds and equipment should be set up in order to minimise the potential for pollution events to take place. Any construction taking place alongside watercourses (e.g. Burdiehouse Burn) would also require a CAR licence from the licensing authority (SEPA). During the operation of the scheme there will be the potential for pollutants to enter watercourses through spillages and run-off from the new roads areas. The section to the east of Edinburgh Royal Infirmary is located within an area deemed to be at risk of flooding, therefore any development in his area will require to adhere to the guidance contained with SPP7 Planning and Flooding. It is also recommended that SUDS are implemented along the scheme in order to minimise the potential for groundwater and watercourses to flood or become polluted.
Geological Resource	Moderate Adverse	Neutral	Processes such as groundbreaking and spoil removal will be required during the construction of the higher segregated sections. There is the potential for Made Ground to be present along the old railway corridor section of the route, as well as agricultural pollutants in the area alongside the Edinburgh Royal Infirmary. Measures such as a Phase 1 Ground Investigation should be undertaken prior to construction, and any contaminated material removed according to industry standards.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Wallyford Park & Ride to Edinburgh Royal Infirmary - Higher Segregated Option
Ecology	Minor Adverse	Neutral	There is the potential for protected species to be present along the off-road route especially along the old railway corridor. Prior to any construction works protected species surveys should be undertaken to determine the presence of species, and, if required licences for disturbance should be applied for from the appropriate licensing authority. An effective mitigation strategy should be drawn up and consultation maintained with Scottish Natural Heritage throughout. The mitigation strategy should also take into account the presence of woodland and wetland habitats throughout this section.
Landscape and Visual	Moderate Adverse	Neutral	The use of disused railway corridors can help to limit the visual impacts. The landform of the area will also help to effectively screen the routes, however, site compounds and works may cause some adverse impacts but with sensitive design and layout the effects can be minimised. Vegetation (in line with Policy DQ9 of the South East Edinburgh Local Plan) can be used for screening the route which will help to minimise impacts, however, where the route utilises the green-belt area impacts will be more severe. The landscape character covered by the off road section is coastal margin, which is sensitive to urban expansion and being squeezed by other new infrastructure within the area. The cumulative impact has a considerable effect on the capacity of the landscape, however at a local scale the areas chosen off road are in former railway lines and new developments so should impact less.
Agriculture and Soils	Minor Adverse	Neutral	There will be a direct impact upon the agriculture of the area with a section alongside Edinburgh Royal Infirmary running through what is currently farmland. The key impact will be the severance of the farm holding; however, mitigation measures can be implemented during construction and operation through measures such as the maintenance of access to severed field areas as well as the replacement of any field drains which are affected. The permanent impacts of severing farmholdings will also require to be mitigated in the long-term; access will need to be maintained or financial compensation will be required.
Cultural Heritage	Neutral	Neutral	The higher segregated sections of the route could potentially impact upon the cultural heritage resource through impacting upon the buried archaeology of the area. Consultation should be maintained with the relevant local authority archaeological officers as well as Historic Scotland throughout the design and construction of the scheme. It is also recommended that an archaeological watching brief be maintained during construction along all off-road sections of the route.

Table 4-2: The environmental impacts of implementing the higher segregated proposals.

## 4.2

### *Summary of Environmental Impacts*

#### 4.2.1

The key environmental impacts associated with this section will occur in the off-road areas that require to be constructed. It is likely that the majority of impacts associated with these areas will be restricted to the temporary construction phase, however, some long-term impacts are anticipated on both the lower and higher segregation routes and these are likely to be focused upon agriculture and soils, water quality and landscape (higher segregation only).

#### 4.2.2

Each of these routes also has the potential to bring about long-term benefits to the environment with the scheme leading to an anticipated modal shift from private vehicles to public transport. This shift will likely see a reduction in noise and vibration as well as benefits to air quality within Section 1 of the EOBP. This shift is expected to be greater in the higher segregated option.



Objective	Lower Segregation	Performance Against Objective	Higher Segregation	Performance Against Objective
To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions	Although there will be impacts in the short-term associated with construction processes, there is likely to be a long-term benefit associated with a modal shift from private to public transport.	Minor Beneficial	There will be temporary impacts during construction, however, in the long-term there will be an associated improvement in air quality through a modal shift to public transport.	Moderate Beneficial
To minimise the negative impacts of transport on natural and cultural resources	It is unlikely that the lower segregated option will result in any impacts in the long-term, some short-term impacts are anticipated but appropriate mitigation measures will help to minimise these.	Minor Beneficial	It is anticipated that the construction of the higher segregated sections of this section of route will have adverse impacts upon both the natural and cultural heritage of the study area.	Minor Adverse
To meet or better all statutory air quality requirements	The modal shift anticipated will help to reduce Greenhouse Gas emissions in the long-term and help meet statutory local and global targets.	Minor Beneficial	The modal shift anticipated will help to reduce Greenhouse Gas emissions in the long-term and help meet statutory local and global targets.	Moderate Beneficial
To reduce the impacts of transport noise	The anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise along the lower segregated option.	Minor Beneficial	Although there will be impacts in the short-term associated with construction processes, there is likely to be a long-term benefit associated with a modal shift from private to public transport.	Minor Beneficial

**Table 4-3: The performance of the Section 1 against the Planning Objectives.**

### 4.3

#### *Summary of Performance against the Planning Objectives*

#### 4.3.1

The lower segregated option meets all of the planning objectives set for the scheme. The higher segregated option performs well, although it is anticipated that there will be adverse impacts upon the natural and cultural heritage of the area if this route is implemented, however, this is likely to coincide with benefits in the long-term to the air quality along the route of the EOBP.

# 5

## Section 2: Edinburgh Royal Infirmary to Straiton Park & Ride

### 5.1

#### 5.1.1

#### *Introduction*

Worksheets for Section 2 detailing the likely environmental impacts of the implementation of the EOBP between Edinburgh Royal Infirmary and Straiton Park & Ride, and how this option compares against the planning objectives that have been set for this scheme. Figure 5-1 (Appendix A) shows the proposed road layout for the lower and higher segregated sections of the route.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Edinburgh Royal Infirmary to Straiton Park & Ride – Lower Segregated Option
Noise and Vibration	Minor Adverse	Minor Beneficial	During construction the required construction activities necessary for the provision of bus lanes along this route there will be temporary adverse impacts in the short-term. In the longer term during the operation of the scheme there is the potential for improvements to noise and vibration through a modal shift from the private car to the EOBP, this will be especially beneficial at sensitive receptors along the EOBP route such as residential receptors at Danderhall and Straiton and the Edinburgh Royal Infirmary as well as sensitive cultural heritage receptors such as The Drum Designed Landscape..
Air Quality	Minor Adverse	Minor Beneficial	During construction the required construction activities necessary for the provision of bus lanes along this route there will be temporary adverse impacts in the short-term. In the longer term during the operation of the scheme there is the potential for improvements to local air quality through a modal shift from the private car to the EOBP, this will be especially beneficial at sensitive receptors along the EOBP route.
Water Quality	Neutral Minor Adverse	Neutral Minor Adverse	It is anticipated that there is the potential for water resources to be impacted during the construction of the bus lanes for this section of the route however these will only be temporary in nature. During operation there is the potential for pollution incidents to occur as a result of spillages occurring along the carriageway as well as run-off from the areas of hardstanding.
Geological Resource	Neutral Minor Adverse	Neutral	Within this Section of the route there is the potential for some minor impacts to geological resource of the lower segregated section given that bus lanes are required. However, during the operation of the lower segregated option there will be no impacts.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Edinburgh Royal Infirmary to Straiton Park & Ride – Lower Segregated Option
Ecology	Neutral	Neutral	Within this Section of the route there will be no impacts to the ecology and nature conservation of the area during either the construction or the operation of the lower segregated option given that it is run on-street.
Landscape and Visual	Neutral	Neutral	During the construction of the scheme there are unlikely to be any impacts along the lower segregated option, however, during the operation of the scheme the presence of extra buses in the area passing sensitive receptors such as residential properties and businesses will increase, this will be offset by a reduction in private vehicle trips. As most of the lower segregated options are on road the landscape character is unlikely to be adversely affected by the development.
Agriculture and Soils	Neutral	Neutral	Within this Section of the route there will be no impacts to the agriculture and soils of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Cultural Heritage	Neutral	Neutral	Within this Section of the route there will be no impacts to the cultural heritage receptors of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

**Table 5-1: The environmental impacts of implementing the lower segregated option within the study area.**

5.1.2

Worksheet 5-2 showing the environmental impacts associated with the higher segregated option of implementing the EOBP between Edinburgh Royal Infirmary and the Park & Ride site at Straiton.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Edinburgh Royal Infirmary to Straiton Park & Ride – Higher Segregated Option
Noise and Vibration	Moderate Adverse	Moderate Adverse	Within this section the higher segregated option will require construction processes such as groundbreaking and the laying of new road surfaces as well as the provision of bus stops and other associated infrastructure alongside The Drum Designed Landscape. If the high segregated route to the east of The Drum is selected then road widening will be required to implement the EOB through to Sherriffhall Park & Ride site. Along the disused railway corridor to Straiton and alongside the Straiton Ponds LNR there will be adverse impacts in the long-term. In addition it is possible that the roads utilised to access Park & Ride sites in this section will be subject to increased traffic and therefore increased noise and vibration locally.
Air Quality	Minor Adverse	Minor Beneficial	During construction there is likely to be a short-term adverse impact as a result of construction processes such as groundbreaking which will generate dust. Mitigation measures such as best practice techniques will help to minimise dust creation thereby helping to limit impacts. During operation there will be local impacts in areas such as the off-road sections at The Drum, and at Straiton Ponds LNR with reductions in air quality experienced at local sensitive receptors and people utilising the area for recreational purpose. However, the anticipated modal shift from private cars to public transport will result in reduction in vehicle emissions along the EOBP corridor.
Water Quality	Minor Adverse Moderate Adverse	Neutral Minor Adverse	Construction processes along the higher segregated section have the potential to impact upon the water resource of the area such as Straiton Ponds LNR and the May Burn and any construction taking place alongside watercourses will require a CAR licence from the licensing authority (SEPA). During the operation of the scheme there will be the potential for pollutants to enter watercourses and groundwater through spillages and run-off from the new areas of hardstanding. It is also recommended that SUDS are implemented along the scheme in order to minimise the potential for groundwater and watercourses to flood or become polluted.
Geological Resource	Minor Adverse	Neutral	Processes such as groundbreaking and spoil removal will be required during the construction of the large amount of the higher segregated section. There is the potential for Made Ground to be present along the old railway corridor section of the route and therefore measures such as a Phase 1 Ground Investigation should be undertaken prior to construction, and any contaminated material removed according to appropriate guidance.
Ecology	Minor Adverse Moderate Adverse	Minor Adverse	There is the potential for protected species to be present along the off-road route especially given that an old railway corridor is being utilised and that works are in close proximity to the LNR at Straiton Ponds. Prior to any construction works protected species

Key Environmental Area	Construction Impact	Operational Impact	Comments – Edinburgh Royal Infirmary to Straiton Park & Ride – Higher Segregated Option
			surveys should be undertaken to determine the presence of species, and, if required licences for disturbance should be applied for from the appropriate licensing authority. An effective mitigation strategy should be drawn up in consultation with the statutory consultees.
Landscape and Visual	Minor Adverse	Minor Adverse	<p>The use of disused railway corridors can help to limit the visual impact. The routing of the higher segregated option alongside The Drum Designed landscape will also result in adverse impacts along the route. The landform of the area will help to effectively screen the routes, however, site compounds and works may cause some adverse impacts but with sensitive design and layout the effects can be minimised. Vegetation can be used for screening the route which will help to minimise impacts, however, where the route utilises the green-belt area impacts will be more severe. The landscape character covered by the off road section are</p> <ol style="list-style-type: none"> <li>1. Urban, this is less sensitive to development as by its nature is made up from many different elements none necessarily relating to the others. Therefore it is less sensitive to development however; care will need to be paid to localised effects and views and therefore impact upon the siting of the route.</li> <li>2. Lowland river valley can be sensitive however; the route only skirts this character area and is unlikely to cause to much adverse impact on the character.</li> </ol>
Agriculture and Soils	Moderate Adverse	Minor Adverse	During the construction of this section of the route there will be a direct impact upon the agriculture of the area with a section alongside Edinburgh Royal Infirmary running through what is currently farmland. The key impact will be the severance of the farm holding; however, mitigation measures can be implemented during construction and operation through measures such as the maintenance of access to severed field areas as well as the replacement of any field drains affected. The permanent impacts of severing farmholdings will also require to be mitigated in the long-term; the maintenance of access or financial compensation will require to be implemented along the route.
Cultural Heritage	Minor Adverse	Moderate Adverse	Minor Adverse
			The higher segregated sections of the route could potentially impact upon the cultural heritage resource through impacting upon the buried archaeology of the area as well as the setting of The Drum Designed Landscape (it should be noted that within the South East Edinburgh Local Plan it is detailed with Policy DQ16 that Gardens and Designed Landscapes will be protected from development which would adversely affect their spatial interest). Consultation should be maintained with the relevant local authority archaeological officers as well as Historic Scotland throughout the design and construction of the scheme. It is also recommended that an archaeological watching brief be maintained during construction along all off-road sections of the route.

Table 5-2: The environmental impacts of implementing the higher segregated option within the study area.

## 5.2

### 5.2.1

#### *Summary of Environmental Impacts*

The lower segregated option of Section 2 will likely result in some adverse impacts locally as a result of reduced air quality and increased noise and vibration during construction, however, it is likely that these areas will improve in the long-term and result in some benefits. The higher segregated alignment of Section 2 will result in several long-term adverse impacts given the sensitive nature of the environment located along this alignment. However the both options have the potential to improve air quality and CO2 emissions due to mode shift from car. This shift is expected to be greater in the higher segregated option.

Objective	Lower Segregation	Performance Against Objective	Higher Segregation	Performance Against Objective
To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions	Although short-term impacts are anticipated, there is likely to be a long-term benefit associated with a modal shift from private to public transport.	Minor Beneficial	Although adverse impacts are anticipated, the modal shift from private to public transport will have a positive impact upon Greenhouse Gas emissions in the long-term.	Moderate Beneficial
To minimise the negative impacts of transport on natural and cultural resources	It is unlikely that the lower segregated option will result in any impacts in the long-term, some short-term impacts are anticipated but appropriate mitigation measures will help to minimise negative impacts.	Minor Adverse	The proposed route runs past receptors such as a Garden and Designed Landscape, Local Nature Reserve and utilises a potential local wildlife corridor therefore leading to potential adverse impacts.	Moderate Adverse
To meet or better all statutory air quality requirements	The anticipated modal shift will help to reduce Greenhouse Gas emissions in the long-term and help meet both local and global air quality targets.	Minor Beneficial	The anticipated modal shift will provide some overall benefits, notwithstanding the reduced air quality in these new off-road areas.	Minor Beneficial
To reduce the impacts of transport noise	The anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise along the lower segregated option.	Minor Beneficial	The anticipated modal shift will provide some benefits however; the increased noise and vibration along the new routes adjacent to sensitive receptors will result in failure to achieve this objective.	Minor Adverse

**Table 5-3: The performance of Section 2 against the Planning Objectives.**

**5.3**

***Summary of Performance against the Planning Objectives***

5.3.1

The lower segregated option achieves the planning objectives with benefits likely to be seen to local noise and air quality whilst there are unlikely to be any significant impacts upon the natural and cultural heritage of the area as a result of this option. The higher segregated route is likely to result in benefits to Greenhouse Gas emissions through the anticipated modal shift despite having some local impacts upon sensitive receptors, but is unlikely to achieve any of the other planning objectives with adverse impacts anticipated along the route.

# 6

## Section 3: Straiton Park & Ride to Hermiston Park & Ride

### 6.1

#### Introduction

#### 6.1.1

Worksheets for Section 3 detailing the likely environmental impacts of the implementation of the EOBP between Straiton Park & Ride and Hermiston Park and Ride, and how this option compares against the planning objectives that have been set for this scheme. Figure 6-1 (Appendix A) shows the proposed road layout for the lower and higher segregated sections of the route.

Key Environmental Area	Construction Impact	Operational Impact	Comments –Straiton Park & Ride to Hermiston Park & Ride– Lower Segregated Option
Noise and Vibration	Minor Adverse	Minor Beneficial	It is not anticipated that there will be any significant noise and vibration impacts during construction as bus lanes are to be provided along this section, however appropriate mitigation will help to minimise the impact associated with this. During operation there may be some small benefits seen through a reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport.
Air Quality	Minor Adverse	Minor Beneficial	It is anticipated that there will minor impacts to quality impacts during construction as some construction will be required for the provision of bus lanes along this section, however, during operation there may be some small benefits seen through a reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport leading to reduced emissions.
Water Quality	Neutral Minor Adverse	Neutral Minor Adverse	It is anticipated that there is the potential for water resources to be impacted during the construction of the bus lanes for this section of the route however these will only be temporary in nature. During operation there is the potential for pollution incidents to occur as a result of spillages occurring along the carriageway as well as run-off from the areas of hardstanding.
Geological Resource	Neutral Minor Adverse	Neutral	Within this Section of the route there is the potential for some minor impacts to geological resource of the lower segregated section given that bus lanes are required. However, during the operation of the lower segregated option there will be no impacts.
Ecology	Neutral	Neutral	Within this Section of the route there will be no impacts to the ecology and nature conservation of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Landscape and Visual	Neutral	Neutral	It is unlikely that there will be any impacts to the landscape and visual aspect of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street. The lower segregated option passes



Key Environmental Area	Construction Impact	Operational Impact	Comments –Straiton Park & Ride to Hermiston Park & Ride– Lower Segregated Option
			through landscape character types urban as the bus will be on road few impacts are likely to be felt in terms of effect on landscape character.
Agriculture and Soils	Neutral	Neutral	Within this Section of the route there will be no impacts to the agriculture and soils of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Cultural Heritage	Neutral	Neutral	Within this Section of the route there will be no impacts to the cultural heritage of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

**Table 6-1: The environmental impacts of implementing the lower segregated option within the study area.**

6.1.2 Worksheet 6-2 showing the environmental impacts associated with the higher segregation Option of implementing the EOBP between the Park & Ride site at Straiton and the Park & Ride at Hermiston.

Key Environmental Area	Construction Impact	Operational Impact	Comments –Straiton Park & Ride to Hermiston Park & Ride– Higher Segregated Option
Noise and Vibration	Moderate Adverse	Minor Adverse	Within this section the higher segregated option will require construction processes such as groundbreaking and the laying of new road surfaces as well as the provision of bus stops and other associated infrastructure along the off-road sections of the route. Within the section from Straiton to Lothianburn, and the running of the service along the hard shoulder there unlikely to be any further impacts to noise and vibration given the proximity of the proposed route to the existing carriageway, however there will be some adverse impacts associated with the stretch from Baberton to Hermiston Park & Ride with increased numbers of residential properties affected as well as impacts upon a local Scheduled Ancient Monument. The use of the higher segregated corridor could potentially lead to some reductions in noise and vibration along the route through a reduction in private vehicle trips.
Air Quality	Moderate Adverse	Moderate Beneficial	During construction there is likely to be a short-term adverse impact as a result of construction processes such as groundbreaking which have potential to generate dust. Mitigation measures such as best practice techniques will help to minimise dust creation thereby helping to limit impacts. During operation there will be local impacts in areas such as the off-road sections at between Straiton and Lothianburn, and from Baberton to Hermiston Park & Ride with reductions in air quality experienced at local sensitive receptors, however, these impacts must be assessed against the overall reduction in emissions that are likely to be brought about through the modal shift from private vehicles to public transport which will result in long-term benefits along the local road network.
Water Quality	Minor Adverse Moderate Adverse	Minor Adverse Neutral	Construction processes along the higher segregated section have the potential to impact upon the water resource of the area such as the Murray Burn and the Burdiehouse Burn and any construction taking place alongside or over these watercourses will require a CAR licence from the licensing authority (SEPA). During the operation of the scheme there will be an increased potential for impacting upon the identified watercourses through spillages and run-off from the new areas of hardstanding. It is recommended that SUDS are implemented along the scheme in order to minimise the potential for groundwater and watercourses to flood or become polluted, other mitigation techniques such as oil bunds and sediment traps should also be implemented where appropriate. It should also be noted that within the Midlothian Local Plan Policy RP8 states that development will not be permitted which could adversely affect the water environment.
Geological Resource	Minor Adverse	Neutral	Processes such as groundbreaking and spoil removal will be required during the construction of the large amount of the higher segregated section. It is recommended that prior to any construction taking place a Phase 1 Ground Investigation should be

Key Environmental Area	Construction Impact	Operational Impact	Comments –Straiton Park & Ride to Hermiston Park & Ride– Higher Segregated Option
			undertaken to determine whether any contaminated material is present and to recommend appropriate mitigation measures.
Ecology	Minor Adverse	Neutral	There is the potential for protected species to be present along the off-road route especially given that there are a number of watercourses crossing this stretch of the route. Prior to any construction works protected species surveys should be undertaken to determine the presence of species, and, if required licences for disturbance should be applied for from the appropriate licensing authority. An effective mitigation strategy should be drawn up in consultation with the statutory consultees. It is unlikely that there will be any impacts upon the ecology and nature conservation of this area during the operation of the scheme.
Landscape and Visual	Minor Adverse	Minor Adverse	During construction of the segregated route there is likely to be some minor negative visual disturbance which can be mitigated with sensible siting of construction compounds and bus stops. Views toward the south will be impacted upon however there is considerable visual disturbance from transport infrastructure already present. During operation there is likely to be a minor adverse impact as it will affect the view southward, dependent on frequency of bus services and appropriate siting of the associated infrastructure these effects can be minimised. The off road section is not in Greenbelt or any other designated land however is likely to affect the areas character. The off road section runs through a section where 3 landscape character areas converge, urban, upland fringe and uplands. These character areas are sensitive to transport and infrastructure effects upon their character due to the wide sweeping views from them over Edinburgh and into them from main receptors and a high visual sensitivity of open areas. The work is also likely to exacerbate fragmentation of land. The characteristic field boundaries of these character types could be disrupted by the bus route which could also adversely affect the character.
Agriculture and Soils	Minor Adverse	Major Adverse	During construction some agricultural land will be impacted through required access routes and severance of affected fields, although mitigation measures such as detailed design of access routes and the maintenance of access to any severed field areas will help to mitigate impacts. During operation there will be a severe adverse impact to the agricultural land between Hermiston and Baberton with the field directly severed by the selected route, which, depending upon the size of the farmholding may result in a significant impact upon the viability of the farmholding.
Cultural Heritage	Moderate Adverse	Minor Adverse	The main impact within the proposed section occurs between Baberton and Hermiston Park & Ride with the proposed route passing a Scheduled Ancient Monument (SAM) and therefore having an impact upon its setting. During construction the setting of the SAM will be affected by increased noise from construction as well as reduced air quality. During the operation of the scheme effective planting and bunding will help to screen the route and help to mitigate against adverse impacts. Policy E29 within the Rural West

Key Environmental Area	Construction Impact	Operational Impact	Comments –Straiton Park & Ride to Hermiston Park & Ride– Higher Segregated Option
			Edinburgh Local Plan states that development will not be permitted which fails to protect or enhance a SAM including its setting.

Table 6-2: The environmental impacts of implementing higher segregated option within the study area.

6.2

*Summary of Environmental Impacts*

6.2.1

The lower segregated alignment for Section 3 will result in long-term benefits for air quality and noise and vibration, however, there is also the potential for impacts to the quality of water resources along the route. The alternative higher segregated alignment will likely result in more long-term adverse impacts with the agriculture and soils, noise and air quality all being directly affected, and further impacts to the cultural heritage of the area. Both options will result in some air quality benefits arising from mode shift from car to public transport. This shift is expected to be greater in the higher segregated option.

Objective	Lower Segregation	Performance Against Objective	Higher Segregation	Performance Against Objective
To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions	Although short-term impacts are anticipated, there is also likely to be a benefit in the long-term associated with a modal shift from private to public transport.	Minor Beneficial	Although adverse impacts are anticipated, the modal shift from private to public transport will have a positive impact upon Greenhouse Gas emissions in the long-term.	Moderate Beneficial
To minimise the negative impacts of transport on natural and cultural resources	It is unlikely that this option will result in impacts in the long-term, some short-term impacts are anticipated but appropriate mitigation measures will help to minimise negative impacts.	Minor Beneficial	The proposed higher segregated route will lead to long-term adverse impacts upon sensitive receptors such as Baberton Mains SAM.	Minor Adverse
To meet or better all statutory air quality requirements	The anticipated modal shift will help to reduce Greenhouse Gas emissions in the long-term and help meet both local and global air quality targets.	Minor Beneficial	Local increases in emissions will be experienced along new sections and where the bus route enters residential areas which will therefore see an increase in traffic.	Neutral
To reduce the impacts of transport noise	The anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise along the lower segregated option.	Minor Beneficial	The new off-road sections will lead to increased levels of noise and vibration at local receptors such as Baberton Mains SAM and residential areas along the proposed route.	Minor Adverse

**Table 6-3: The performance of Section 3 against the Planning Objectives.**

### 6.3

#### *Summary of Performance against the Planning Objectives*

#### 6.3.1

The lower segregated option meets all of the planning objectives that have been set for the scheme; however, the higher segregated option will not meet three of the objectives as a result of its impacts upon local sensitive receptors along its length. It will however help to reduce Greenhouse Gas emissions through the predicted modal shift from private to public transport.

# 7

## Section 4: Hermiston Park & Ride to The Gyle

### 7.1

#### *Introduction*

#### 7.1.1

Worksheets for Section 4 detailing the likely environmental impacts of the implementation of the EOBP between Hermiston Park & Ride and The Gyle, and how this option compares against the planning objectives that have been set for this scheme. Figure 7-1 (Appendix A) shows the proposed road layout for the lower and higher segregated sections of the route.

Key Environmental Area	Construction Impact	Operational Impact	Comments –Hermiston Park & Ride and The Gyle – Lower Segregated Option
Noise and Vibration	Minor Adverse	Minor Beneficial	It is not anticipated that there will be any significant noise and vibration impacts during construction as bus lanes are to be provided along this section, however appropriate mitigation will help to minimise the impact associated with this. During operation there may be some small benefits seen through a reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport.
Air Quality	Minor Adverse	Minor Beneficial	It is anticipated that there will minor impacts to quality impacts during construction as some construction will be required for the provision of bus lanes along this section, however, during operation there may be some small benefits seen through a reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport leading to reduced emissions
Water Quality	Neutral Minor Adverse	Neutral Minor Adverse	It is anticipated that there is the potential for water resources to be impacted during the construction of the bus lanes for this section of the route however these will only be temporary in nature. During operation there is the potential for pollution incidents to occur as a result of spillages occurring along the carriageway as well as run-off from the areas of hardstanding.
Geological Resource	Neutral Minor Adverse	Neutral	Within this Section of the route there is the potential for some minor impacts to geological resource of the lower segregated section given that bus lanes are required. However, during the operation of the lower segregated option there will be no impacts.
Ecology	Neutral	Neutral	Within this Section of the route there will be no impacts to the ecology and nature conservation of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Landscape and Visual	Neutral	Neutral	Within this Section of the route there will be no impacts to the landscape and visual aspects of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

Key Environmental Area	Construction Impact	Operational Impact	Comments –Hermiston Park & Ride and The Gyle – Lower Segregated Option
Agriculture and Soils	Neutral	Neutral	Within this Section of the route there will be no impacts to the agriculture and soils of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Cultural Heritage	Neutral	Neutral	Within this Section of the route there will be no impacts to the cultural heritage of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

**Table 7-1: The environmental impacts of implementing the lower segregated Option within the study area.**

7.1.2

Worksheet 7-2 showing the environmental impacts associated with the higher segregation option of implementing the EOBP between the Park & Ride site at Straiton and The Gyle.

Key Environmental Area	Construction Impact	Operational Impact	Comments – Hermiston Park & Ride and The Gyle – Higher Segregated Option
Noise and Vibration	Moderate Adverse	Minor Adverse	Within this section the higher segregated option will require construction processes such as groundbreaking and the laying of new road surfaces along its length as well as the provision of bus stops and other associated infrastructure where necessary. There will be adverse impacts experienced throughout Edinburgh Park, although these impacts will be temporary in nature. The use of the higher segregated corridor could potentially lead to some reductions in noise and vibration along the route through a reduction in private vehicle trips, however, given that the new route will pass an area where no route previously existed, the noise generated along this route will lead to adverse impacts for the nearby sensitive receptors.
Air Quality	Moderate Adverse	Moderate Beneficial	During construction there is likely to be a short-term adverse impact as a result of construction processes such as groundbreaking which will generate dust. Mitigation measures such as wheel washing and effective spoil storage as well as the use of appropriate technology will help to minimise dust creation thereby helping to limit impacts. During operation there will be local impacts in areas such as the new road sections through Edinburgh Park where no route corridor currently exists but these will be more than off-set through the anticipated modal shift on the local road network.
Water Quality	Minor Adverse Moderate Adverse	Neutral Minor Adverse	Construction processes along the higher segregated section have the potential to impact upon the water resource of the area such as The Union Canal, any construction taking place alongside or over these watercourses will require a CAR licence from SEPA. It is recommended that SUDS are implemented along the scheme in order to minimise the potential for groundwater and watercourses to flood or become polluted, other mitigation techniques such as oil bunds and sediment traps should also be implemented where appropriate.
Geological Resource	Minor Adverse	Neutral	Processes such as groundbreaking and spoil removal will be required during the construction the higher segregated section thereby impacting upon the local geology. Given the proximity of the proposed route to The Union Canal there is the potential for the watercourse to become polluted through construction dust. Any contaminated material encountered should either be cleaned or disposed of according to industry best practice, and if possible re-used within the EOBP scheme. In the long-term there are unlikely to be any impacts upon the geological resources of the area.
Ecology	Minor Adverse	Neutral	There is the potential for protected species to be present in the area especially the area close to The Union Canal. Prior to any construction works protected species surveys should be undertaken to determine the presence of species, and, if required licences for



Key Environmental Area	Construction Impact	Operational Impact	Comments – Hermiston Park & Ride and The Gyle – Higher Segregated Option
			disturbance should be applied for from the appropriate licensing authority. An effective mitigation strategy should be drawn up and consultation maintained with Scottish Natural Heritage. It is unlikely that the ecology and nature conservation of the area will be impacted during the operation for the scheme.
Landscape and Visual	Moderate Adverse	Minor Adverse	There is potential for moderate adverse during construction as the route goes through some sensitive landscape areas however this can be mitigated against by careful siting of compounds and managing working methods by use of screening etc. The operational impact will be minor adverse dependent on frequency of buses and appropriate siting of associated infrastructure. Policy E14 of Edinburgh's Rural West Local Plan states that development affecting designed landscape features will only be permitted where the effects of the development are outweighed by the public benefits arising from it. The landscape character of this area is Urban, this is less sensitive to development as by its nature is made up from many different elements none necessarily relating to the others. Although it is less sensitive to development care will need to be paid to localised effects and views and therefore impact upon the siting of the route.
Agriculture and Soils	Minor Adverse	Neutral	Due to the nature of the surrounding area being a business park, the agriculture of the area will not be impacted through this section, a phase 1 Ground Investigation should determine the level of contamination in the local soils and appropriate mitigation can then be recommended. During operation it is unlikely there will be any further impacts to the soils of the area.
Cultural Heritage	Moderate Adverse	Minor Adverse	The Union Canal is designated as a SAM and any construction within its boundaries would require Scheduled Ancient Monument Consent from Historic Scotland, even if construction takes place outwith the boundaries of the SAM, the setting of the SAM will be affected during both the construction and the operation of the scheme leading to adverse impacts. Mitigation measures such as screening the route through planting could help to reduce any negative impacts anticipated.

**Table 7-2: The environmental impacts of implementing the higher segregated Option within the study area.**

## 7.2

### 7.2.1

#### ***Summary of Environmental Impacts***

The lower segregated alignment for Section 4 will result in long-term benefits for air quality and noise and vibration following some temporary adverse impacts during the construction period as a result of the provision of bus lanes along the route. The higher segregated alignment is likely to result in long-term adverse impacts to the air quality and noise and vibration along the route as well as adversely affecting the setting of The Union Canal SAM, however the anticipated impacts to the air quality along the route will be off-set by a reduction in private vehicle trips, thereby reducing emissions and providing a benefit in the long-term on the road network of this section. These impacts also follow a temporary construction period where the various environmental areas will all be adversely affected.

Objective	Lower Segregation	Performance Against Objective	Higher Segregation	Performance Against Objective
To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions	Although short-term impacts are anticipated, there is also likely to be a benefit in the long-term associated with a modal shift from private to public transport.	Minor Beneficial	Although adverse impacts are anticipated, the predicted modal shift from private to public vehicles will likely result in a positive impact upon Greenhouse Gas emissions in the long-term.	Moderate Beneficial
To minimise the negative impacts of transport on natural and cultural resources	It is unlikely that this option will result in impacts in the long-term, some short-term impacts are anticipated but appropriate mitigation measures will help to minimise negative impacts.	Minor Beneficial	The proximity of the link to the Union Canal SAM will result in adverse impacts upon the setting of this resource in the long-term.	Minor Adverse
To meet or better all statutory air quality requirements	The anticipated modal shift will help to reduce Greenhouse Gas emissions in the long-term and help meet both local and global air quality targets.	Minor Beneficial	Local increases in emissions will be experienced along new sections and at sensitive recreational and cultural receptors such as The Union Canal.	Minor Beneficial
To reduce the impacts of transport noise	The anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise along the lower segregated option.	Minor Beneficial	The new off-road sections will lead to increased levels of noise and vibration given that the new segregated route will run in close proximity to The Union Canal SAM. However the anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise elsewhere.	Neutral

**Table 7-3: The performance of Section 4 against the Planning Objectives.**

**7.3**

***Summary of Performance against the Planning Objectives***

7.3.1

The lower segregated option meets all of the planning objectives that have been set for the scheme; however, the higher segregated option will not meet the objective to protect natural and cultural resources as a result of its impacts upon local sensitive receptors such as The Union Canal which is an important cultural and recreational

resource. However the higher segregated option will have beneficial impacts within the road network by helping to reduce Greenhouse Gas emissions through the predicted modal shift from private to public transport.

# 8

## Section 5: The Gyle to the North West (Inverkeithing)

### 8.1

#### *Introduction*

#### 8.1.1

Worksheets for Section 5 detailing the likely environmental impacts of the implementation of the EOBP between The Gyle and the North West (Inverkeithing), and how this option compares against the planning objectives that have been set for this scheme. Figure 8-1 (Appendix A) shows the proposed road layout for the lower and higher segregated sections of the route.

Key Environmental Area	Construction Impact	Operational Impact	Comments – The Gyle to the North West (Inverkeithing) – Lower Segregated Option
Noise and Vibration	Minor Adverse	Neutral	It is not anticipated that there will be any significant noise and vibration impacts during construction as bus lanes are to be provided along this section, however appropriate mitigation will help to minimise the impact associated with this. During operation there may be a small benefits seen through a tiny reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport.
Air Quality	Minor Adverse	Neutral	It is anticipated that there will minor impacts to quality impacts during construction as some construction will be required for the provision of bus lanes along this section. During operation there may very small benefits seen through a tiny reduction in the number of vehicles on the road as a result of a modal shift from private vehicles to public transport leading to reduced emissions.
Water Quality	Neutral Minor Adverse	Neutral Minor Adverse	It is anticipated that there is the potential for water resources to be impacted during the construction of the bus lanes for this section of the route however these will only be temporary in nature. During operation there is the potential for pollution incidents to occur as a result of spillages occurring along the carriageway as well as run-off from the areas of hardstanding.
Geological Resource	Neutral Minor Adverse	Neutral	Within this Section of the route there is the potential for some minor impacts to geological resource of the lower segregated section given that bus lanes are required. However, during the operation of the lower segregated option there will be no impacts.
Ecology	Neutral	Neutral	Within this Section of the route there will be no impacts to the ecology and nature conservation of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Landscape and Visual	Neutral	Neutral	Within this Section of the route there will be no impacts to the landscape and visual aspect of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

Key Environmental Area	Construction Impact	Operational Impact	Comments – The Gyle to the North West (Inverkeithing) – Lower Segregated Option
Agriculture and Soils	Neutral	Neutral	Within this Section of the route there will be no impacts to the agriculture and soils of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.
Cultural Heritage	Neutral	Neutral	Within this Section of the route there will be no impacts to the cultural heritage of the lower segregated section of the route during either the construction or the operation of the lower segregated option given that it is run on-street.

**Table 8-1: The environmental impacts of implementing the lower segregated Option within the study area.**

8.1.2

Worksheet 8-2 showing the environmental impacts associated with the higher segregated option of implementing the EOBP between The Gyle and the North West (Inverkeithing).

Key Environmental Area	Construction Impact	Operational Impact	Comments – The Gyle to the North West (Inverkeithing) – Higher Segregated Option
Noise and Vibration	Moderate Adverse	Minor Adverse    Minor Beneficial	A small area of this section will require construction methods to be undertaken in order for them to be implemented with new routes between Gogar and the Royal Bank of Scotland, and a new bus lane at Newbridge. Construction processes will result in adverse impacts nearby, however, during operation the tiny reduction in vehicle trips in this section may result in small long-term benefits to the area. Adverse impacts can be mitigated through using appropriate construction techniques.
Air Quality	Moderate Adverse	Minor Beneficial	A small area of this section will require construction methods to be undertaken resulting in adverse impacts through dust generation. However, during operation the tiny reduction in vehicle trips in this section may result in small long-term benefits to the area. Adverse impacts can be mitigated through using appropriate construction techniques such as wheel washing, road cleaning and covering any removed material to prevent wind blown dust.
Water Quality	Minor Adverse    Moderate Adverse	Neutral    Minor Adverse	Construction processes along the higher segregated section have the potential to impact upon the water resource of the area such as Gogar Burn, any construction taking place alongside this watercourse may require a CAR licence from SEPA. It is recommended that SUDS are implemented along the scheme in order to minimise the potential for groundwater and watercourses to flood or become polluted, other mitigation techniques such as oil bunds and sediment traps should also be implemented where appropriate.
Geological Resource	Minor Adverse	Neutral	Processes such as groundbreaking and spoil removal will be required during the construction of the higher segregated sections. There is the potential for contaminants to be present along the off-road sections especially where it is proposed to cross the A720 and measures such as a Phase 1 Ground Investigation should be undertaken prior to construction, and any contaminated material removed according to industry standards. Detailed mitigation techniques can also be provided as part of this study. It is not anticipated that there will be any impacts during the operation of the scheme.
Ecology	Minor Adverse	Neutral	The off-road section of the proposed route has the potential to impact upon protected species and surveys should be carried out prior to any construction to determine whether or not any protected species are present, and therefore recommend detailed mitigation. It is unlikely that the ecology and nature conservation will be impacted during the operation of the scheme.

Key Environmental Area	Construction Impact	Operational Impact	Comments – The Gyle to the North West (Inverkeithing) – Higher Segregated Option
Landscape and Visual	Minor Adverse	Minor Adverse	The off-road section runs adjacent to Millburn Tower Designed Landscape, however the landscape is well screened with the boundary being a heavily planted shelterbelt and is judged to have little scenic value <sup>20</sup> .mitigation for impacts will require to be designed around the specific plans for the area. During the operation of the scheme an increase in traffic could also lead to a minor adverse impact upon the character of the off-road section. The landscape character for this are is Lowland plains. This landscape has suffered from the cumulative impact of new development and infrastructure therefore increasing the landscape sensitivity to any more development; this has led to a highly fragmented landscape. The landscape provides a setting of the city from the western aspect with many wide views toward the city. Therefore any off road sections will likely adversely affect the landscape character of the area.
Agriculture and Soils	Minor Adverse	Neutral	It is not anticipated that any agricultural land will be impacted as a result of the proposed routes, however, soil will be required to be removed where the crossing of the A720 occurs and in the off-road sections of the route. Any soil removed could be used for bunding or earthworks along the route of the EOBP provided that it is appropriately ‘cleaned’ and ready for re-use. It is unlikely that there will be any impacts to agriculture and soils during the operation of the scheme.
Cultural Heritage	Neutral	Neutral	It is unlikely that there will be any significant impacts to the cultural heritage of this section of the route during either the construction or the operation of the option given the proposed route.

**Table 8-2: The environmental impacts of implementing the higher segregated Option within the study area.**

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<sup>20</sup> An Inventory of Designed Landscapes in Scotland, Volume 5: Lothian and Borders, Land Use Consultants, 1997.



## **8.2**

### **8.2.1**

#### ***Summary of Environmental Impacts***

The lower segregated alignment for Section 5 will result in long-term benefits for air quality and noise and vibration along the route following some temporary adverse impacts during the construction period. In addition, there is also the potential for adverse impacts upon the water quality of the area to be experienced in the long-term. The higher segregated option is also likely to result in adverse impacts upon the agriculture and soils of the area with some field areas severed for the purpose of the route alignment. However, as with the lower segregated option there are also likely to be benefits associated with small reductions in noise and vibration and small improvements to air quality through the predicted modal shift in transportation use.

Objective	Lower Segregation	Performance Against Objective	Higher Segregation	Performance Against Objective
To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions	Although it is anticipated that there will be short-term adverse impacts, there is also likely to be a very small benefit in the long-term associated with a modal shift from private to public transport.	Neutral	Although adverse impacts are anticipated in the short-term, there is likely to be a small long-term benefit associated with a modal shift from private to public transport.	Minor Beneficial
To minimise the negative impacts of transport on natural and cultural resources	It is unlikely that this option will result in impacts in the long-term, some short-term impacts are anticipated but appropriate mitigation measures will help to minimise negative impacts.	Neutral	This alignment will have an adverse affect on the setting of a Garden and Designed Landscape at the Royal Bank of Scotland (RBS).	Minor Adverse
To meet or better all statutory air quality requirements	The very small anticipated modal shift will help to reduce Greenhouse Gas emissions in the long-term and help meet both local and global air quality targets.	Neutral	The small anticipated modal shift will help to reduce Greenhouse Gas emissions in the long-term and help meet both local and global air quality targets.	Minor Beneficial
To reduce the impacts of transport noise	The very small anticipated shift from private to public transport is likely to result in a long-term reduction in traffic noise along the lower segregated option.	Neutral	There will be some adverse impacts upon receptors such as RBS but through the small anticipated modal shift it is likely that in the long-term there would also be some benefits.	Neutral

**Table 8-3: The performance of Section 5 against the Planning Objectives.**

**8.3**

***Summary of Performance against the Planning Objectives***

8.3.1

The lower segregated option meets all of the planning objectives that have been set for the scheme; however, the higher segregated option will only meet two of them. The higher segregated option will however help to reduce Greenhouse Gas emissions through the modest predicted modal shift from private to public transport.

# 9

## Summary

### *9.1*

#### *Summary of Performance against Objectives*

#### 9.1.1

Overall the lower segregated options for Sections 1-5 perform well against the planning objectives achieving each of the four objectives of the SEStran RTS in each of the five sections of the route. In summary it is therefore shown that the adoption of the lower segregated alignment would result in long-term benefits to air quality and traffic noise through a modal shift to public transport whilst also minimising the impacts the scheme would have upon the natural and cultural heritage of the area. However the degree of mode shift anticipated is modest and the benefits, though positive are minor.

#### 9.1.2

The higher segregated option will result in significantly greater benefits to greenhouse gas emissions through the modal shift that is anticipated, and therefore this objective is met in each of the five higher segregated sections. The benefits are lower at the ends of the route where lower mode shift is predicted. Although there are likely to be some adverse impacts at locally sensitive receptors along the route, the adoption of the higher segregated option will result in long-term benefits to air quality across the wider road network. Although the higher segregated option will result in some short-term temporary adverse environmental impacts, and some impacts to locally sensitive receptors along the proposed route corridor, the long-term benefits that the use of this option would bring through reductions in vehicular emissions brought about through an anticipated modal shift. There are particular concerns however about the local environmental impacts of new route construction in the high segregation options between Hermiston and Baberton, which crosses open agricultural land, and may result in both visual intrusion and severance of the agricultural land holding.

#### 9.1.3

In overall terms, the implementation of either the lower or higher segregated options has the potential to result in long-term environmental benefits along the proposed route corridor alignments, especially when related to air quality and greenhouse gas emissions. These benefits are generally higher for the higher segregation options due to greater mode switch.

#### 9.1.4

It is recommended that in determining which route alignment/s should be taken forward for more detailed analysis that the performance of the route options against the environmental objectives set for the scheme is taken into account.

## **Appendix A**

### **Figures**

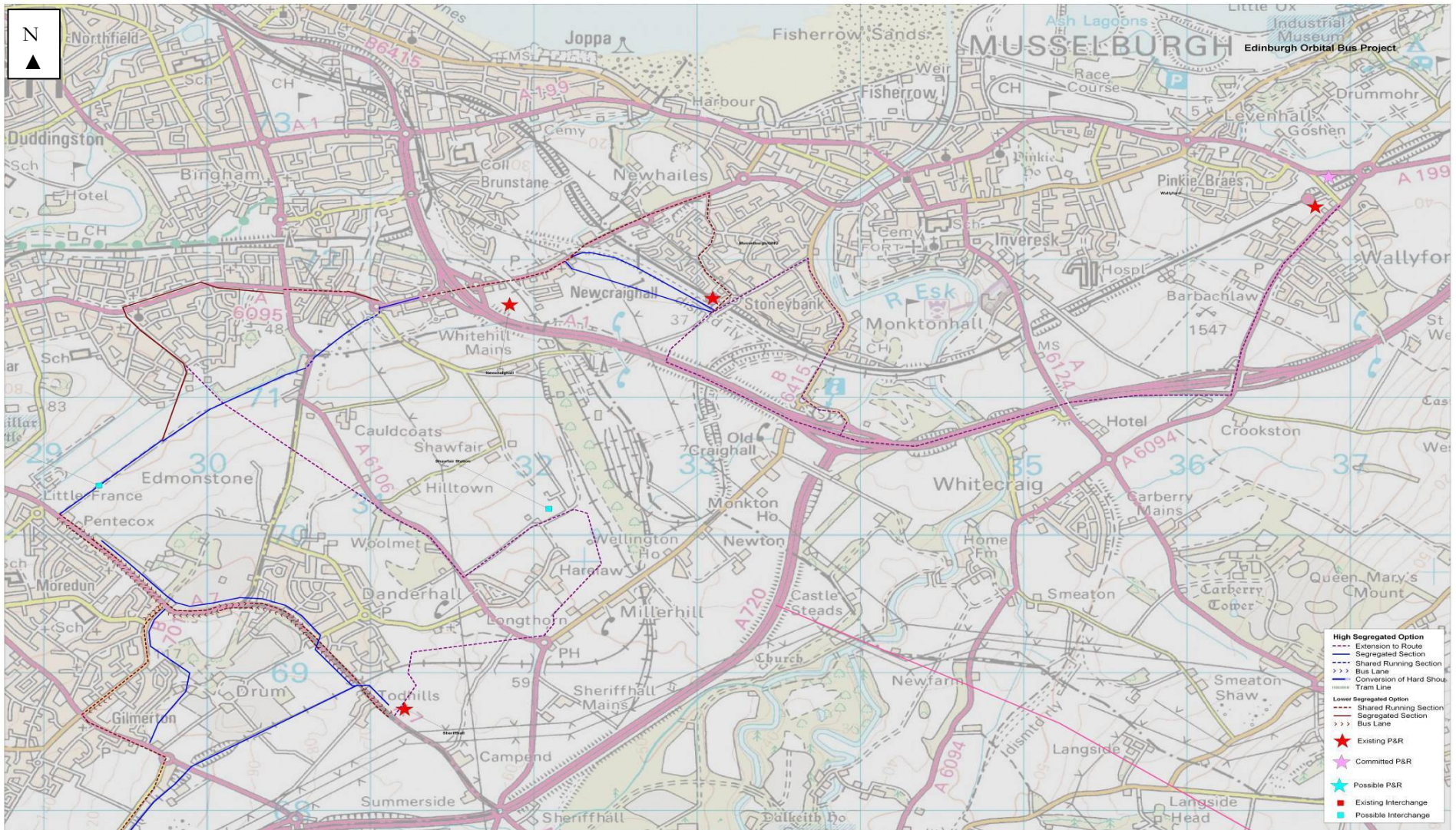
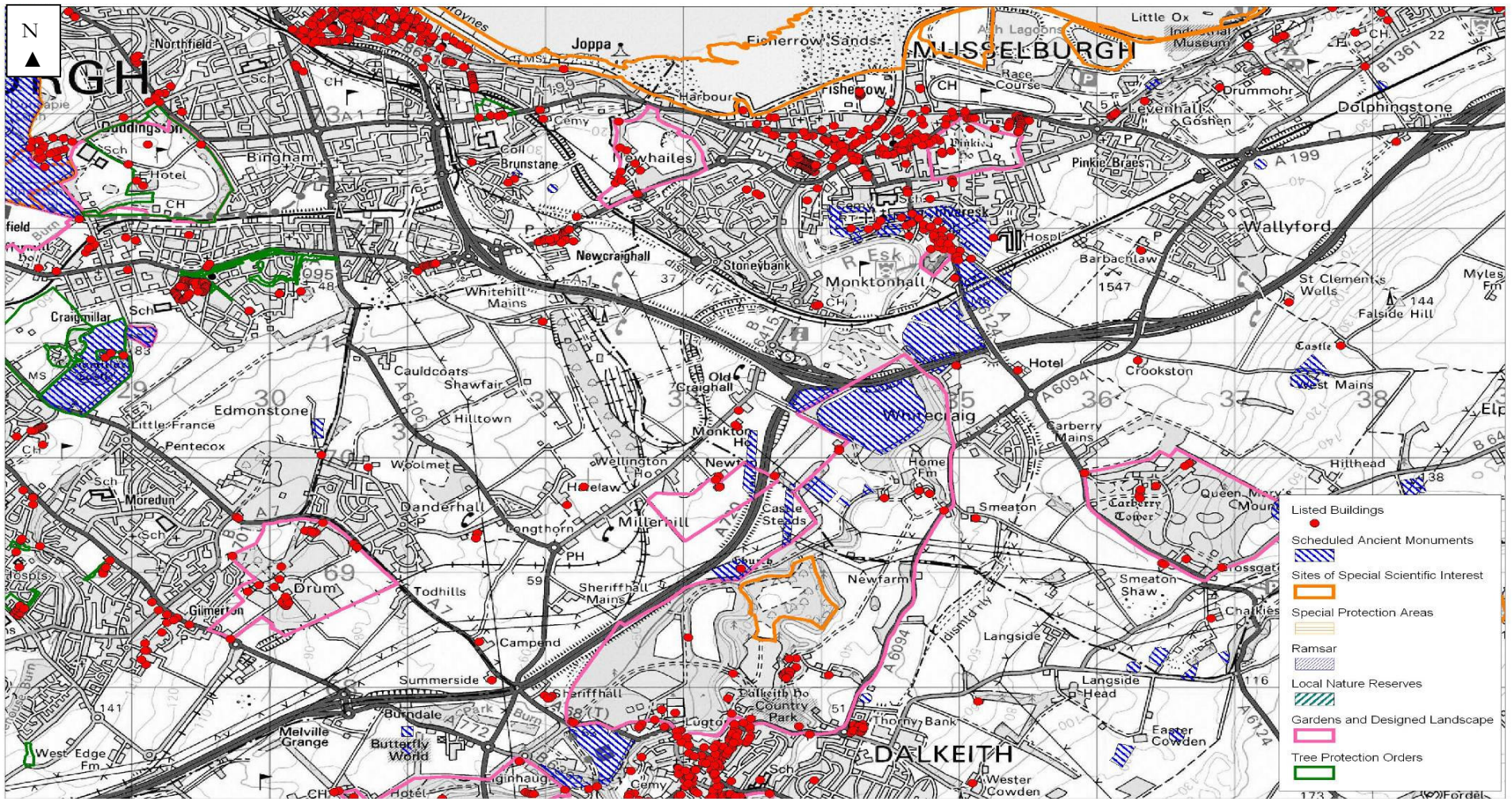


Figure 4-1: Section 1 - Wallyford Park & Ride to Edinburgh Royal Infirmary

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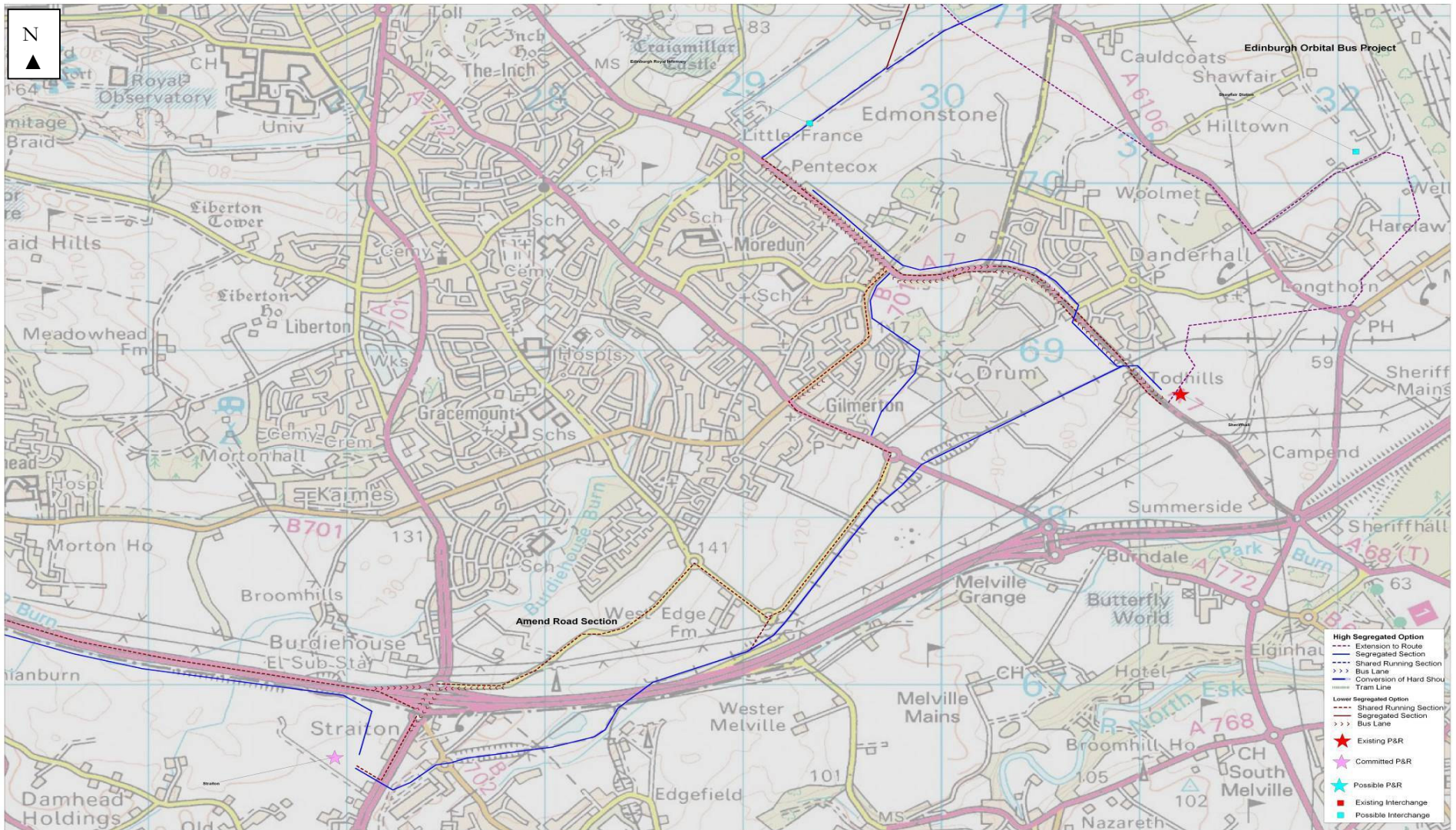




**Figure 4-2: Key Environmental Constraints within Section 1 (Wallyford Park & Ride to Edinburgh Royal Infirmary)**

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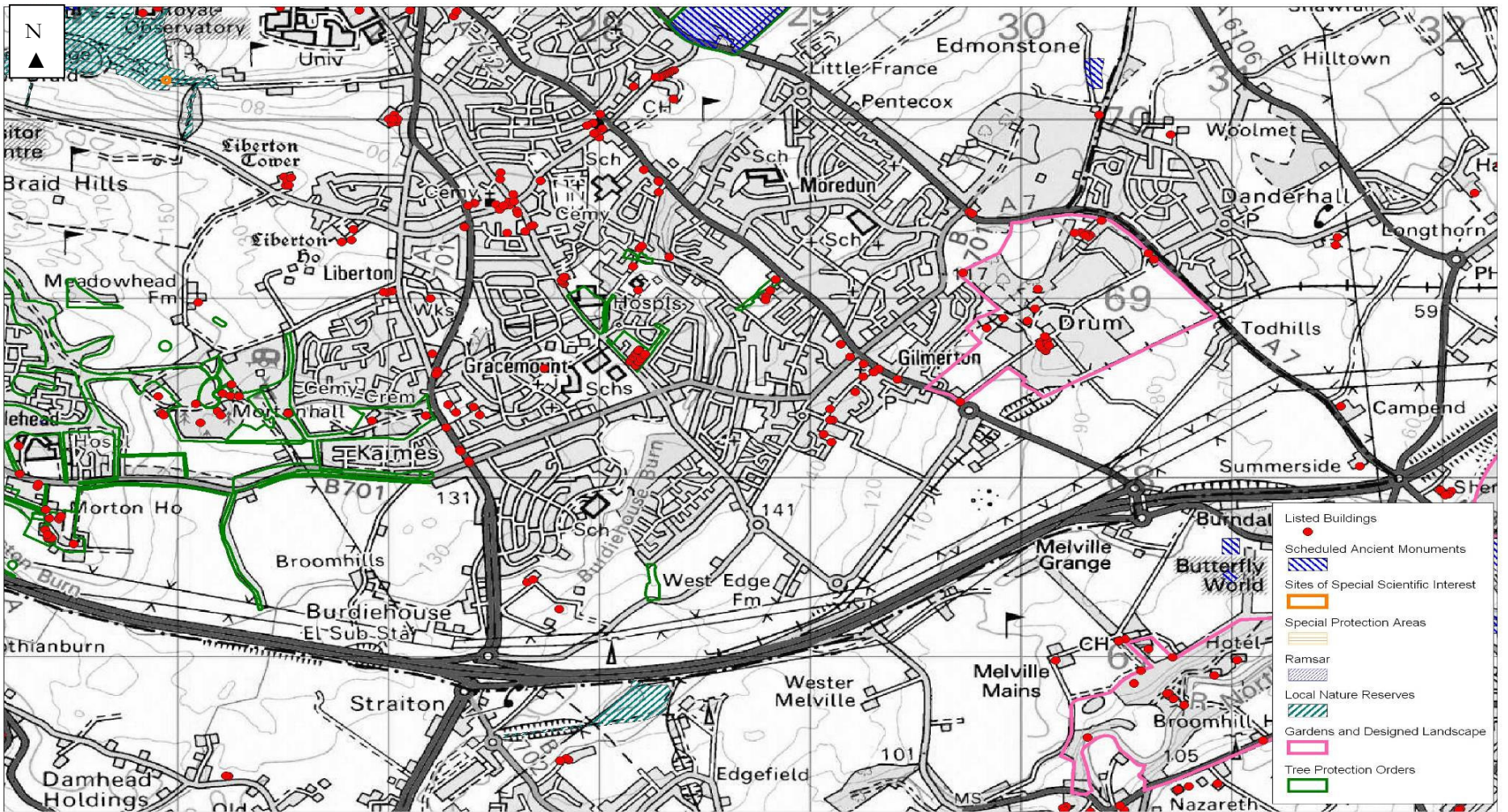




**Figure 5-1: Section 2 - Edinburgh Royal Infirmary to Straiton Park & Ride**

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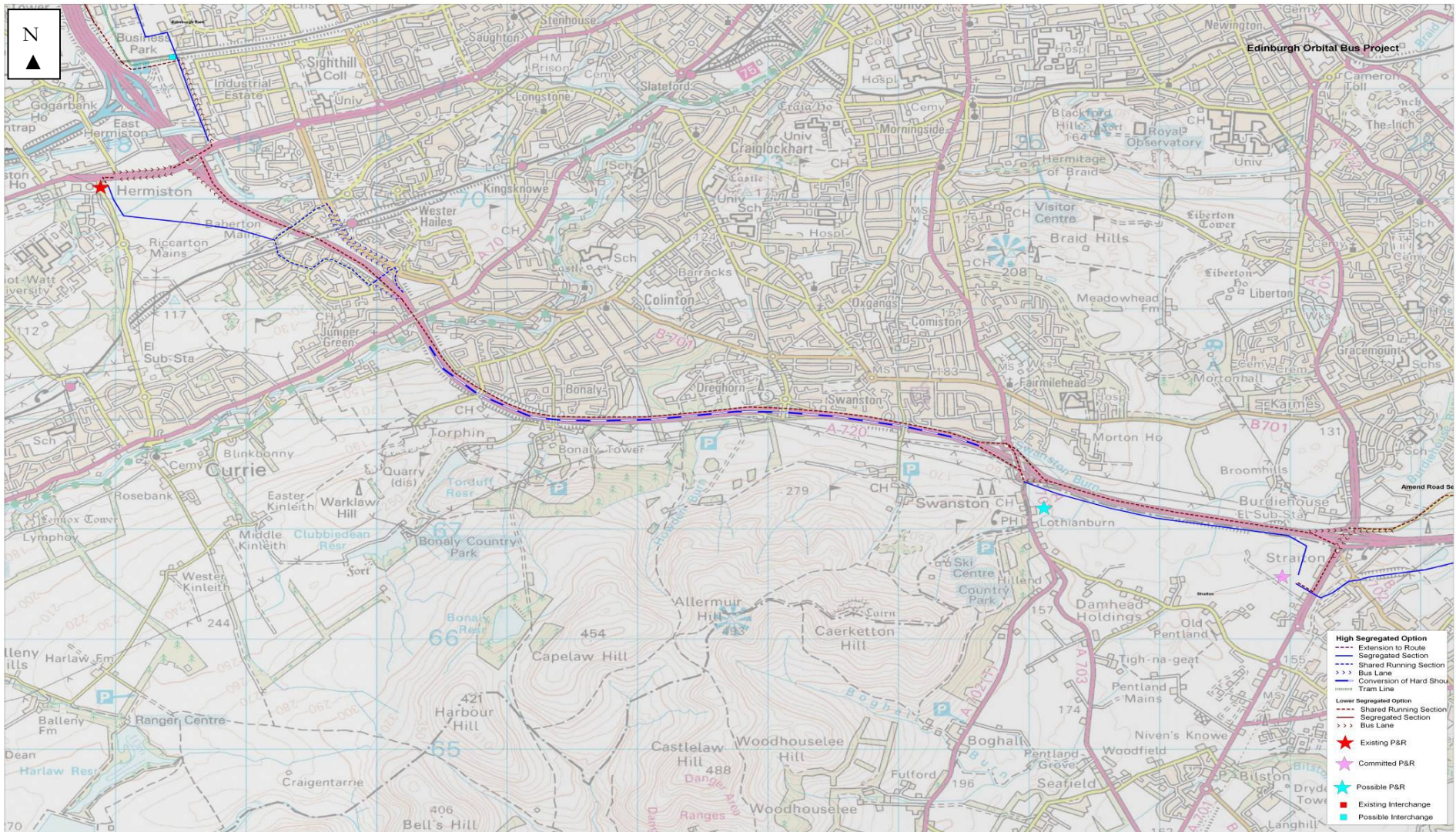




**Figure 5-2: Key Environmental Constraints within Section 2 (Edinburgh Royal Infirmary to Straiton Park & Ride)**

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**Figure 6-1: Section 3 - Straiton Park & Ride to Hermiston Park & Ride**

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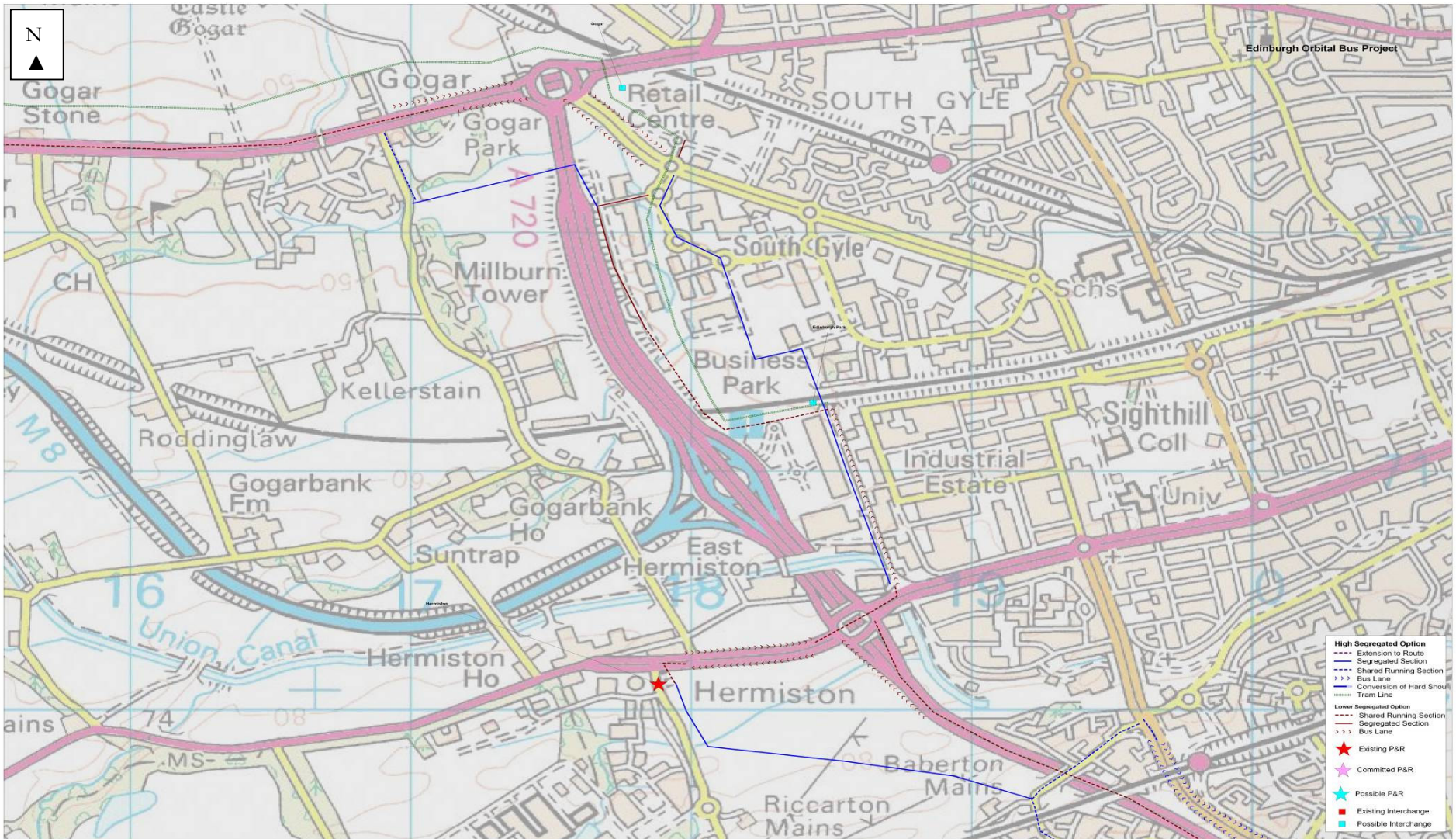




**Figure 6-2: Key Environmental Constraints within Section 3 (Straiton Park & Ride to Hermiston Park & Ride)**

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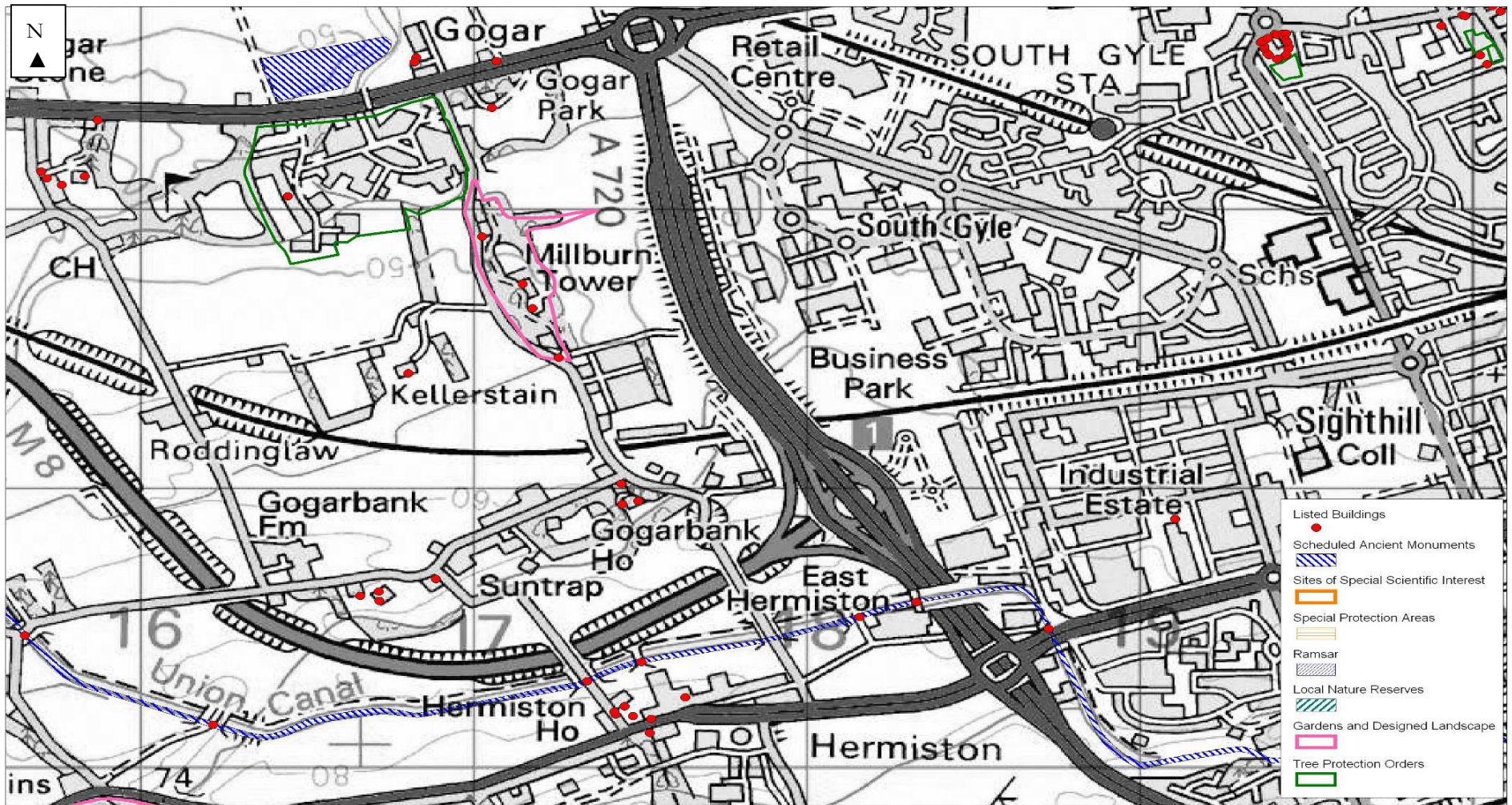




**Figure 7-1: Section 4 - Hermiston Park & Ride to The Gyle**

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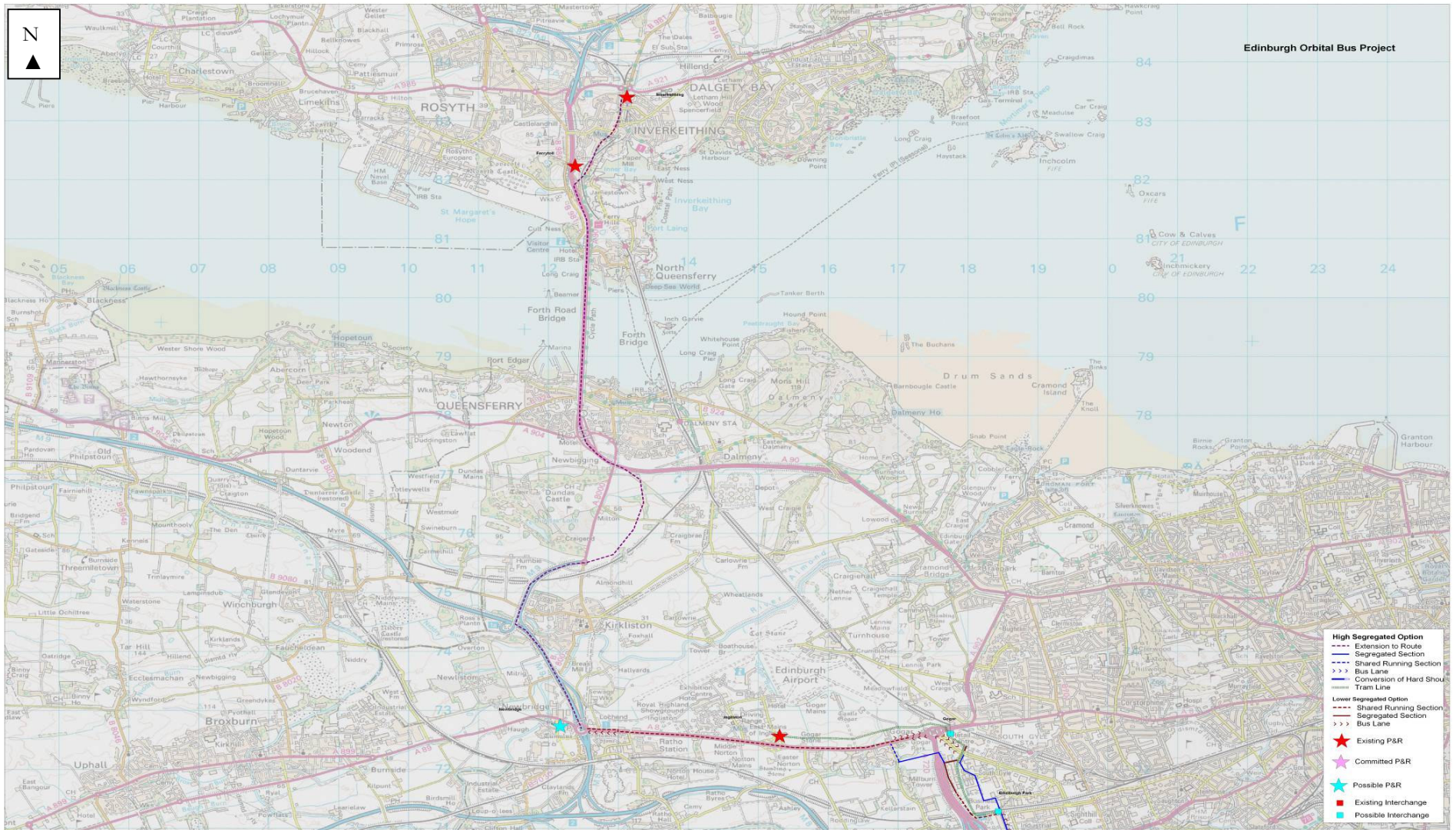




**Figure 7-2: Key Environmental Constraints within Section 4 (Hermiston Park & Ride to The Gyle)**

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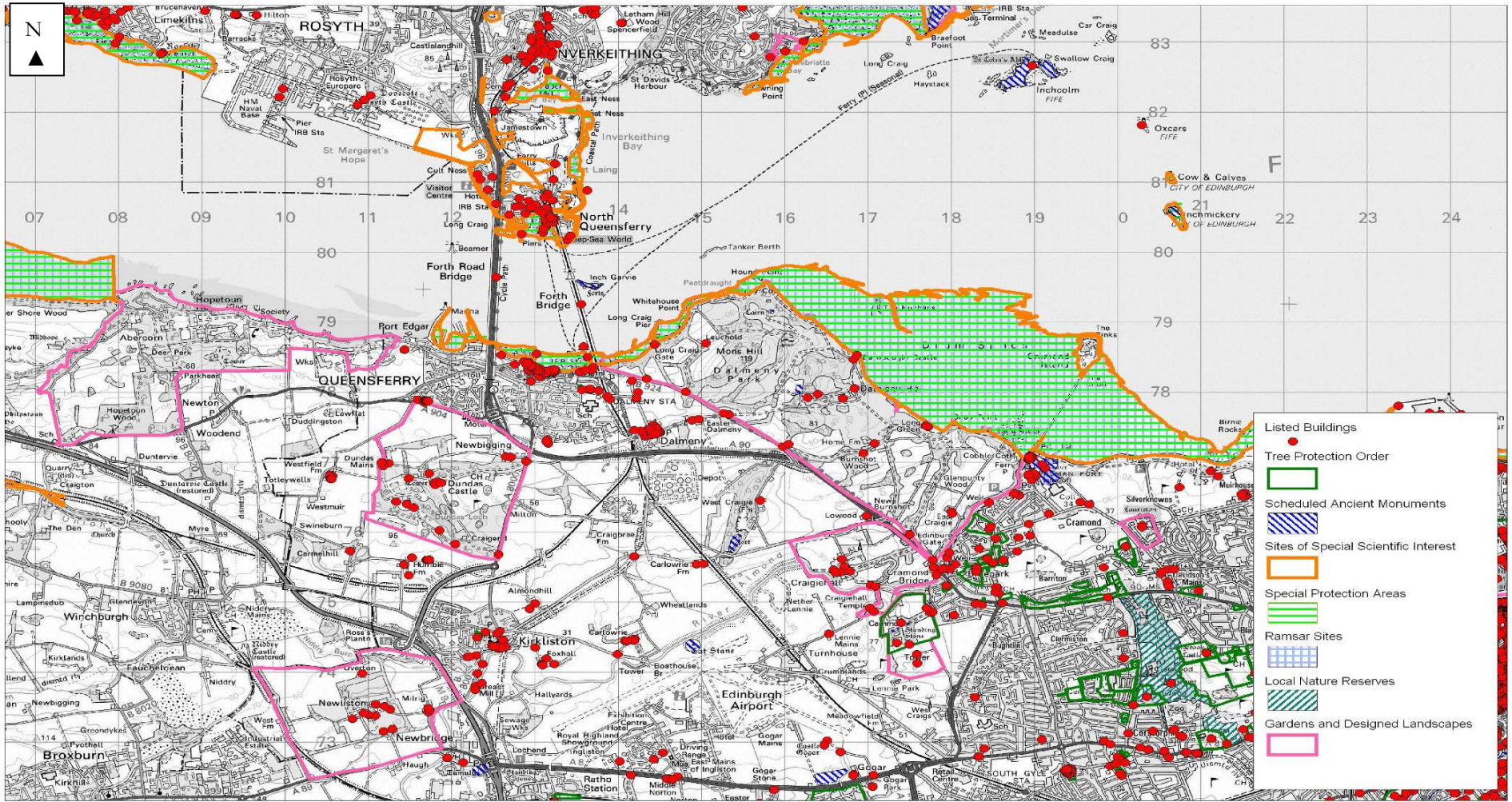




**Figure 8-1: Section 5 - The Gyle the North West (Inverkeithing)**

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**Figure 8-2: Key Environmental Constraints within Section 5 (The Gyle to the North West (Inverkeithing))**

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## **Appendix B**

### **Local Planning Policy**

#### Fife Structure Plan 2001-2011

The Structure Plan identifies the general scale and location of future development within Fife, and forms the Fife-wide elements of the statutory Fife Development Plan. The Development Plan is made up of two documents, the Structure Plan and the Local Plan. The Structure Plan takes a broad overview of land use and development across Fife and sets out the Council's strategic planning policy.

#### **Policy N7 Nature Conservation – International Sites**

Development likely to have a significant effect on a Natura 2000 site will be subject to an assessment of the implications for the site's conservation objectives. The development will only be permitted where the assessment indicates that:

- It will not adversely affect the integrity of the site; or
- There are imperative reasons of overriding public interest, including those of a social or economic nature and there are no alternative solutions.

Where such a site hosts a priority habitat and/or priority species as defined by the Habitats Directive (92/43/EC), the only overriding public interest must relate to human health, public safety or beneficial consequences of primary importance to the environment. Other allowable exceptions are subject to the views of the European Commission.

#### **Policy N8 Nature Conservation – National Sites**

Development which would affect a National Nature Reserve or a Site of Special Scientific Interest will only be permitted where ecological appraisals have demonstrated to the satisfaction of the Council as planning authority that:

- The overall objectives of designation and the overall integrity of the designated area would not be compromised; or
- Any adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.

#### **Policy N9 Nature Conservation – Regional and Local Sites**

Development which would adversely affect sites containing habitats, species, and/or geological or geomorphological features of local or regional importance, whether designated or otherwise, will not normally be permitted except where ecological appraisals have demonstrated to the satisfaction of the Council as planning authority that:



- The overall integrity of the site and the features of natural heritage value will not be compromised; or
- It can be demonstrated that the economic and social benefits arising from the proposal significantly outweigh the natural heritage value of the site.

### Dunfermline and the Coast Local Plan

The Plan establishes a framework of policies and proposals for land use and other related matters to guide and promote change and development in the area. The Plan identifies the main issues, problems and opportunities facing the area over the Plan period and identifies the appropriate future pattern of land use as well as the location, scale and type of development

#### **Policy BE15 Ancient Monuments and Archaeological Sites**

Archaeological and historic features of significance and their settings will be protected and conserved in-situ. Unless exceptional circumstances are demonstrated, support will not be given to development which would adversely affect:

- Scheduled Ancient Monuments and their setting;
- Archaeological Sites and Areas of Regional Importance; or
- Non-Statutory Register Sites.

#### **Policy BE17 Investigation and Recording**

Provision will require to be made for archaeological investigation and recording:

- prior to the commencement of any development either within an Archaeological Area of Regional Importance or which would destroy, cover or otherwise affect a Scheduled Ancient Monument or an Archaeological Site of Regional Importance;
- During any development which uncovers as yet unidentified remains considered by Fife Council to be of regional importance.

#### **Policy COU5 Protection of Prime Agricultural Land**

Irreversible development of prime agricultural land will be supported only if there are overriding national or local circumstances.

#### **Policy COU6 Protection of Water Courses**

All watercourses in the Local Plan area will be protected from development and their enhancement sought.

#### **Policy COU8 Nature Conservation - International Sites**

Development likely to have a significant effect on a Natura 2000 site will be subject to an assessment of the implications for the site's conservation objectives. The development will only be permitted where the assessment indicates that:

- it will not adversely affect the integrity of the site; or
- There are imperative reasons of overriding public interest, including those of a social or economic nature, and there are no alternative solutions.

Where such a site hosts a priority habitat and/or priority species as defined by the Habitats Directive (92/43/EC), the only overriding public interest must relate to human health, public safety or beneficial consequences of primary importance to the environment. Other allowable exceptions are subject to the views of the European Commission.

**Policy COU9 Nature Conservation - National Sites**

Development that would affect a National Nature Reserve or a Site of Special Scientific Interest will only be permitted where ecological appraisals have demonstrated to the satisfaction of the Council as planning authority that:

- the overall objectives of the designation and the overall integrity of the designated area would not be compromised; or
- Any adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.

**Policy COU10 Nature Conservation Regional and Locals Site**

Development that would adversely affect sites containing habitats, species and/or geological or geomorphological features of local or regional importance, whether designated or otherwise, will not normally be permitted, except where ecological appraisals have demonstrated to the satisfaction of the Council as planning authority that:

- the overall integrity of the site and the features of natural heritage value will not be compromised; or
- It can be demonstrated that the economic and social benefits arising from the proposal significantly outweigh the natural heritage value of the site.

**Policy COU11 Protection of Wildlife Habitats**

All valuable wildlife habitats, including landscape features that have a migration or dispersal value to wild flora and fauna, will be safeguarded from development.

**Proposal PR12 Action on Key Habitats**

Fife Council, in association with its partnership agencies, landowners and the public, will seek to protect, manage, enhance and, where appropriate, interpret and provide

public access to the key habitats identified in the "Fife Local Biodiversity Action Plan".  
These habitats are:

- Coastal and marine;
- Farmland;
- Lochs, ponds, rivers and burns;
- Moorland and heathland;
- Wetland;
- Woodlands and scrub;
- The urban and built environment.

**Policy COU12 Tree, Woodland and Hedgerow Protection**

Trees, woodlands and hedgerows that have a landscape, amenity and/or nature conservation value will be protected from development.

Rural West Edinburgh Local Plan

**POLICY E5 Development in Green Belt and Countryside Areas**

To protect the landscape quality, rural character and amenity of the Green Belt and Countryside Policy Areas, development in those areas will not be permitted except:

- where necessary for the purposes of agriculture, including farm diversification, horticulture, forestry, countryside recreation or other uses appropriate to the rural character of those areas, or where a countryside location is essential;
- where acceptable under the policies covering the uses of strategic economic importance identified on the Proposals Map (Policies ED5-7);
- where proposals are for minor extensions and alterations to existing buildings and it can be demonstrated that:
  - there would be no materially adverse effect on the openness of the area or its landscape quality or character; and
  - it would not lead to an unacceptable intensification of an existing non-conforming use; or
- where proposals are for a change of use of existing buildings and it can be demonstrated that:
  - there is no reasonable prospect of achieving a use which conforms to those specified in criterion (a);
  - the building(s) is(are) of architectural merit or is (are) a valuable element in the landscape, and is(are) considered worthy of retention; and
  - the building(s) is (are) of domestic scale, substantially intact and would require no significant demolition.

**POLICY E6 Design and Amenity Criteria for development in the Green Belt and Countryside**

Where acceptable in principle, development proposals in the Green Belt or countryside must meet the following criteria which aim to achieve high standards of design and landscaping and to safeguard local amenity.

- the proposed development is sited in a location which will minimise impact on its immediate surroundings and general landscape setting and should, where possible, be closely related to an existing building;
- the character and scale of the proposed development should be in keeping with any nearby traditional buildings and should facilitate integration of the development into the rural landscape;
- sufficient landscaping is provided to enhance the setting of the development through the creation of a positive landscape framework that is in keeping with

the existing landscape character of the area and that accords with the guidance 'Quality of Landscaping in Developments';

- the existing rural environment and amenity is not detrimentally affected in terms of traffic, noise or air quality (including dust and odour);
- provision is made for the protection of species under the Habitats Regulation and [Wildlife and Countryside Act 1981](#) and the [Protection of Badgers Act 1992](#), where appropriate, and particularly in proposed conversions of barns or other agricultural buildings;
- boundary treatment is appropriate to the rural setting; and
- Colours, finishes and materials should be used which blend with the natural environment.

#### **POLICY E8 Areas of Great Landscape Value and Areas of Outstanding Landscape Quality**

Within the designated Area of Great Landscape Value and Areas of Outstanding Landscape Quality shown on the Proposals Map, the Council will protect and enhance the quality of the landscape. When determining applications for planning permission for development within these areas, a major consideration will be the impact of proposed development on those landscape features which contribute to the quality of the landscape. Development will not be permitted where it would adversely affect the special scenic qualities and integrity of the Area of Great Landscape Value or Areas of Outstanding Landscape Quality. These landscape features include:

- the patterns of woodland, fields, hedgerows and trees;
- the special qualities of rivers and lochs; and
- Skylines and hill features, including prominent views.

The scale, siting, design, form, materials and impact of important landscape features are all aspects of a proposal that could have an adverse effect on AGLVs. These considerations will apply to developments to be located either within or affecting the setting of areas designated as AGLVs or AOLQs.

#### **POLICY E12 Coastline Protection**

On the 'developed coast', development proposals will not be permitted unless:

- a coastal location is a functional requirement for the particular type of development proposed; or

- The proposed development would promote the reuse of redundant land or buildings or would enable the restoration or enhancement of a degraded coastal environment.

On the 'undeveloped coast', new development will only be permitted in the following exceptional circumstances:

- the proposal would have social and economic benefits sufficient to outweigh any potentially detrimental impact on the coastal environment;
- there are no suitable alternative sites within existing settlements or on other previously developed land; and
- It is demonstrated that there will be minimal loss of habitat and that all efforts will be made to recreate affected habitat.

Development involving land reclamation from the sea, which would adversely affect nature conservation or geological interest, or development which may put land at risk from coastal erosion, will not be permitted.

#### **POLICY E14 Designed Landscapes**

Proposed development which would adversely affect Designed Landscapes of national significance or their setting, as defined in the Inventory, will only be permitted where it assists restoration and would not adversely affect the artistic merit, historical, horticultural, arboricultural, archaeological, architectural, nature conservation or scenic value of the landscape.

In seeking to secure such restoration, the Council will liaise with Historic Scotland and Scottish Natural Heritage.

Where proposed development would adversely affect other designed landscape features that are worthy of retention, including non-inventory historic gardens, surviving features of designed landscapes and mature public parks, the development will only be permitted if the adverse effect has been minimised and is outweighed by public benefits arising from the development.

#### **POLICY E17 Nature Conservation - Sites of International and National Importance**

Development that would affect a Special Protection Area, Ramsar site or Site of Special Scientific Interest (SSSI) will only be permitted where:

- the objectives of designation and the overall integrity of the designated area will not be compromised; or
- Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance, and it can be demonstrated that there are no alternative solutions.

An appropriate assessment or Environmental Statement will be required to accompany planning applications affecting such sites.

**POLICY E18 Nature Conservation - Sites of Importance for Nature Conservation**

Development within or affecting Sites of Importance for Nature Conservation will not be permitted unless it can be demonstrated that appropriate mitigation measures would be incorporated into the development to enhance or safeguard the nature conservation interest of the site.

**POLICY E19 Nature Conservation – Management**

The Council will encourage sympathetic management of Sites of Importance for Nature Conservation (SINCs) and the creation of new habitats. In particular:

- opportunities for creating wildlife habitats will be examined on land within Council ownership, on privately owned land and where development proposals permit;
- management plans will be prepared for SINCs within Council ownership and the Council will also take full account of wildlife in managing its land generally; and
- The Council will encourage the preparation of management plans for SINCs in private ownership, providing assistance when requested.

**POLICY E21 Nature Conservation – Article 4 Directions**

This policy applies to all the categories of sites of natural heritage interest that are mentioned in policies E17 and E18. Where the Council has good reason to believe that the natural heritage interest of one or more of these sites may be damaged by implementation of works that are permitted in terms of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992, it will promote a direction in terms of Article 4 of the order so that the works in question may no longer be exempt from planning control.

**POLICY E23 Countryside Recreation**



In the Green Belt and countryside policy areas, development, improvement or extension of outdoor recreational and sporting facilities will only be permitted in support of rural diversification if:

- it is well integrated into the rural landscape;
- it reflects the character and quality of place of the landscape;
- it does not result in a significant loss of prime quality agricultural land; and
- Any additional infrastructure that is required is provided.

### South East Edinburgh Local Plan

The function of the Local Plan is to provide a comprehensive framework of policies within the overall guidance provided by the Structure Plan, to guide, control and promote development in the long-term public interest whilst safeguarding and enhancing the environment and heritage.

#### **Policy DQ 1 – Environmental Impact**

Full account will be taken of all aspects of environmental impact when development proposals are assessed. For a limited number of major proposals a formal impact statement will be required, outlining the extent of possible environmental effects and setting out proposals for dealing with adverse effects. Permission will not be given to proposals which:

- are likely to cause unacceptable harm to air, soil or water quality or biodiversity;
- are likely to give rise to an unmanageable flood risk whether on or off the site;
- do not deal adequately with any contamination or ground instability affecting the site;
- give rise to an unacceptable or avoidable level of noise or light intrusion;
- Involve culverting, or otherwise have an adverse effect on river flow regimes.

#### **Policy DQ 4 – Drainage**

The use of design features and materials intended to conserve and treat surface water on site as far as practical and minimise run-off will be sought whenever appropriate, and developments within the South East Wedge will be expected to provide a model of good sustainable drainage practice.

#### **Policy DQ 5 – Areas of Importance for Flood Control**

In areas identified on the Proposals Map for their importance to flood control, permission will not normally be given for new development. On sites allocated for development in this local plan which are within identified flood control areas, permission will only be given for development provided that:

- environmentally sensitive and beneficial measures are taken to manage flooding;
- proposals would not put existing or proposed developments at risk of flooding; and
- Proposals would not add to the flood risk elsewhere.

#### **Policy DQ 6 – Design of New Development**

New development should make a positive contribution to the character and appearance of the environment, as well as its safety and accessibility, having regard to the opportunities and constraints of the site and its surroundings and the basic character of the city. In particular, new development will be expected to:

- create or contribute to a sense of place and reinforce local distinctiveness;
- promote community safety and minimise the opportunities for crime and antisocial behaviour;
- afford ease of movement for all, having regard to the needs of different population groups, including the elderly, the very young and the mobility impaired;
- minimise the potential for pedestrian/cyclist/traffic conflict and accidents;
- Connect satisfactorily and effectively with its surroundings.

#### **Policy DQ 7 – Prominent Sites**

Development proposals for visually prominent sites, sites on major transport corridors or in gateway locations such as the urban edge will be expected to demonstrate a particularly creative solution, specific to the site in question.

#### **Policy DQ 8 – Protection of Key Views**

Development which would by reason of its height or bulk be viewed as intrusive from important viewpoints or would otherwise detract from the quality of the townscape and the setting of the city will not be allowed.

#### **Policy DQ 9 – Trees and Landscaping**

New development should include proposals for new tree planting and robust landscaping whenever this is appropriate, to achieve a suitable visual setting for new development and enhance open spaces, roadsides and boundaries. It should be designed to minimise its impact on any trees subject to a Tree Preservation Order and other healthy trees worthy of retention.

#### **Policy DQ 10 – Edge-of-Green Belt Sites**

Development abutting or clearly visible from the Green Belt should pay special regard to its Green Belt setting in terms of form, scale and design. Development on sites released from the Green Belt should make provision for substantial tree planting and other landscaping. This should be sufficient in depth to create a clearly defined and defensible green belt boundary, and should be designed to ensure that new development relates attractively with the rural character of the Green Belt.

#### **Policy DQ 11 – Listed Buildings – Character and Setting**

The character and setting of listed buildings will be safeguarded and encouragement will be given to:

- their retention in viable uses;
- the preservation and repair of historic fabric and internal and external features which contribute to their interest;
- the restoration of missing architectural features and detail which would enhance their character and the removal of any inappropriate additions;
- the use of high quality materials, sympathetic design and skilled workmanship when acceptable alterations are proposed; and
- Proposals, including landscaping, which would enhance their setting.

#### **Policy DQ 14 – Scheduled Ancient Monuments**

Development which would adversely affect a Scheduled Ancient Monument or its setting will not be permitted.

#### **Policy DQ 15 – Sites of Archaeological Importance**

Planning applications affecting a site of known or suspected archaeological importance should be accompanied by an archaeological evaluation to enable a determination by the Council on whether or under what conditions a development should proceed, including whether a more detailed investigation should be carried out prior to development and what measures to protect the archaeological interest of the site would be justified.

#### **Policy DQ 16 – Historic Gardens and Designed Landscapes**

Historic gardens and designed landscapes included in the Inventory will be protected from development which could adversely affect their special interest, and where possible their restoration will be sought.

#### **Policy DQ 17 – Conservation Areas – Design of Development**

The Council will give special attention to the design of development proposals within or adjoining a conservation area, and in particular will:

- a) resist the loss of buildings, trees, boundary walls, railings, paving or other features which contribute to the area's special interest;
- b) Permit new development or redevelopment only where the proposal is of a high design standard, will be built using good quality materials appropriate in

their context, will harmonise with the traditional pattern of streets and spaces and will preserve or enhance the character or appearance of the area.

#### **Policy DQ 18 – Conservation Areas – Demolition**

The demolition of non-listed buildings in a conservation area will only be allowed if it can be shown that the building detracts from the character or appearance of the area or cannot viably be retained, and provided also that the application is supported by acceptable proposals for the redevelopment or treatment of the cleared site.

#### **Policy GE 1 – Green Belt – Land Use**

The Green Belt will be maintained within the boundaries shown on the Proposals Map. These take account of deletions and additions which are the consequence of the South East Wedge proposals and the Green Belt Boundary Review, 1999 as detailed in Appendix 2. There is a presumption against development or changes of use in the green belt except:

- where necessary for the purposes of agriculture, horticulture, forestry and countryside recreation, or other uses appropriate to its open and rural character;
- changes of use of existing buildings provided these are in good structural condition and are capable of conversion without any substantial rebuilding and could not more suitably be re-used for a green belt purpose;
- changes of use of listed buildings and other buildings of an attractive visual character;
- Minor alterations to, and extensions of, existing buildings where this would not lead to the unacceptable intensification of an existing nonconforming use.

#### **Policy GE 2 – Agricultural Land**

Permission will not be given for development which would result in irreversible damage to, or the permanent loss of, prime quality agricultural land.

#### **Policy GE 4 – Landscape Quality**

The protection and enhancement of landscape quality, character and local distinctiveness will be sought by the Council, through its development control powers and by direct action and support for other bodies. All development proposals, including access and improvement proposals, should demonstrate how landscape quality is to be maintained and enhanced. Regard should be had to the opportunities to restore or strengthen such features as woodlands, hedges, trees, dykes, ponds, wetlands and historical sites. Any necessary new construction should be sited, landscaped and

designed to minimise its visual impact. Improvement of identified disused land in particular (ENV 2 on the Proposals Map) will be encouraged.

#### **Policy GE 5 – Area of Great Landscape Value**

In the Area of Great Landscape Value as shown on the Proposals Map, permission will not be granted for development which would materially detract from the intrinsic scenic interest and qualities of the landscape.

#### **Policy GE 6 – Open Space Protection**

Planning permission will not be granted for development which would result in the loss of:

- major areas of open space identified on the Proposals Map; and
- Other area of open space of sporting and other recreational, amenity or local community value, including allotments. In assessing proposals, the Council will take into account the function and importance of the open space and the need for, or benefits to be gained from allowing the development proposed.

#### **Policy GE 7 – Countryside Access**

Proposals should provide for the maintenance and, where possible, improvement of public access to the countryside in general, and in the South East Wedge in particular, by:

- protecting and enhancing public rights of way;
- contributing towards the development of a network of linked walkways/cycle ways and equestrian routes;
- providing green links from the urban area to the surrounding countryside;
- Including access agreements with landowners and improvements as a condition of any planning permissions granted. The Council will pursue the establishment and development of a country park on the land acquired for this purpose around Craigmillar Castle.

#### **Policy GE 9 – Wildlife Sites**

Development within or affecting a wildlife site, regionally important geological/geomorphological site, Local Nature Reserve or Neighbourhood Nature Area will not be permitted unless it can be shown that appropriate mitigation measures could be incorporated into the development to safeguard the nature conservation or geological/geomorphological value of the site.

### **Policy GE 10 – Nature Conservation – General Considerations**

The Council will seek to safeguard and extend the nature conservation interest in the local plan area, particularly those habitats and species identified as priorities in the Edinburgh Biodiversity Action Plan, by:

- requiring new development to take account of any harmful impact on a protected species and on wildlife generally, and how this may be mitigated;
- improving and extending the habitat resource in the area where possible,
- and encouraging private owners and developers to undertake similar measures on sites under their control;
- Encouraging the sympathetic management of sites of nature conservation importance and the preparation of management plans.

### **Policy GE 11 – South East Wedge Green Belt**

Proposals for the design, use and future management of the South East Wedge retained Green Belt areas (ENV 1 on the Proposals Map) should be included in the initial comprehensive outline planning application required by the Council for the Edinburgh sector of the South East Wedge as a whole. These should include proposals for woodland planting and other landscaping, recreation routes and landscape features to support sustainable drainage systems in the locality and address flooding issues and enhance wildlife value. They should demonstrate additionally effective linkages with the proposals of Midlothian Council for adjoining areas.

### Midlothian Local Plan, 2003

The Local Plan contains policies and proposals which will guide and promote development within Midlothian. The Local Plan is the key document setting out the detailed framework for the future use of land within the Local Authority area, as well as being the most important consideration for the Council in helping it to decide whether development applications should receive planning permission.

#### **RP4 – Prime Agricultural Land**

Development will not be permitted which leads to the permanent loss of prime agricultural land (Classes 1, 2 and 3.1 of the Macaulay Institute Land Classification for Agriculture system) unless:

- The site is allocated to meet Structure Plan requirements; or
- There is a locational justification for the development which outweighs the environmental or economic interests served by retaining the farmland in productive use; and
- The development accords with all other relevant Local Plan policies.

#### **RP5 – Woodland, Trees and Hedges**

Development will not be permitted where it could lead directly or indirectly to the loss of, or damage to, woodland, groups of trees, individual trees (including areas covered by TPOs, areas defined as Ancient or Semi-Natural Ancient Woodland, or areas forming any part of a designated landscape) and hedges which have particular amenity, nature conservation, biodiversity, recreation, landscape character, shelter or other importance.

Where an exception to this policy is agreed, any trees lost will be replaced with equivalent.

#### **RP7 – Landscape Character**

Development will not be permitted where it may adversely affect the quality of the local landscape. Where development is acceptable, it will respect the local landscape character and contribute towards its maintenance and enhancement. New developments will incorporate proposals to:

- Maintain the local diversity and distinctiveness of landscape character including natural and built heritage features of landscape value such as woodland, hedges, ponds, stone walls and historical sites; and
- Enhance landscape characteristics where they have been weakened and need improvement and create new landscapes where there are few existing features



### **RP8 – Water Environment**

Development will not be permitted which could adversely affect the water environment by:

- Having a damaging impact on fisheries, nature conservation, landscape, recreation or public access in a river corridor or other waterside area;
- Polluting surface or underground water (including water supply catchment areas) as a result of the nature of the surface, wastewater discharge or leachate;
- Giving rise to pollution problems resulting from the disturbance of contaminated land;
- Being subject to unacceptable flooding risk, or by causing or exacerbating flooding problems either within the site, or upstream or downstream of the site;
- Not meeting the requirements of Policy DP3 relating to the protection of the water environment in relation to all new development proposals

### **RP11 – Nationally Important Nature Conservation Sites**

Development will not be permitted where it could adversely affect either directly or indirectly, the integrity of a nature conservation site of national importance during the lifetime of the Plan, unless it can be demonstrated that:

- The objectives of the designation and the overall integrity of the area will not be compromised; or
- Any significant adverse effects on the qualities for which the area has been designed are clearly outweighed by social or economic benefits of national importance.

Sites of National Importance include National Nature Reserves (NNR) and Site of Special Scientific Interest (SSSI)

### **RP12 – Regionally and Locally Important Nature Conservation Sites**

Development will not be permitted where it could adversely affect, either directly or indirectly, the nature conservation interest of any sites, or wildlife corridors, of regional or local conservation importance unless the applicant can show that:

- The development has been sited and designed to minimise damage to the value of the site and includes measures that will appropriately compensate for any damage which cannot be avoided; or

- The public interest to be gained from the proposed development can be demonstrated to clearly outweigh the nature conservation interest of the site.

Sites of regional/local importance include Ancient and Semi-Natural Ancient Woodland, and Regionally Important Geological Sites.

#### **RP13 – Species Protection**

Development that would affect a species protected by law will require:

- An appropriate level of biodiversity assessment;
- Measures for mitigation; and
- Measures for enhancement or sustainable habitat replacement, where appropriate.

#### **RP14 – Habitat Protection outwith formally designated areas**

In the assessment of planning applications for development that would affect sites which contain habitat of some significance (although insufficient to justify a formal natural heritage designation), effects on the habitat, including the expected results of mitigation measures, will be taken into account.

#### **RP15 – Biodiversity Action Plan**

Development proposals shall be expected to demonstrate compatibility with the aims and objectives of the Midlothian Local Biodiversity Action Plan and related plans, by identifying appropriate measures to protect, enhance and promote existing habitats and/or the creation of new habitats, and provide for the effective management of these habitats

#### **RP20 – Development within the built-up area**

Development will not be permitted within existing and future built-up areas, and in particular within residential areas, where it is likely to detract materially from the existing character or amenity of the area.

#### **RP24 – Listed Buildings**

Development will not be permitted which would adversely affect the character or appearance of a listed building, its setting or any feature of special or architectural or historic interest that it possesses.

#### **New Development**

Development within the curtilage of a listed building or its setting will only be permitted where it complements its special architectural or historic character.

**RP27 – Other important archaeological or historic sites**

Development will not be permitted where it could adversely affect an identified regionally or locally important archaeological or historic site or its setting unless the applicant can show that:

- There is a public interest to be gained from the proposed development which outweighs the archaeological importance of the site;
- (a) There is no alternative location for the proposal; and
- (b) The proposal has been sited and designed to minimise damage to the archaeological interest.

**RP32 – Public Rights of Way and other access routes**

Development which could lead to the loss of a right of way, cycle path, bridleway, or other access route (including those defined by the Council's Core Paths Plan and Outdoor Access Strategy, once approved) will not be permitted except where the developer makes arrangements for an acceptable alternative route.

### East Lothian Local Plan, 2000

The East Lothian Local Plan explains and justifies East Lothian Council's approach to the development of land within the local authority boundary. Together with the Lothian Region Structure Plan 1994 it forms the statutory development plan for East Lothian.

#### **Policy ENV9: Listed Buildings**

- (c) The external or internal alteration of a Listed Building will only be permitted where it does not harm the architectural or historic character of the building
- (d) The demolition of a Listed Building will not be permitted unless there are overriding environmental or practical reasons. Every effort must be made to continue the present use or to find a new suitable use.
- (e) New development that harms the setting of a listed Building will not be permitted.

#### **Policy ENV10: Conservation Areas**

##### **Outline Planning Applications**

Outline planning applications in Conservation Areas must be accompanied by sketch plans and elevations showing the proposed development in relation to its surroundings

##### **New Development**

All new development must be located and designed to preserve or enhance the special architectural or historic character of the Conservation Area. This should accord with the scale, proportions, alignment, density, materials, and boundary treatment of nearby buildings, open spaces, gardens and landscapes.

##### **Demolition**

Conservation Area Consent for the demolition of a building will only be considered in the context of appropriate proposals for redevelopment or immediate treatment and will only be permitted where:

- (a) The building is incapable of reasonably beneficial use by virtue of its location, physical form or state of disrepair; or
- (b) Its removal or replacement would not adversely affect the character of the Conservation Area; or
- (c) It facilitates proposals which will produce positive townscape benefits; or
- (d) In the case of an emergency.

#### **Policy ENV13: Trees**

The uprooting, lopping, pruning or felling of any tree which is subject to a Tree Preservation Order (TPO) or is within a Conservation Area will only be permitted where one or more of the following circumstances apply:

- the tree is dangerous, seriously diseased, dead or dying;
- it has no amenity value to the Conservation Area;
- its removal in the interests of good tree management, or would permit development which would contribute more to the good planning of the area than would retaining the tree or trees

Where removal is permitted, replanting with one or more trees of appropriate species will normally be required. Tree surgery will be considered where this would be beneficial to good tree management.

Any tree that makes a significant contribution to the setting and amenity of a proposed development site will be safeguarded by a condition on any planning permission. The loss of such trees will only be permitted where it is essential to facilitate development which would contribute more to the good planning of the area than would retaining the tree or trees. In such circumstances, appropriate replacement planting may also be made a condition of planning permission.

#### **Policy DC1: Development in the Countryside and Undeveloped Coast**

The forms of development that may be allowed in the countryside and on the undeveloped coast are specified in Parts 1, 2, and 3 of this policy (only Part 3 is relevant). Development in the countryside and on the undeveloped coast may only be permitted in the following circumstances:

##### Part 3 General Requirements:

- (a) Prime Agricultural Land – the development must not result in the permanent loss of prime agricultural land (Macaulay Classes 1, 2 and 3-1) unless:
  - The area of land lost is less than 10Ha, or the Scottish Government Rural Directorate has no objection to the development;
  - The development is needed in order to conform with the requirements of the Lothian Structure Plan or this Local Plan; or
  - There is an overriding public interest in allowing the development.
- (b) Design and Landscape Setting – The development must be well integrated into the landscape by virtue of its design and siting, its respect for the physical characteristics of the wider location and, where relevant, its use of trees and woodland to provide an appropriate landscape setting. Development will not

be permitted if it appears intrusive, incongruous or exposed, or by virtue of its scale, materials, colour or design harms the character or appearance of the landscape (including the landscape setting of towns and villages), or has an adverse impact on nature conservation.

- (c) Privacy and Amenity – the development must provide the occupants of both new and existing uses with an appropriate level of privacy and amenity
- (d) Infrastructure – The development must be capable of being served by necessary infrastructure (e.g.) vehicle access, water, drainage

### **Policy DC2: Development in the Green Belt**

Development in the Edinburgh Green Belt will only be permitted in the following circumstances:

- Where it is necessary for agricultural, horticultural or forestry operations, for countryside recreation, or where by its scale and character it is appropriate to the rural character of the area; or
- Where it does not detract from the landscape setting of Edinburgh and its neighbouring towns, or lead to their coalescence, and
- Where it meets the general requirements of Local Plan Policy DC1, Part 3.

### **Policy DC3: Wildlife and Geological Areas**

#### **Special Protection Areas**

Development affecting a Special Protection Area (including proposed SPAs and RAMSAR Sites) will only be permitted in the following circumstances:

- It will have no significant adverse effect on the habitats or species being safeguarded; or
- There are no alternative solutions; and
- There are imperative reasons of overriding public interest in allowing it to take place.

#### **Sites of Special Scientific Interest**

Developments affecting SSSIs will only be permitted where it can be demonstrated that:

- It will not compromise the conservation objectives and overall integrity of the SSSI; or
- There is a public interest which outweighs the conservation interest of the SSSI.

General

Where damaging development is permitted which affects any designated site of nature conservation value, appropriate mitigating measures may be specified to enhance and safeguard the remaining interest.

**Policy DC3A: Local Wildlife Sites**

Development affecting wildlife sites of local importance will only be permitted where it can be demonstrated that:

- There is no harm to the recognised wildlife interest of the site; or
- Any harm to the recognised wildlife interest of the site is outweighed by the public interest in allowing the development to proceed.

Where damaging development is permitted, appropriate mitigating measures may be specified to enhance and safeguard the remaining interest.

### Edinburgh and the Lothians Structure Plan, 2015

The Edinburgh and the Lothians Structure Plan 2015 sets out the long-term vision for the development of land within the boundaries of the local authority areas. It centres on a land-use and transportation strategy together with a set of policies which co-ordinate sustainable public and private investment with the protection of the environment. The structure plan for Edinburgh and the Lothians together with the various Local Plans comprise the statutory development plans which are the basis for determining all planning applications within the region. The structure plan therefore provides the foundation for all decisions regarding future development in Edinburgh and the Lothians.

#### **ENV 1B – National Natural Heritage Designations**

Development which would affect national designations, including Sites of Special Scientific Interest not designated as international sites, will only be permitted where it can be demonstrated that:

- The objectives of designation and overall integrity of the site will not be compromised; or
- Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.

Local Plans should include policies and, where appropriate, proposals for their protection and enhancement.

#### **ENV 1C – International and National Historic or Built Environment Designations**

Development which would harm the character, appearance and setting of the following designated built or cultural heritage sites, and/or the specific features which justify their designation, should be resisted.

- World Heritage Sites;
- Listed Buildings;
- Scheduled Ancient Monuments;
- Royal Parks; and
- Sites listed in the Inventory of Gardens and Designed Landscapes.



Local Plans should include policies, and where appropriate proposals for their protection and enhancement.

#### **ENV 1D – Regional and Local Natural and Built Environment Interests**

Development affecting the following regional or local areas of natural heritage and built environmental interest, or their settings, will only be permitted where it can be demonstrated that:

- (e) The objectives and overall integrity of the designated area will not be compromised; or
- (f) The social or economic benefits to be gained from the proposed development outweigh the conservation or other interest of the site.
  - Conservation Areas;
  - Defined core and local path networks;
  - Local Nature Reserves;
  - Regionally Important Geological and Geomorphological Features (RIGS);
  - Sites of Archaeological Interest;
  - Designated Wildlife Sites; and
  - Prime Agricultural Land

Local Plans should define the extent of these interests and include policies and where appropriate proposals, for their protection and enhancement.

#### **ENV 1E – Features of local Importance**

Local Plans should define the features of local importance for wild flora and fauna as identified in a Local Biodiversity Action Plan, and include policies and, where appropriate, proposals for their protection and enhancement

#### **ENV 1F – Environmental or Biodiversity Assessments**

Development proposals that would affect any designated natural heritage site, protected priority habitat or species or other important non-statutory locations will require an appropriate level of environmental or biodiversity assessment. Where development is permitted, proposals must include measures for mitigation and, where appropriate, enhancement to reduce any adverse impact and/or to provide for sustainable habitat replacement.

#### **ENV 1G – Design of New Development**

Local Plans should include policies, and where appropriate proposals, to promote a high quality of design in all new development.

## **ENV 2 – Green Belt**

A continuous Green Belt will be maintained around Edinburgh for the following main purposes:

- (i) To maintain the identity of the City by clearly establishing its physical boundaries and preventing coalescence;
- (ii) To provide countryside for recreation;
- (iii) To maintain the landscape setting of the city.

Local Plans should define Green Belt boundaries to conform to these purposes and, where appropriate, to protect the setting of neighbouring towns.

There is a presumption against development or changes of use in the Green Belt unless necessary for the purposes of agriculture, horticulture, forestry, countryside recreation, other uses appropriate to the rural character of the area, or operations covered by paragraph 4.13 and policies ECON3 (Economic Clusters of National Importance) and ECON4 (Established Green Belt uses). Local Plans map specify and justify any exceptions to national planning policy.

## **ENV4 – Landscape**

Local Plans should take account of landscape designations in accordance with new guidance produced by Scottish Natural Heritage (SNH).

## **ENV 12 – Water Management and Flooding**

The Lothian Councils, in consultation with SEPA, Scottish Water and development industry interests, will review the risk to flooding in the structure plan area and consider altering the plan if the review shows that strategic development allocations are affected. The potential for flooding inland and on the coast will be considered in every local plan and policies set out in accord with SPP7. Development, individually and/or cumulatively, that may lead to a significant increase in the risk of flooding, or that may itself be at risk from flooding, should not be permitted. Development proposals for Greenfield and brownfield sites should include sustainable drainage systems for the attenuation and treatment of surface water and to assist in reducing the risk of flooding unless local conditions prevent this