

ArupScotland

Forth Properties Ltd

**Outline Planning
Application for Leith
Docks**

Sustainability Statement

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Application for Leith
Docks**

Sustainability Statement

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party

Job number 115026-60

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Executive Summary

Forth Properties Ltd (Forth Properties) are submitting to the City of Edinburgh Council (CEC) an Outline Planning Application (OPA) for the development of Leith Docks.

The development will consist of *“Mixed use development including: residential (houses and flats); business (class 4); retail (class 1); classes 2 and 3; industrial in classes 5 and 6; hotels (class 7); public houses; class 8 (for example a nursing home); non-residential uses within class 10 (for example education, worship); assembly and leisure (class 11); public open spaces; land reclamation; and associated infrastructure including coastal defences and quay walls.”*

The proposed development site is 199 hectares, which includes the water and foreshore. The total proposed land use area is 144 hectares. The proposed development site is located 2km north of Edinburgh city centre on the Firth of Forth.

The plan for the proposed re-development of the docks has now been progressed to a stage where an outline planning application can be submitted. This ES has been produced for the proposed OPA development made by Forth Properties to CEC.

This ES has been prepared under the Environmental Impact Assessment (Scotland) Regulations 1999.

Arup Scotland has been commissioned by Forth Properties to prepare a Sustainability Statement in support of the redevelopment of Leith Docks in North Edinburgh. The opportunity to redevelop this site has arisen from Forth Ports' decision to effect a fundamental change in the role of the Port of Leith. The Port will move away from freight handling and associated industrial activities towards a 'Capital City Port' role, focused on increased cruise liner traffic and mixed use development, with industrial uses concentrated in a smaller area to the east.

This sustainability statement has been developed from the sustainability targets set out in Annex A of the Leith Docks Development Framework and has been developed further to set out minimum requirements for each of the development sites within Leith Docks Development Area. The intention is to provide nine individual detailed masterplans detailing the proposals for each of the villages identified in the Leith Docks OPA. The first of these masterplans combines two villages, Waterfront Plaza and Britannia Quay forming the prime commercial leisure and retail sector' for the whole development. This will encourage the creation of a core working environment at the heart of the development. The movement strategy for the development will be based around sustainable modes of transport.

The first masterplan will be followed by further village masterplan proposals leading to a balanced mixed use development and the promotion of an overall strategy based on the principles of sustainable development outlined in this sustainability statement.

This document should be read in conjunction with the following chapters of the Environmental Impact Assessment:

Chapter 1 - Introduction

Chapter 2 - Existing Site

Chapter 3 - Proposed Development

Chapter 4 - Construction

Chapter 5 - Assessment Method

Chapter 6 - Urban Form

Chapter 7 - Visual Amenity

Chapter 8 - Cultural Heritage

Chapter 9 - Socio-economics

- Chapter 10 - Transport and Access
- Chapter 11 - Noise
- Chapter 12 - Air Quality
- Chapter 13 - Water Quality and Drainage
- Chapter 14 - Flood Risk
- Chapter 15 - Geology, Soils and Contamination
- Chapter 16 - Waste
- Chapter 17 - Ecology
- Chapter 18 - TV and Radio
- Chapter 19 - Cumulative Impacts
- Chapter 20 - Impacts Summary

1 Introduction and Background

1.1 Site Location and Setting

Leith Docks is located on the Firth of Forth, at the north-east of Edinburgh. The outline planning application covers an area of 198.79 hectares, comprising the docks and associated land of the port, including Victoria Dock, Imperial Dock and the northern peninsula, Albert Dock Basin, Albert Dock, Edinburgh Dock and land to the east of Albert Road, bounded by Marine Esplanade to the east and Seafield Road/Salamander Street to the south.

The site is largely given over to industrial use, with a number of industrial buildings occupying locations across the site. Several of these buildings are unoccupied and there are large areas of land across the sites that are vacant.

1.2 The Leith Docks Development Framework and Outline Planning Application

In August 2003, Forth Ports plc (Forth Ports) were invited by the City of Edinburgh Council (CEC) to prepare a broad framework setting out details of long term plans for the docks and an assessment of the likely impact of future development proposals. In responding to this invitation, Forth Ports in conjunction with CEC and the consultancy team, prepared the Leith Docks Development Framework (LDDF). A range of environmental and engineering studies were undertaken to inform the framework development. The LDDF document was approved as supplementary planning guidance in February 2005, in advance of a revision to the local plan, which is currently underway.

1.3 The Leith Docks Development Framework - Environment and Sustainability (LDDF - Section 8)

Section 8 of the LDDF outlines the requirements which the development proposals will be expected to comply with in relation to Environment and Sustainability with respect to the following environmental aspects:

- Heritage
- Ecology
- Noise
- Air Quality
- Ground Conditions
- Water Quality
- Sustainability Policy and Targets

A number of the issues identified in respect of sustainable development are considered in the Environmental Impact Assessment (EIA) which should be read in conjunction with this Sustainability Statement.

1.4 LDDF Sustainability Targets (LDDF - Annex A)

A set of sustainability targets for development in the LDDF area was prepared by Arup on behalf of Forth Ports and incorporated into Annex A of the Leith Docks Development Framework (LDDF).

The sustainability targets were developed from the SPEAR assessment undertaken by Arup which draws from best practice in the UK and seeks to identify those areas where targets are appropriate, and sets suitable outline targets at this early stage. Following the approval of the LDDF it was anticipated that an outline application followed by a series of detailed masterplans would be brought forward. As each of the masterplans comes forward, the outline targets set out in Annex A of the LDDF will be developed further, taking into account the specific proposals for those sites.

This is a critical point, since the programme for the development of Leith Docks envisages implementation over up to 30 years, during which advances in sustainable development technology are expected. Therefore it was not considered appropriate to be restrictive at the development framework stage, rather to set out the target areas and the thrust of target levels that are currently appropriate.

The plan for the proposed re-development of the docks has now been progressed to a stage where an outline planning application can be submitted. The Sustainability Statement has been produced to describe how these sustainability targets and objectives will be attained.

Full compliance with the Edinburgh Standards for Sustainable Buildings (ESSB) will be attained with the detailed design of specific buildings. As the development unfolds, consideration will be given to the development of some elements earlier in the process. This is particularly relevant to site-wide renewable energy.

2 Methodology

The approach to assessing the sustainability credentials of the Leith Docks Outline Planning Application was to prepare a sustainability statement, which put forward Forth Properties commitment to sustainable development and measured the contribution the proposals make to sustainable development, both within the local area and more widely in terms of its potential regional and national impacts. Furthermore, the SS highlighted further opportunities for the framework to contribute more positively to sustainable development through refinements to design and construction.

The methodology utilised in the Sustainability Statement involved completing a detailed review of current and emerging international, national, regional and local policy. In addition, a review of current sustainable development strategy and best practice guidance documents applicable to the site was undertaken.

Using the information generated by the policy review and incorporating recognised best practice methods, a sustainability strategy was developed for the Leith Docks OPA, which forms the basis of this sustainability statement.

This sustainability statement addresses the main themes of environment, society and economy. Consultation was held with Janice Pauwels of the Sustainable Development Unit of the City of Edinburgh (CEC) council on Friday 16th March to discuss CEC's requirements and the Edinburgh Standards for Sustainable Buildings.

2.1 Sustainability Statement

This sustainability statement has been developed from the sustainability targets set out in Annex A of the Leith Docks Development Framework and has been developed further to set out minimum requirements for each of the development sites within Leith Docks Development Area. This sustainability statement sets out proactive measures to promote the overall sustainability benefits of the Leith Docks Development Proposals in relation primarily to the following areas:

- Environmental
- Societal
- Natural Resources
- Socio-economic

To achieve a robust implementation strategy for sustainable development, considerable detail of the individual applications must be known. At this stage, the different villages may have different approaches taken in their development: the aim of the sustainability statement is to ensure that the underlying principles of sustainable development are carried forward into the detailed design of individual plots and buildings. This document sets series of objectives and targets in relation to the following areas:

- Access for All
- Sustainable Drainage
- Water Supply & Conservation
- Sustainable Construction Materials
- Sustainable Waste Management
- Energy Use
- Energy Strategy

- Combined Cooling and Heating Power (CCHP) Plants – Promoting Efficiency of Supply
- Renewable Energy
- Noise
- Transport
- Green Travel Plans
- Air Quality
- Dust from Construction Activities
- Design and Location of Facilities
- Promoting Alternative modes of Transport
- Elimination of Pollutants at Source

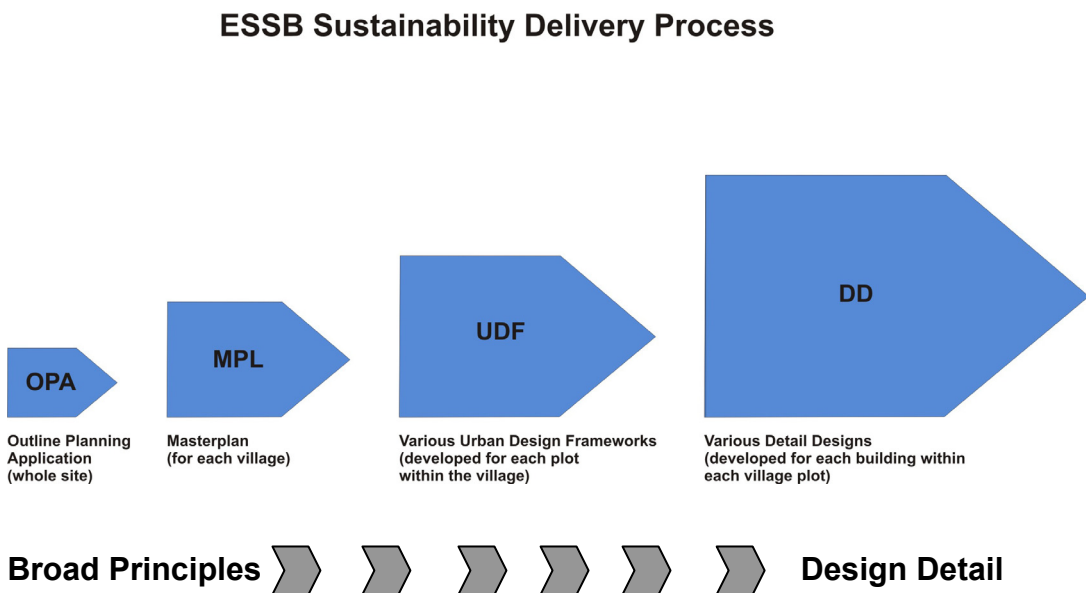
2.2 Implementation of Sustainability Strategy

Masterplans will be developed by Forth Properties for the 'villages' in the Leith Docks Development Area. Each masterplan will indicate how the principles set out in the LDDF and the Leith Docks OPA will be implemented.

The level of detail will be developed from broad principles and targets to implementation as the process moves from framework outline planning consent of the overall Leith Docks site to the detailed design of the individual buildings.

Figure 1 illustrates how the level of information provided to the planning authority will increase as each level of planning stage and design is attained:

Figure 1 ESSB Sustainability Delivery Process



3 Legislative Background

3.1 Introduction

This section outlines the legislative policies, which have been used to inform decisions for the proposed development.

- International Policy
- UK Government Policy
- Scottish Policy
- Scottish Planning Policy Guidance
- Local policy
- Edinburgh Standards for Sustainable Building

3.2 International Policy

Renewed Strategy for Sustainable Development for the European Union (2006)

The renewed Sustainable Development Strategy (SDS) aims to identify and develop actions to enable the EU to achieve continuous improvement of quality of life both for current and for future generations, through the creation of sustainable communities able to manage and use resources efficiently and to tap the ecological and social innovation potential of the economy, ensuring prosperity, environmental protection and social cohesion.

The EU SDS sets overall objectives, targets and solid actions for seven key priority challenges for the coming period until 2010:

- Climate change and clean energy
- Sustainable transport
- Sustainable production and consumption
- Public health threats
- Better management of natural resources
- Social inclusion, demography and migration
- Fighting Global Poverty

3.3 UK Government Policy

UK Government Strategy for Sustainable Development, 1999

The UK Government's initial strategy for sustainable development 'A Better Quality of Life: A Strategy for Sustainable Development in the UK' was published in 1999. This has four main objectives:

- social progress which recognises the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources; and
- maintenance of high and stable levels of economic growth and employment.

The Sustainable Development Task Force reviewed this Strategy and a revised UK Government Sustainable Development Strategy "Securing the Future" was put into place on the 7th March 2005.

A range of environmental and planning legislation and fiscal instruments for specific issues supports the UK Government Sustainable Development Strategy. For example, the Climate Change Levy, the Landfill Tax, the Environmental Protection Act.

The UK Government's Sustainable Development Strategy is disseminated throughout its own estates through a variety of strategies. This is also being delivered at a local level through Local Authorities' Local Agenda 21's and Action Plans.

One Future – Different Paths. The UK Shared Framework for Sustainable Development, 2005

This policy document was produced by DEFRA in conjunction with the devolved administrations. The purpose of the document is to provide a framework of sustainable development for the devolved administrations of the UK to affirm the common challenges and goals. The framework will be supported by additional measures and indicators.

Sustainable Communities Building for the Future, 2003

This document was produced by the Office of the Deputy Prime Minister (ODPM) in relation to the development of sustainable communities within the UK. The document sets out the government's long-term vision to address the inequalities in many of our communities, in order to raise the quality of life and respect the needs of present and future generations. It is part of the Government's wider drive to raise the quality of life in communities.

Achieving Sustainability in Construction Procurement (2000)

The Government Construction Clients' Panel, Sustainable Construction Action Group developed this action plan that sets out how Government clients will take forward the sustainable development agenda through better procurement of new works, maintenance and refurbishment.

This plan requires that the following will have been achieved across all government departments:

- Procurement in line with value for money principles on the basis of whole life costs
- Less waste during construction and in operation
- Targets for energy and water consumption for new projects that meet at least current best practice for construction type and which contribute significantly to the achievement of cross-government targets agreed by Green Ministers
- The protection of habitat and species
- Targets developed in terms of 'respect for people' for procurement of the government estate
- Contribute to the goals of less pollution, better environmental management and improved health and safety on construction sites
- An increased number of new construction projects achieving 'excellent' under the BREEAM assessment scheme
- An increased number of refurbishment projects achieving at least 'very good' rating under the BREEAM scheme
- A better working environment and increased productivity
- Increased engagement with local communities as part of the decision making process
- Improved industry performance against Egan targets.

3.4 Scottish Policy

Choosing our Future – Scotland’s Sustainable Development Strategy, December 2005

Reflecting the shared priorities of the UK Shared Framework for Sustainable Development the intention was for the Scottish strategy to focus on six areas in particular:

- Sustainable consumption and production
- Climate Change and Energy
- Natural Resource Protection and environmental enhancement
- Sustainable Communities
- Learning to live differently
- Delivery – targets and indicators, accountability and governance

Meeting the Needs – Priorities, Actions and Targets for Sustainable Development in Scotland, 2002

Produced by the Scottish Executive Environment Group, the priority areas for Scotland are resource use, energy and travel. A set of 24 indicators were outlined in this document. The main purpose of the indicators was to provide a method of monitoring the progress of sustainable development in Scotland.

The Scottish Executive’s vision is to:

- Have regard for others who do not have access to the same level of resources and the wealth generated;
- Minimise the impact of our actions on future generations by radically reducing our use of resources and by minimising environmental impacts; and
- Live within the capacity of the planet, thereby to sustain our activities and to replenish resources which we use.

3.5 Scottish Planning Policy Guidance

National Planning Framework for Scotland

This framework sets out a methodology for spatial development in Scotland up to 2025, whilst outlining a vision of Scotland which seeks to build a country which is competitive, fair and sustainable. The Framework is a material consideration in drafting planning policy and making decisions on planning applications and appeals. It is given full consideration by the Scottish Executive and its agencies in policy and spending decisions.

Sustainability is given priority under the National Planning Framework’s key drivers for change and demonstrates that the Scottish Executive is committed to integrating the principles of sustainable development into all of its policies. It is noted that there is a need to *‘use resources more efficiently, reduce energy consumption and CO₂ emissions, and develop renewable sources of energy’*.

It includes within its remit community regeneration, infrastructure, transport, energy (including renewables), waste management, water and drainage, housing, environment and economy.

Scottish Planning Policy 1: The Planning System

This policy identifies the key role of planning as to ensure that development and changes in land use occur in suitable locations and are sustainable. Delivery of sustainable development is described in the Scottish Planning Policy (SPP) document as requiring co-ordinated action, combining economic competitiveness and social justice with environmental quality and justice and all policies and strategies should be supportive of this approach to development.

Planning should support regeneration, brownfield development (minimising greenfield development), conserve important historic and cultural assets, protect and enhance areas for recreation and natural heritage, support access by foot, cycle and public transport, as well as by car, encourage energy efficiency through layout and design, consider development lifecycles, and encourage prudent use of natural resources.

Planners are required to favour the most sustainable development option and every effort must be made to 'offset' the negative impacts of necessary development.

3.6 Local Policy

Finalised Edinburgh City Local Plan (Approved March 2007)

The City of Edinburgh Council is preparing a new local plan called the Edinburgh City Local Plan. The plan sets out the Council's development objectives until 2015. The plan deals with issues of land use, and also the design of new development. The new plan will replace the adopted North East Edinburgh Local Plan and alteration (2004). A finalised draft of the new Edinburgh City Local plan was approved by the Planning Committee on 22nd March 2007.

The Plan includes reference to policies which tackle the issues of energy use, waste reduction, recycling and sustainable drainage as well as policies which encourage mixed communities and protect Edinburgh's environment and heritage.

Policy Des 6 – Sustainable Design and Construction is listed below:

"Planning permission will only be granted for development above the thresholds set out in paragraph 3.18 below where it has been demonstrated that:

- a) *Energy needs have been minimised through a combination of design for energy efficiency and the incorporation of a sustainable energy supply such as on-site renewable energy generation or combined heat and power.*
- b) *Other features will be incorporated that will reduce or minimise environmental resource use and impact, for example*
 - i) *Measures to promote water conservation*
 - ii) *Measures that will ensure that there will be no increase in rate of surface water run-off in peak conditions*
 - iii) *Provision of facilities to encourage recycling of household waste and other waste*
 - iv) *Maximum use of materials from local and / or sustainable sources*

North East Edinburgh Local Plan (Adopted 1998 alteration adopted 2004)

There are a number of aims to the Local Plan that cover a variety of issues, which combine to set a model for sustainable development. The Local Plan objectives are:

- To protect and enhance the environmental, architectural and historic resources of North East Edinburgh;
- To ensure that new development meets the objective of 'sustainability' and contributes to a safe, healthy and attractive environment within North East Edinburgh;
- To improve the environment of North East Edinburgh for the benefit of local people, visitors and the local economy
- To encourage the creation of new open spaces and wildlife habitats wherever possible

"Policy E1 – Sustainable Development

Planning permission will not be granted for development which would clearly breach the principles of sustainable development including the need to:

- a) conserve energy and environmental resources;*
- b) avoid future pollution;*
- c) make efficient use of land; and*
- d) avoid reliance on the private car for access"*

Sustainable Design Guide (2003)

This guidance document produced by City of Edinburgh Council is aimed at Council Departments and building professionals. The purpose of the guidance is to assist in identifying sustainability features that represent good design including: energy; water use; and material specification. The document outlines the Council's commitment to sustainable development. The Council set a visionary target in 2003:

'To lead the most successful and sustainable city region in Northern Europe by 2015 and sustain the highest quality of life of any UK city.'

Sustainable Design and Construction: Draft Policy Statement and Guide (2004)

This report presents the draft policy and guidance on sustainable design and construction. The document reflects that sustainable design and construction is becoming increasingly important in meeting sustainable development objectives at the local, regional and national level. This draft policy and guide focuses on energy, waste and material use in construction. The underlying policy principle of the document is the LCA of project briefs. A number of sustainability objectives are outlined that enforce the same sustainability principles as those outlined in the Waverly Valley Redevelopment Strategy.

3.7 Edinburgh Standards for Sustainable Building

Edinburgh Standards for Sustainable Building (ESSB) - 2007

The Standards apply to 'major applications'. These applications must be accompanied by a Sustainability Statement Form which demonstrates how the proposed development addresses the Standards under six key themes of sustainable buildings:

- Design quality
- Inclusive Safe and Healthy Environments
- Reduce Climate Change and Increase Renewables
- Use Sustainable Resources and Materials
- Reduce Pollution and Increase Recycling
- Improve Sustainable Construction and Operation

The main objective of the Standards is to see improvements in sustainable building implemented in development, to combat the contribution made to climate change by building design.

4 Sustainability Strategy – Objectives for Delivering Sustainable Development

4.1 Introduction

The sustainability strategy which has been developed for the Leith Docks Development Area approaches sustainability in an holistic manner. There are five levels that the Strategy will address. The five levels are defined as follows:

- (i) At the highest level it will look at areas beyond the boundary of the Leith Docks Development Area (e.g. off site renewable energy generation at Forth Ports sites); the strategy will also look at
- (ii) site-wide
- (iii) village
- (iv) plot
- (v) building specific opportunities.

The sustainability strategy does not attempt to provide the full delivery of the ESSB at this point as these will be met during the detailed design of individual buildings. The continuing design development process from Outline Planning through detailed masterplanning and detailed design will address the principles identified in the ESSB.

As part of the Leith Docks Development Framework (adopted by CEC February 2005), a series of sustainability, objectives and targets, were developed. These objectives and targets have been included in this document.

The project team have actively identified key issues and applied targets to these. A number of issues identified in respect of sustainable development are also considered in the Environmental Impact Assessment (EIA). This sustainability strategy, in effect, seeks to set out proactive measures to promote the overall sustainability benefits of the proposal. These sustainability targets have been grouped according to the following areas:

- Environmental
- Societal
- Natural resources
- Socio-economic

To achieve a robust implementation strategy for sustainable development, considerable detail of the individual applications must be known.

Each village may have a very different approach taken in its development. As a consequence of the likely timescale between the OPA and construction of the nine villages, it is recognised that a flexible approach will be required.

Forth Properties intends to ensure that there is a coherent strategy to demonstrate that the principles of Sustainable Development identified within this document are carried forward into the masterplanning of the villages and into the detailed design of individual plots and buildings.

The targets and their means of implementation will be kept under review by Forth Properties when developing individual village masterplans and plots. This review will account for best practice at that time, and will be discussed and agreed with the City of Edinburgh Council's Sustainable Development Unit.

4.2 Environmental

- The development of 'brownfield' land will make best use of land and reduce the need for the development of 'greenfield' sites in the Edinburgh area.
- The need to travel and subsequent transport impacts will be minimised, through the provision of facilities to encourage walking, cycling and the use of public transport and by the discouragement of car use.
- The design quality of the development will be high and the landscape character strengthened.
- Impacts on ecological resources will be fully assessed and minimised. Opportunities for the enhancement of existing ecological resources will be included in the framework.
- The industrial heritage of the port will be enhanced and, where appropriate, preserved for future generations. An Environmental Management system (EMS) will be implemented to minimise construction impacts.
- Industrial air quality, noise and water discharges will be reduced, including processes that will be on-going during the course of the development and retained.
- Nuisances such as odour, litter and dust will be reduced.

4.3 Natural Resources

- Avoid, Reduce, Reuse and Recycle will be the governing philosophy. Resource consumption will be minimised throughout the project, from the specification of raw materials to design for deconstruction.
- A waste minimisation plan will be adopted to address key waste issues during both the construction and operation of the development.
- Local and recycled materials, and materials from sustainably managed renewable sources will be used wherever possible.
- Sustainable urban drainage systems (SUDS) will be incorporated to protect important local water resources.
- Water consumption will be minimised, with rainwater collected for use on site and waste water recycling employed.
- Energy consumption will be minimised through the use of ambient energy for light and heat, maximised daylighting, appropriate levels of insulation and the installation of energy efficient appliances.
- The potential for on-site and off-site renewable energy sources and combined heat and power will be maximised, in particular, opportunities available for wind and solar power.
- A healthy living environment will be ensured throughout the life of the building, through the use of materials that minimise the risk to health in construction and use.
- The lifespan and flexibility of infrastructure and buildings will be maximised.

4.4 Societal

- The development will promote comprehensive regeneration of the area. Overall, the quality of the local environment in Leith will be improved, resulting in social and health benefits for the local community.
- The development will be designed to provide a high quality of life for residents and increase the equity and social inclusion of the Leith Community.
- The development includes the provision of affordable housing that will be accessible to all.
- The development will be designed to reduce the opportunity for crime, creating an environment that is safe for its occupants.
- Services, facilities and environments will be affordable and accessible to all sectors of the community including the wider Leith and City inhabitants.
- Recreation and community facilities will be incorporated into the Framework, alongside the provision of high quality green and open space.

4.5 Economic

- The development will contribute to the ability of the wider community to generate and retain wealth.
- Forth Properties is committed to maintaining and growing sustainable local sources of employment. Where possible, the site's current employers will be relocated within the local area, retaining employment for members of the local community.
- The creation of high quality buildings and local environment will attract new employers to the area.
- Facilities will be made available to encourage small businesses to start up or relocate to the area.
- Increased opportunities for skills development will be created through the provision of education and training.
- Priority will be given to local businesses to provide goods and services during the design, construction and operation of the development.

5 Sustainability Strategy – Targets and Mechanism For Delivery

5.1 Access for All

Introduction

The Leith Docks Development Area needs to be accessible to all. People with restricted mobility can be socially excluded from jobs, services and even the enjoyment of visiting friends and family. Under the Disability Discrimination Act (1995), all service providers are now required to ensure that buildings are designed to provide access to everyone.

Target

LDDF Target 1:

An Access Statement will be prepared that encompasses these issues and will include:

- Housing; including the number of dwellings, by tenure and size, built to Lifetime Homes standards and wheelchair user standards
- Public Open Space; including children's play areas, parks and plazas
- Street furniture; including seats, bollards, vegetation, lighting and display boards
- Roads; including parking for blue badge holders and accessible road crossings
- Internal building design
- Public transport infrastructure; including stations and bus stops
- Public facilities; including toilets, information systems and public art

Mechanism for Delivery

An Access Statement has been prepared as part of the OPA. Subsequent reserved matters applications for each of the 'villages' will also include an Access Statement.

5.2 Sustainable Drainage

Introduction

Sustainable drainage is making use of measures to avoid wastage of water and avoid overloading the drainage systems, although the special situation at Leith Docks is such that unimpeded drainage into the impounded dock will have no discernable impact upon the drainage system's capacity. There are alternatives to conventional storage for the control of surface water run-off. These techniques also improve water quality and the environment. In particular, all external surfaces should normally be permeable (allowing water to percolate into the groundwater rather than run off) and include, where ground conditions permit, the use of infiltration systems such as soakaways, infiltration trenches, to mimic natural drainage.

Target**LDDF Target 2:**

A statement describing how Sustainable Urban Drainage Systems have been integrated into the development will accompany any major application.

Mechanism for Delivery

A detailed assessment of potential methods of incorporating Sustainable Urban Drainage systems during design, construction and operation will be carried out during the masterplanning and detailed design stages of development. The whole development will be designed to incorporate Sustainable Urban Drainage systems drawing from SEPA guidance on the most appropriate mechanism for individual sites.

In the disposal of surface water, Scottish Water requires the separation of foul and surface water sewerage on new developments. It is the responsibility of the developer to make proper provision for surface water drainage to ground, watercourses or surface water sewer.

5.3 Water Supply and Conservation**Introduction**

A wide variety of measures can be included in a development to reduce water consumption. These include installation of a shower, reduced capacity for WC flush, use of 'grey water' for toilet flushing, use of flow restrictors to taps, use of low-water use appliances, the selection of drought tolerant plant species in planting schemes, the incorporation of rainwater collection for roofs and impermeable surfaces and the installation of water metering.

Target**LDDF Target 3:**

Overall water consumption reduction should be 30% and 20% below typical usage for residential and commercial/retail premises respectively.

Mechanism for delivery

A detailed assessment of potential methods of improving water efficiency during design, construction and operation will be carried out during the masterplanning and detailed design stages of development. The transport, treatment and delivery of potable water involve the consumption of energy and resources. A water hierarchy will be implemented to:

- Reduce demand for all water
- Match non-potable supply to non-potable demand
- Supply water from on-site sources

The feasibility of the incorporation of the following water efficiency measures will be investigated during masterplanning and detailed design stage:

- Dual flush WCs (using 4/6 litre flushes)
- Aerated / Spray taps
- Low water use Showers
- PIR controlled Urinals
- Waterless Urinals

- Specification of rainwater recycling systems – the potential for the use of the roofs for rainwater collection and recycling will be investigated.
- Specification of grey water recycling systems – the potential for on site grey water recycling will be investigated.

5.4 Sustainable Construction Materials – Material Selection

Introduction

A wide variety of measures can be included in a development to reduce the environmental impact of the materials selection for construction. These include methods to promote the use of renewable materials, encourage the use of materials with recycled content and minimise the use of materials which contain hazardous materials or deplete the ozone layer.

Target

LDDF Target 4:

As part of the site-wide Environmental Management System, the environmental design management and review process will ensure that materials are a fundamental consideration in design and long-term use, using recognised environmental impact assessment methodologies, to aim to achieve:

- Reduction in volume of materials used;
- Use of recycled materials – target 15% by volume in buildings and exterior landscape;
- Minimisation of waste;
- Effective segregation of construction waste;
- Designing for durability and low maintenance;
- Use of materials that grow;
- Use of local materials;
- Avoidance of materials harmful to environment and health.

Mechanism for delivery

A detailed assessment of potential methods of reducing the environmental impact of materials selection and disposal during design, construction and operation will be carried out during the masterplanning and detailed design stages of development.

The feasibility of the incorporation of the following sustainable materials measures will be investigated during masterplanning and detailed design stage:

- Sustainable Timber: the potential for timber and timber products from temperate sources will be promoted for incorporation into the design. Preference will be given to the selection of FSC certified timber and PEFC certified timber.
- Ozone Depletion: the potential for insulation materials, which have an ozone depletion of zero, and a global warming potential of zero will be investigated for incorporation into the design. Preference will be given to insulation materials manufactured with natural materials, with a low embodied energy.

- **Embodied Energy:** A review of the materials specified for the development will be undertaken using the Green Guide to Specification. Preference will be given to the specification of materials for internal finishes with a Green Guide Rating of A. For larger structural elements where a low embodied energy material is not practicable, preference will be given to techniques for minimising the amount of material ordered and waste produced.
- **Minimise Natural Resource Depletion -** Peat or natural weathered limestone will not be used in buildings or landscaping.
- **Maximise Recycling of Demolition Materials -** Prior to commencement of demolition works a full appraisal investigating the potential for re-use of demolition materials in accordance with ICE's demolition protocol will be carried out. Where demolition materials cannot be used in site they will be recycled offsite or sent for architectural salvage. The potential for on-site crushing of demolition materials will be investigated as part of the demolition appraisal.

5.5 Sustainable Construction Materials – Material Procurement

Introduction

A wide variety of measures can be included in a development to ensure that materials are procured in accordance with sustainable procurement principles. These include methods to establish a site-wide materials use and purchasing strategy.

Target

LDDF Target 5:

Prepare a Materials Use and Purchasing Strategy that will involve engaging contractors for design, construction and management to aim to achieve:

- Sourcing between 40% and 60% recycled aggregates for hardcore and in appropriate circumstances, aiming to increase this to over 60%;
- Maximising use of secondary aggregates, alternative counts and alternative constituents of concrete according to application;
- Ensuring aggregates come from sources that adopt the highest environmental standards;
- Recycling of waste concrete and brick present on the site into aggregates for hardcore via an onsite facility, if sufficient quantities exist;
- Minimising the movement of aggregates and other construction material, by road, using alternatives such as rail and waterways;
- Best practice for waste minimisation during construction to be adopted (including appropriate contractual agreements, storage, waste segregation, take-back of packaging, etc.);
- Use of independently accredited timber;
- Reuse and recycling of materials;
- On-site concrete production and batching plant;
- Integration of waste production and disposal activities with a site 'Sustainable Waste Strategy' (see LDDF target 6).

Mechanism for delivery

A site-wide Materials Use and Purchasing Strategy that covers all construction and management activities will be prepared. This will include specification clauses and targets consideration of prefabricated products and units, for all designers, contractors and suppliers. When demolition is planned, a reclamation audit and a plan for the re-use and recycling of materials, fixtures and fittings will be provided. The following will be investigated during detailed design and masterplanning stage.

- A target of procurement of materials with no worse than a B-rating in the Building Research Establishment's "Green Guide to Specification: An Environmental Profiling System for Building Materials and Components (1998)" will be adopted within this system, unless it can be demonstrated that there is no viable alternative.
- Aggregate Resource Depletion: the potential for the use of recycled aggregates will be investigated in detail. Preference will be given to the re-use of site won aggregate, the specification of recycled aggregates and re-use of demolition material.
- Procurement of locally sourced materials – Preference will be given to construction materials sourced within 35 miles of site. This will be investigated in further detail during detailed design.
- Procurement of prefabricated products, to minimise site waste, packaging and reduced risk of weather damaged materials.
- Procurement of materials with a recycled content – Preference will be given to the selection of materials, which are manufactured using recycled materials. Preference will be given to material with a percentage-recycled content of more than 10%.
- Procurement of inert materials – Preference will be given to the specification of inert materials such as glass, ceramics and stone as they are non-toxic and easily re-used or recycled.

5.6 Sustainable Waste Management

Introduction

A wide variety of measures can be included in a development to ensure that waste produced during construction and operation is minimised. These include methods to establish a waste minimisation strategy early on in the design process and to set out construction methodologies and construction waste minimisation techniques. These issues are outlined in more detail in the Construction and Waste Chapters of the EIA.

Target

LDDF Target 6:

To develop in conjunction with the Council a Waste Management Strategy including systems for:

- The provision of suitable waste and recycling storage facilities in all new development;
- Kerbside collection of separated household and trade wastes from all residences and businesses: metals, plastics, paper and non-recyclable materials; and hazardous waste, furniture, textiles, electrical waste and other non-household wastes where appropriate, in collaboration with the Council's waste collection service;
- Delivery of organic wastes from households and gardens to designated Council collection points;
- Development of local composting schemes where appropriate in consultation with the Council.
- Diverting bulk waste transport off roads to utilise rail networks and the river.
- The disposal of hazardous waste.

Mechanism for delivery

A Waste Management strategy will be developed together with the Council and its waste contractors. The Strategy should accord with targets and principles contained within the Government's Waste Strategy, developing a waste hierarchy, with priority being placed on waste reduction, then reuse, recycling and composting, disposal with energy recovery and disposal to landfill.

In addition to this target, and to support it, the following actions are understood to be consequential upon the Waste Management Strategy:

- The developers would commit to developing opportunities to minimise waste production by maintaining a role in the supply chain during construction and formal estate management duties;
- The developers would commit to working with the CEC to identify adequate space for the storage and segregation of wastes and recyclable materials generated both by construction and operational phases, for incorporation into buildings or within street blocks (for residential properties) on site;
- Access to collection and storage facilities must be provided for Edinburgh Council waste collection services;
- Utilisation of best practice techniques, with a view to facilitating the levels of recycling. This should be explored in liaison with the Council's waste collection service;

- The provision of appropriate infrastructure and mechanisms for monitoring waste production should be considered;
- Through the above design and management measures, the developer should facilitate the achievement of City of Edinburgh Council targets for recycling and recovery of municipal waste.

5.7 BREEAM Environmental Assessment

Introduction

A wide variety of measures can be included in a development to ensure that demand for energy is minimised, energy efficiency is maximised and the use of renewable energy is promoted. These methods are included in the BREEAM (Building Research Establishment Environmental Assessment Method) and Ecohomes requirements for commercial and residential developments.

Target

LDDF Target 7:

All residential buildings should be designed to achieve a BREEAM rating (or equivalent assessment method and ratings) of “excellent”. A rating of “very good” will be acceptable where justified by site specific constraints which prevent the achievement of ‘excellent’.

All commercial buildings should be designed to achieve a BREEAM (or equivalent) rating of ‘very good’ whilst aiming for an excellent rating

Mechanism for Delivery

Developments should be designed to achieve a BREEAM rating, which would be submitted with the detailed planning application. All buildings should achieve an energy use target expressed in terms of maximum (energy related) carbon dioxide emissions that are equivalent to, or exceed, contemporary best practice figures published through the Energy Efficiency Best Practice Programme or equivalent.

BREEAM (Building Research Establishment Environmental Assessment Method)

To help the UK government deliver its overall environmental the targets, BREEAM is being used as a benchmarking tool in the design of new developments. The aim of BREEAM is to estimate the environmental impact of buildings and promote a programme of environmental improvement.

BREEAM for Offices awards credits in relation to the following construction, design and procurement options:

- Management – commissioning, waste management, education and training of building users;
- Health and Wellbeing – natural ventilation, day lighting, occupant controls
- Energy – carbon emissions, heating and lighting control, energy monitoring, use of daylight, provision of shading;
- Transport – car parking provision, cyclist facilities, public transport nodes, distance to local amenities, green transport plan;
- Water – leak detection, water meters, low flush toilets and grey water use;
- Materials – specification of building materials and prohibition of hazardous substances;

- Land use and Ecology – use of contaminated land and change in ecological value, protection of ecological features and protection of natural habitats;
- Pollution – pollution monitoring, ozone depleting substances, NOx emission rates, noise pollution;

A percentage score is then applied in relation to the issues described above and an average score is calculated according to the following categories:

BREEAM rating Design and Procurement	Minimum score required
Pass	25
Good	40
Very good	55
Excellent	70

Leith Docks Development Area – BREEAM ‘Very Good’ Minimum Standard

All offices located in the Leith Docks Development area will be required to be built to high standards and will be benchmarked using the relevant BREEAM for offices environmental assessment method. A BREEAM for Offices target rating of ‘Very Good’ is proposed as a minimum standard for Leith Docks Development Area.

The score listed below is sufficient to achieve the rating of ‘Very Good’.

Building Location	BREEAM rating Design and Procurement 2007	Target Score
Leith Docks Development Area	‘Very Good’	55%

ECOHOMES Pre- Assessment Target Ratings

To help the UK government deliver its overall environmental targets for housing developments, ECOHOMES is being used as a benchmarking tool in the design of new housing developments. The aim of ECOHOMES is similar to that of BREEAM namely to estimate the environmental impact of new housing developments in the UK and promote a programme of environmental improvement.

ECOHOMES awards credits in relation to the following construction, design and procurement options:

- Energy – carbon emissions, heating and lighting control, use of daylight;
- Transport – car parking provision, cyclist facilities, public transport nodes, distance to local amenities, green transport plan;
- Pollution – pollution monitoring, ozone depleting substances, NOx emission rates;
- Materials – specification of building materials and prohibition of hazardous substances;

- Water – leak detection, water meters, low flush toilets and grey water use;
- Land use and Ecology – use of contaminated land and change in ecological value, protection of ecological features and protection of natural habitats;
- Health and Wellbeing – natural ventilation, day lighting, provision of private space; sound insulation
- Management – construction site impacts, waste management, building users guide

A percentage score is then applied in relation to the issues described above and an average score is calculated according to the following categories:

ECOHOMES rating	Minimum score required
Pass	36
Good	48
Very Good	60
Excellent	70

Leith Docks Development Area – ECOHOMES ‘Excellent’ Minimum Standard

The residences located in the Leith Docks Development Area will be required to be built to very high standards and will be benchmarked using the ECOHOMES environmental assessment method. An ‘Excellent’ ECOHOMES target rating is proposed as the minimum standard for the Leith Docks Development Area.

The score listed below is sufficient to achieve the required rating of ‘Excellent.’

Building Location	ECOHOMES rating	Target Score
Leith Docks Development Area	‘Excellent’	70%

5.8 Energy Strategy

Introduction

A wide variety of measures can be included in a development to ensure that demand for energy is minimised, energy efficiency is maximised and the use of renewable energy is promoted. These include methods to establish an energy demand reduction strategy early on in the design process and to set out minimum requirements in relation to the efficiency of building services systems and on-site renewable energy provision.

Target

LDDF Target 8:

Consider the feasibility of incorporating Combined Heat and Power (CHP) plants on site. These should be of 'good quality' as defined by the DETR's CHPQA – a Quality Assured Programme for Combined Heat and Power (2000).

Mechanism for delivery

The energy strategy would form part of a wider energy strategy, which should seek to:

- Include measures to increase energy-efficiency of the development including possibilities for low carbon residential development
- Identify areas of development that may be naturally ventilated due to the plot context in terms of air quality and noise. This is likely to lead to much lower energy demand in a building compared to an air-conditioned counterpart.
- Promote energy efficient appliances within buildings; including 'Class A' rated white goods in domestic properties.

At detailed masterplanning and detailed design stage an energy strategy will be developed to address the following objectives:

- Reduce Demand - Carry out an energy demand assessment
- Energy Efficiency - Maximise energy efficiency
- Low carbon and renewable energy systems. Major commercial and residential developments are to demonstrate that consideration has been given to the following methods for heating and where necessary, cooling systems
 - Passive Design
 - Solar Water Heating
 - Combined Heat and Power for heating and cooling (i.e. tri-generation), preferably fuelled by renewables
 - Heat Pumps
 - Gas Condensing Boilers
 - Biomass Boilers
- Photovoltaic Energy Generation Light Pollution - Wherever on site outdoor lighting is proposed as part of a development, it should be energy efficient, minimising light lost to sky.
- CO₂ emissions - Carbon emissions from the total energy needs (heat, cooling and power) of the development should be reduced by at least 10% by on-site generation renewable energy.

A detailed assessment of potential methods of conserving energy and the use of energy efficient and renewable technologies during design, construction and operation will be carried out during building detailed design stage.

5.9 Renewable Energy – Site Wide

Introduction

As part of a wider Forth Ports energy strategy, currently being studied, the potential for a site wide energy strategy is being investigated.

Mechanism for delivery

The following low carbon sustainable technologies will be investigated as part of the wider Forth Ports energy strategy.

- Large scale wind generation – on and off shore
- Solar Photovoltaic thermal solar hybrid
- Biomass
- RDF including anaerobic digestion
- CO₂ sequestration
- Hydrogen fuel cells
- Wave and tidal energy
- Geothermal
- Geothermal through deep bore
- CHP
- Hydro

5.10 Renewable Energy - Building Integrated

Building integrated renewable energy production will be investigated. The potential for the following will be investigated during detailed design for each building:

- Smaller wind turbines within the proposed development
- Photovoltaics
- Solar thermal / panels
- Biomass heating systems
- Ground Source Heat pumps

5.11 Noise

Introduction

The Leith Docks Development Area provides the opportunity to use state of the art technology, design and operation, not just to minimise the generation and spreading of noise and protect users, but also to consider how the development can help improve noise environments around it.

Target

LDDF Target 10:

In respect of noise, the impact of construction noise and vibration on noise sensitive developments has been assessed using British Standard 5228 Part 1: 1997 and Part 4: 1992. Control measures to minimise noise and vibration impacts using 'Best Practicable Means' should be adopted as described in those standards. The assessment should incorporate, if required, arrangements for the application for the consents procedure for construction noise under the Control of Pollution Act 1974.

Mechanism for Delivery

Developers will be required to consider the mutual benefits of noise control through the following possible measures:

- Design of Buildings;
- Avoiding, containing or minimising noise generation at source;
- Protecting noise-sensitive users from noise;
- Minimising noise transfer between activities within the development, particularly vital with more mixed use development
- Ensuring appropriate operational practices for noisy activities
- Contributing where possible to wider improvement by, for instance, appropriate land-use zoning, direct screening of noise sources, screening by non-noise sensitive structures and optimal orientation of noise sensitive buildings, e.g. designing roadside business units to improve road noise screening to housing beyond the development.

Daytime and night time noise levels at residential properties will be agreed with the Council. Potential noise impact of proposals in nearby noise sensitive properties will be assessed using British Standard 4142: 1997.

5.12 Transport

Introduction

The Leith Docks Development Area provides the opportunity to ensure that the proposed development is accessible by a range of transport modes, and that:

- There is good access by public transport
- The Tram route will terminate at Ocean Terminal with three stops, adjacent to the development area, provided in total, generally within 700m walking distance of most residents
- On-street parking controls will be given consideration and, in the case of residential development. Car parking below buildings will be provided.
- There is a broad range of local shops and services to encourage walking. The sustainability of the development must be promoted by proposals to maximise accessibility to the public transport network, and minimise car trips. This can be achieved by providing:
 - Viable bus routes in through the development area
 - Suitable locations for bus stops
 - Safe direct pedestrian routes to bus stops or tram halts
 - Displays of local transport information
 - Secure, sheltered storage for bicycles and motorbikes

Mechanism for Delivery

Proposed measures to encourage trip making by more sustainable modes of transport include improvements to public transport and pedestrian and cycle networks as well as enhancements to the local road network where feasible. The following potential measures to achieve the above will be investigated during masterplanning and detailed design stage:

- Early introduction of bus services.
- Forth Ports is a key supporter of the Edinburgh Tram, which penetrates the heart of the site. The majority of the site lies within 700m of the proposed tram stops.
- Dense network of walking and cycling routes and connections both within Leith Docks and linking with the rest of the city.
- Infrastructure introduced or enhanced to encourage trip making by walking and cycling including connecting into a number of existing National Cycle Network routes.
- Investment in new bus infrastructure, including both routes and stops. Within the site, the maximum walk distance to a bus halt will be no greater than 400m.
- Extension of Ocean Drive to the east and west to facilitate traffic movements.
- Restricted parking at both residential and commercial developments.
- Introduction of Travel Plans at commercial premises to ensure that staff are encouraged to find alternative modes to the private car.
- Provision of information packs to all new householders to advise of local public transport facilities and pedestrian and cycle measures.
- Similarly, providing details of access to the City Car Club to encourage responsible use of cars and the development of a car sharing database.

5.13 Green Travel Plans

Introduction

Use of land which involves vehicles coming to and from a property will cumulatively have an effect on air-quality. If many cars and / or service vehicle generated trips are potentially involved, a Green Travel Plan may need to be submitted prior to the granting of planning permission. This usually involves a phased reduction in private car-use through a modal shift to more sustainable means of transport and a corresponding reduction in private parking provision.

Target

LDDF Target 11:

To develop a Green Travel Plan that addresses issues such as:

- Minimising car use through reduced on-site car parking provision;
- Restrictive parking permits;
- Providing shared hire resources in car pools;
- Provision of facilities for recharging electric cars, bikes, parking / storage for cyclists and motorbikes, car sharing / clubs, customer service delivery in commercial / office development.

Mechanism for Delivery

A green travel plan outlining the above measures will be produced as part of the detailed design and masterplanning process. The above list is not exhaustive since Green Travel Plans can only contribute towards mitigation if they form part of a range of other mitigation measures, such as improving public transport. The means of transporting freight and business goods will be taken into account in promoting warehouse, retail commercial development, with their associated white goods vans and lorries.

6.14 Air Quality

Introduction

The use of land which involves vehicles coming to and from a property will cumulatively have an effect on air-quality. If many cars and / or service vehicle generated trips are potentially involved, a Green travel plan may need to be submitted prior to the granting of planning permission. This usually involves a phased reduction in private car-use through a modal shift to more sustainable means of transport and a corresponding reduction in private parking provision.

Target

LDDF Target 12:

The design of the individual developments will consider measures to reduce emissions of air pollutants from the development and also measures to reduce the exposure of site occupants to external air pollution.

Mechanism for delivery

A detailed assessment of air quality impacts is outlined in the air quality chapter of the EIA. Suitable mitigation measures in relation to air quality will be implemented during the design and construction to minimise emissions to air and reduce the overall impact of the development in relation to air quality.

6.15 Dust from Construction Activities

Introduction

The emission of dust from demolition and construction activities can impact significantly upon local air quality and have an adverse effect on the health of residents living near the development. Dust emissions can also cause a nuisance, by soiling premises and property.

Mechanism for delivery

The Environmental Management Strategy referred to previously will contain the measures to be adopted to ensure Best Practicable Means for the control of dust during demolition and construction.

5.16 Design and Location of Facilities

Introduction

Careful consideration should be given to the site and area characteristics. There are areas that are more sensitive to air pollution than others.

Mechanism for delivery

The following measures will be considered during the detailed design and masterplanning stage:

- Location of sensitive uses such as housing and children's play areas away from primary roads to reduce exposure to air pollution;
- The design of buildings to mitigate the adverse effects of air pollution;
- Restraints on car parking

5.17 Promoting Alternative Modes of Transport

Introduction

To maximise public transport use, reduce the need to travel and reduce other potential emissions e.g. from energy use, it is essential to promote the use of alternative modes of transport in order to minimise the environmental impact of new development. The promotion of alternative modes of transport is outlined in more detail in the transport chapter of the Environmental Impact Assessment.

Mechanism for Delivery

The following transport measures will be considered during masterplanning and detailed design stages:

- Provision of segregated cycling routes where possible, and within any design strategy, cycling facilities;
- Use of traffic management e.g. traffic resisted zones, a review of public transport systems;

- Parking management to reduce the number of cars entering the site e.g. through reducing the number of available, employing increased charges and limiting the maximum standing, subject to the parking requirements of disabled people;
- The adoption of areas such as 'home zones' or 'clear zones', where through traffic is minimised and traffic speeds controlled, can help to improve local air quality in such areas as well as produce other environmental and safety benefits.

5.18 Elimination of Pollutants at Source

Introduction

A number of measures can be adopted to reduce local emissions and these help improve local air quality.

Mechanism for Delivery

The following measures will be considered during masterplanning and detailed design stages:

- Using energy efficient measures in buildings such as natural ventilation and passive solar heating
- Using renewable energy and efficient supply of energy
- Using low-emission building materials and paints and encouraging low emission furnishings and furniture to improve indoor air quality

6 Summary and Conclusions

In summary, this sustainability statement outlines the methodology throughout the development process which will be used to ensure that the Leith Docks Development addresses the sustainability requirement of the City of Edinburgh Council.

This sustainability statement outlines the opportunities for the Leith Docks Development to positively contribute to sustainable development. A range of sustainability objectives and targets have been set addressing the following areas:

- Environmental
- Societal
- Natural Resources
- Socio-economic

The objectives and targets set out in this sustainability statement will be embedded in the future development proposals at masterplanning, Urban Design Framework and Detailed Design stages. Final compliance with the Edinburgh Standards for Sustainable Building will be demonstrated in full when detailed design stage is reached.

The implementation of suitable management processes from outline planning stage through to detailed design stage will ensure that the sustainability principles outlined at OPA will be delivered in the development of Leith Docks.