

Edinburgh Airport Rail Link



Environmental Statement Non-Technical Summary March 2006



Issue & Revision Schedule

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Draft/Issue No:	Final v3 Revision 2
Issue Date:	10/03/06
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Date	Issue No.	Revision No.	Comments	Issued by
01/02/2005	Draft 1	1		A McLuckie
08/04/2005	Draft 2	1		A Coates
18/05/2005	Final Draft	1		A McLuckie
24/05/2005	Final	1		A McLuckie
23/09/2005	Final v2	1		A McLuckie
13/12/2005	Final v3	1		A McLuckie
10/03/2006	Final v3	2	Bill Date Amended	A McLuckie

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Environmental Statement Non-Technical Summary

March 2006

Reference 0014844

For and on behalf of
Environmental Resources Management

Approved by: Steve Purnell

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Date: 10th March 2006

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**EDINBURGH AIRPORT RAIL LINK (EARL)
ENVIRONMENTAL STATEMENT – NON TECHNICAL SUMMARY**

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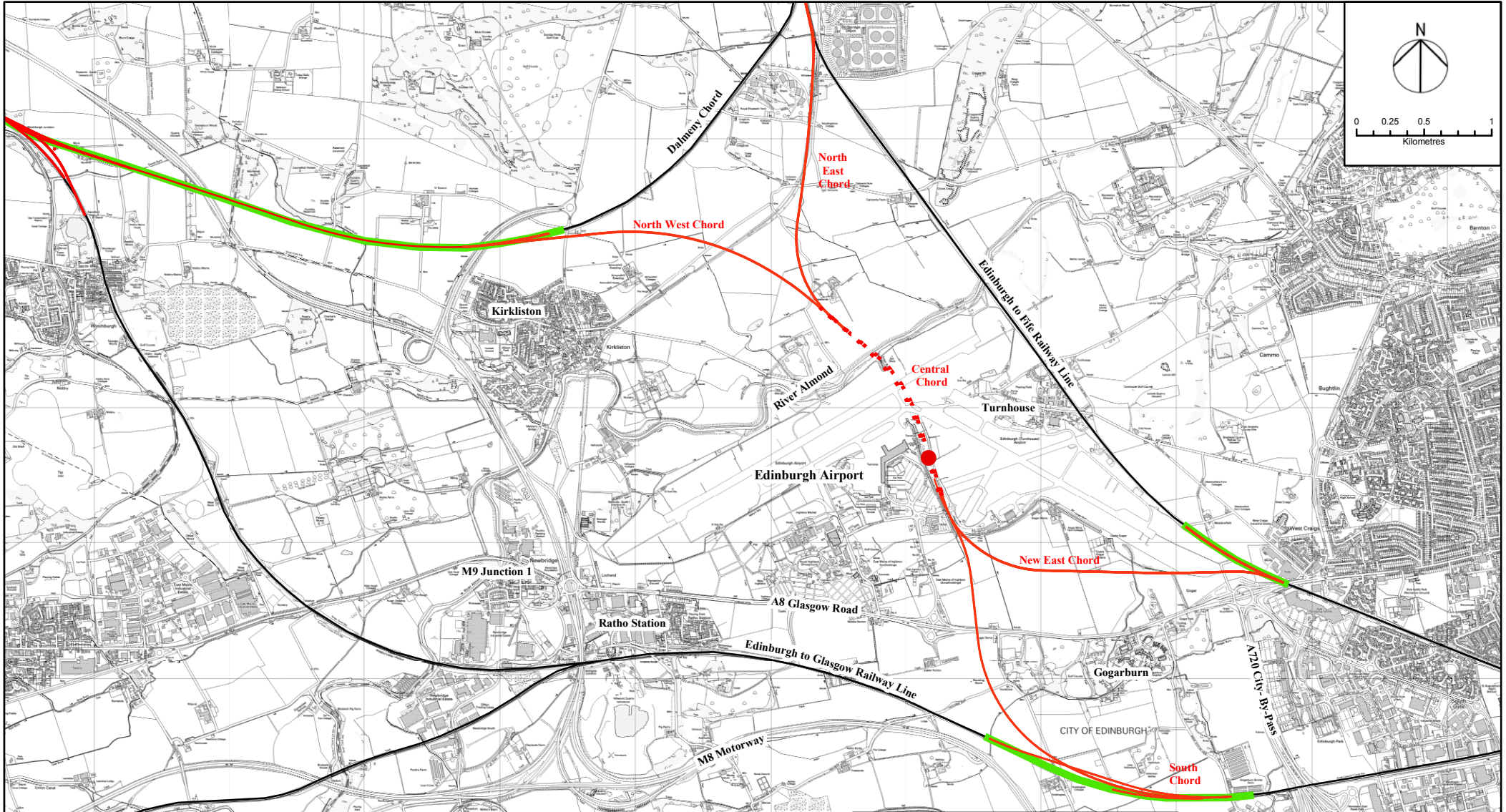
1 PREFACE

This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES) of the Edinburgh Airport Rail Link (EARL). This NTS relates to the Edinburgh Airport Rail Link Bill introduced into the Scottish Parliament on the 16th March 2006. This NTS and the ES have been prepared by Environmental Resources Management (ERM) for, and on behalf of, the Promoter **tie ltd** to satisfy Rule 9A.2.3(c)(iii) of the Parliament’s Standing Orders and the Presiding Officer’s determinations as set out in Annex N to the Parliament’s Guidance on Private Bills. The contents are entirely the responsibility of the Promoter and have not been endorsed by the Parliament.

2 ABOUT THIS DOCUMENT

tie ltd, formerly known as Transport Initiatives Edinburgh Ltd, has been commissioned to design, develop and promote a Scottish Private Bill, to construct a new rail link to Edinburgh Airport (the rail alignment of which is shown in *Figure 1*). In order to obtain the statutory authorisation to acquire the necessary land and to construct and operate EARL, **tie ltd** have introduced a Bill to the Scottish Parliament.

Accompanying the Bill is an Environmental Statement (ES) which provides a full account of the Environmental Impact Assessment (EIA) undertaken of EARL. The ES includes a description of the existing environment, the scheme, and its impacts on the environment. The ES also identifies the measures that will be used to prevent, reduce or offset negative environmental impacts and the means by which these will be delivered.



Drawing Title :

PROPOSED EARL ALIGNMENT

- Proposed EARL Alignment (new surface railway)
- - - - - Proposed EARL Alignment (tunnel)
- Proposed Upgrade of Existing Railway
- Proposed Sub Surface Train Station
- Existing Railways

FIGURE 1

Scale at A4 - 1:40 000

Drw PJB	App AMCL	Rev 02
Chk AVM	Date May 05	Date May 05

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The aim of this Non-Technical Summary is to summarise the content and main findings of the ES in a clear and concise manner and to assist the public in understanding what the environmental impacts will be. Contact details for the project together with details of how to obtain a copy of the full ES are included at the end of this document.

3 WHY THE RAIL LINK IS NEEDED

Passenger growth at Edinburgh Airport is expected over the next 20 to 30 years with passenger growth projected to increase from 4 million in 2001 to between 21 and 23 million passengers a year by 2030 ⁽¹⁾. In order to meet this growth, better access is required to the airport. EARL is proposed to address this need, by providing an alternative mode of travel for passengers and by reducing the proportion of passengers currently accessing the airport by road.

EARL will provide many parts of Scotland with direct rail access to the airport, making business and tourist travel easier and more attractive.

In addition, west Edinburgh is an identified area of growth in terms of economic development, and providing improved access to Edinburgh Airport will facilitate this growth by providing improved transport infrastructure and increasing the profile of the area for businesses.

4 DESCRIPTION OF THE SCHEME

The proposed EARL scheme involves new railway lines or 'chords' (which are short sections of railway that connect railway lines) leading to a new sub surface (below ground level) station at Edinburgh Airport (see *Figure 1*).

EARL will connect with the existing railways as follows:

- on the Edinburgh to Glasgow railway line, at Winchburgh Junction and Roddinglaw;
- on the Edinburgh to Fife railway line, at the Gogar Roundabout and at the Dalmeny oil storage depot; and
- on the Fife to Glasgow railway line (Dalmeny Chord), north of Kirkliston.

The new lines will offer services to Edinburgh Airport from towns and cities throughout Scotland and beyond, including Fife, Aberdeen, Inverness,

(1) Forecasts made by Scott Wilson Kirkpatrick on behalf of the Department for Transport taken from the **Promoter's Memorandum December 2005**.

Dunblane, Stirling, Glasgow, Edinburgh and the south, and the opportunity to change between these services and the proposed tram service at the airport.

Overall, 14 km of new rail routes and junctions will be provided. The main features of the scheme are as follows.

- a sub surface railway station at the airport;
- a station concourse station building linking to the airport;
- around 1.6 km of railway tunnels;
- around 14 km of new double track railway creating 5 new chords;
- around 6 km of upgraded double track railway;
- 5 new railway junctions including a new high speed grade separated junction at Roddinglaw ⁽¹⁾;
- the remodelling of existing Winchburgh Junction ;
- around 13 km of new roads;
- around 1.6 km of new cycle track;
- around 3 km of river diversions / new drains;
- 19 new bridge structures;
- the demolition of one farm out-building;
- associated works including emergency access routes, ventilation shafts, signalling work etc and associated railway lineside infrastructure;
- various utility diversions including high and medium pressure gas pipelines;
- 9 new / replacement culverts ⁽²⁾; and
- around 1.2 million m³ of excavated unbulked earthworks (approximately 1.5 million m³ bulked).

Figure 2 presents an aerial view of the site with an overlay of the proposed alignment. The project has been developed taking into account the surrounding environmental features.

(1) A junction that allows two railway lines to cross without requiring any train to stop. This is achieved by the tracks running at different levels.

(2) A culvert is a drain or covered channel that crosses under a road, railway etc.

Figure 2 *Aerial Photograph Showing the Proposed EARL Route (excluding the Winchburgh Junction area)*



5 THE PROPOSED EARL SERVICE

The EARL track layout is designed to provide a new through route connecting into the rail network to the west of Edinburgh. It will permit most major Scottish cities to be directly linked to Edinburgh Airport and **tie** ltd estimate that the link will make the airport easily accessible to the majority of people in Scotland ⁽¹⁾. The location of Edinburgh Airport in the context of the existing rail network is shown in *Figure 3*.

The provision of EARL would allow around eight to ten trains an hour to run in each direction. Based on the current timetable, the following services have

(1) Edinburgh Airport Rail Link Bill, **Promoter's Memorandum**, Third Draft, April 2005.

been identified at present to stop at the new Edinburgh Airport station (leaving scope for two more trains per hour in each direction):

- two trains per hour in each direction between Glasgow Queen Street and Edinburgh Waverley via Falkirk High, currently operated by First ScotRail (the other two trains per hour would use the existing route);
- one train per hour in each direction between Aberdeen and Edinburgh Waverley, currently operated by First ScotRail, GNER and Virgin (some of these go to Newcastle and beyond);
- two trains per hour in each direction between Dunblane and Newcraighall, via Stirling and Edinburgh Waverley currently operated by First ScotRail;
- one train per hour in each direction between Perth and Edinburgh Waverley, currently operated by First ScotRail and GNER. In some cases these trains start from Inverness; and
- two trains per hour in each direction between the Fife Circle and Edinburgh Waverley, currently operated by First ScotRail ⁽¹⁾, with other trains continuing to use the existing route.

(1) Edinburgh Airport Rail Link Bill, **Promoter's Memorandum Third Draft**, April 2005.

Figure 3 *Edinburgh Airport Location and the Existing Rail Network*



6 *ASSESSING THE ENVIRONMENTAL IMPACTS OF EARL*

The impacts of constructing and operating EARL have been assessed in consultation with environmental bodies and in accordance with Environmental Impact Assessment (EIA) legislation ⁽¹⁾ and guidance.

The environmental topics that were assessed as part of the EIA were:

- land use;
- traffic and transport;
- noise and vibration;
- air quality;

(1) **The Environmental Impact Assessment (Scotland) Regulations 1999**, Scottish Statutory Instrument 1999 No 1, Her Majesty's Stationary Office.

- ground quality, contamination and waste;
- the water environment;
- ecology and nature conservation;
- archaeology and cultural heritage;
- landscape and visual; and
- socio-economics.

The EIA identified and assessed the environmental impacts of activities involved during the construction and operation of EARL. Following assessment, measures to maximise positive impacts and to prevent, reduce or offset adverse environmental impacts were developed (known as mitigation measures). The results of the EIA process and details regarding the mitigation measures developed are presented in the ES.

7

CONSULTATION

Consultation is an important part of EIA, and an extensive programme of public and stakeholder consultation was undertaken for EARL by both ERM and **tie** ltd. Individuals and organisations likely to be directly affected by the proposals were kept informed by letter, leaflet distribution, meetings and via the EARL website. In addition, wider consultation and advertising was undertaken with views and opinions sought.

Environmental consultation included the provision of letters, reports and meetings over the course of a year. *Table 1* below identifies the mandatory environmental consultees (as required by the Scottish Parliament) and their principal areas of concern.

Table 1 *Summary of Mandatory Consultees and Principle Area of Concern*

Consultees	Principal Concerns
City of Edinburgh Council	Flooding Severance ⁽¹⁾ Archaeology Ecology Visual and Landscape Impacts Rights of Way Planning Contaminated Land Noise Air Areas for future economic development

(1) The division of an area of land, or the creation of a barrier across an area of land, which restricts the movement of people and / or animals.

Consultees	Principal Concerns
West Lothian Council	Impact of potential housing site and anticipated new station
Historic Scotland	Scheduled Ancient Monuments Listed Buildings Designed Landscape
Scottish Environmental Protection Agency	Flooding River Diversions Culverting Protected Species Waste Movement
Scottish Natural Heritage	Badgers Firth of Forth SPA and the need for an Appropriate Assessment European Protected Species Landscape and Habitats (including SINC)s Access

The Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH), Historic Scotland, City of Edinburgh Council (CEC) and West Lothian Council (WLC) have been kept fully informed and involved throughout the EIA process and were invited to comment on final drafts of the ES.

8 ALTERNATIVES TO THE SCHEME

In 2002 the Scottish Executive commissioned several studies to examine the options for establishing direct rail links to Edinburgh Airport. The three main alternatives considered were:

- a 'do nothing' option - considering the impacts of providing no rail link to the airport, which was rejected, as without the development of improved public transport links to Edinburgh Airport, the predicted economic benefits would not be realised;
- options for light rail (electrified tram); and
- options for heavy rail (trains).

The consideration of alternatives to EARL has included the appraisal of environmental issues at every stage, alongside a number of other factors, including socio-economic, modal shift and technical feasibility. All of these components have influenced the conclusions of the assessment of alternatives.

On completion of these studies, a light rail option in the form of Tram Line 2 was taken forward. It was recognised at this point that there was still a case for a heavy rail link to the airport as the tram and rail services would address different passenger needs and development objectives. In March 2003, after the assessment of a range of potential heavy rail options, the Transport Minister announced the selection of the Runway Tunnel option, now known as EARL. Whilst EARL was considered to have the highest capital costs, it was assessed as having high benefits and low operating costs which outweigh its capital cost. In addition, the Runway Tunnel option was considered to exceed the other options in terms of overall connectivity, connecting nine Scottish cities and major towns directly to the airport.

9

OPERATION OF EARL

As set out in *Section 5*, the proposed train plan is for eight to ten trains per hour to operate in each direction. These trains will be diverted from their current routes via the airport. Trains will run no earlier than 0500 hours and no later than 0100 hours, and will be for passenger use only. No freight movements will use the new lines, although existing freight services on the Dalmeny Chord will continue.

10

CONSTRUCTION OF EARL

It is envisaged that the scheme will be constructed over a period of approximately three years, between 2007 and 2011 (ie three years within this timeframe), with the scheme opening in 2011. Major earthworks are required during this time as the majority of the route is either in tunnels or requires the excavation of deep cuttings ⁽¹⁾. Excavations for the scheme will require the removal of over 1.5 million m³ of bulked ground material (eg soil and rock).

The first stage of construction will involve completion of the bored tunnel sections of the route, and the construction of the sub surface station. In general, the scheme will be developed in four areas simultaneously (northern, central, southern and Winchburgh areas). Materials will be brought in and removed via temporary roads installed along the proposed rail corridors, to minimise land take and disturbance on the local road network. An initial period of three months will be required to install these roads and set up the construction areas. During this time there will be a requirement to access the

(1) Cuttings are excavations for carrying a canal, railway, road or pipeline below ground level in the open.

site via the local road network. No heavy earthwork movements will, however, occur during this period.

When moving waste material, trips will be scheduled during off-peak times (between 1000 hours and 1530 hours). This will minimise the impacts on traffic flows in the area. Waste will be stored on site for removal between these times. In the event of a 'back log' of waste, night-time movements may be considered.

During the construction of EARL, construction compounds and worksites will be required for the storage of plant and materials and to accommodate the site offices. There will be eight main construction compounds along the route, and a number of smaller temporary work sites necessary for the laying out and installation of equipment and materials. The main compounds would be:

- Wheatlands, storage area and batching plant, will be approximately 35 hectares;
- Airport Car Park, storage area and batching plant, will be approximately 5 hectares;
- Winchburgh Junction, which will be approximately 6 hectares;
- Gogarstone, which will be approximately 2.8 hectares;
- Burnshot Road, which will be approximately 2.1 hectares;
- Roddinglaw, which will be approximately 1.0 hectare;
- Gogar Mains Road, which will be approximately 0.7 hectares; and
- Gogar Junction, which will be approximately 0.7 hectares.

Table 2, below, provides a summary of the main construction plant that will be used in the construction of EARL.

Table 2 **Summary of Main Construction Plant**

-
- earth moving and compaction plant;
 - earth compaction plant;
 - earth / rock cutting plant;
 - JCBs;
 - 360° excavators;
 - boring plant;
 - vibratory rollers;
 - sheet and bored pile drivers;
 - mobile cranes;
 - delivery lorries (HGVs);
 - concrete and asphalt batching plant;
 - pumps;
 - track laying equipment;
 - compressors and generators; and
 - pneumatic drills and hand held power tools.
-

Normal working hours will be from 8 am to 6 pm on weekdays and Saturdays. However, occasionally some works may need to be undertaken outside of these hours. These may include:

- 24 hour tunnel boring operations;
- night-time railway track and airport work;
- night-time road closure work, setting up contra-flows etc;
- utility diversions, in periods of low demand;
- spoil removal from site (possibly at night);
- special plant deliveries eg the tunnel boring machine; and / or
- some material deliveries.

Consent will be required from the local authority to carry out noisy activities at anti-social times.

11 THE EXISTING ENVIRONMENT

The existing environment is as described below.

11.1 LAND USE, GEOLOGY AND LANDSCAPE

West Edinburgh is predominately arable farmland except for the airport itself and the associated development around it. The area is bounded by the urban edge of Edinburgh to the east and stretches westwards into a landscape that is predominantly agricultural. The topography varies from flat floodplain around the River Almond and the Gogar Burn to gently rolling hills to the north and south of the site. The landscape is dotted with small settlements and is crossed by roads and railways. The airport dominates the area and, along with major road routes and rail lines, detracts from the character of the arable farmland in which it is set.

The area to the north of the airport has a number of redundant mine workings, where oil-bearing shale and coal have been extracted. These mines are no longer in use. There are no sites of specific geological interest in the area.

11.2 TRANSPORT, NOISE AND AIR QUALITY

There are a number of existing major transport developments in the area including Edinburgh Airport, the existing Edinburgh to Glasgow and Edinburgh to Fife railway lines, and the M8, M9 and A8 roads. The area is affected by the noise and vibration generated by these transport corridors.

A number of Rights of Way cross the area. These include the River Almond footpath and the Newbridge to South Queensferry Cycleway (which is used by cyclists, pedestrians and horse riders).

Air quality in the area is generally good, with no records of national air quality standards being breached, although there are a number of 'hot spot' areas around the airport where air quality is continuously monitored, although again these do not breach any standards set.

The City of Edinburgh Council has designated Edinburgh City Centre as an Air Quality Management Area (AQMA). The associated action plan for the area includes measures to:

- reduce the amount of traffic; and
- ease traffic congestion.

11.3

WATER QUALITY AND ECOLOGY

The River Almond flows in an easterly direction along the north of the airport, discharging to the Firth of Forth at Cramond. The Gogar Burn runs from the south of the airport north to its outfall to the River Almond just outside the airport's northern boundary. Both watercourses are prone to flooding. According to SEPA's water quality classification system, the River Almond and the Gogar Burn are both classed as 'fair' and 'poor'. Despite this, both watercourses support a range of species including otter, kingfisher and trout. Bats and badgers are also present in the area.

The presence of trout, and the possible presence of salmon in the River Almond has led to its designation as 'salmonid' waters. This means that it has been identified as needing protection or improvement in order to support such species of fish.

Both the River Almond and the Gogar Burn have active floodplains, classified as Areas of Importance for Flood Control within the Local Plans. Floods relating to both watercourses have occurred in recent years. Existing flood defences provide protection to Edinburgh Airport and agricultural land to the north.

The EARL development area lies within designated Green Belt and the River Almond, Gogar Burn, Pepper Wood and the Newbridge to South Queensferry Cycleway are designated locally as Sites of Importance for Nature Conservation (SINCs). The Firth of Forth is designated as a Site of Special Scientific Interest (SSSI), Ramsar site and a Special Protection Area (SPA) under the European Birds Directive.

Invasive plant species, including Himalayan balsam and Japanese knotweed, are present in the area notably along the banks of the River Almond and the Gogar Burn.

11.4

ARCHAEOLOGY AND CULTURAL HERITAGE

A number of sites of known archaeological importance are located to the north of the airport. These include a possible Bronze Age cist (a stone-lined grave), cropmark enclosures and a ring ditch. Category A Listed Carlowrie House lies to the north of the River Almond along with a listed bridge (adjacent to the Newbridge to South Queensferry Cycleway). There is a Designed Landscape ⁽¹⁾ at Craighall to the north east of Edinburgh Airport, and the Cat Stane is a Scheduled Ancient Monument (SAM) which lies in close proximity to the airport on the banks of the River Almond. To the south of the airport lie sites of known archaeological interest including various cists ⁽²⁾, A-Listed Castle Gogar and a deserted village (Nether Gogar).

Designed Landscapes lie to the east of the Edinburgh to Fife railway line and to the south of the airport. To the east of the Edinburgh to Fife railway line is also an area designated as an Area of Outstanding Landscape Quality (AOLQ).

11.5

SOCIO-ECONOMICS

Edinburgh is an important city in terms of tourism, business and development. It is the second largest city in Scotland, after Glasgow, but unlike Glasgow it experienced population growth between 1991 and 2001. After London, it is the UK's second most important financial centre and overseas tourist destination. The economy is buoyant and there are indications of significant continued growth and development.

The Scottish economy is strong and although unemployment levels are relatively low in Edinburgh, there are pockets of social deprivation in surrounding residential communities close to EARL.

12

ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION

The following sets out the anticipated residual environmental impacts that will arise as a result of EARL.

(1) An area of significant parkland and woodland, generally centred upon a mansion house or castle, which has been laid out for artistic effect and included in the Scottish Inventory of Gardens and Designed Landscapes.

(2) Stone-lined graves of potential archaeological interest.

12.1

GENERAL

Overall, the EARL scheme is in line with national, regional and local planning and transport policy. The Scottish Executive has made a commitment to improving transport links to Edinburgh Airport in its National Planning Framework for Scotland (2004).

“Airports are...important economic development generators and improving surface access to Edinburgh and Glasgow Airports is a national priority. Air passenger numbers are projected to grow substantially over the next 25 years. Locational advantages mean that Edinburgh is likely to experience a particularly large growth in traffic.” (Paragraph 121 of the National Planning Framework for Scotland (2004)).

West Edinburgh is identified in the Framework as an Economic Development Zone that *“will require to have good links to the rest of Scotland and the wider world...”* (paragraph 101).

EARL will provide a high quality alternative to road-based travel. It will bring about a shift of approximately 22% from road-based (including private car, bus and taxi) to rail-based travel to Edinburgh Airport by 2026.

The project will inevitably cause a degree of disruption while it is being constructed, as with most major transport infrastructure projects. Impacts arising from construction will be minimised as far as practicable by a Code of Construction Practice. The Code of Construction Practice includes a range of measures that have been developed during the EIA process to prevent, reduce and offset adverse impact during the construction of EARL. The provisions of the Code of Construction Practice will be imposed on all site contractors as a contractual obligation.

12.2

LAND TAKE

Up to 170 hectares of land will be required to enable the construction and operation of EARL. The land is required to accommodate the 14 km of new rail route that will be constructed (1.6 km of which will be in tunnel). Around 85 hectares of the land required permanently for the scheme is designated as Green Belt.

Around 85 hectares of this land is required temporarily, for example for construction compounds. Land required temporarily will generally be returned to its original use, which is mainly agricultural, as will land above tunnelled sections of EARL.

Most of the agricultural land that will be permanently lost is of prime quality. No dwellings will be lost to the scheme, however, a domestic outbuilding will need to be demolished to the north of the railway at Winchburgh Junction.

Several parcels of mainly agricultural land will be severed by the scheme ie the scheme will leave behind smaller parcels of land on either side of the rail and road realignments. Access for landowners will be provided to all areas of severed land. However, the farming and management of such land may become less efficient. All public roads, Rights of Way and access points that will be severed will be re-provided.

12.3 **TRANSPORT**

EARL will have a number of significant positive environmental impacts. In particular it will bring transport benefits through the creation of an alternative public transport option. It will improve access to the airport from many parts of Scotland. The scheme will help to reduce congestion on the road network surrounding the airport and will relieve pressure on car parking at the airport itself. Traffic flows on two roads (Burnshot Road and the A8000) in the area will be reduced by the scheme.

However, drivers, public transport users, pedestrians and cyclists may experience delays during temporary road and Right of Way closures and diversions whilst the scheme is being constructed. In addition a number of roads need to be permanently realigned with a subsequent increase in journey times, most notably Roddinglaw Road.

12.4 **NOISE**

EARL, once operational, will reduce noise levels at a number of properties between Roddinglaw and Winchburgh on the Edinburgh to Glasgow railway line and also along part of the Edinburgh to Fife railway line, where there will be fewer train movements per hour than at present. Significant noise increases in other areas will be avoided by incorporating appropriate noise barriers and bunds into the design of the scheme.

The Code of Construction Practice will be used to reduce noise levels during construction activities. However, significant noise disturbance will remain at seven properties along the route for short periods during noisier construction activities.

12.5 **AIR QUALITY**

Impacts to air quality will mainly result from dust during construction. It is not possible to eliminate completely the emissions of dust from construction sites. However, the Code of Construction Practice incorporates measures to reduce such emissions, and only minor impacts are anticipated.

12.6 GROUND QUALITY AND GEOLOGY

EARL is expected to have a limited impact on ground quality along the route. It is expected that a limited volume of contamination is likely to be encountered. The impacts on any contaminated land or controlled plant species that are encountered will be mitigated through good working practice and controlled disposal. However, there will be impacts to geology associated with the large excavations required for the scheme's tunnels and cuttings. The large majority of this material will have to be removed from the site.

12.7 WATER QUALITY

The scheme will result in short term impacts to the water environment, including modifications to natural drainage during construction. Other short-term impacts include changes to flows and the natural condition of the River Almond and the Gogar Burn due to the proposed diversions. There will also be impacts to flooding associated with landtake from the Gogar Burn floodplain and the permanent diversion of Gogar Burn although flood compensation areas are proposed.

12.8 ECOLOGY

EARL will bring about ecological improvements along the Gogar Burn, the Newbridge to South Queensferry Cycleway and at other areas where landscape planting is proposed. However, the scheme will also result in short term impacts to aquatic and bank side ecology due to the diversions of the River Almond and the Gogar Burn, and to agricultural habitats within areas of construction.

No sites of international, national or regional ecological importance will be lost to EARL. However, EARL will result in the loss of approximately 70% of woodland at Pepper Wood (a Site of Importance for Nature Conservation) which is of high nature conservation importance in the local context. A larger area of woodland than that lost will be replaced in adjoining land.

There will also be significant impacts to protected species including otter and badger. The appropriate licences will be sought for these species.

12.9 ARCHAEOLOGY AND CULTURAL HERITAGE

The construction of EARL will have permanent direct impacts on 38 cultural heritage sites, as indicated in *Table 3*.

Table 3 **Impacts on Cultural Heritage Sites**

Designation	Number of Impacts
Scheduled Ancient Monuments	4
Historic Gardens and Designed Landscapes	2
Listed Buildings	13
Undesignated Sites	19

A comprehensive package of archaeological mitigation measures has been defined that will avoid, reduce or offset the predicted impacts of the scheme on the character and setting of cultural heritage resources. Measures to reduce impacts on archaeological features include:

- archaeological evaluation and excavation;
- photographic, topographic and standing building survey and recording;
- post-excavation analyses and publication of results; and
- development of a strategy for public access to the results of the archaeological work, during and after fieldwork.

Taking into account the mitigation measures, it is predicted that the scheme will have significant residual impacts on two Scheduled Ancient Monuments (Cat Stane and Easter Norton standing stone) and one Listed Building (Castle Gogar). It is considered that taking into account mitigation, the cumulative residual impact of the scheme on unscheduled buried archaeology will not be significant.

12.10 **LANDSCAPE AND VISUAL IMPACTS**

EARL will be designed to a good standard and will incorporate planting to reduce permanent impacts on the landscape character and on the visual amenity of receptors who will have views of EARL. However, the following impacts will remain in the long-term:

- physical changes to the landscape, including the presence of new rail infrastructure, cuttings, embankments, bridges, the grade separated junction (ie the rail flyover), new accesses and road diversions, ventilation towers and the station concourse building; and
- views of new features will also be possible in some areas, despite the screening / softening provided by new planting.

The scheme will also result in impacts on landscape character and resources and on views during its construction. Temporary impacts will arise due to large scale earthworks, the presence of construction equipment, vehicles and personnel. These impacts will be mitigated by measures contained in the Code of Construction Practice.

12.11

SOCIO-ECONOMICS

Although EARL is not in itself a high employment generator, it will have a significant impact by acting as a catalyst for economic development. Furthermore, the construction of EARL will create up to 669 full-time equivalent jobs directly and indirectly based on the capital construction expenditure.

12.12

CUMULATIVE IMPACTS

Cumulative impacts during the construction of EARL have been assessed against sensitive receptors in relation to each chord of the scheme. This identified that the Central and New East Chords are, in the absence of mitigation, most likely to experience cumulative environmental impacts, ie they will experience a greater number of types of environmental impacts than other chords.

Owing to the presence of a number of other development proposals in the area, the potential exists for cumulative impacts to occur during both the construction and operational phases of EARL. The ES has taken account of the proposed Edinburgh Tram Line 2, and has also considered the M9/A8000 Spur extension, the Winchburgh Extension, BAA's proposed access road and other potential schemes.

Potential cumulative impacts of EARL in conjunction with the proposed Edinburgh Tram Line 2 have been assessed specifically. As the schemes are similar in structure, impacts are also likely to be of a similar nature and cumulative impacts include: a greater potential for loss of agricultural land and Green Belt; increased landscape and visual impacts; loss of habitats and barriers to protected species movement; and greater severance.

An assessment has also been undertaken to extract Tram Line 2 impacts specifically from the cumulative impacts assessment. This was possible as an ES was prepared for Tram Line 2 in 2002.

The results of this assessment show that construction impacts would not be lessened significantly in magnitude but their duration would be shortened, and impacts on the following would be lessened during operation:

- landscape and visual;
- ecology; and
- risks to the floodplain.

The assessment has also highlighted that improvements to traffic congestion and socio-economic potential may not be fully realised if either of the schemes is not developed.

Construction timetables between EARL and Tram Line 2 may or may not overlap – early contractor involvement and communication will assist in identifying where construction activities may be combined or integrated to reduce potential environmental impacts.

13

OVERVIEW

The Environmental Impact Assessment process completed for EARL has identified that the construction and operation of the scheme has the potential to impact on the environment in a number of ways, both positively, negatively and cumulatively.

Through amendments in the design and the development of mitigation for the construction and operation of EARL negative impacts have been prevented, reduced or offset wherever possible, and opportunities for environmental enhancement and positive impacts relating to the scheme have been maximised.

The resultant scheme is one that will have some residual negative impacts, and also a range of positive impacts, on the physical, social and economic environment in which it will be constructed.

All mitigation measures set out in the ES have been approved by **tie** ltd and the capital costs have made provision for including them in the railway scheme.

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NEXT STEPS

A Scottish Parliament committee will be established to consider the EARL Private Bill. A 60 day objection period will run from the date of formal introduction in March 2006. The Scottish Parliament's fee for lodging an objection against a Private Bill is currently £20. Both Promoters and Objectors bear their own costs of representation, including legal and other professional fees.

The Bill will go through three Stages. At the Consideration Stage the Private Bill Committee meets to hear evidence on the Bill and the objections. This will be presented by the Promoter and any Objectors who wish to do so. This is the part of the proceedings that equates to a public inquiry. Evidence will be given on a similar basis, with parties presenting their own evidence and being cross-examined on it.

Once this phase has been completed, the Private Bill Committee will prepare a report giving its decisions on the objections. The Private Bill Committee will then consider any amendments to the Bill.

The Bill then goes before the Scottish Parliament, which will vote on any amendments and decide whether the Bill should be passed. Once a Private Bill has passed its three stages without challenge under the Scotland Act, it receives Royal Assent and becomes an Act of the Scottish Parliament.

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CONTACT DETAILS

Constituency	Library/Office	Address
Edinburgh West	Blackhall Library	56 Hillhouse Road, Edinburgh EH14 5EG
Livingston	Carmondean Library	Carmondean Centre, Livingston EH54 8PT
	Kirkliston Library	Station Road, Kirkliston EH29 9BE
	Broxburn Library	West Main Street, Broxburn EH52 5RH
	Ratho Library	6 School Wynd, Ratho, Newbridge, Midlothian EH28 8TT
	Corstophine Library	Kirk Loan, Edinburgh, Midlothian EH12 7HD
	South Queensferry Library	9 Shore Road, South Queensferry EH30 9RD
	City of Edinburgh Council Planning Department	1 Cockburn Street, Edinburgh EH1 1ZL
West Lothian Council Planning Department	County Buildings, High Street, Linlithgow EH49 7EZ	

Information about procedure may be obtained from the clerks at the Private Bills Unit, The Scottish Parliament, Edinburgh, EH99 1SP, Tel 0131 348 5417.

The Bill and the following documents will be available, free of charge, on the Scottish Parliament's website (www.scottish.parliament.uk).

- Explanatory Notes.
- Promoter's Statement.
- Promoter's Memorandum.
- Environmental Statement.
- Estimate of Expenses and Funding Statement.
- Statement by the Presiding Officer of the Scottish Parliament on the legislative competence of the Bill.

Copies of the Bill and the accompanying documents published by the Parliament will be available for sale from any Stationery Office bookshop. Copies of the Environmental Statement and this Non-Technical Summary can be purchased, contact Karen McLeod at:

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Email: karen.mcleod@tie.ltd.uk

Prices are at cost as follows.

- Hard copy of the ES Volume 1 - £121.00 (inclusive of postage and packaging, VAT is not chargeable).
- Hard copy of the ES Volume 2 - £106.00 (inclusive of postage and packaging, VAT is not chargeable).
- Hard copy of the Non-Technical Summary - £5.00 (inclusive of postage and packaging, VAT is not chargeable).
- CD copy of the Non-Technical Summary is available from **tie** ltd free of charge.