Edinburgh Design Guidance

Consultation Draft

December 2024

EDINBVRGH
THE CITY OF EDINBURGH COUNCIL

Front cover: Rowanbank Gardens. Photo courtesy of 7N Architects, © Leo Paredes Photography

CONTENTS

INTRODUCTION

This guidance sets out the Council's expectations for design quality in development in Edinburgh. Its structure and content have been substantially refreshed since the guidance was last updated in 2020.

Edinburgh is a unique and beautiful city, recognised in the UNESCO inscription of two world heritage sites, the Old and New Towns of Edinburgh, and the Forth Bridge. The city's distinct topography and landscape character have shaped centuries of development and a rich and varied heritage of built form and urban design. People visit the city from all over the world to appreciate the quality and variety of its buildings, streets, spaces and views. Edinburgh's unique combination of landscape character, historic environments and world-class streets and spaces makes the city an outstanding place to live, work, study and visit.

Like other cities however, Edinburgh faces significant challenges relating to climate change, a housing shortage and, in some areas, traffic congestion and poor air quality. The Council expects development to address these challenges through a place-based approach to design that reinforces the city's identity as a great place to live, work and enjoy.

The updated guidance sets out how high-quality design can be achieved by replicating important, existing characteristics of the city, in particular the opportunity to live well locally in relatively high density, mixed-use, walkable neighbourhoods that are well-served by public transport, attractive open space and blue-green infrastructure. It also explains how design should respond to the nature crisis, mitigate the climate impact of development and increase the city's resilience to climate change.

It is important to read this guidance in conjunction with the policy framework of City Plan 2030 (adopted November 2024) and National Planning Framework 4 (NPF4) that, together, make up Edinburgh's Development Plan. The purpose of this update is to align the Council's design advice with priorities set out in the Plan. Guidance has been added on how development should address the climate emergency, both mitigation and adaptation, the nature crisis, sustainable transport, including revised parking standards, and inclusive design. Guidance has been updated on designing for a changing climate, building adaptability, green-blue infrastructure, biodiversity, trees and woodlands, community safety and useability of open space.

The guidance is structured around two key themes of NPF4:

- **Sustainable Places** - net zero, nature-positive places designed to limit greenhouse emissions and adapt to the impacts of climate change;
- **Liveable Places** - homes and neighbourhoods that are healthy, safe, attractive, affordable and vibrant places to live.

It aims to promote good place-making by:

- Providing guidance on how to comply with the policies in the Development Plan;
- Advocating a holistic approach to the design of streets, spaces and buildings;
- Explaining key ideas that need to be considered during the design process; and,
- Showcasing examples of good quality design.

This guidance is a material consideration in assessing planning applications and should be used as a point of reference and a basis for planning, design and communication of all development proposals.

Edinburgh Skyline © Getty Images

PART 1: DESIGNING SUSTAINABLE PLACES

1.1 CONTEXT

1.1.1 RESPONDING TO CONTEXT AND PLACE

Show that proposals are informed by a detailed understanding of the wider context.

Make sure design contributes positively to the unique character and appearance of the context, both at an immediate and wider city scale.

Where the surrounding area has heightened heritage significance, make sure that design reinforces this significance.

Where the surrounding area lacks a sense of coherence or distinctiveness, make sure development contributes to improving the character of the area.

City Plan 2030 Policies

Env 1 -	Design Quality and Context
Env 3 -	Development Design – Incorporating and Enhancing Existing and Potential Features
Env 4 -	Development Design – Impact on Setting
Env 9 -	World Heritage Sites
Env 11 -	Listed Building – Setting
Env 14 -	Conservation Area – Development
Env 19 -	Special Landscape Areas

NPF4 Policies

Policy 7 -	Historic assets & places
Policy 14 -	Design, quality & place

The character and appearance of an area is important to its sense of place. For a proposal to respond positively to its context, it is essential that it is designed with a good understanding of its site and the surrounding area and the wider city. Proposals that do not respond positively to the context will not be supported.

Responding to an area's character

All developments need to clearly demonstrate how the character of the site and surrounding area where the development is proposed has been assessed, and how the development has been designed to reflect and creatively interpret this. There are many aspects that contribute to the character of an area that need to be considered when assessing site context. This includes:

- Topography and geology.
- Open space, vegetation, trees, ecology, and water environment.
- Views.
- History and heritage.
- Landmarks and historic and cultural assets.
- Neighbourhood layout (including positioning of buildings, density, plot sizes, settlement patterns and urban grain).
- Streets, routes, and transport infrastructure (including movement hierarchies).
- Built form (including heights, roofscape, scale and proportions, massing, materials and architectural style and detailing).
- Microclimate (including sunlight, air quality, wind, humidity, sounds and smells).
- Land uses and functions.
- Social, education and community infrastructure.

This distinctive pattern of features can be described as the landscape or townscape character of a rural or urban area. These aspects all combine to create an area's 'sense of place'.

Responding to historic context *- The new buildings in the Quartermile development are designed to respond to the layout, massing and heights of the historic former Royal Infirmary buildings. © Getty Images*

High quality design responds to and builds on this 'sense of place'. This is not as straightforward as just duplicating the building styles around the site. It requires an understanding of how these aspects of an area's character interact with each other to create a unique place. Consistency and continuity are important, and new buildings should not draw attention to themselves disproportionately.

A baseline character assessment can help to define objectives on how to respond to the landscape or townscape and to evaluate how it may be altered by a development.

Landscape and Visual Impact Assessment (LVIA) is a tool to evaluate how a development alters the landscape or townscape and how this would impact views. See *"1.1.3 Visual Impact, Skyline & Protected Views" on page 9*

Historic Environments

Responding to context is of particular importance in historic environments. The Council wants new development in historic settings to be contemporary and stand the test of time.

Edinburgh's historic environment includes historic buildings, townscapes, parks, gardens and designed landscapes, landscape, the layout of fields and roads, the remains of a wide range of past human activities, ancient monuments, archaeological sites and landscapes and many other features. It comprises both statutory and non-statutory designations and a range of non-designated historic assets and areas of historic interest.

- **World Heritage Sites:** There are two World Heritage Sites in the city: The Old and New Towns of Edinburgh and the Forth Bridge. There are management systems in place for both World Heritage Sites to protect their 'Outstanding Universal Value' (OUV). Any development in or near to these sites will require consideration of how the proposal responds to this historically significant context and the relevant cultural and natural heritage attributes. Development that presents a threat to a World Heritage Site's OUV will not be supported.

- **Listed Buildings:** Listed buildings are buildings that have been given a statutory designation that recognise them as having special heritage significance. Additional permissions are needed to make alterations to a listed building.

- **Conservation Areas:** Conservation areas are areas that have special architectural or historical interest. Not all buildings in a conservation area will be making a positive contribution to the area. *Conservation area character appraisals* help manage change in the area. They provide an agreed basis of understanding of what makes an area special. This understanding informs and provides the context in which decisions can be made on proposals which may affect that character.

- **Gardens and designed landscapes:** *Historic Environment Scotland maintains an Inventory of Gardens and Designed Landscapes in Scotland* that are of national importance. Proposals on or affecting a site listed in the inventory must consider the impact development will have on the site and its setting. As will proposals that have potential to affect non-designated historic landscapes or feature.

Developments that will impact historic environments will need to clearly set out how the significance of relevant historic assets is being considered when developing a design. This is assessed using a *Heritage Impact Assessment*. Developments should be appropriate, and the benefits presented by a proposal should outweigh any risks to the surrounding heritage. This sensitive contextual approach should be considered in all stages of the design process, from responding to the urban grain, developing the architectural approach and choosing materials. This does not just relate to the buildings, but also the spaces between them. Development should retain significant gaps or open spaces which contribute to the street scene or provide the setting for buildings of architectural or historic importance.

Archaeology

Where a site is of known or suspected archaeological significance a programme of archaeological works will need to be agreed with the Council. As the archaeology may influence the extent of development, this should be done at the site appraisal stage. On some sites, excavations may be required.

Areas of poor urban quality

Not all areas in Edinburgh have a positive character. Some neighbourhoods have been developed in a piecemeal approach and lack coherence and consistency. Some do not create healthy environments and lack green space or playspace. Some have been designed for motor travel at the expense of providing a safe and pleasant environment for people. In these areas, development should improve the character of the area and address these shortcomings. This should be done by identifying the positive aspects of character that do exist in the area. This should then be supplemented by looking at areas of positive character nearby or in the wider city. These should be combined to create a stronger sense of place through built forms and new blue green infrastructure that also create a liveable, sustainable and productive neighbourhood.

Further Reading

- *Listed Buildings and Conservation Areas Guidance*
- *HES: Managing Change in the Historic Environment guidance series*
- *The Garden History Society Planning Conservation Advice Note 11 Development in the Setting of Historic Designed Landscape.*
- *Landscape Institute - Guidelines for Landscape and Visual Impact Assessment*

1.1.2 INCORPORATING AND ENHANCING EXISTING FEATURES

Reinforce positive, locally distinctive patterns of development, townscape, landscape, scale, materials and quality, where these exist.

Retain and incorporate features worthy of retention such as:

- **views and vistas to landmarks or features of interest.**
- **trees, hedgerows, other habitat and landscape features.**
- **existing buildings, boundary elements and materials.**
- **archaeological features.**

City Plan 2030 Policies

Env 3 - Development Design – Incorporating and Enhancing Existing and Potential Features

NPF4 Policies

Policy 7 - Historic assets & places
Policy 14 - Design, quality & place

Development should respond well to and reinforce positive characteristics and features of the site and its surroundings including topography, physical features, built form, urban grain, views and vistas. This is particularly important in historic settings, conservation areas and natural assets where, in addition to the historic settlement pattern and the general character of the wider context, features such as landscape elements, plot boundaries, enclosures and pedestrian routes should inform the design.

Views

Integrating and celebrating local and citywide views in a new site layout can anchor a development in the city and its local neighbourhood context, provide a sense of place, support wayfinding and enhance the amenity of new streets, squares, and open spaces.

The height and massing of buildings can affect the availability of views. *See "2.2.3 Height and Form" on page 78.* Consider how views to be retained might be affected by any adjacent redevelopment. The demolition of buildings, where justified, may also open up previously hidden vantage points.

Incorporating views in developments should be considered in addition to the specific views and vistas which protect designated assets, sites or their settings.

Retaining views: *The massing of the new buildings in Caltongate frame the view across to Nelson's monument*

Natural features

Trees and planting make a significant contribution to the streetscape character, backdrop and setting of many parts of the city. Layouts should retain existing trees, woodland, hedgerows and other biodiverse habitat, including naturalised land. Natural features should be integrated with the layout of new streets, buildings and open spaces. In addition to enhancing or restoring ecological value, this contributes to the city's blue green network, providing connectivity for people and wildlife and building resilience to climate change. See Chapters *"1.3.2 Green Blue Infrastructure" on page 25*, *"1.4.1 Biodiversity" on page 30* and *"1.4.2 Trees & Woodland" on page 34.*

Retaining trees: *The mature street trees on Comely Bank Road contribute positively to the streetscape and were retained as part of the design and layout of the Edinburgh Academical stadium.*

Landscape elements, including hills and natural landforms, the coastline, watercourses and urban edge should be retained and enhanced to provide structure within the townscape and a transition between the built-up area and its surrounding landscape and countryside.

Intact layouts, essential characteristics or remnant features of gardens and designed landscapes of regional

Integrating trees, Malta Terrace: *Existing trees have been carefully integrated into this housing development*

and local interest should be understood through historic landscape appraisal and retained and interpreted as appropriate.

Buildings and built elements

Existing buildings and boundary elements (such as walls or railings) can contribute positively to a development's character, even where these are not listed or in a Conservation Area. Where this the case, their retention is encouraged.

Where this is not possible, historic fabric and materials can be re-used on site, adding to the character and interest when integrated with new high-quality architecture and landscape design, minimising waste. This could include the salvage and re-use of bricks, carved stone, cast iron/steel/concrete elements and setted paving.

Retention of existing buildings - *As part of the redevelopment of the former engine yards at Shrubhill, the conversion of the redundant tram sheds has safeguarded an important landmark that makes a special contribution to the surrounding area, while retaining the embodied carbon of the buildings.*

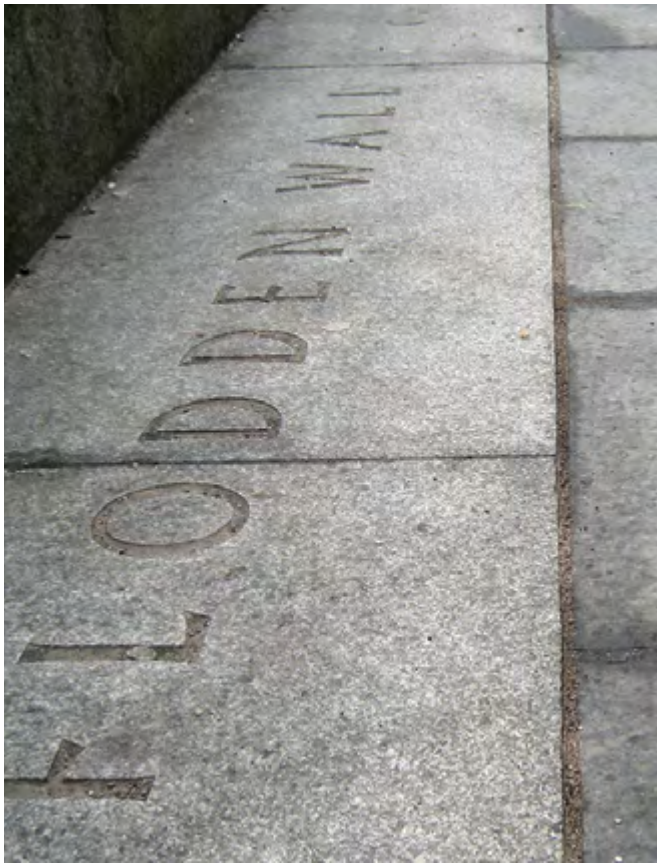
An unlisted building can make a positive contribution if, for example, the property:

- has significant historic associations with local people, past events, or the development of the conservation area;
- has landmark quality;
- reflects the traditional functional character of the area;
- has characteristics that match a substantial number of other buildings in the conservation area;
- is related to or contributes to the setting of adjacent historic buildings.

In exceptional circumstances it may be appropriate for a proposal to rebuild or build to a pre-existing or reconstructed design where, for example, there is a gap in an existing formal scheme.

Archaeological features

Non-designated archaeology should be assessed and recorded to understand its importance and inform decisions about land use change. This can inform site design and layout as well as providing the opportunity for learning and to explain the site's history alongside its contemporary use.



Archaeological Interpretation Flodden Wall: *The archaeological remains of the Flodden Wall are below these markings in the hard landscape of the Grassmarket. Their retention helps the understanding of the history of the city.*

1.1.3 VISUAL IMPACT, SKYLINE & PROTECTED VIEWS

Consider the visual impact of a development on its surroundings.

Protect views and the setting to landmark buildings and topographical features and conserve the city's unique skyline.

City Plan 2030 Policies

Env 3 -	Development Design – Incorporating and Enhancing Existing and Potential Features
Env 4 -	Development Design – Impact on Setting
Env 9 -	World Heritage Sites
Env 11 -	Listed Building – Setting

NPF4 Policies

Policy 14 -	Design, quality & place

Protecting views - *The experience of walking along Bruntsfield Links reveals views of the Castle and across to Salisbury Crags and Arthur's Seat. These views are protected as view S1b and S1c - see Appendix 2 for further information, including links to the View Information Sheets.*

Visual Impact

The visual impact of a proposal must be considered from a range of distances and orientations to test how it will appear from different vantage points. These include hill tops, paths and green spaces, visual corridors along streets and roads, bridges and residential neighbourhoods. This impact should be considered in the short, medium and long term. Views to important landmark features in the landscape and built area should be retained. This includes, but is not limited to, the city's Protected Views.

Landscape and Visual Impact Assessment (LVIA), as part of an Environmental Impact Assessment (EIA), examines likely significance of a proposal to the landscape resource and people's views and visual amenity.

For projects not requiring an EIA, Landscape and Visual Appraisal (LVA) helps to understand a proposal's layout, height, scale, and materials in relation to its surroundings.

Alongside plans, sections and elevations, accurate visual representation (AVR) can help to communicate a proposal to local communities, stakeholders, planning officials, and elected members.

Refer to *Guidelines for Landscape and Visual Impact Assessment, Landscape Institute and the Institute of Environmental Management and Assessment* and related *Landscape Institute Technical Guidance Notes*

Limiting the height of buildings to maintain a view - *The height of this student accommodation on the corner of Abbey Mount and Abbeyhill was limited to maintain views across to Whinny Hill from Regent Road Park. This helps to reinforce the city's landscape setting and visual containment, which contributes to the sense that Edinburgh is a compact city.*

Significant Landmarks and Visual features

The topography of Edinburgh has shaped the way the city has evolved. The setting of the city, between the open hills and the Firth of Forth, and the impact of volcanic hills and ridges which define the built form, create a very strong sense of place. This establishes views to and from many key features around the city and allows the city to be defined by its topography rather than the height of its buildings.

To protect this aspect of Edinburgh's character, the city's most striking visual features and views to them from several public vantage points have been identified. The landmark features which are to be protected include:

- The Castle, Castle Rock and Tolbooth St John's Spire.
- Calton Hill.
- The Old Town spine.
- Arthur's Seat and the Crags.
- The New Town.
- Coastal backdrop and Firth of Forth.
- Open Hills.
- The Forth Bridges.
- St Mary's Cathedral Spires.
- Fettes College.
- Craigmillar Castle.

Detailed guidance on protecting views of these landmark features and the list of recognised protected views is in *"Appendix 2 - Protected Views" on page 121*

Protecting Edinburgh's Skyline *- The view of Calton Hill from west escarpment of Long Row, Whinny Hill is protected (view no. E05)*

Sky Space

One mechanism for protecting the views has evolved from a study of views and skylines undertaken for the Council. Essential to implementing the guidance is an understanding of the concept of 'sky space'. Sky space is the space around the city's landmark features that will protect their integrity. Once the sky space is 'pierced' by a development, it has started to impact on a protected view. Although there is a general presumption against breaking the sky space, if a development can demonstrate that it adds to the city's skyline in a positive way and enhances the character of the city, it will be supported subject to it meeting other relevant policy considerations. It should also be noted that a development can have an adverse effect on the skyline, not by breaking the sky space, but through being too large in its built form or by failing to recognise the importance of rooftop detailing and modulation.

Tall buildings

Proposals for higher buildings will need to consider the scale of surrounding buildings as well as their potential impact on protected views. More guidance on height and form is provided in *Chapter "2.2.3 Height and Form" on page 78*. Applications must be accompanied by:

- A townscape and visual impact assessment.
- An analysis of context including a strategic justification for the proposed location.
- Visualisations (including photomontage) at different scales that demonstrate impact on distant views, townscape, the street level experience and, where relevant, the cumulative impact of tall building clusters. Images may also be required to show impacts at night and in different seasons.
- Environmental modelling that addresses safety and amenity issues related to wind force and safety, thermal comfort (wind chill and overheating), noise levels, air quality and overshadowing. Modelling should also address mitigation measures.
- Details of existing above ordnance datum (AOD) levels across the site, and the AOD heights of proposed built form.

1.1.4 COORDINATE DEVELOPMENT

Demonstrate a comprehensive approach to development and regeneration.

Reinforce and/or futureproof connections to surrounding streets, spaces, green-blue networks and facilities.

Show how layout will enable effective development of neighbouring land.

Replicate existing positive characteristics of streets and spaces.

Comply with development frameworks or masterplans that have been approved or adopted by the Council.

On larger sites, engage a multi-disciplinary team to prepare a masterplan that integrates well with the surrounding context.

City Plan 2030 policies

Env 2 - Co-ordinated Development

Env 6 – Green Blue Infrastructure

Env 25 - Layout Design

A comprehensive approach to development is necessary to achieve a well-designed, cohesive networks of streets, open space and green-blue infrastructure. This is particularly important for masterplans and on sites large enough to become neighbourhoods in their own right.

The Council wants development to provide streets and spaces that are safe and attractive for people of all ages and abilities. Streets and spaces should also reflect and reinforce the city's unique character and distinctiveness.

Where appropriate the Council will develop Place Briefs in consultation with local communities which will set out key principles to inform the preparation of a masterplan.

Coordinating with surroundings

Coordinated development requires connections to the surrounding area to be safeguarded, reinforced and/or future-proofed. To do so, site layouts are required to:

- Provide and/or future-proof safe, convenient movement routes *see "1.5.3 Layout Design to Support Sustainable Transport" on page 55*
- Take cues from positive characteristics of surrounding block structure and frontage patterns.
- Provide clear articulation between public, private and semi-private space.
- Respond well to topography.
- Reinforce and extend the green-blue network.

Effective development of neighbouring land

A comprehensive approach to development is also important where there is a possibility that neighbouring sites will be developed in the future, as is often the case with smaller brownfield sites. This will help ensure that the future development of neighbouring sites is not compromised.

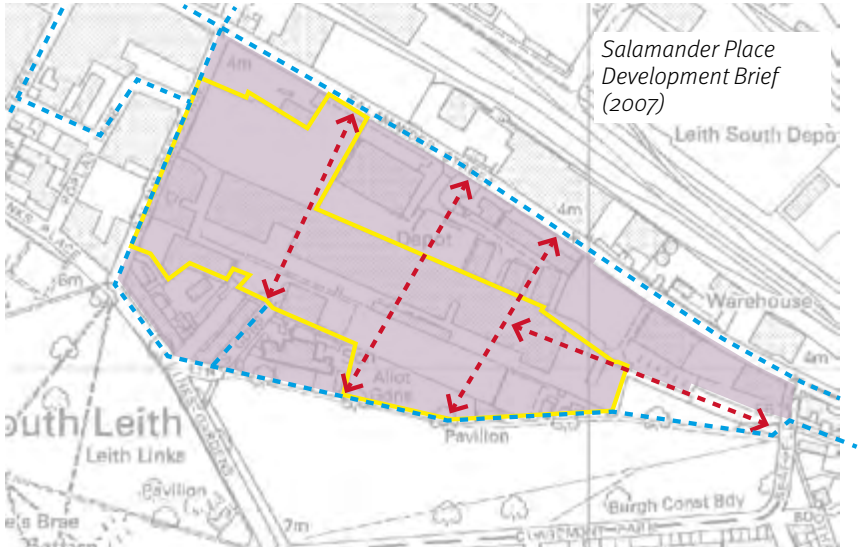
Applicants may be asked to submit information, including indicative layouts, showing how their proposals are designed to enable development on neighbouring sites, including how future connections could contribute to a cohesive network of streets and spaces.

Preparing a masterplan

It is expected that masterplans will be prepared by a multidisciplinary team including architects, urban designers, landscape architects, flood engineers, ecologists and historic environment professionals.

Where a masterplan is prepared it must demonstrate a sound understanding of key issues and opportunities based on an analysis of the wider site context, its setting and its history. In sensitive settings, including urban edge development, this analysis must include a heritage and/or landscape appraisal that examines potential capacity for development on the site and identifies measures to avoid negative impact. *(See "1.1.1 Responding to Context and Place" on page 5)*

The masterplan should support the creation or expansion of integrated, mixed-use neighbourhoods that combine residential, employment, commercial and community uses with easy access to facilities, services and good public transport connections. It must provide a robust development framework for efficient land use, connectivity, urban design, landscape/open space design, built form, infrastructure and service provision, resilient to the changing climate.



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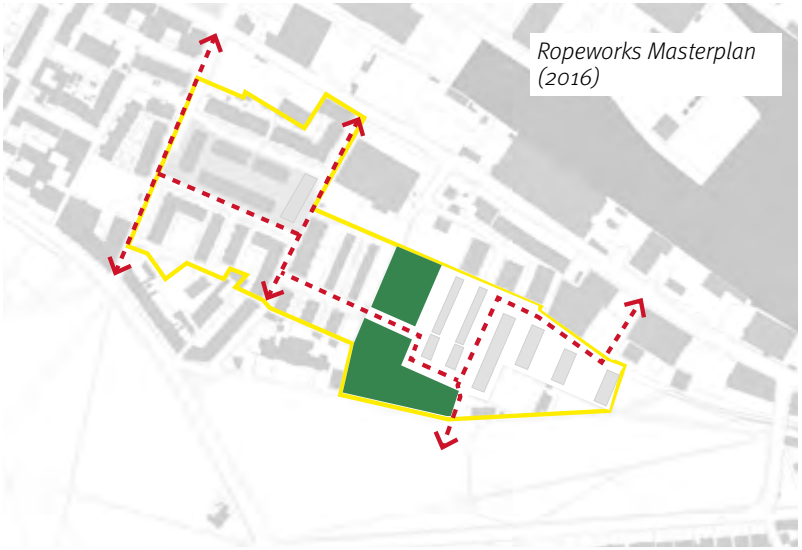


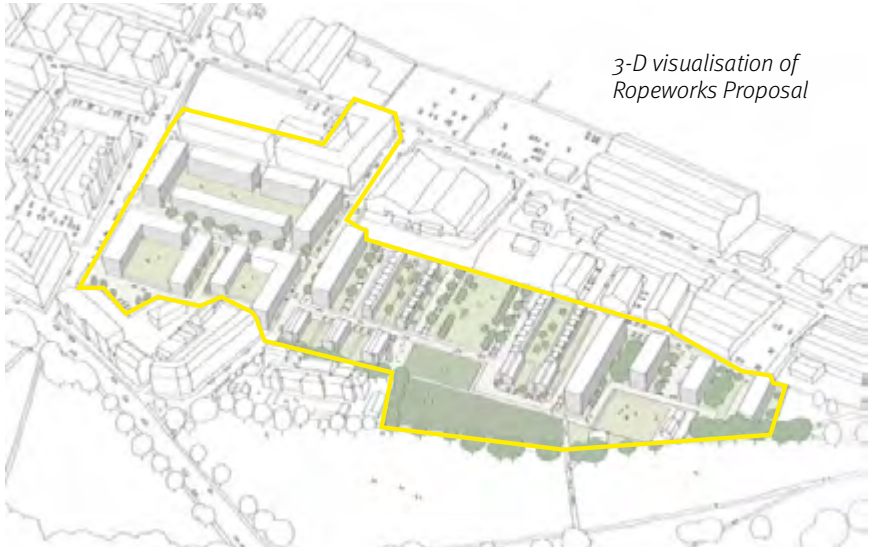


Image copyright: CDA GroupArchitects©

Case study- Ropeworks

The Ropeworks Masterplan (2016) established a framework for residential-led mixed use on a 6-5ha brownfield site north of Leith Links. Preparation of the masterplan involved close collaboration between the Council and the development team, informed by the Salamander Development Brief (2006).

This coordinated development approach enabled phased delivery of a mix of 640 residential units (apartments, townhouses, colony flats), commercial units, a small park and allotments, parking for cars and cycles, and a network of streets and active travel routes with strong links to surrounding streets and spaces. The masterplan also set parameters for building heights, roofscapes, views and vistas in response to the built, landscape and archaeological heritage of the adjacent conservation area.

Development took place in several phases between 2017 and 2023. Infrastructure, including streets, paths and the park, was put in place early. Ropeworks has delivered a high quality, high density, mixed-use extension to the eastern edge of Leith, using a diverse mix of housing typology and size. Its network of streets and active travel routes, lined with active frontages, has significantly improved the connectivity and permeability of the surrounding area, creating safer, more convenient access to local facilities, the Links and public transport stops.

1.2 CLIMATE MITIGATION

1.2.1 WHOLE-LIFE ENERGY APPROACH

Consider the energy used at all stages of a building's lifespan, including the embodied energy in existing and new buildings.

Consider the end of life in the design of new buildings and include materials and building elements that can be easily reused or recycled.

Use the Sustainability Statement, where required, to demonstrate how design incorporates a Whole-Life-Energy Approach.

For the replacement of existing buildings, submit a Whole Life Carbon Assessment that compares the proposed development to the option of re-using the existing building to accommodate the proposed use.

City Plan 2030 policies

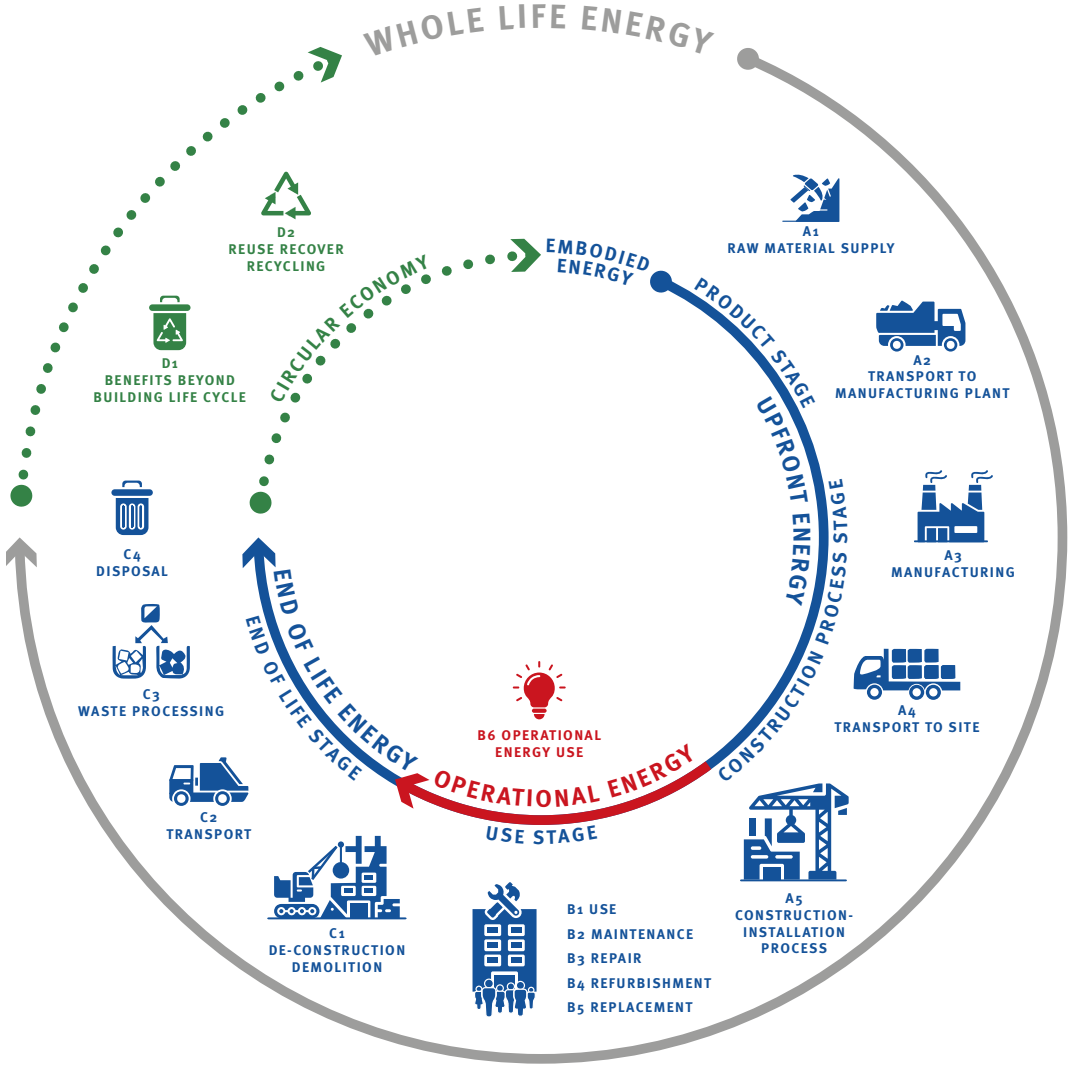
Env 7 - Sustainable Developments

Env 8 - New Sustainable Buildings

NPF4 Policies

Policy 2 – Climate mitigation and adaptation

The embodied energy is the energy involved in the sourcing of materials, transportation, and construction of the proposed design. It includes the building and surrounding landscape. It also includes any replacement materials or components that are needed over a building's lifespan and the energy used to dispose of materials at the end of a building's lifespan.



Whole-Life Energy Approach *- This diagram highlights the different stages across the lifespan of a building where energy is used and/or potentially lost.*

A whole life energy approach considers both the embodied energy in the construction of a building and the operational energy during the use of a building. This must be considered across a building's entire lifespan. The longer a building's lifespan the more efficient the expenditure of its embodied energy. This must be balanced against the efficiency of energy in the use of the building. There are many steps that can be taken to make existing buildings more energy efficient.

If materials can be reused at the end of a building's lifespan this reduces the embodied energy lost in demolition. It also reduces the energy involved in disposing of the materials.

Minimise Embodied Energy of New Buildings

The design of a building can reduce embodied energy in different ways. This includes:

- Optimising the layout, such as by considering how many spaces can be shared or multi-functional.
- Reducing the weight of the building to reduce the load on the structure.
- Specifying materials that use less energy to extract and supply, such as natural and renewable materials.
- Specifying materials that are sourced locally and do not require as much energy to transport them to site.
- Transporting materials in methods that use less energy, such as by reducing the number of deliveries and using electric vehicles.
- Considering the use of Design for Manufacture and Assembly for repeated components that can be constructed more efficiently in factory conditions.
- Developing site layouts and foundation designs that reduce the amount of excavation required and include landscaping that can retain excavated material on site to reduce the amount of soil that goes to landfill.

Minimising embodied energy of new buildings - *The extension to Sciennes Primary School was constructed using stone-clad exposed cross-laminate timber (CLT). The use of CLT minimised the embodied energy by using natural materials that contribute to carbon storage. By exposing the CLT internally a comfortable environment was created without needing additional internal finished. The extension was also designed to Passivhaus standard, reducing the operational energy consumption of the scheme. The external stone cladding responded to the setting of the extension next to a category B listed building in the Marchmont Conservation Area.*
Photos courtesy of Holmes Miller, © Chris Humphreys Photography.

Consider Embodied Energy of Existing Buildings

Where it is proposed to demolish and replace an existing building a carbon assessment must compare the whole life green-house gas (GHG) emissions of the redevelopment proposal against retaining and refurbishing the existing building for the proposed use. To prepare this assessment:

- Existing buildings should not be assumed to have a fixed life expectancy.
- The assessment approach should be consistent in both scenarios. Assumptions should be clearly defined.
- Both scenarios should follow best practice to minimise GHG emissions as far as possible.
- Operational GHG emissions should be shown as a range, representing possible scenarios for occupancy and operation.
- Carbon benefits far into the future should be viewed cautiously due to the higher level of uncertainty.

Consider the End of Life of a Building

End of life GHG emissions are those associated with the demolition, disassembly, and disposal of any part of a building. The design should reduce this by including materials that can be re-used at the end of life of the building.

Where materials cannot easily be re-used they should be designed to be reclaimed or recycled.

Technical Guidance

Sustainability Statement

Applicants must complete a Sustainability Statement (S1) form for all applications, except those relating to householder development. *"Appendix 3 - Sustainability Statement" on page 129.* This should include a summary explanation in plain English of the assumptions and conclusions.

Design for Manufacture and Assembly

This design approach seeks to optimise design so that it can be manufactured and assembled more efficiently, quickly and safety. This typically involves using off-site prefabrication.

Whole Life Carbon Assessments

A whole life carbon assessment calculates the GHG emissions that a development is projected to generate over all stages of its life cycle, including any initial demolition, construction, operation, and end of life demolition (including any GHG emissions generated/ saved from construction materials at this life stage through disposal/reuse).

Whole life carbon assessments should follow the RICS whole life carbon assessment standard. They should express the overall impact in terms of tonnes of CO_2. However, all GHGs should be accounted for by converting their impact into CO_2 equivalent.

For a development that is required to submit a Whole Life Carbon Assessment, this should be included as part of the Sustainability Statement.

Best Practice Targets

The Low Energy Transformation Initiative (LETI) sets out best practice targets for 2030 which can serve as a useful benchmark to evaluate levels of embodied emissions:

- Domestic – Less than 300 $kgCO_2/m2$
- Non-domestic – Less than 350 $kgCO_2/m2$

These targets are based on at least 50% of materials in new buildings being from re-used sources and that at least 80% can be re-used at the end of the life of the building.

Further Reading

- *RICS – Whole Life Carbon Assessment for the Built Environment*
- *UKGBC – Whole Life Carbon Explainer Guide*
- *UKGBC – Whole Life Carbon Roadmap*
- *LETI - Climate Emergency Design Guide*

Sensitive refurbishment can enhance efficiency and heritage *- These flats on Canongate were refurbished by Edinburgh World Heritage in partnership with City of Edinburgh Council. The B-listed flats were designed by Sir Basil Spence. They were refurbished to improve the operational efficiency, while respecting and enhancing the cultural significance. An MVHR system was installed, along with improved insulation and building repairs. The windows were replaced with double glazed windows that also reinstated Spence's original design*

Retention of existing fabric - *The adaptive re-use of this former factory in Fountainbridge safeguarded a substantial quantity of embodied energy while creating an outstanding new resource for Edinburgh Printmakers, including studios, galleries and a café. Photos courtesy Page & Park, © Jim Stephenson,*

1.2.2 BUILDING ADAPTABILITY & MAINTENANCE

Design to maximise the physical lifespan of a building by making sure:

- **It can be adapted to the future needs of different occupiers.**
- **The design allows for effective maintenance and repair.**

City Plan 2030 Policies

Env 7 – Sustainable Developments

Hou 3 – Mixed Communities

NPF4 Policies

Policy 14 – Design, quality and place

Policy 16 - Quality homes

Many buildings are designed with specific uses in mind. If the design becomes too specific it can become very difficult to make changes to the building and give it a new use later.

An adaptable building is one that is easily modified to suit the changing and diverse needs of building occupants or alternative future uses. This maximises the physical lifespan of the building by enabling viable alternatives to demolition and reconstruction.

Design for adaptability

The design can maximise the potential for adaptability. This includes:

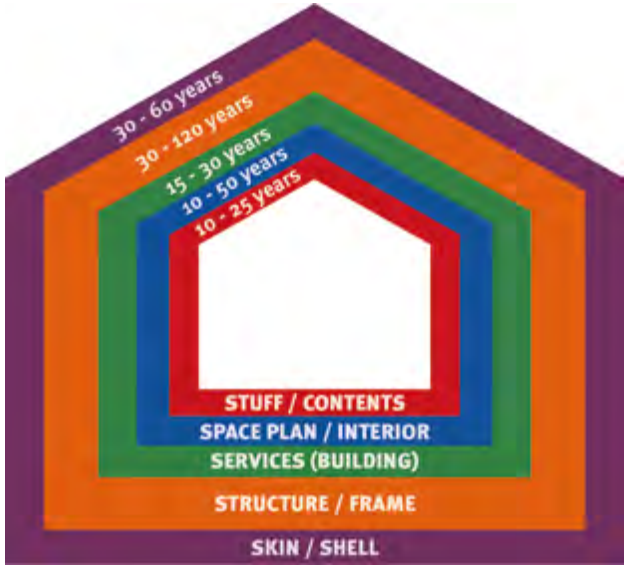
- Designing spaces so they can be re-purposed for different uses in the future in a way that minimises the need for alterations. For example, including partitions or floors slabs that can be re-positioned without compromising the building's structural integrity.
- Incorporating soft-spots or slack space that can be easily adapted to alter and expand the building in the future. For example, designing roof space so that it can easily be turned into floor space.
- Make floor to ceiling heights generous enough (2.6m and above) to accommodate a range of different uses;
- Using modular or gridded designs and avoiding irregular or overly customised spaces.
- Design landscaping that can be adapted to a changing climate.

Adaptable residential development

- Design flexibility into specific residential uses (e.g. Purpose-Built Student Accommodation) so that buildings can be adapted and reconfigured internally and externally to meet the needs of mainstream residential use, including amenity standards.
- Apply Housing for Varying Needs standards to housing design to make sure homes are adaptable to changing and diverse needs of future residents. See *"2.1.2 Housing Mix, Size and Tenure" on page 71*
- Meet the changing needs of households by incorporating space for home-working and generous, secure storage space.

Design for maintenance and repair

- Design service voids to allow sufficient access to cabling and pipework for these components to be easily added, modified, or replaced.
- Make sure that the elements of the building with shorter lifespans can be replaced or repaired without impacting the elements of the building with longer lifespans.



Layers of Change - *The different elements of a building have different lifespans. To extend the overall lifespan of a building the elements with shorter lifespans should be able to be altered or replaced without impacting the elements with longer lifespans. (Please note: Timescales are indicative)*

Adaptable laboratory building: Bioquarter - *This building was designed to allow different types and sizes of laboratory space and all their associated services to be fitted out and changed over time.*

1.2.3 OPERATIONAL ENERGY

Design new buildings for zero-direct operational Greenhouse Gas (GHG) emissions, including:

- **Minimising the energy demand of the building.**
- **Using low and zero carbon generating technology (LZCGT).**

Reduce operational GHG emissions for refurbishment and change-of-use projects.

Use the Sustainability Statement to demonstrate how development will achieve net zero operational Greenhouse Gas (GHG) emissions

City Plan 2030

Env 7 - Sustainable Developments

Env 8 - New Sustainable Buildings

NPF4 Policies

Policy 2 - Climate mitigation and adaptation

Policy 19 - Heat and cooling

Operational GHG emissions are those that are emitted because of a building's energy use. This includes the energy used in heating, cooling, lighting, and ventilating the building, as well as the energy used by the occupants of the building. 'Zero-direct operational GHG emissions' refer to buildings that do not produce any emissions on site. Through a combination of reducing the overall energy demand and using LZCGT it should be possible to reduce the direct operational GHG emissions for new buildings to net zero.

This has the added benefit of reducing energy bills for owners and occupiers.

Minimise Energy Demand

The design of a building can reduce operational energy in different ways. This includes:

- Designing orientation, glazing, and shading to avoid excessive heat loss in the winter and avoid overheating in the summer.
- Considering the ratio between the external exposed surfaces of the building and the internal floor area. The greater the external exposed surface, the more heat that will be lost to the outside.
- Including passive ventilation and cooling methods.
- Using ultra-high fabric efficiency to minimise heat loss.
- Using efficient mechanical and electrical systems.
- Considering the way the building is used by occupants.

Low and Zero Carbon Generating Technology

LZCGT should be used to meet energy demand from a building. This can include renewable energy sources, such as photovoltaic (solar) panels, as well as Zero Direct Emissions (ZDE) heat sources such as air and ground source heat pumps. Depending on the location and design of the building, as well as what nearby infrastructure is available, different energy sources will be appropriate. For example, a taller building will be unlikely to meet the energy requirements solely through photovoltaic (PV) panels, due to the lower ratio between the roof area and the overall building volume.

From April 2024, the Scottish Building Standards require new buildings and some conversions to use to use ZDE heating systems or heat networks instead of direct emission (or polluting) heating systems, such as oil or gas boilers or bioenergy.

In March 2024, in anticipation of this change to the Building Standards, and to exercise its duty under the Climate Change (Scotland) Act 2009, the Scottish Government reported:

- It shall prepare an order to repeal Section 3F of the Town and Country Planning (Scotland) Act 1997, which requires Local Development Plans to contain policies requiring a reduction in emissions from new buildings;
- A review of the Building Standards is underway to deliver a Scottish equivalent to the Passivhaus standard.

In light of the alterations by the Scottish Government to Building Standards regulations, it will not be necessary for the Council to attach a condition to planning permission requiring new buildings to achieve a net zero level of operational greenhouse gas emissions. However, where buildings have exceptionally high operational energy requirements, such as those accommodating energy-intensive uses like swimming pools or data centres, it may be necessary to apply a condition to make sure these energy sources are in place prior to the occupation of the building.

Applicants are strongly encouraged to consider how their buildings will minimise emissions at the outset of the design process to avoid any potential requirement to vary the design to meet the Building Standards.

Where Building Standards will require development to meet its heating demand from a ZDE source or a heat network, this must be reported in the Sustainability Statement that accompanies the planning application.

Technical Guidance

Low and Net Zero Best Practice Standards

Passivhaus is a widely adopted standard for designing buildings that achieve low or net zero operational GHG emissions. The approach combines ultra-high levels of fabric efficiency with a mechanical ventilation system with highly efficient heat recovery.

EnerPHit is an equivalent standard for retrofit schemes, achieving high levels of fabric efficiency and heat recovery while recognising the limitations that come from working with an existing building.

The **Low Energy Transformation Initiative (LETI)** sets out best practice targets which can serve as a useful benchmark to evaluate the levels of energy use intensity:

Residential – 35 kWh/m2.yr

Offices – 55 kWh/m2.yr

Schools – 65 kWh/m2.yr

Note: These targets are based on GIA areas and exclude renewable energy contribution.

LETI also recommends that all new buildings should be designed to achieve a space heating demand target of 15 kWh/m2.yr.

Further Reading

- *Scottish Government - New Build Heat Standard*
- *LETI - Climate Emergency Design Guide*
- *LETI – Client Guide for Net Zero Carbon Buildings*
- *UKGBC – Net Zero Carbon Buildings Framework*

Minimising Energy Demand - Granton Station View. *The development consists of 75 homes for social and mid-market rent. Also on the site are four commercial spaces, communal energy centre, communal bike storage and a private courtyard. The project utilised off-site manufacturing to construct a low energy consuming development. This included enhanced building fabric performance, enhanced window specification using triple glazing, a communal energy centre featuring air source and water-water heat pumps, photovoltaic panels and EV charging. The projected operational energy for space heating is an average 19.39 kWh/m2/year for the flats.*

1.2.4 SUSTAINABLE HEATING AND HEAT NETWORKS

Connect to an existing heat network where available and accepting new connections.

If this is not possible, create a heat network with no adverse impact on air quality; and/or

Use Zero direct emissions heating systems for individual buildings and enable cost effective connection to any planned networks.

City Plan 2030 Policies

Env 7 - Sustainable Developments

Env 8 - New Sustainable Buildings

Inf 16 - Sustainable Energy and Heat Networks

NPF4 Policies

Policy 19 – Heat and Cooling

Heat networks are expected to play an important role in providing heat and hot water to new and existing buildings throughout Edinburgh. The establishment and expansion of heat networks is needed to enable a transition to net zero no later than 2045, in line with *Scotland's Heat in Buildings Strategy (2021)*.

Existing heat networks

There are 153 existing heat networks in Edinburgh as illustrated in the adjacent map.

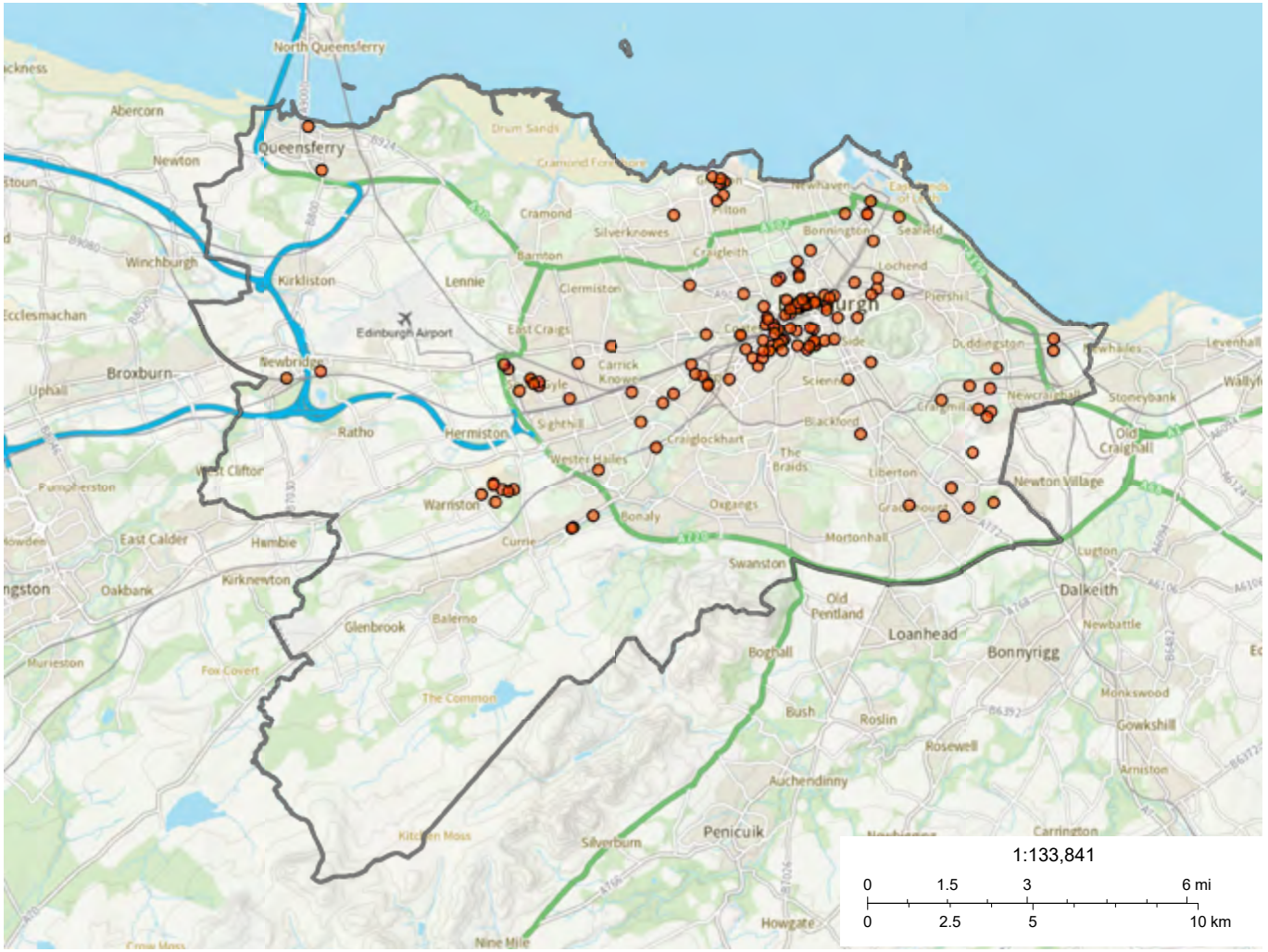
Some networks are not fully de-carbonised, which is accepted as a short-term scenario since many of these networks utilise surplus heat that would otherwise go to waste and/or these networks are expected to be de-carbonised by 2045.

Developments in and/or adjacent to an area containing a heat network that is accepting new connections should connect to it.

New heat networks and sustainable heating systems for individual buildings

Where connection to an existing network is not possible the development should employ:

- a new heat network created by the development with no adverse impact on air quality; and/or
- zero direct emissions heating systems for individual buildings.



Map of existing heat networks and communal heat networks in Edinburgh

Heat network opportunities

Heat networks are particularly well-suited to areas of high residential density, where concentrated demand makes the network more viable.

Heat networks also represent a significant route to net zero for:

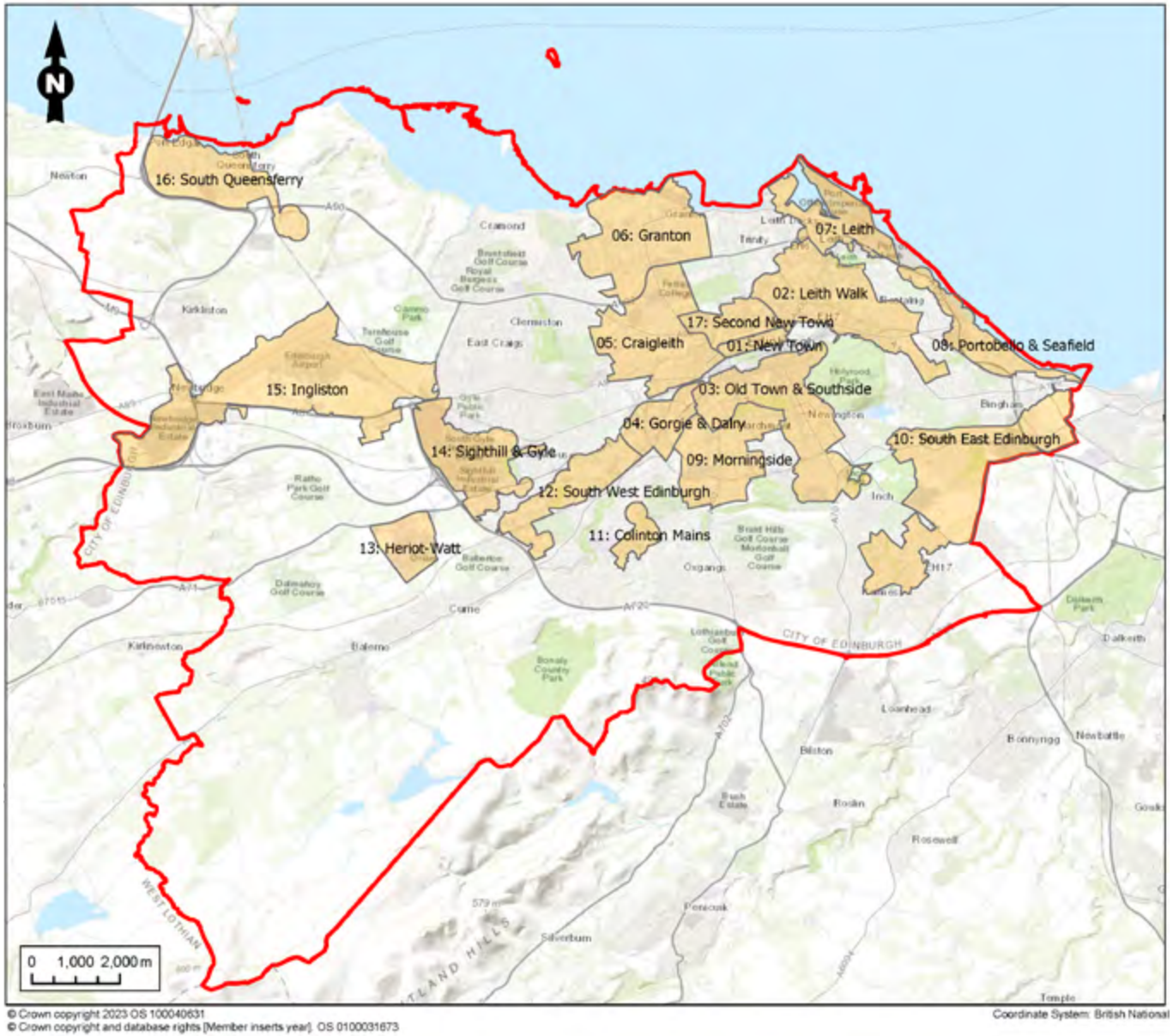
- properties, including tall buildings, that struggle to generate enough zero-carbon energy on site to meet their heating and hot water needs.
- historic properties where opportunities are limited to improve fabric efficiency and/or employ net zero heating solutions such as air source heat pumps.

The *Edinburgh Local Heat and Energy Efficiency Strategy (LHEES)* and accompanying delivery plan provides a long-term strategic framework to reduce greenhouse gas emissions associated with heating our buildings. This includes migrating heating systems away from fossil fuels-based solutions, such as gas boilers, to zero direct emissions solutions such as heat pumps and heat networks. The delivery plan proposes Heat Network Zones representing areas of opportunity for district heating.

If the development site falls partially or wholly within, or adjacent to:

- a planned heat network,
- statutory heat network zone,
- a prospective heat network zone,

the proposals must be designed and constructed to allow for cost-effective connection to a future heat network at a later date.



Map of prospective heat network zones.

1.3 CLIMATE ADAPTATION

1.3.1 DESIGN FOR A CHANGING CLIMATE

Design for a changing climate that includes higher volumes and greater intensities of rainfall and heatwaves.

Use analysis of the existing and historic water environment to inform the design concept.

Submit a Surface Water Management Plan demonstrating that:

- **the first 5mm of rainfall will be managed at plot level, and**
- **rainwater run-off will be managed in stages as it drains through the site.**

Avoid using underground tanks to store storm water.

Use nature-based solutions to address flood risk impacts and heatwaves.

Naturalise and de-culvert underground watercourses wherever possible.

Submit a Flood Risk Assessment where the site is identified for flood risk management.

City Plan 2030 policies

Env 6 – Green Blue Infrastructure
Env 29 – Waterside Development
Env 34 – Pollution and Air, Water and Soil Quality
Env 35 – Reducing Flood Risk
Env 36 – Designing for surface water

NPF4 Policies

Policy 2 - Climate mitigation and adaptation
Policy 22 – Flood risk and water management

Edinburgh's changing climate is projected to lead to hotter temperatures, heatwaves, droughts and a greater risk of flooding. Some risks may coincide to create greater challenges, such as the combination of sea level rise and severe storm surge that causes coastal flooding.

Development needs to be resilient to a variety of possible future climate events and conditions, ranging from peak storms to extreme drought and heatwaves.

Edinburgh's *Vision for Water Management (2020)* commits to a long-term and sustainable approach to river, coastal and storm water management. The *Climate Ready Edinburgh Plan (2024)* sets out how the city will adapt to variable and extreme weather conditions.

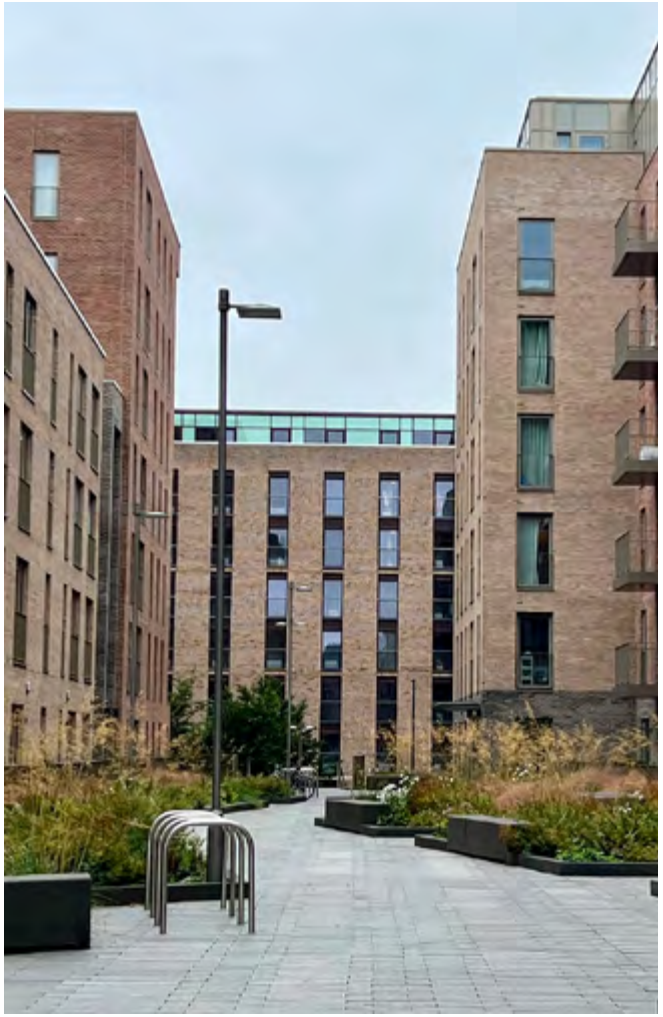
For detailed advice, refer to the Council's:

- *Flood Risk and Surface Water Management Plan Guidance*
- *Sustainable Rainwater Management Guidance*.

Surface water management

A Surface Water Management Plan (SWMP) is required for all detailed applications involving new buildings (except householder applications and alterations).

Sustainable Drainage Systems (SuDS) are a legal requirement under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 when discharging surface water to the water environment (except for a



Nature-based solutions: Rain Gardens *- McEwan Walk in Fountainbridge uses rain gardens to manage rainwater and address the risk of flooding They also enhance to the overall quality of the public realm.*

single dwelling house or discharge to coastal waters). All SuDS schemes should be designed to comply with *CIRIA C753 The SuDS Manual* and should gain agreement from Scottish Water.

Where it is proposed to discharge surface water from the site, applicants may be required to provide confirmation that this has been agreed with Scottish Water/SEPA/the relevant landowner (as applicable).

Surface water management should:

- Be considered at the outset of the design process to ensure multiple benefits are realised. For larger schemes, the Council expects the SWMP to be prepared by a multi-disciplinary team, including engineers and landscape architects, and sensitively integrated into the urban design/landscape framework.
- Manage the first 5mm of rainfall at a plot level and manage run-off in stages as it drains through the site;
- Use SuDS and nature-based solutions to create a system that is safe, reliable and effective over the lifetime of the development and avoids pumping, pinch points, blockage and long-term storage in underground attenuation tanks (see guidance below on nature-based solutions);
- Where relevant, take account of landslip risk from peak rainfall events;
- Maximise opportunities to reuse and harvest rainwater by providing, for example, smart rainwater butts /rainwater planters;
- Disconnect existing surface water outfalls into sewers wherever possible, removing redundant surface water pipework on and adjacent to the site in collaboration with the Council and Scottish Water.

SuDS integrated from the outset *- Sustainable rainwater management was considered from early in the design process of Meadowfield Park in West Craigs. It forms an integral part of the wider park. The park has been designed with a raised timber walkway and wildflower meadow planting.*

Flood Risk Assessment

Flooding can happen because of pluvial (overland) flow or fluvial (river) flow, or in certain coastal conditions.

All applications (excluding householders and alterations) must be accompanied by a Flood Risk Assessment (FRA) if one or more of the following circumstances apply:

- The online SEPA Flood Maps identify flooding at, or nearby, the site from any source.
- Historic flooding has been recorded in the area.
- The site is close to a watercourse, drainage ditch, or water body that poses a potential flood risk.
- The application is for major development, as defined under the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009.

Where a proposal involves change of use to a less vulnerable use class, the applicant should check with the Council's Flood team whether an FRA will be required.

FRA should account for contemporary climate change allowances, including heavy rainfall, fluvial flooding and sea level rise. Some coastal sites may require more detailed analysis (e.g. wave overtopping studies).

Further Information on FRA is set out in the Council's Flood Risk and Surface Water Management Plan Guidance.

Nature-based solutions

Nature based solutions use green and blue infrastructure to address problems such as flood risk and surface water management and are key to addressing heat issues. *See Chapter "1.3.2 Green Blue Infrastructure" on page 25.* Unlike 'hard engineered' infrastructure, nature-based solutions are more resilient to climate change and offer a wider range of benefits aside from their primary purpose. Typically, they provide natural habitats, thermal regulation and attractive outdoor environments for leisure and recreation.

Nature-based solutions should be used wherever possible for all aspects of water management, to improve water quality and to help keep the urban environment cool. This includes:

- Integrating green roofs and/or green walls into building design *See Chapter "1.4.3 Green Roofs" on page 39*.
- Maximising vegetation and trees on site to provide shade and to reduce both the volume and rate at which water enters rivers and drainage systems. *See Chapter "1.4.2 Trees & Woodland" on page 34*.

Where appropriate, open space should be designed to be both usable and provide temporary, safe storage space for water, such as through the creation of a rain garden. To do so, the space should not be enclosed or fenced off and should be capable of being maintained by grass cutting machines. Grassed slopes should be no steeper than 1:6. Steeper slopes will require planting with suitable plants that do not require cutting. In some circumstances, designs may need to be agreed with Scottish Water through a waiver process.

For detailed examples refer to the *Council's Sustainable Rainwater Management Guidance.*

Naturalising and de-culverting watercourses

The history of a site, including the presence of culverted rivers, streams or historical springs, and the risks and opportunities for water movement should be appraised very early on in the design process and used to test and inform preliminary design concepts.

Wherever possible, development should daylight culverts and naturalise modified rivers, for example through the formation of riffle and pool sequences and natural bank and riparian corridor enhancement.

This may not be appropriate where the heritage/ archaeological value of the channel is exceptionally high.

Interventions should make use of soft engineering and natural flood management techniques. Designs must take into account potential for:

- fluvial erosion;
- bank collapse;
- landslip processes due to expected increased energy in river systems; and
- washout or landslide of steep slopes due to the increased intensity of rainfall.

New river valleys should be varied in gradient and designed as an interesting, attractive, and visually diverse landscape. Public access should be restricted to one side of the river enabling establishment of a nature-rich landscape on the opposite bank.

Further Reading

Climate Ready Edinburgh Plan (2024)

SuDS providing significant additional benefits, Oxgangs *- This nature-based SUDS solution provides an attractive landscape setting to adjacent homes while also enhancing biodiversity.*

Limiting potential benefits through fencing *- This SuDS basin limits the opportunities to maximise amenity and biodiversity benefits by being fenced off from the surroundings. This type of SuDS solution does not conform with the guidance recommended in this chapter. In general, carefully designed SUDS solutions avoid the need for fencing.*

Technical Guidance

The SuDS Management Train

A sustainable drainage system is made up of a series of different stages called the management train. Each stage of the management train will perform a function, reducing water quantity, slowing water flow and filtering sediments and pollutants.

Larger sites may need several management trains draining to separate locations. In locations where the final out flow from site could affect water quality in an area of high environmental sensitivity, extra treatment stages may be needed.

The CIRIA guidance also provides a detailed description of how and which SuDS features are most effective in treating different kinds of sediment and pollution.

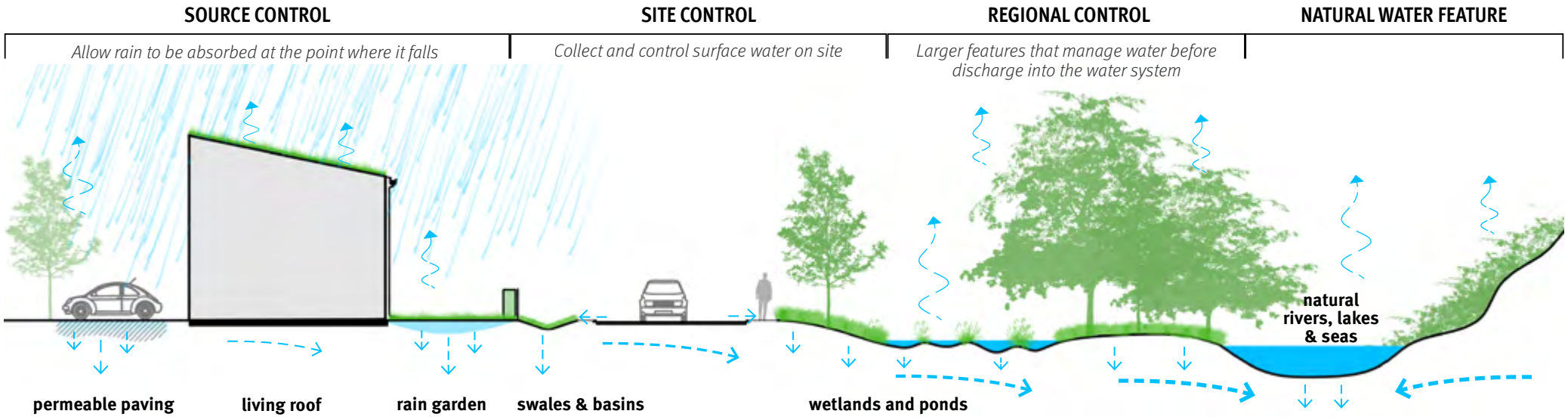
For further information please refer to the Edinburgh Sustainable Rainwater Management Guidance

The number of stages and the type of SuDS features used will depend on:

- *the location, geography and character of the site*
- *the environmental sensitivity of the surrounding area*
- *the type of waterbody or drainage system the site will discharge to*
- *the type of development*
- *the size of the site*
- *the type of activity on the site*
- *the nature of the surface water runoff*

Designing for Water Quality

- ☑ ***DO** use good housekeeping to prevent pollutants entering the water system wherever possible*
- ☑ ***DO** use Interception (infiltration at source into the ground and vegetation to fix pollutants in the surface layers of the soil).*
- ☑ ***DO** provide Water treatment -using SUDS to convey, filter and attenuate water (removing sediments).*
- ☑ ***DO** plan for maintenance and remedial work to remove pollutants captured in sediment*
- ☑ ***DO** create a resilient system that allows for future climate change and urban creep.*



1.3.2 GREEN BLUE INFRASTRUCTURE

Show that design and layout is informed by an appraisal of green blue infrastructure on and near the site.

Use layout and green blue infrastructure such as SuDS and landscaping to reinforce the surrounding green blue network, forming direct connections wherever possible.

Make sure green blue infrastructure delivers benefits for people, wildlife, and water management, including providing resilience to climate change.

Submit a management and maintenance plan detailing the delivery, establishment, and long-term maintenance of green blue infrastructure, including funding arrangements.

City Plan 2030 policies

Env 6 – Green Blue Infrastructure

Env 20 - Protection of Trees and Woodlands

Env 27 – Public Realm, New Planting and Landscape Design

Env 29 – Waterside Development

Env 36 – Designing for surface water

Env 37 – Designing-in Positive effects for Biodiversity

NPF4 Policies

Policy 20 – Blue and green infrastructure

Green blue infrastructure refers to natural and semi-natural components of open space such as:

- Street trees
- Hedgerows and verges
- Greenspace
- Parks, play areas and other public open space
- Active travel routes
- Green roofs/walls
- Nature habitats
- Green corridors
- Watercourses
- Woodland
- Tree belts
- Sustainable Drainage Systems (SuDS)

A green blue network is formed when components combine which can enhance and expand the benefit they provide. Network connectivity is a key priority for green blue infrastructure design.

Green blue infrastructure and networks typically fulfil a range of functions. They underpin the city's response to climate change by promoting carbon sequestration, managing water and flood risk, regulating temperature, improving air and water quality, and addressing the nature crisis.

Green blue infrastructure and networks can also make a significant contribution to:

- Promoting good mental health and healthier lifestyles by providing access to nature for people living and working in or visiting the city.
- Providing natural, attractive routes for walking, wheeling, and cycling.
- Creating opportunities for food growing and restorative outdoor activity such as socialising and play.
- Providing habitats, linkages and 'stepping stones' for biodiversity.

Coalie Park *- Access and amenity improvements have been carried out at Coalie Park by the Water of Leith, east of Great Junction Street*

Edinburgh's Strategic Green Blue Network

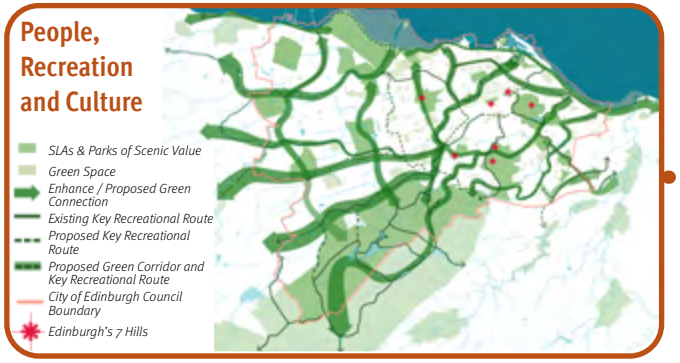
Although green blue infrastructure and networks exist at all scales, analysis has been done to better understand Edinburgh's Strategic Green Blue Network. This identifies green blue nodes and routes between that are of particular importance to Edinburgh in terms of biodiversity, water management and/or people.

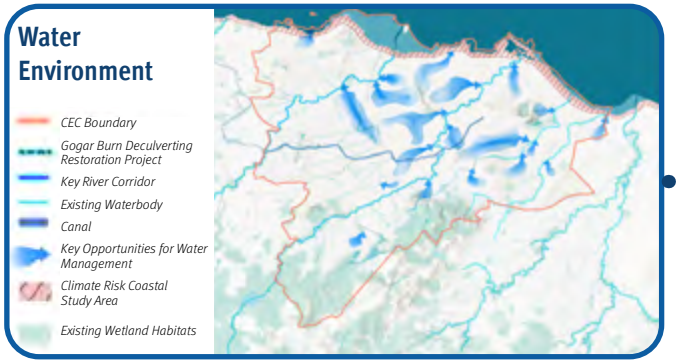
This analysis has informed initial identification of opportunities to further connect, expand and enhance the network.

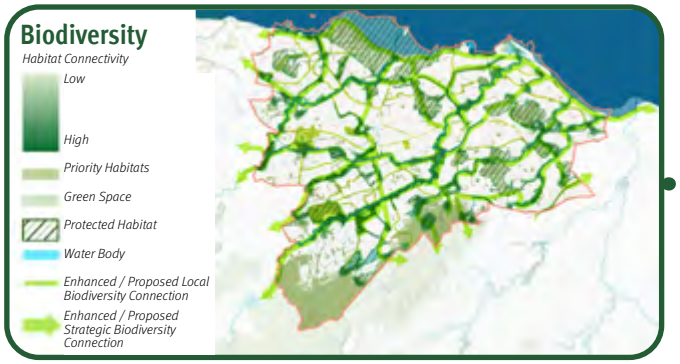
Mapping has been produced showing Edinburgh's Green Blue Network at the strategic, city-wide scale. This distinguishes between parts of the network, such as infrastructure important for water management, biodiversity and/or recreation.

It also identifies areas where these functions overlap, for example along the Water of Leith which is important for water, people, and biodiversity.

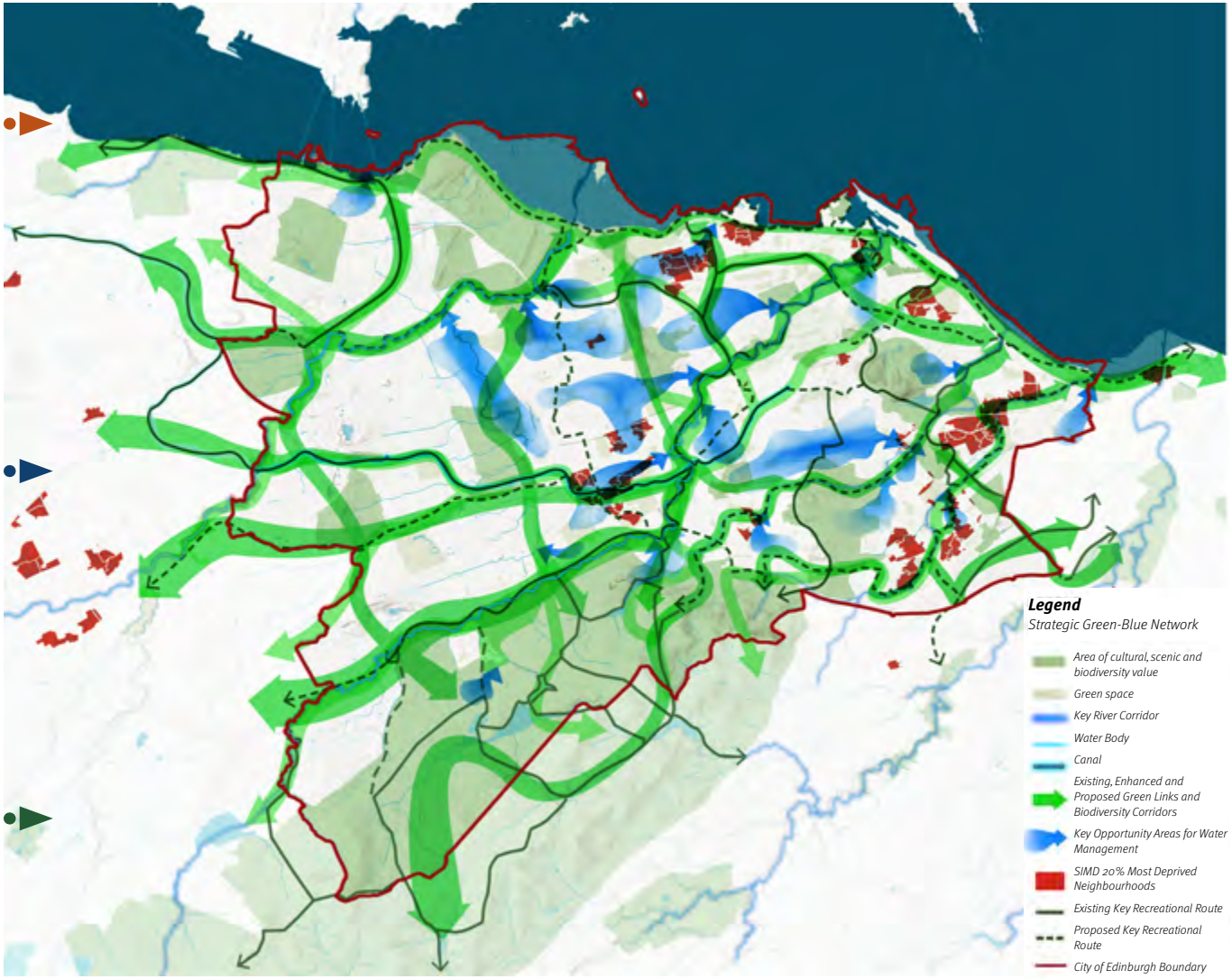
Further information on the network is available on the *Edinburgh Green Blue Network Storymaps website.*







Edinburgh's Strategic Green Blue Network



Development is expected to protect and reinforce the Green Blue Network, forming links wherever possible or, where this cannot be achieved (e.g. due to site location), strengthening connections to the local network of habitats, open spaces, watercourses, footways, and cycle routes.

Development within or adjacent to the network should take account of the nature of the network in the area. For example, where development sits within an area of importance for surface water management, the design of open space should include capacity for managing and attenuating run-off within the site in addition to handling incoming flows.

There is an additional requirement for tree planting on sites in and adjacent to the Green Blue Network *see Chapter "1.4.2 Trees & Woodland" on page 34.*

Linking to the wider green blue network

Applications will be assessed on the extent to which existing and proposed green and blue features on the development site provide links and/or "stepping stones" to habitats, species, water environments and active travel routes (existing and consented) beyond the site boundary. Design should facilitate connections at:

- high level (e.g. tree canopy)
- medium level (e.g. hedges)
- low level (e.g. wildflower meadows)
- below-ground level (e.g. for temporary and permanent water storage, management, and movement).

On-site green blue infrastructure

Development at all locations is required to integrate green blue infrastructure into design and layout. Infrastructure should be designed to serve a range of functions. Further guidance is presented in *Chapters "1.3.1 Water Environment" on page 21, "1.4.1 Biodiversity" on page 30, "1.4.2 Trees & Woodland" on page 34, "1.4.4 Landscape Design and Public Realm" on page 41, "2.3.1 Creating Safe Places" on page 94*.

Improvement and provision of green blue infrastructure must be considered at the outset of the design process and must inform the design and layout of buildings and open space. It is anticipated that this will require input from a range of specialists, such as an ecologist, hydrologist, landscape architect etc. The applicant's Design Statement should demonstrate how design and layout has been informed by contextual analysis of existing infrastructure, and collaboration between relevant specialisms. The applicant is also required to submit a Management and Maintenance Plan that identifies parties responsible for maintenance and funding.

Linear green blue features are very often required for effective connectivity between networks. This should be reflected in the design and layout of streets, footways, cycle routes, SuDS features, parks, and woodland.

Opportunities will vary according to the scale and context of development. In major development, the design and layout of streets and spaces is expected to deliver a network of multifunctional green spaces accommodating, for example, active travel routes, multi-user paths, a variety of recreational uses, and SuDS features.

The potential for the network to accommodate ground source heat pumps should be fully explored. See *"1.2.4 Sustainable Heating and Heat Networks" on page 19*

Forthquarter Park *- Space for nature is incorporated into the design of this recently established park in Granton.*

Large public open space— Figgate Park. *This public park is a major component of the green/blue network.*

Technical guidance

These sketches illustrate how green/blue networks can be integrated within a range of development scenarios and at different scales.

Framework planting

The Council supports substantial framework planting that seeks to integrate and connect multi-functional green infrastructure features as guided by site specifics and local landscape character.

Masterplans are required to provide adequate space for large growing native tree species to achieve maturity and form woodland habitat. Planting should also provide a secure setting to multi-user paths, cater for active travel, define a variety of recreational uses within open space, and incorporate SuDS, whilst allowing integration with the street layout and built form. In urban edge situations, a landscape edge will also be required to integrate development with the surrounding countryside and landscape setting of the city.

These provisions can vary in width depending on the development scenario but for some major development, spaces that are 30-50m wide may be necessary to accommodate a full range of green infrastructure functions. Any such woodland and tree belt planting would benefit from being established early so they can provide visual screening and shelter as soon as possible.

Development in the vicinity of a watercourse

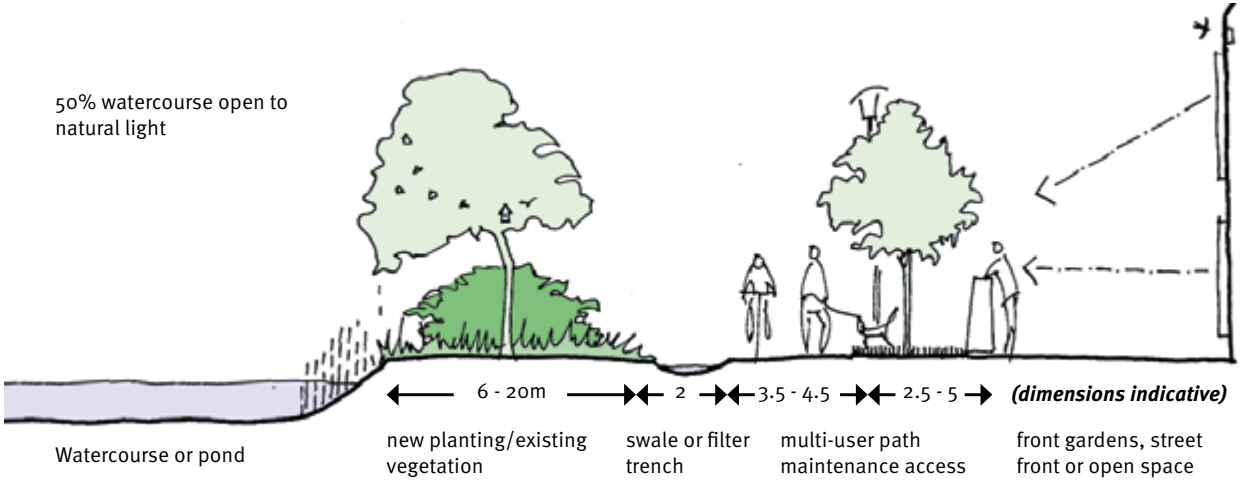
If it is proposed to locate buildings close to a watercourse, early discussions with the Council's Flood Risk Unit and a full appraisal of flooding scenarios are required *see Chapter "1.3.1 Water Environment" on page 21*.

Development should be set-back from the watercourse to reduce flood risk, allow rivers to naturally adjust over time, provide space for vegetation to stabilise banks and create habitat for wildlife, enable natural light to reach the channel, and assist in filtering surface water. A greater setback to development may be required on the outer bank of a meander.

The buffer zone should be proportionate to the width of the river as measured from the top of the bank and can range from 10m for a narrow channel to 30m for a wide river.

The recommended minimum zone widths should also reflect the site context e.g. where the site contributes to the blue green network, public access to the water's edge is required or to reflect its nature conservation or landscape interest.

Channel width	Recommended minimum buffer zone width on each channel bank
< 2 m	10 m
2-15 m	15 m
>15 m	30 m



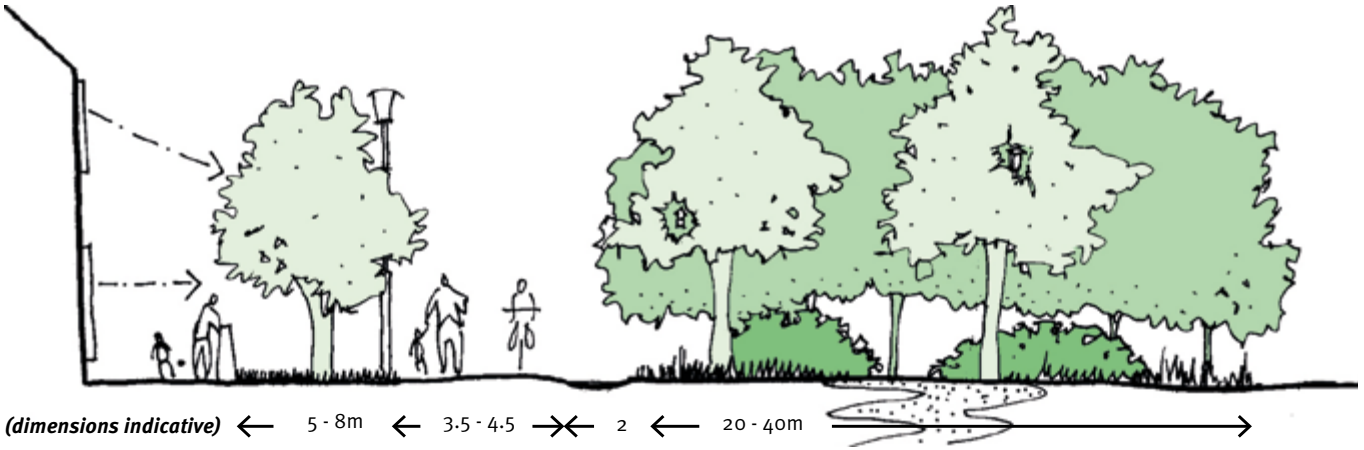
Green/Blue Networks *- Green/blue networks can be aligned with watercourses or permanent (retention) ponds or detention areas providing for Sustainable Drainage, to enhance existing wildlife habitat, whilst providing for amenity, recreation and active travel. New development should provide active frontages to main path routes, open spaces and SUDs features.*

Edinburgh Park *- paths, planting and artwork run along next to the watercourse*

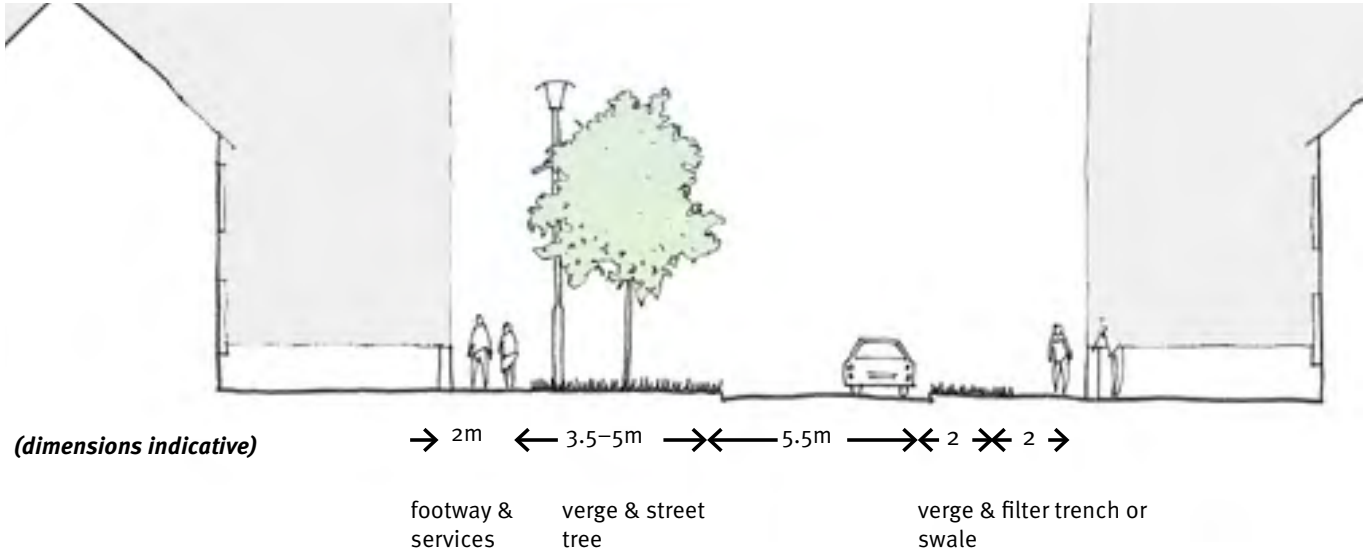
To promote natural bankside conditions, only riverside walls with significant archaeological value should be retained. Other retaining walls should generally be replaced with soft engineering solutions. In areas of historic importance mitigate the potential for natural banks using other methods such as reducing the top part of the wall to provide a wetted bank or cladding on the retaining wall to provide some riverine habitat with tree planting to provide habitat connectivity.

North Meadow Walk *- the footway and cycleway provide for recreational use and active travel. The route is lined with large growing tree species, includes nesting boxes and is set within a broad grass verge. The path is lit and surveillance is provided from surrounding residential dwellings.*

Forrest Road: *This street extends the tree lined avenue of Middle Meadow Walk to George IV Bridge*



Green Corridor - *This density and type of planting is suited to the urban situation and parkland context. Where a rural context exists at the urban edge, native woodland may achieve a more appropriate fit with surrounding landscape character whilst providing shelter for new development.*



Green Street - *The incorporation of trees and other planting within street design should be considered alongside the spatial parameters for movement and access - including visibility, services, lighting, the proposed approach to sustainable drainage and the intended density and spatial definition of the proposed built form.*

1.4 ADDRESSING THE NATURE CRISIS

1.4.1 BIODIVERSITY

Consider biodiversity from the outset, using survey information to inform the scope, design, and layout of the development.

Retain, protect, and enhance features of high biodiversity value including protected and priority species and the habitats which support them.

Maintain the integrity of and connectivity between designated sites of European, national, or local importance.

Enhance biodiversity through restoring degraded habitats, creating new habitats, and incorporating measures to increase biodiversity, including populations of priority species.

City Plan 2030 Policies

Env 21 - Protection of Biodiversity

Env 37 - Designing in Positive Effects for Biodiversity

NPF4 Policies

Policy 3 - Biodiversity

Policy 4 - Natural Places

Information required with planning applications:

- A proportionate *ecological survey report* carried out according to best practice
- Site plans showing ecological features including species, habitats and invasive species
- Where required, a Species Protection Plan detailing appropriate mitigation measures
- Biodiversity Enhancement Plan showing site layout with proposed planting and/or species enhancement measures

Edinburgh's Biodiversity

Edinburgh contains a diverse range of ecological assets which contribute to its character and provide essential ecosystem services for it's residents. These include:

- International, national, and locally designated sites
- European and nationally protected species (such as Bats, Otter, Great Crested Newt and Badger)
- Priority species and habitats identified in the *Edinburgh Biodiversity Action Plan*
- Information on designated sites is available on the *Council's website*. Species records for Edinburgh are held by *The Wildlife Information Centre*.

Strengthening the Edinburgh Nature Network *- To strengthen the Edinburgh Nature Network, this meadow next to a former bonded warehouse overlooking Leith Links was planted with an urban pollinator seed mix. © Alexandra Hadley*

Ecological Surveys

Proposals likely to affect a designated site, protected/ priority species or habitat must undertake an appropriate ecological survey. It is important to seek professional ecological advice at an early stage to understand how to avoid ecological impacts wherever possible and incorporate biodiversity into the development design. Ecological consultants can be found via the *CIEEM Member's Directory*

Surveys should follow a two-stage process.

1. A *Preliminary Ecological Appraisal* (PEA) will assess habitats on site and their potential to support protected and priority species.

2. Detailed species survey (e.g. *Bat Survey*) or an *Ecological Impact Assessment (EcIA)* will assess the impact on species and habitats, identify potential mitigation and provide recommendations for ecologically relevant enhancements.

Surveys and assessments must identify habitat features to be retained, enhanced or created to inform development proposals, particularly site layouts, at an early stage.

Timing of Ecological Surveys

In most cases, species survey work must be completed prior to the determination of the planning application. Ecological surveys, particularly protected species, and some mitigation measures often need to be carried out at certain times of year. Early consideration of timing is important to prevent application delays.

Mitigation Hierarchy

The mitigation hierarchy requires development to first avoid and minimise any negative impacts. Impacts that cannot be avoided should be rehabilitated or restored. Finally, any remaining adverse impacts should be offset. The mitigation hierarchy must be followed, with all negative effects mitigated prior to identifying enhancements. Where required, measures such as a protected species licence or a *Species Protection Plan* will be secured by condition.

European Designated Sites

Where a development may have a likely significant effect on a European designated site (e.g. Special Protection Area), the Council as competent authority must complete a Habitats Regulations Appraisal. It is the applicant's responsibility to submit sufficient information to allow the Council to undertake Appropriate Assessment, which may include additional survey information. Further information is available on the *NatureScot website*.

Providing homes for nature *- bat boxes can replace lost roosts or create new roosting opportunities*

Positive Effects for Biodiversity

All developments should provide opportunities to enhance existing biodiversity, strengthen connectivity with the habitat network and/or create new habitats. Biodiversity enhancements must be informed by an up-to-date ecological survey and demonstrate how enhancements have been identified in addition to any required mitigation or compensation measures.

Enhancement measures should be proportionate to the scale of development and sensitivity of the site. Development proposals should clearly set out the type and scale of enhancements they will deliver in a Biodiversity Enhancement Plan, taking account of the site location and characteristics and prioritising those locally important species and habitats identified in the *Edinburgh Biodiversity Action Plan*.

Consideration should also be given to the functional connectivity of measures within the development site and existing habitat beyond the site boundary, connecting with and expanding the *Edinburgh Nature Network*.

The structured approach set out in the *Developing with Nature* guidance is a useful reference when identifying measures to incorporate in proposals:

Planting for nature *- incorporating different habitats into the landscape strategy such as longer grass and meadow planting*

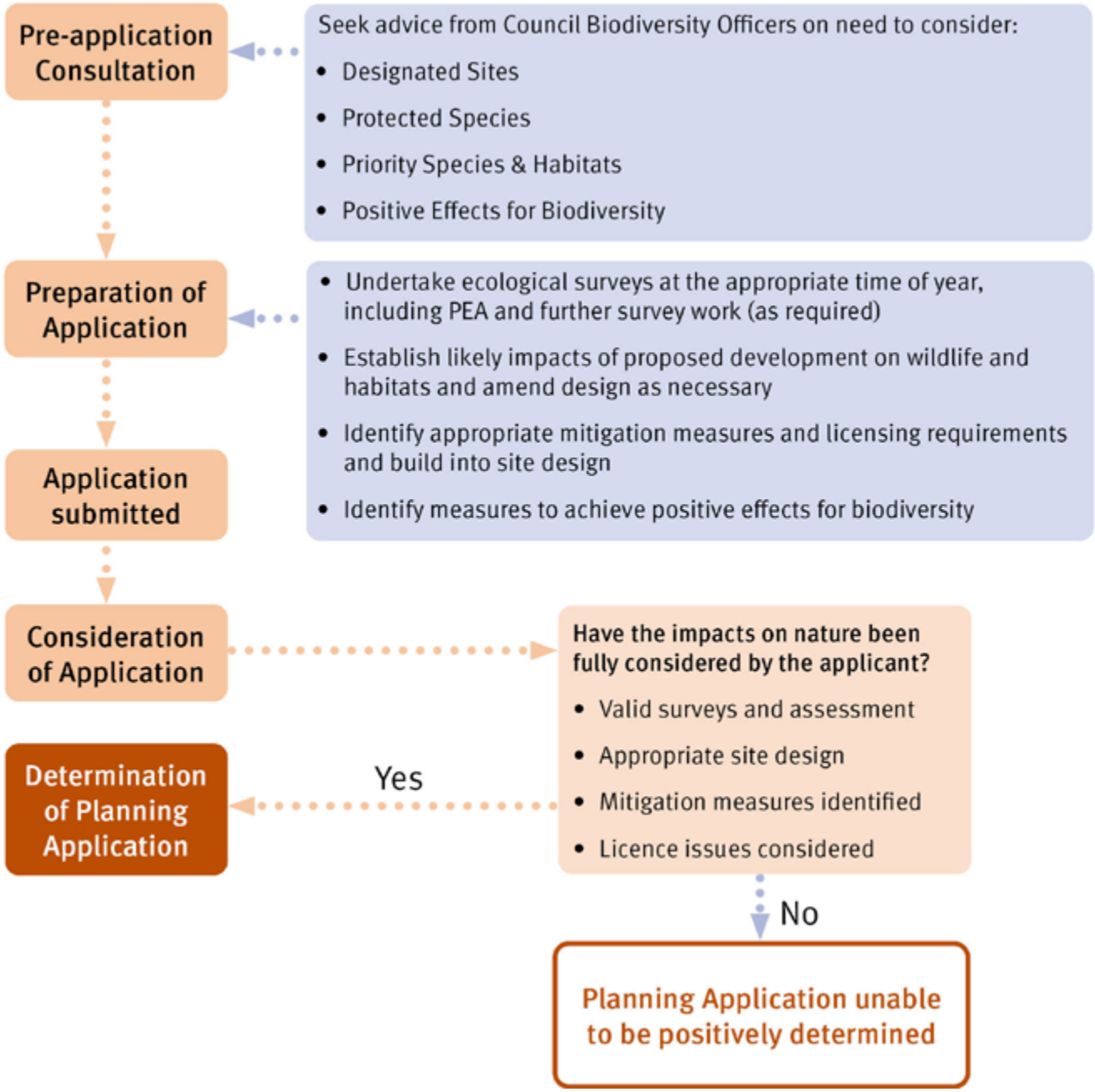
- Ensuring a nature rich approach
- Provide synergies and connectivity for nature to strengthen nature networks
- Integrate nature to deliver multiple benefits
- Prioritise on-site enhancements
- Ensure long term enhancement is secured

Larger developments are encouraged to use an existing metric to demonstrate biodiversity gains. See Technical Guidance for further information.

Ongoing and future management and monitoring are essential to ensure long term benefits for biodiversity. You may be asked to prepare a *habitat management plan* to demonstrate this, which sets out detailed habitat management for each habitat type and provides information on who will manage and monitor the work.

Wherever possible, biodiversity enhancement should be delivered on site. Where off-site enhancements are proposed, these must be agreed with the Council pre-determination.

The planning process and ecological considerations



Technical Guidance

Documents

Species Protection Plan – helps to ensure that works related to a proposal take into account any protected species on site

Habitats Regulations Appraisal - Under the *Habitats Regulations*, all competent authorities must consider whether any plan or project could affect a European site before it can be authorised or carried out. This includes considering whether it will have a 'likely significant effect' on a *European site*, and if so, they must carry out an 'appropriate assessment'. This process is known as Habitats Regulations Appraisal (HRA)

Assessment Methods

The Council will assess enhancement requirements according to the type of development:

Householder Development:

Small-scale householder applicants are encouraged, where appropriate, to contribute to the enhancement of biodiversity. Please refer to the *Edinburgh Householder Design Guidance.*

Local Development:

The level of information required to inform the biodiversity enhancement plan will vary according to the size and scale of the development.

All developments are required to refer to NatureScot's Developing with Nature Guidance, giving due regard to the Edinburgh Biodiversity Action Plan and Nature Network. There is no requirement to use a biodiversity metric, though it may be useful for larger developments to clearly demonstrate how a proposal will deliver enhancement.

The information supporting a planning application must provide evidence that the development incorporates appropriate measures to conserve, restore and enhance biodiversity to meet the requirements of NPF4 Policy 3. A statement should be provided setting out:

- How the mitigation hierarchy has been followed
- Details of the existing habitats and species present on site, and what measure(s) will be included to deliver positive effects for biodiversity
- Site plans that clearly show existing and retained biodiversity features, and the location and nature of all proposed biodiversity enhancements
- A brief description of future management and monitoring for biodiversity enhancements

Major/EIA Development:

National or major development proposals should demonstrate how they will conserve, restore and enhance biodiversity utilising an existing tool or metric, to clearly demonstrate biodiversity gain in accordance with Scottish Government *Biodiversity Planning Guidance*. Examples of appropriate tools include:

- *DEFRA Biodiversity Metric*
- *Urban Greening Factor*
- *Malmo Green Points*
- *Building with Nature Standards Framework*

Developments are required to demonstrate a significant gain for biodiversity. The preferred tool should be agreed at the pre-application stage with the Council. Developments should aim to deliver at least a 10% biodiversity gain where possible.

Major developments must be supported by an Ecological Impact Assessment and take account of the mitigation and enhancement measures recommended therein. Planning applications should include the following information:

- Ecological Impact Assessment, which should meet the following criteria:

1. the proposal is based on an understanding of the existing characteristics of the site and its local, regional and national ecological context prior to development, including the presence of any irreplaceable habitats;
2. wherever feasible, nature-based solutions have been integrated and made best use of;
3. an assessment of potential negative effects which should be fully mitigated in line with the mitigation hierarchy prior to identifying enhancements;
4. significant biodiversity enhancements are provided, in addition to any proposed mitigation. This should include nature networks, linking to and strengthening habitat connectivity within and beyond the development, secured within a reasonable timescale and with reasonable certainty. Management arrangements for their long term retention and monitoring should be included, wherever appropriate; and
5. local community benefits of the biodiversity and/or nature networks have been considered
6. Biodiversity metric details, including any habitat condition assessments in full. This may be included within the EcIA or as a separate document.
7. Site plans that clearly show existing and retained biodiversity features, the location of mitigation measures, and the location and nature of all proposed biodiversity enhancements.
8. Habitat Management Plan which specifies the enhancement, compensation/restoration management prescriptions and monitoring strategies

Multi-phased developments must calculate biodiversity enhancements for the whole site and demonstrate that adequate biodiversity enhancements can be delivered, with information on how it will be implemented as part of the larger development.

Holly Blue Butterfly *- the population is expanding in Scotland. Appropriate planting can support this species. © C. Cumming*

Sparrowhawk *– a priority species for Edinburgh as identified in the Edinburgh Biodiversity Action Plan. © Jim Johnston*

Badger *– a protected species requiring consideration in the development management process*

1.4.2 TREES & WOODLAND

Make sure layout, design and construction prioritise retention, protection, and expansion of existing tree and/or woodland cover.

Where trees exist on or near the site, use a tree survey to inform layout and design.

Make sure development achieves the appropriate target for tree canopy cover at that location.

Maximise opportunities to plant new trees in streets and open spaces.

Put in place satisfactory proposals for tree protection, planting and ongoing maintenance, including establishment maintenance for new trees.

City Plan 2030 Policies

Env 3 -	Development Design
Env 6 -	Green Blue Infrastructure
Env 20 -	Protection of Trees and Woodlands
Env 27 -	Public Realm, New Planting and Landscape Design

NPF4 Policies

Policy 6 - Forestry, woodland and trees

Trees and woodlands contribute to people's well-being as well as the character and appeal of the city and its surrounding countryside. Edinburgh's ancient woodland and veteran trees are an irreplaceable ecological resource and often have cultural or historic significance.

The city's trees also play a crucial role in responding to the climate and nature emergencies by:

- Slowing and absorbing rainwater to reduce surface water run-off;
- Locking up carbon from the atmosphere as they grow;
- Hosting a diverse range of plants, fungi and wildlife species;
- Providing pathways for nature species to connect both now and in response to future climate change.
- Providing shade in hot weather that limits the urban heat island effect.

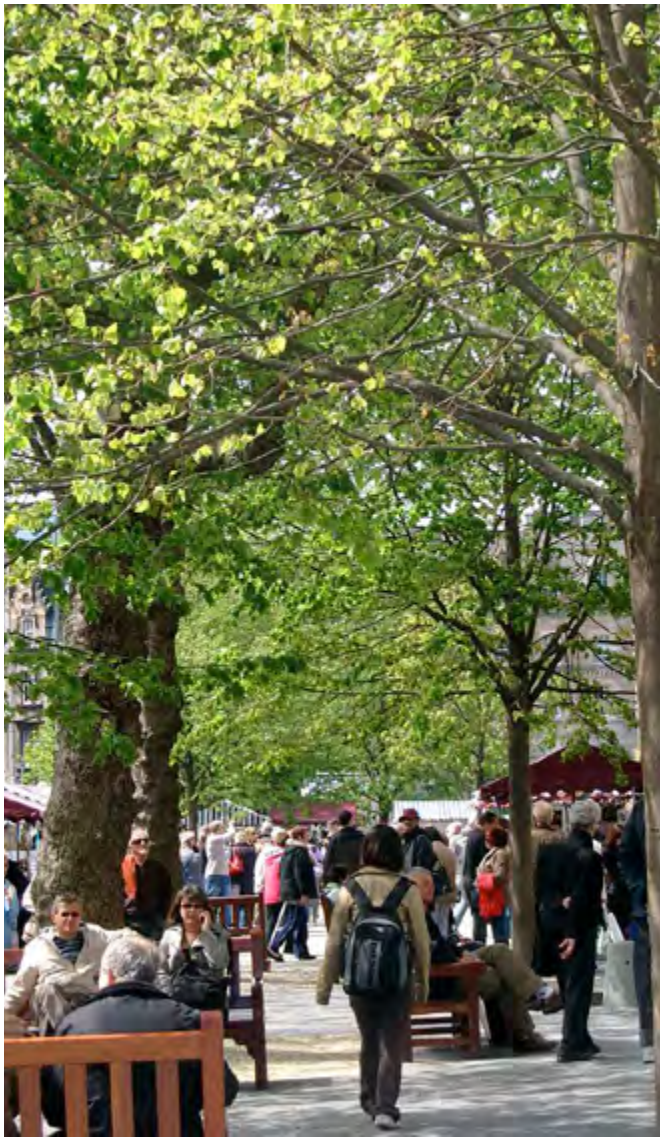
Edinburgh's ambition is to increase woodland cover in line with the Council's current *Forestry and Woodland Strategy* and *Edinburgh One Million Tree City* initiative. To help fulfil its climate emergency targets the city is committed to planting 250,000 new trees by 2030.

It is equally important to value existing trees as a ready-made setting for new homes and neighbourhood facilities. It can take several decades for new planting to provide equivalent benefits and reverse any loss of tree cover.

Retention, protection and enhancement of tree and woodland cover

Start with a tree survey to evaluate the existing tree and woodland on and adjacent to a proposal site.

Trees and woodland subject to a Tree Preservation Order or within a Conservation Area are subject to *statutory protection*. However, trees not subject to designation should still be retained and protected during development.



Street trees: Grassmarket - *A mix of mature and recently planted trees enhance the character and appeal of Edinburgh's Grassmarket, complementing the traditional hard landscape and providing welcome shade for sitting out in hot weather.*

The tree survey should consider the collective value of trees, not only their individual qualities. Tree groups comprising individual trees of lower quality often have high amenity, landscape or habitat value.

Jointly consider the tree survey and layout proposals against habitat and protected species surveys, in particular the presence of bat roosts.

The default position is that trees should be retained. To do so:

- The site layout should avoid adverse impacts on existing woodland, hedgerows, and individual trees unless these are proven to be unsuitable for retention.
- New buildings, streets, drainage infrastructure and utilities should be set-back from existing tree canopies and their root protection areas.
- Existing trees and woodland within areas of publicly accessible open space (or large communal grounds) should be retained, expanding planting where possible.

Where, as a last resort, removal of existing trees or woodland is justifiable compensatory planting, of appropriate species and numbers, will be expected.

Expanding Tree Canopy Cover

To achieve climate adaptation, biodiversity and placemaking benefits, development should maximise the opportunity to plant new trees and woodland.

All development with new public and semi-private external space will be assessed in terms of the quality and extent of tree planting proposed.

Planting proposals will vary depending on the size and location of the site, but tree planting should be used to structure the layout and enhance the community and environmental value of streets and open spaces.

Tree canopy refers to the area of ground covered by a tree when viewed from above, including foliage, branches, and stem.

Factsheet W7 - Tree Canopy explains how canopy cover should be calculated and presented by applicants as part of landscape proposals.

Trees lining the local path network - *At Hopetoun Village, trees are an integral part of design and layout.*

The tree canopy coverage across Edinburgh *- Mature trees within Blackford and The Grange achieve between 20-30% canopy cover and demonstrate the important contribution tree cover can make to the city's townscape in this view from Blackford Hill.*

Tree Canopy Cover Targets

The Council is targeting 20% tree canopy cover for all residential proposals (excluding householders) and residential or commercial led mixed-use development. This will be judged on a site-by-site basis, and will reflect the individual scale, context and opportunities of the site. The target should be established prior to submission through pre application advice.

A higher canopy cover of 30% could be targeted where development is located on a large site incorporating large open space in a strategic location for the city's green-blue network.

Where development is within a dense, urban environment with a tight urban grain, a lower canopy cover of 10% will likely be acceptable.

The initial set of targets will be monitored to evaluate benefits achieved in terms of securing an enhanced urban tree canopy and adjusted as required.

Target: 20% Tree Cover

Most medium to high density sites should target 20% canopy cover, including larger sites with a mix of flats, colonies, and townhouses.

The targets should be met within street design, civic spaces, and parking areas, not solely within public open space and private communal greenspace. Layout should prioritize connectivity of new stands of trees, street trees and woodland.

Smaller ornamental tree planting within private front gardens will not normally be counted towards achieving the target.

Example area: Quartermile

A slightly lower canopy cover will be permitted in situations where it can be demonstrated that this leads to a higher overall quality of green space.

STRATEGIC SITES

DENSE URBAN SITES

30% Tree Cover

Larger sites located within or adjacent to Edinburgh's Strategic Green Blue Network, or its planned extension should target 30% tree canopy cover.

This should also include major new development areas subject to comprehensive masterplans or place briefs and incorporating large new green spaces. This could apply to both new high density flatted development, proposals with a higher proportion of houses and colonies or sites where lower densities are appropriate to context.

The target should be delivered as part of the strategic approach to landscape across the development. This includes the design of the street network and larger open spaces that form the wider landscape framework, alongside retained and enhanced landscape features.

Example area: Blackford

10% Tree Cover

In some sites, a 20% tree cover will not be possible. This could include smaller sites in existing high-density areas, with a fine urban grain of flatted development. Or it may be due to circumstances such as: the setting of historic assets, archaeology, wayleaves and easements, airport safeguarding, the need for other priority habitat types, open ground for recreation and sunlight, or to maintain views and public safety.

These sites should aim to achieve as high a tree canopy cover as possible, and this should be no lower than 10% canopy cover. The reasons for not achieving a higher tree canopy targets must be clearly outlined. There must be clear consideration of how best to create high quality green space on the site. A lower canopy cover be accepted and may be compensated for by other green-blue infrastructure to manage surface water e.g. rain gardens and green roofs.

Example area: Kings Stable Rd

The targets should be achieved by retaining existing tree cover combined with the future canopy spread of new tree and woodland planting.

Applicants should follow the method recommended in *Factsheet W7 - Tree Canopy* to calculate the existing and proposed site canopy cover and present their findings.

For applications for Planning Permission in Principle, capacity to achieve the relevant target may require to be shown through an illustrative masterplan.

Detailed calculations will be expected for all applications for full planning permission or approval of matters specified in conditions.

Planting Considerations

During layout design, sufficient space should be allocated above and below ground for specimen trees, street trees and woodland to grow to maturity.

Select species to reflect the intended location, ultimate height and spread and relationship to buildings, roads, and wider landscape design.

Include a mix of small, medium, and large stature, long-lived tree species to create townscapes of the future, host more flora and fauna and lock up carbon.

A diverse mix of native and non-native trees will provide the greatest resilience to plant pathogens and climate change, as well as visual and environmental benefits.

On larger sites, no more than 10% of proposed trees should be the same species, no more than 20% should be the same genus, and no more than 30% should be the same family.

Except for historic designed landscapes, avoid single species avenues. Instead use a mix of two or three tree species with similar form and habit.

Tree planting in open ground is preferable to tree pits as it provides better conditions for growth including space, soil water availability, nutrients, biota, and gas exchange.

The planting of street trees and trees in hard surfaces requires careful site planning and detailed design.

Proximity to underground utilities, street lighting, road signs, CCTV and parking need require careful consideration and design.

For brownfield sites, the feasibility of proposed tree planting locations may need to be demonstrated by ground radar survey or trial pits to expand on utilities searches and avoid subsurface constraints.

Use structural soils or underground cellular systems in hard surfaces to provide adequate underground rooting area and a load-bearing paved surface.

Safeguarding trees during construction

Protective barriers must be erected before work starts on site and remain until all construction activity is complete. Conditions and Tree Preservation Orders will be used to safeguard trees.

British Standard (BS) 5837 provides guidance on planning and implementing development work on a site with trees.

Trees with local heritage value *- the Corstorphine sycamore is a cultivar that originated in Corstorphine.*

Management and Aftercare

The ongoing management of existing trees and woodland and effective aftercare of new planting must be set out in a maintenance plan.

In specific cases, an arboricultural clerk of works may be required by condition to oversee construction activities.

New trees should receive 50 litres of water a week in spring and summer for the first three years after planting.

Consideration may be given to the use of Planning Conditions to secure the longevity of trees.

Any trees proposed for adoption by the Council will require a period of five years' establishment maintenance prior to handover.

Detailed requirements for tree planting plans, planting stock and ongoing maintenance are set out under Public Realm and Landscape Design.

Trees providing communal benefit *- Trees within communal gardens lining the footway at Meggetland*

Technical Guidance

Summary of Process

1. Carry out tree survey to BS 5837
2. Prepare a Tree Constraints Plan showing the areas affected by existing trees
3. Use the Tree Constraints Plan to design site layout including new tree planting
4. Prepare a Tree Protection Plan
5. Submit with planning application – obtain planning permission with tree protection and planting conditions
6. Install tree protection measures before any work starts and maintain until all work is completed.

Trees and Woodland:

Appoint an Arboricultural Consultant registered with the *Arboricultural Association* or the *Institute of Chartered Foresters* to provide tree survey and management advice.

Tree survey

A tree survey to the standard of BS 5837 is required for of all trees with a stem diameter of 75mm or more at 1.5m above ground level or within 12m of the site boundary. Categorise trees by their quality and suitability for retention.

Prepare a Tree Constraints Plan (TCP) showing the below and above ground issues that need to be considered during the design process.

Identify the Root Protection Area (RPA) for each tree or woodland group. The ground within the RPA must remain undisturbed around each tree to prevent damage to their roots.

Map the current and future canopy height and spread of each tree. Consider the long-term impact of the trees on streets, buildings, and open spaces, including:

- Daylight and sunlight
- Privacy and views
- Effects of leaf litter
- Visibility at junctions
- Proximity to public transport, including double-decker buses and tram overhead lines.

Design and layout

The design proposal should be compatible with the mature size and shape of the tree without causing a future nuisance.

Opportunities for future planting should be identified and plotted on the TCP to protect these areas from soil compaction. Space needed for construction activity must also be considered.

Where conflicts arise in proximity to existing trees, further detailed and intrusive investigation may be required through an Arboricultural Impact Assessment (AIA). As a result, the site layout or working methods may need to be reconsidered.

Applications for full planning permission

For the finalised layout, a Tree Protection Plan should be prepared showing trees for retention and removal, and the precise location of protective barriers and ground protection to form the Construction Exclusion Zone (CEZ). Specify tree protection fencing on the drawings to at least the standard shown in Figure 2 of BS 5837. An Arboricultural Method Statement (AMS) may also be needed for specific works.

When submitted with a planning application, the tree survey report should overlay the proposed development footprint with existing tree constraints. Pre-development surveys alone are insufficient.

Protected Species

It is the developer's responsibility to determine the presence of bats (a European protected species), tree roosts and the effect of proposals on habitat and navigation features. *See "1.4.1 Biodiversity" on page 30*.

Further Reading

- *ESDG Factsheet F5 Street Trees*
- *ESRG W1 SuDS Trees in hard Landscapes*
- *ESRG Factsheet W7 Tree Canopy*
- *BS 5837 Trees in relation to design, demolition and construction.*
- *BS 3998 Tree work – Recommendations.*
- *BS 8545 Trees: from nursery to independence in the landscape – Recommendations.*

1.4.3 GREEN ROOFS

Design all flat roofs to be green or blue roofs, unless contextual analysis deems this unsuitable.

Make sure green and blue roofs are designed to attenuate surface water run-off and deliver positive effects for biodiversity.

Where possible, integrate green roof technology into the design of roof terraces.

Submit a green roof maintenance plan for any detailed proposal that includes a green roof.

City Plan 2030 policies

Env 8 –	**New Sustainable Buildings**
Env 6 -	**Green Blue infrastructure**
Env 37 -	**Designing-in positive effects for Biodiversity**

NPF4 Policies

Policy 20 – Blue and green infrastructure

A green roof is a flat or sloping roof that consists of two distinct layers:

- A natural layer that consists of vegetation and soil;
- A waterproof, engineered layer that ensures the natural layer performs as it should and avoids negative impact on the integrity of the building fabric.

The term "brown roof" refers to where the natural layer is not planted and instead allowed to self-seed naturally from seeds that are windblown and dispersed by birds.

A blue roof has an additional layer of temporary storage for storm water. Blue roofs are most effective as part of a wider SuDS scheme.

Green roofs supplementing blue-green infrastructure *- This building has been designed with a sedum green roof which provides ecological benefits to the adjacent Water of Leith*

Green, blue and brown roofs can deliver a range of practical benefits for people and nature, while assisting with adaptation to climate change. They contribute to sustainable rainwater management by absorbing, reducing and slowly releasing rainwater at the point where it falls. By adding thermal mass to the roof structure, they can limit the potential for a building to overheat during hot weather. They can also benefit residential amenity and biodiversity, enhance air quality, and reduce sound transmission.

Green, blue and brown roofs are sometimes referred to as a "living roofs". *ESRMG Factsheet W6 - Living Roofs* provides further information on design and maintenance, including case studies, and their role in responding to the climate emergency.

Green walls can also be used in certain circumstances and provide many of the benefits of green roofs. It is important to note that green walls require careful irrigation and maintenance.

Identifying appropriate locations for green and blue roofs

The Council expects all flat roofs to be designed as green or blue roofs except where it is demonstrated they are not suited to a specific location.

Locations that may not suit the introduction of a green or blue roof include:

- Sites where the roof finish could detract from:
  - the city's distinctive skyline of pitched roofs and spires
  - an important aerial view (such as the New Town Conservation Area, the World Heritage Sites)
  - the architectural integrity of a listed building
- Parts of the city that have an existing, visually cohesive roofscape;
- Sites within historic areas that are distinctive and sensitive to change.

In assessing the visual impact of green or blue roofs in these locations, both distant and street level views should be considered along with building height and landform.

Flat roofs, green roofs and blue roofs should be avoided within the immediate vicinity of the airport due to their potential to attract hazard bird species, such as gulls, that risk collision with aircraft. These roofs will be supported only where an appropriate bird management plan has been secured and can be delivered. Within 13km of the airport, applicants must demonstrate that flat, green or blue roofs are appropriately designed and will be maintained to reduce risk of bird strike to aircraft for the lifetime of the building. All construction within 5km of the airport requires an agreed risk management plan for the construction phase.

Types of green roof

A green roof is usually categorised according to how it is managed:

- An extensively managed roof has a shallow soil profile growing drought-tolerant, self-seeding vegetation (such as sedum and wild flowers);
- An intensively managed roof has a deep soil profile supporting shrubs, trees and grass.

Multi-functional green roofs

Green roofs should not be regarded as an alternative to open space provision on the ground except where they are designed to deliver multiple benefits. This requires careful detailing, design and maintenance. Examples include roof terraces that incorporate low maintenance ground cover, small shrubs and grasses with amenity value, providing opportunities for people to exercise, relax, grow plants and experience nature.

Green roofs can also provide a suitable location for micro-renewable energy installations, such as photovoltaic panels, providing they are appropriately detailed and installed to avoid damage to the roof layers.

Maintenance of green roofs

Maintenance requirements, including establishment irrigation and safe access arrangements must be a key consideration from the outset of the design process. Requirements vary according to the type, planting and design of the roof. An extensive roof with planting designed to be low maintenance may only require quarterly or twice-yearly visits. An intensive roof designed as a garden or amenity space may require monthly or weekly checks.

Key maintenance activities involve:

- Keeping all drainage points, outlets and gutters clear of debris or vegetation;
- Clearing debris and vegetation from fire-breaks;
- Removing undesirable or invasive plants.

Green roofs must be designed and maintained to resist external spread of fire. Measures include designing in firebreaks and limiting the organic content of the growing medium.

Information to accompany a planning application

All detailed applications for buildings with new or retro-fitted green roofs should be accompanied by:

- A green roof maintenance plan (forming part of the landscape management plan) that spans the lifetime of the building and describes maintenance regimes, responsibilities and funding mechanisms;
- Details of proposed roof planting, including plans and sections that describe height implications.
- Realistic photomontages that reflect the season of planting along with information on seasonal changes.

Where planning permission has been granted and design is subsequently altered to omit a green roof, this is likely to be considered to be a material change to the development.

Green roofs and views - *The green roof on the OMNI Centre, Leith Street creates a pleasant rooftop environment while also enhancing the view from Calton Hill.*

Green Wall, Waverley Station *- Green walls provide many of the benefits of green roofs. This green wall at Waverley Station softens and enhances the rail environment.*

1.4.4 LANDSCAPE DESIGN AND PUBLIC REALM

Design and detail all external space to respond well to the character of the surrounding context.

Create a robust landscape structure, integrating built form, landform, trees, blue green infrastructure, and hard surfaces.

Design a high quality and connected public realm as a stage for city life and an appropriate setting for buildings.

Minimise disturbance and damage to soils.

Specify attractive and biodiverse planting that is suited to the site's growing conditions and the city's changing climate.

Submit fully specified landscape designs and long-term landscape and habitat management plans with every detailed application.

City Plan 2030 Policies

Env 25 – Layout Design

Env 27 - Public Realm, New Planting and Landscape Design

NPF4 Policies

Policy 14 - Design, quality, and place

Policy 20 -Blue and green infrastructure

Providing a high quality external environment: Scottish Parliament *- The landscape design creates an inspiring space that responds to the context © Getty Images*

To enable Edinburgh to be a sustainable and liveable city, development must create high quality landscapes and public realm that connect people, place, and nature.

Landscape design

Landscape design must cater for the needs of all proposed use(s) and user groups, drawing upon the positive characteristics of the surrounding area, including designated sites.

For major development that will be delivered in phases or by multiple parties, landscape masterplans must co-ordinate the layout and intended quality of all external spaces.

The layout and species mix, form, scale, colour, and texture of planting should be used to enhance the setting of buildings and neighbourhoods. Where space is limited, climbing plants, green or blue roofs, or green walls may be acceptable.

Woodland should be delivered at the earliest stage of development, to give more time for it to establish and benefit people, place, and wildlife.

Use planting, furniture, retained features, public art or displays to provide interpretation of local history and present-day cultural life.

Landscape proposals, including trees and woodland, open terrain and water features should avoid creating *potential wildlife hazards* within 13km of Edinburgh Airport.

Pre-planning dialogue with Aerodrome Safeguarding and a bird strike risk management plan may be needed.

Layout principles

Layouts should be multi-layered, offering year-round interest for people and a range of habitats linked to the wider nature network, including:

- Larger stature trees or blocks of woodland should be used to structure the site and define open spaces, streets, and multi-user paths *see "1.4.2 Trees & Woodland" on page 34*.
- Shrubs, hedges and herbaceous plants should be used to define spaces, provide shelter, privacy, and amenity, as well as cover and food for nature.
- New hedges should generally be mixed native species for their biodiversity value, shaped to an urban or rural form as required.
- Open grass for recreation should include bulbs and native wildflowers for seasonal interest and habitat value.
- Incorporate space for informal play that is suitable for all age groups, with accessible paths, inclusive seating and plant beds.
- Consider use of flowering or fruiting trees or orchards to add seasonal interest through blossom, apples, or conkers.

Planting

To ensure new planting will thrive and provide initial visual impact:

- Minimum standards for new planting will apply (refer to Technical Guidance).
- The specified planting should be suited to the site's soils, micro-climate and resilient to the effects of climate change, including hotter, drier summers and warmer, wetter winters.
- Avoid plants that could be toxic or allergenic in settings such as housing, schools and nurseries.

To strengthen biodiversity and to prevent the escape of cultivated plants into the wild, use only native species in rural settings or adjacent to natural features, watercourses or protected sites.

Multi-layered planting, Holyrood - *The landscape of this student housing development includes a varied assortment of planting*

Soils

Early consideration of existing soil and habitat resources can minimise the disturbance and damage to soils from development, reduce waste and limit the need to import new material for site restoration. Consideration should be given to soil functions, water permeability and soil biodiversity.

Proposals must demonstrate that soil health will be protected through correct handling and storage that complies with the British Standard for topsoil and subsoil. Wherever possible, undisturbed ground should be safeguarded for planting.

More *detailed site-specific information* will be required where peatland or carbon-rich soils may be impacted by development, including appropriate surveys and assessment that inform design and layout to ensure compliance with the mitigation hierarchy. Where impacts cannot be avoided, a method statement for soil, Construction Environmental Management Plan (CEMP) or Habitat Management Plan (HMP) may be required to protect soil from compaction and erosion.

Effective maintenance and management

Good management and maintenance are essential for landscapes and their biodiversity to thrive and evolve in the long-term.

Proposals must be adequately resourced to achieve their potential and future maintenance costs should be considered as part of the design process.

A Landscape and Habitat Management Plan (LHMP) is required to explain how a development will manage the landscape and ecology of a site, clarifying:

- funding arrangements and parties responsible, in writing accompanied by an annotated plan showing e.g. areas to be privately maintained, land to be adopted by the Council subject to a relevant commuted sum, and those areas adopted and maintained by Scottish Water or other third parties.

- the intended maintenance objectives and operations, scheduling their frequency and where these apply on an annotated plan.

Developments including substantial new or enhanced green blue infrastructure or proposals subject to EIA mitigation will require a post-implementation monitoring report.

Alongside reducing carbon in construction and re-use of site won materials, design and layout should minimise emissions and resource use in maintenance e.g. avoiding, wherever possible, mowing with machinery.

Unlike established plants which have developed root systems, new trees and other plants require watering in dry spring and summer weather. For example:

- Newly planted trees require watering for three years, ideally using harvested rainwater with watering pipes or bags.
- Mulches should be applied to planting to suppress weeds and prevent soils drying out.

References

CAP 772: Wildlife Hazard Management at Aerodromes | Civil Aviation Authority (caa.co.uk)

HTA Guide to Potentially Harmful Plants, 3rd Edition (2022)

BS 3882:2015 Specification for topsoil

BS 8601:2013 Specification for subsoil

Providing high density homes with quality green space - *At this relatively high density development at Canonmills Gardens, residential amenity is supported through a mix private gardens, balconies and communal open space.*

Technical Guidance

Proposals should be prepared by a landscape architect. Refer to the *Landscape Institute Member Directory.*

Applications for Planning Permission in Principle (PPP)

These applications may require a landscape strategy, to show how the amount of development proposed can achieve an acceptable fit with the site and context. Details should include:

- The proposed functional use and treatment of external spaces, key changes in level/slope gradient.
- Set-back distances to retained built and natural features, including trees and woodland.
- The location of existing and proposed services and preliminary drainage proposals.
- Cross-sections of typical streets, open spaces, and blue green infrastructure in relation to buildings.

Detailed applications

To achieve a high standard of landscape design, detailed applications for planning permission should include fully specified landscape proposals.

Submission of landscape proposals as a condition of planning permission will only be acceptable, by negotiation, where there is sound justification to do so.

In addition to the considerations for PPP, detailed landscape proposals should include the following information:

- Site-wide topographic information (including existing and proposed plans and sections showing site levels and contours).
- Full botanical name of all plant stock.
- Minimum size of plant stock at planting as per the National Plant Specification or BS 3936-1 Nursery stock – Specification for trees and shrubs.
- Expected height and spread of trees and estimated contribution to tree canopy cover targets.
- Planting density, total numbers, and planting locations.
- Grass and wild flora seed mixes and specification.
- The layout, proposed finishes and levels information must be co-ordinated with the Tree Protection Plan showing trees to be retained.
- Tree pit details, including soil volume calculations, specified growing medium and ameliorants, drainage, means of support, protection, and accessories.
- Details of all functioning landscape elements of Sustainable Drainage.
- Details of proposed hard landscape materials, including paving and laying pattern, site furniture and boundary treatments *refer to "1.4.5 Hard Landscape" on page 46*.

All information should be set out and referenced on scaled drawings submitted for approval.

As a minimum, submitted drawings should include a landscape general arrangement, soft works plan, and hard landscape plan.

Clearly annotate plans and include all relevant specifications in the drawing notes and not within separate documents.

Landscape and Habitat Management Plans

The LHMP should show the maintenance operations, timings or frequency for each landscape and habitat component, including:

- Grass, turf and meadow cutting regimes, including removal of arisings.
- Height and form of shrub and hedge pruning.
- Maintenance of herbaceous plants and bulbs.
- Inspection of trees for wind-rock, re-firming of root zone, adjusting tree ties, stake replacement.
- Replacement of plant failures (dead, diseased, dying, damaged or missing).
- Watering volume, frequency, methods, contingency for drought/hosepipe bans.
- Subsequent removal of tree guards and means of support.
- Management of retained trees and woodland.
- Maintenance and top up of mulch and loose surfaces such as gravel.
- Maintenance, cleansing and refurbishment of hard landscaping, including surfacing around trees in paving.
- Control of undesirable weeds
- Litter and graffiti removal and cleansing.
- Maintenance of boundary walls, fencing or site furniture.

Standards for Planting

The following minimum standards will apply:

Planting type	Size at planting	Density/spacing	Other requirements
Woodland	60-80 cm height	1m spacing	Include 30% feathered trees of min height 180 cm where immediate visual effect required. Min 300mm depth of topsoil. Biodegradable tree guards, matting or protective fencing required to reduce plant failure due to exposure or browsing animals.
Trees in green spaces and planted areas	Extra heavy standard, 14-16 cm girth minimum. The Council may require larger dependent on location.		2m clear stem or multi-stem. Provide a dimensioned tree pit/trench detail with topsoil, soil ameliorant specification, details of drainage, staking and accessories, including watering pipes and bags.
Trees in paved spaces and public realm	Semi mature, 30-35 cm girth.		2m clear stem, underground guyed , or 2.5m clear stem adjacent to cycle routes. Provide a dimensioned tree pit/ trench detail to demonstrate adequate soil volume and load bearing support for surrounding paving. Include topsoil, soil ameliorant specification, drainage, watering pipes and bags.
Fruit trees	Light standard, 6-8cm girth.		Root stock, spacing and means of support to correspond with intended form and shape.
Hedges	60-80 cm height. Larger stock may be required dependent on location.	250mm spacing in two offset rows 300mm apart.	Protected by post and wire fencing or similar. Min 400mm depth topsoil.
Shrubs/fruit bushes	Dependent on species	500-600 mm apart	Min 3L pot grown unless bare root/root balled. Min 300 mm depth site topsoil. Planted in groups of 3-5 of same species.
Herbaceous perennials/ ground cover	Dependent on species.	300 - 450mm apart	Planted in groups of at least 7 of same species.
Amenity Grassland	Specify turf or seed mix g/m2		Min 200 mm site topsoil spread over graded and free draining subsoil. Stone picked.
Meadow Grassland	Specify meadow seed mix g/ m2 by type, including dry/wet meadow, pictorial, woodland, and percentage of each species. Additional plug plants to be specified by species and nr/m2		Use of graded site subsoil free from compaction. Ensure removal of arisings to maintain nutrient status of soil.
Bulbs	Specify by species, grade nr/m2 and diameter.		
Green roofs/walls	Specify whether intensive or extensive green roof and type of green wall.		Ensure sufficient structural capacity and depth of growing medium exists. Where proprietary matting systems are specified, set out species mix and details of any plug planting.

1.4.5 HARD LANDSCAPE

Keep the number of materials and colours in the hard landscape to a minimum and avoid street clutter.

Detail the hard landscape to ensure it is accessible and provides good visual appearance that lasts over time.

Ensure street furniture reflects the needs of the development and future users.

Retain and re-use historic materials.

Make use of stone walls and railings to form high quality boundaries.

City Plan 2030 Policies

Env 27 - Public Realm, New Planting and Landscape Design

NPF4 Policies

Policy 14 - Design, quality, and place

Providing high quality hard landscape: St James Quarter *- This new public space off James Craig Walk connects the St James Quarter entrance to the east end of Princes Street. It features sandstone paving, granite seating terraces, and street trees.*

Hard landscape responding to heritage: St Andrew Square *- Elliptical path in St Andrew Square, edged by seating walls, low level lighting and small paving stones to echo historic horonised paving.*

Edinburgh's public realm – the space between its buildings – contributes to the Outstanding Universal Value of the World Heritage Site, the character of the city's Conservation Areas and the setting of key buildings and monuments.

The city's hard landscape typically comprises simple, uncluttered space, using a limited and consistent palette of materials. Historic features include flagstones, stone setts, kerbs and drainage channels, and footways pitched with stone - known as 'horonized' paving.

New paved space can form a welcoming entrance and setting for buildings or community gathering and social spaces. Paved space can also be used to define the city's canal side and waterfront edges.

Hard landscape

Hard landscape should be sited and designed to complement city centre and town centre public realm frameworks where these exist. Major development may require its own public realm strategy to set out a cohesive network of high-quality streets and spaces.

Layouts should reflect the city's historic fabric and urban grain. It is appropriate to use changes in material to define spaces of differing functions, between public and private areas and level changes.

The extent and type of paving and planting should be balanced within a layout. This is important to reduce the amount of sealed surfaces and manage rainwater

Expressing the layers of history: King's Stables Road *- Rear courtyard in the Old Town, paved with Caithness slate to a design inspired by its history as a medieval tilting (jousting) yard, as well as its industrial past and use as stables.*

sustainably and to reduce heat stress resulting from hot paving in summer.

Topographical surveys must be extended beyond the site to ensure proposed levels tie in with adjacent surfaces.

Paving materials

The character of the city's stone buildings should be reflected in the tone of new paving in public spaces and streets, for example:

- New Town - sandstone flagstones
- Old Town - Caithness slate

In other Conservation Areas, use of natural stone or pre-cast concrete slabs will be considered case-by-case. Elsewhere, asphalt footways should be used. Beyond the public road, however, it is acceptable for other materials and styles to form part of a public realm design.

Existing stone setts and kerbs should be retained and re-used on site, for heritage value and to reduce embodied carbon.

Detailed design is of particular importance, ensuring the size of paving unit and laying pattern is appropriate.

Granite may be used for durability and visual contrast for areas of vehicular over-run, for kerbs, steps and tactile paving.

Creating Space for People: Bristo Square *- Durable hard landscaping and seating provides an important space for social and recreational activity*

Permeable paving selected for surface water management should have a high-quality finish that lasts over time.

Recessed covers for inspection chambers should be used and co-ordinated with paving layouts to reduce their visual impact.

Street Furniture

Minimising street clutter and defining furniture zones enables ease of walking, wheeling, cleansing and maintenance.

Walls, railings, seating, visitor cycle stands, bins, sign and signal poles should be carefully integrated with the design.

Seating should be included to provide rest points, social spaces or at attractive viewpoints.

Vehicular access controls and hostile vehicle mitigation must be considered at the start of the design process to reduce the need for bollards and retrofitting of barriers.

Boundary treatments

Edinburgh's tradition of stone boundary walls, railings on low stone walls or coping, and hedges should be reinforced.

In most situations, hedges should be mixed native species planting for biodiversity value.

Tall, rendered boundary walls should be used sparingly and detailed carefully to shed water.

Timber fences should not be used to front streets or publicly accessible routes unless bespoke and attractively detailed.

Low walls and raised beds can define space, make planting accessible and offer perch seating but must provide suitable long-term growing conditions.

1.5 SUSTAINABLE TRANSPORT

1.5.1 PRIORITISING SUSTAINABLE TRANSPORT

Prioritise walking, wheeling, and cycling in line with the sustainable transport hierarchy.

Make sure development demonstrates high public transport accessibility.

Encourage shared transport options including mobility hubs.

Avoid development that creates a reliance on private car use.

City Plan 2030 Policies

Inf 5 – Location of Major Travel Generating Development
Inf 7 – Private Car Parking
Inf 10 – Cycle and Footpath Network
Inf 11 – Public Transport Proposals and Safeguards
Inf 13 – Road Network Infrastructure
Env 25 – Layout Design

NPF4 Policies

Policy 13 – Sustainable Transport
Policy 14 – Design, Quality and Place

Creating developments where you don't need to own a car to move around, by empowering people to choose to walk, wheel, cycle and use public transport, is an essential part of making Edinburgh a sustainable, safe, inclusive, and sociable city. It is also key to helping Edinburgh achieve its net zero ambition. The *City Mobility Plan* outlines the Council's aim to reduce car kilometres driven in the city by 30% by 2030. This requires layouts and street design that focus on creating neighbourhoods that are great places to live and on sustainable travel, rather than on facilitating car use.

Supporting an inclusive, sustainable transport system *- Development should support Edinburgh's vision to create a net zero carbon transport system that delivers a healthier, thriving, fairer and compact capital city and a higher quality of life for all residents.*

Transport Assessments and Statements

All development proposals with potential to generate a significant number of trips should be accompanied by an appropriate Transport Assessment or Statement. This should include details of:

- The impact of development on all forms of access to the site.
- Proposed measures to mitigate transport impacts (addressing design, layout, built form, etc).
- Anticipated parking levels, including reasoned justification for proposed parking provision.

Refer to *Transport Scotland's Transport Assessment Guidance (2012)* for further advice on information required.

Applicants are encouraged to consult the planning team at an early stage in the planning process to agree the type and scope of assessment required. For larger applications (e.g. an application including over 100 homes), a Transport Assessment is likely to be required.

Key Design Principles for Sustainable Travel

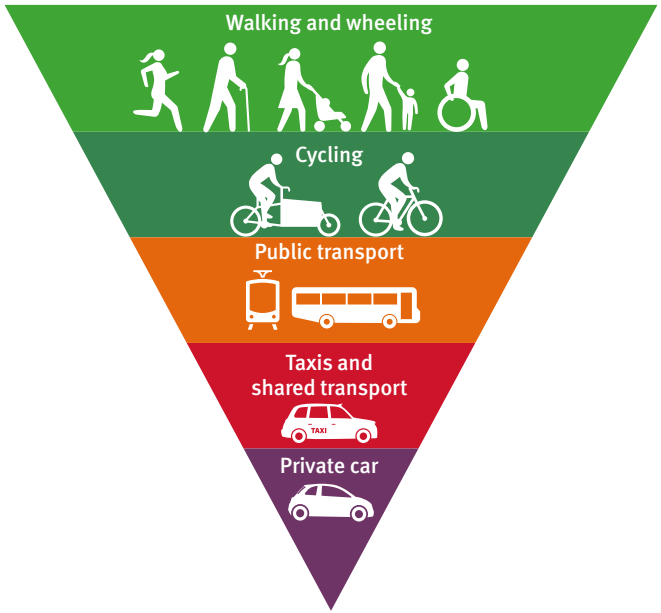
The following design principles should be applied for walking/wheeling, cycling and access to public transport.

- **Safe:** Streets, spaces and public transport stops should feel safe, for all users, at all times of the day.
- **Inclusive:** The walking and wheeling environment should be accessible to, and usable by, as many people as reasonably possible, cognisant of all protected characteristics. Public transport stops should be fully accessible.
- **Direct:** Streets and paths should be aligned to provide the most direct and convenient walking, wheeling and cycling links within the development, to local services, to citywide active travel infrastructure and public transport stops. Public transport options should themselves be as direct as possible.
- **Legible:** The overall street layout, and features within the street should be easy to understand for all road users. Local features such as topography and landmarks should be used to help orientation.
- **Connected:** Layouts should create networks that are highly permeable for people walking, wheeling and cycling, and generally less permeable for those driving, minimising the potential for 'rat-runs'.
- **Attractive:** The public realm should be inviting to pass through or spend time in, encouraging opportunities for social interaction as well as for movement. Factors such as places to rest, shelter, aspect, sunshine, shade and view are all important.

More detailed guidance on incorporating the design of these principles is outlined in "1.5.3 Layout Design to Support Sustainable Transport" on page 55.

The sustainable transport hierarchy

All development must follow the principles of the sustainable transport hierarchy. Active travel modes are at the top of the hierarchy and should be prioritised accordingly, with walking and wheeling considered first, followed by cycling, then public transport, shared transport options and lastly private car use.



This diagram shows the layers of the sustainable transport hierarchy, in descending order.

Walking and Wheeling

All developments must create pleasant, safe, and welcoming environments for walking and wheeling. *See "2.2.2 Position of Buildings on Site" on page 76* provides further guidance on how to locate buildings to support this. Developments that include new routes must demonstrate how they are designed to integrate with connections to neighbouring developments, surrounding land-uses and transport networks in the area, including expanding and enhancing these networks where appropriate.

Defining a 'walkable route'

In order to be defined as 'walkable' (and therefore accessible for most people, including wheelchair and buggy users) routes must meet the criteria below:

- Footways and footpaths must be of sufficient width for anticipated levels of movement.
- There must be adequate lighting and passive surveillance to help people feel safe and promote community safety. See "2.3.1 Creating Safe Places" on page 94
- Where a development includes new street crossings, these should have appropriate tactile paving and sufficient provision for wheelchair and/or pushchair users, such as a dropped kerb, raised table or continuous footway.
- Routes should be as level as possible. The route should also be as direct as possible, while minimising gradient. Crossfalls should be minimised to maintain accessibility, while providing adequate drainage.
- The walking surface should be suitable and passable without hindrance from vegetation or other obstacles or trip hazards .

Creating a pleasant, safe and environment for walking and wheeling *- Routes must be of appropriate clear width with features like tactile paving to warn users of hazards. © Sustrans.*

Cycling

All developments must be designed to support cycling.

The site layout should provide convenient connections to the existing network and creates safe and accessible routes within the site. Developments must also consider location and type of cycle storage. See "1.5.4 Design, Integration and Quality of Parking" on page 61

To encourage cycling, cycle routes should:

- Be of sufficient width for anticipated levels of movement.
- Be as direct and level as possible
- Have appropriately located controlled crossing points to provide network continuity.
- Be of suitable construction to be adopted
- Be passable without hindrance from vegetation or other obstacles or trip hazards
- Have adequate lighting and passive surveillance to help people feel safe and promote community safety

Safe cycling routes for all users: Buccleuch Street *- This crossing point allows cyclists of all ages and abilities to safely cross to the cycling route along the Meadows.*

Supporting public transport *- Development must be designed to support easy and convenient access to the public transport network, including buses, trams and trains.*

Public Transport

Public transport is crucial for new developments to relate to the wider city. Routes to public transport stops should meet the walkability criteria outlined above, and direct access to public transport stops should be designed into the development's layout.

Buses

Larger developments may include streets that should be designed to accommodate public transport. For these developments the submitted plans should outline:

- Which streets will carry bus services and the location and siting of bus stops.
- The design of bus stops. These should provide sufficient space for people to wait at the bus stop without causing an obstruction on the footway and have good levels of natural surveillance.
- The design of routes that will carry bus services including proposed widths

Tram

Tram schemes are significant stand-alone projects with specific design requirements.

The potential expansion of the Edinburgh tram line is classed as a national priority in NPF4.

- If a major development will be near to an existing or proposed tram line early consultation with the Planning Service and Edinburgh Trams is advised.
- If a development will require working within ten metres of the tramway you will need to apply for permission to Edinburgh Trams to carry out your intended works.
- An Authority to Work permit is a form issued by Edinburgh Trams to give a person permission to carry out work on or near the tramway.
- Any works carried out near the tram must not adversely affect the operation of the tram.
- Connections to tram stops must be direct and of the highest standard.

Public Transport Accessibility Level score (PTAL)

A key component of a site's overall accessibility by sustainable transport is a Public Transport Accessibility Level score (PTAL).

A PTAL score is based on the number and frequency of available bus, tram and train services, and walk distances to stations and stops. The higher the score, the greater the level of accessibility to public transport. The score varies between 1 (worst) to 6 (best).

For developments that require a Transport Assessment on sites that have a low PTAL rating, the submitted Transport Assessment must set out how the development will avoid reliance on private car use. This information could include the following:

- The relationship between the site and the walking and wheeling network, including potential expansion and enhancement of existing links and potential new routes to existing and proposed public transport infrastructure.
- The relationship between the site and the cycling network, including potential expansion and enhancement.
- Provision of a mobility hub(s)
- Provision of shared transport services
- Good walking/wheeling access to local facilities. See *"1.5.2 Living Well Locally" on page 53*.

These criteria, alongside the PTAL score, will be assessed when considering sustainable transport accessibility for proposed developments.

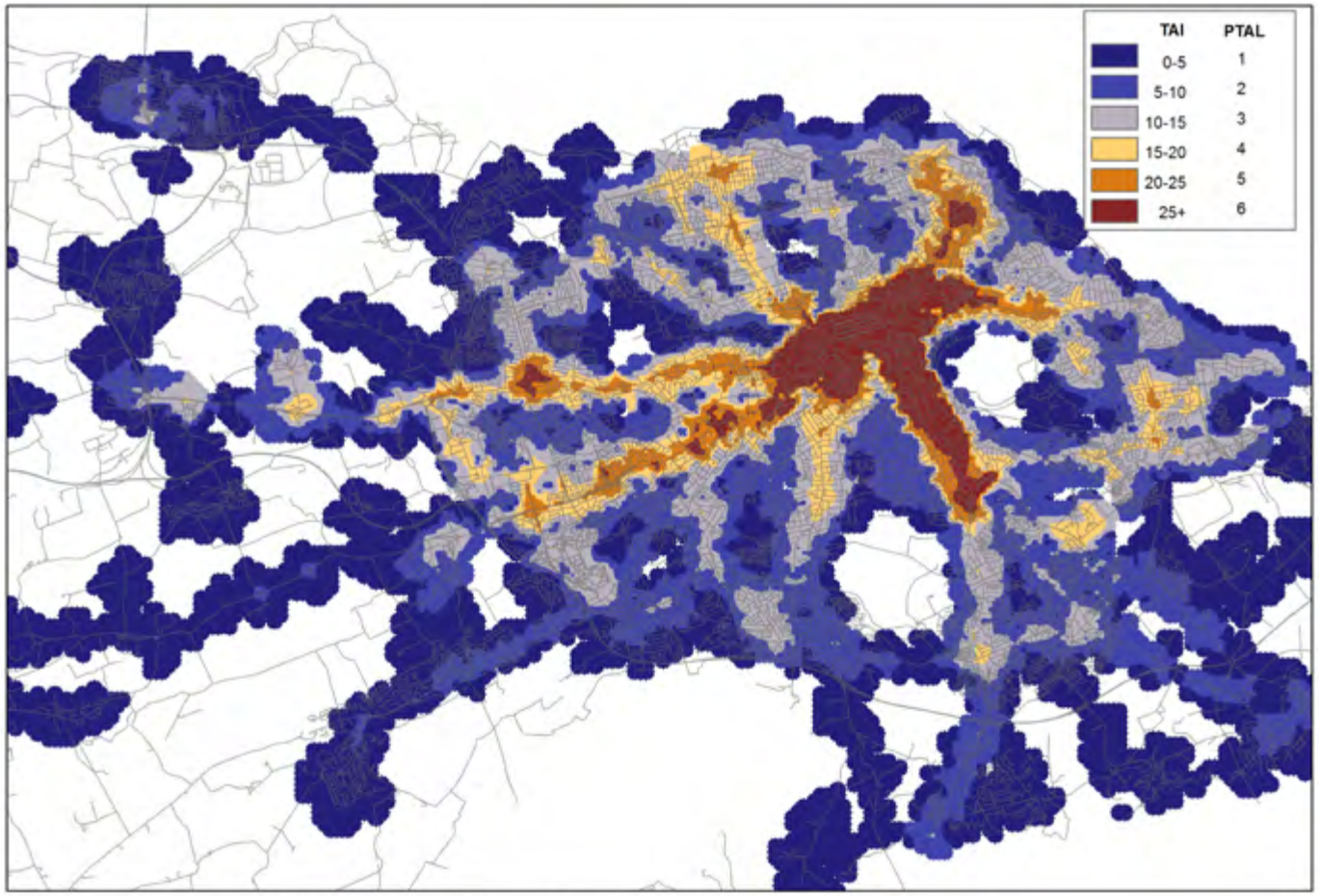
A past PTAL map for various areas of Edinburgh is shown on the right. *Consult the council's online PTAL map for the most up-to-date version.*

Shared Transport

Shared transport is defined as the provision of services where people do not need to own their own vehicle, including the shared use of car club vehicles, cycle hire and demand responsive vehicles.

Shared transport can play a significant role in reducing private car use, as well as reducing or removing the need for car parking in new developments.

Access rather than ownership *- Shared transport services such as car clubs can play a significant role in reducing private car use.*



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Public Transport Accessibility Map *- The map above displays the Public Transport Accessibility Levels across the city at Edinburgh Autumn 2023. Please refer to the online PTAL map for the most up-to-date information.*

For major new developments, shared transport services, such as car club or cycle hire facilities, should be provided. These should be:

- Visible and accessible,
- Located close together and near to public transport stops
- Well-lit with good natural surveillance

They could also be located in a 'mobility hub' with additional services.

For further information on car clubs please see *"1.5.4 Design, Integration and Quality of Parking" on page 61*.

Mobility Hubs

A mobility hub is a local and accessible place which brings together different transport modes alongside associated facilities, services and information to encourage more sustainable travel.

There is no "one size fits all" with mobility hubs. They should be developed at a scale appropriate to meet local needs and their settings with flexibility for future expansion where needed. Responsibility for the operation, management and maintenance of mobility hubs needs to be agreed at the outset to ensure their success. Consideration should also be given from the outset as to how hubs will be financially stable in the long term.

CoMoUK has developed a cohesive set of standards for assessing the quality of mobility hubs. The standards incorporate six factors (illustrated below) that must be considered for successful mobility hub design.

Further guidance in relation to the design, delivery and operation of mobility hubs and case studies from around the world can be found on the *CoMoUk website* and in the *SEStran Mobility Hubs Strategic Study*. This includes the essential and desirable elements of the six quality standards.

Private Car

Proposals for major development (any retail, office, leisure, housing, or mixed-use development that is likely to be a significant trip-generating use) will not be supported where there is a reliance on private car use.

Further Reading:

- *Edinburgh Street Design Guidance*
- *Inclusive Mobility. A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure*

Designing a Mobility Hub - *The diagram above shows the six key factors to consider in the design of a mobility hub. Diagram from CoMoUK.*

1.5.2 LIVING WELL LOCALLY

For developments that include housing:

- **Show the walking/wheeling distance from the development site to key facilities.**
- **Outline how many of the key facilities are within 800m distance and whether a bus or tram stop is within 400m.**

Provide or contribute to a mix of uses where there is a shortfall in the existing range and/or quality of facilities and services.

City Plan 2030 Policies

Inf 1 – Access to Community Facilities

Env 25 – Layout Design

NPF4 Policies

Policy 15 - Local Living and 20-minute neighbourhoods.

An important way of supporting sustainable transport is ensuring that neighbourhoods enable people to meet most of their daily needs within reasonable distance of their home. Supporting people to be able to live well locally has the potential to improve liveability, quality of life for residents and the local economy, while decreasing health inequalities and travel-related carbon emissions.

As part of the Transport Statement or Assessment, an application must provide the following information:

- A map showing the development, and all the nearest key facilities mentioned in this chapter
- A walkability ratio for the development, with
  - a clear diagram showing how all distances have been calculated
  - clear information on the relevant facilities (eg type and size of shop), bus stops with full timetable information and daily bus numbers including Sundays
- Proposals to mitigate any shortfalls as set out in 'Enabling access to facilities and services' above

Key facilities to living well locally

The following are considered key facilities to have within a short walking/wheeling distance of a housing application:

- Primary school.
- Local green space.
- Equipped play area.
- Sport and recreation facilities (e.g. leisure centre, bowling green, swimming pool, football pitch).
- Health centre (GP or pharmacy).
- Local shops (including the nearest food shop).
- Community facilities (e.g. community centre, library, church hall, community garden)
- Bus or tram stop.

The walking/wheeling distance (in metres) and route from the application site to the nearest of these facilities must be clearly indicated on a wider plan of the surrounding area. The quality of both the facilities and the routes to them should be clearly assessed.

Local shops can also provide opportunities for socialising - *Seating outside a local delicatessen, Henderson Place*

Measuring Distances

Walking/wheeling distances should be calculated using an expected walking route. Where street layouts are yet to be decided within the site, the distance must be measured:

- first from the centre of the site to its boundary,
- and then from the site boundary to the relevant facility following the existing street layout.

Where a street layout has already been defined, routes must follow the proposed street layout from the centre

of the developable area. Barriers to movement must be considered as part of the mapping of walking routes, including an assumption that busy roads can only be crossed at defined controlled crossing points. (ie signalled / zebra crossings).

When assessing walking distances, criteria defining 'walkable' routes (see *"1.5.1 Prioritising Sustainable Transport" on page 48*) must be used. Where routes do not meet these walkability criteria, alternative routes should be considered. This could result in a lower walkability ratio being applied to sites. See example in the diagram on them next page illustrating walking routes to key facilities.

To support local living most of the key facilities listed above should be provided within an 800m walking/ wheeling distance of homes. 800m is the typical distance a non-disabled person can walk in 10 minutes. The mix of facilities within 800 metres should be appropriate to the type and scale of the development. It is expected that bus or tram stops with a regular service must be within 400 metres of most developments, and a food shop within 800 metres of most developments, except in exceptional circumstances. The council's Open Space Strategy also requires housing development to have a local green space within 400m.

Quality of facilities, and appropriateness to the development, will also be assessed. Facilities deemed to be inadequate, even if nearby, may result in a lower walkability ratio being applied.

Walkability Ratio

To simply display this information, applicants for developments that include housing should include a walkability ratio. The walkability ratio is how many of the key facility categories can be met within the distances outlined above (400m for bus or tram stops and local green space, 800m for the other key facilities). For example, if a proposed development has 5 of the 8 categories that are met within these distances, the walkability ratio would be **5/8.**

Measuring Walkability Ratio - *This example has a walkability ratio of 5/8, as five of the eight key facility categories are within the appropriate distance of the centre of the development.*

Enabling access to facilities and services

Where a site has a low walkability ratio, development is expected to deliver a mix of uses, proportionate to the scale of the proposal, that promotes wider access to key facilities. For sites covered by specific Place Policies in City Plan 2030 then the relevant facilities are listed under the Place Policy. For other sites the appropriate new facilities should be guided by which key facilities are missing. New facilities should be well integrated into the site layout to maximise accessibility to both the existing and proposed community. Further information on Mixed Use development is provided in *"2.1.1 Housing Mix, Size and Tenure" on page 71*.

Further information:

- *Scottish Government Planning Guidance: Local living and 20-minute neighbourhoods (2024)*

1.5.3 LAYOUT DESIGN TO SUPPORT SUSTAINABLE TRANSPORT

Provide new streets and active travel routes that are direct and connected with adjoining networks

Design layout to maximise permeability for walking, wheeling and cycling

Use street design features to improve safety, accessibility and enjoyment of the public realm and to encourage slower driving speeds.

City Plan 2030 Policies

Inf 10 – Cycle and Footpath Network
Inf 11 – Public Transport Proposals and Safeguards
Inf 13 – Road Network Infrastructure
Env 25 – Layout Design

NPF4 Policies

Policy 13 – Sustainable Transport
Policy 14 – Design, Quality and Place

Edinburgh's Future Streets Framework (FSF)

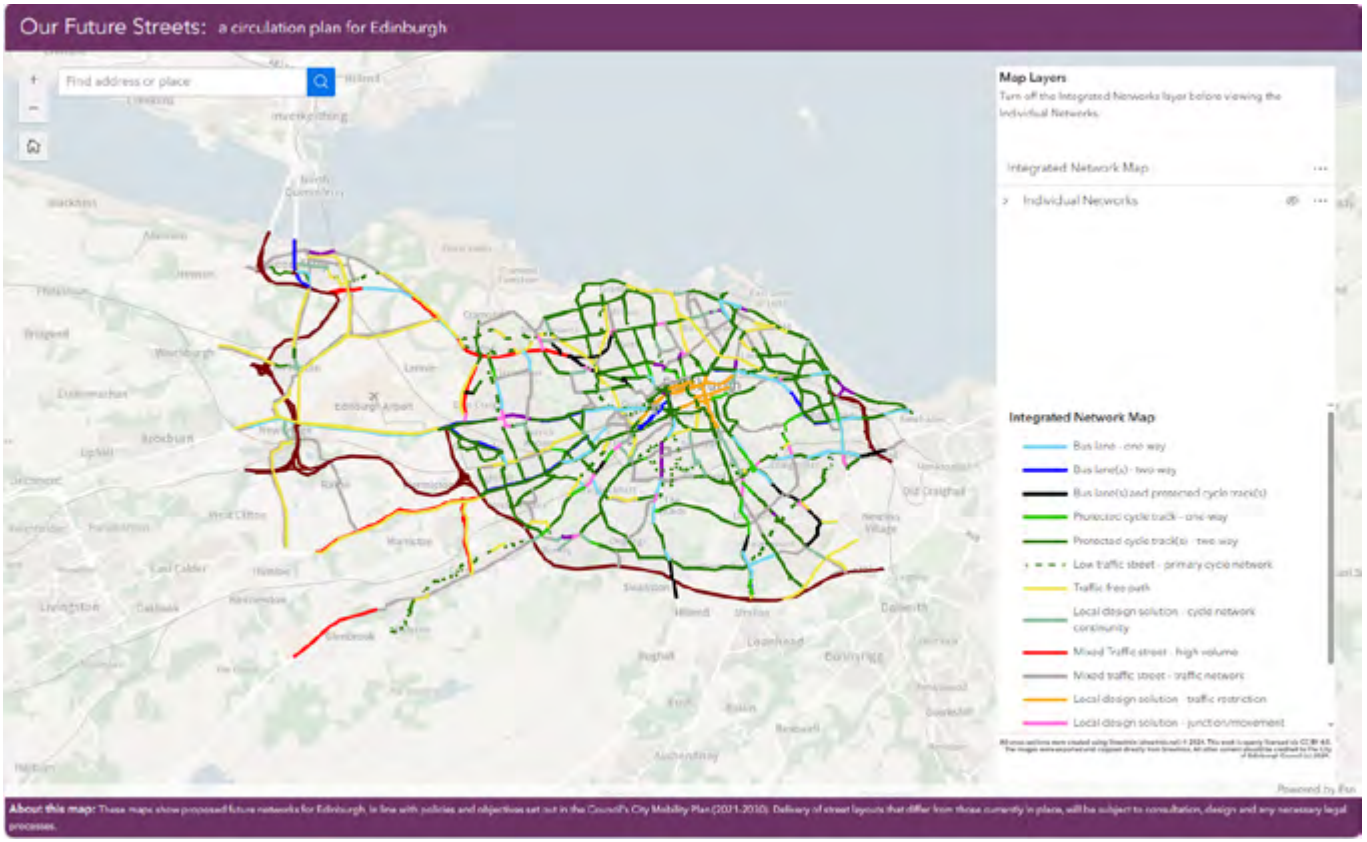
In 2024 the Council adopted a circulation plan for Edinburgh to provide suitable and safe space for all street users, promote alternative travel choices and enable a long-term approach to planning transport and place improvements across the city.

The circulation plan is supported by *Edinburgh's Future Streets Framework (FSF)*, an interactive mapping tool that provides the starting point for allocating street space between competing functions.

The mapping tool:

- Provides individual maps of primary, secondary and local networks for each mode of transport (walking, cycling, bus, tram and general traffic).
- Indicates the future nature of provision expected for various means of transport and the 'place' function on the relevant streets, which are changes needed to create a more pleasant environment for people to spend time.
- Provides an integrated network map showing the recommended allocation of space on primary and secondary general traffic routes and selected other streets. This indicates the future nature of provision expected for various means of transport and the 'place' function on relevant streets.

The definitions of Primary, Secondary and Local Streets are provided in *"Appendix 4 – Streets and Paths" on page 131.*



Future Streets Framework *- Integrated Network Map*

Levels of Service

Levels of service in transport planning refers to the quality of the provision for a particular mode of transport, and what users would be comfortable using it. Development should aim for a high level of service for walking, wheeling, cycling and public transport. The different levels for walking, wheeling and cycling are outlined below:

- **High level of service:** suitable for most users, including new and less confident users, and unaccompanied children.
- **Medium level of service:** may not be suitable for some users, particularly novice users
- **Low level of service:** will only be suitable for confident, experienced users

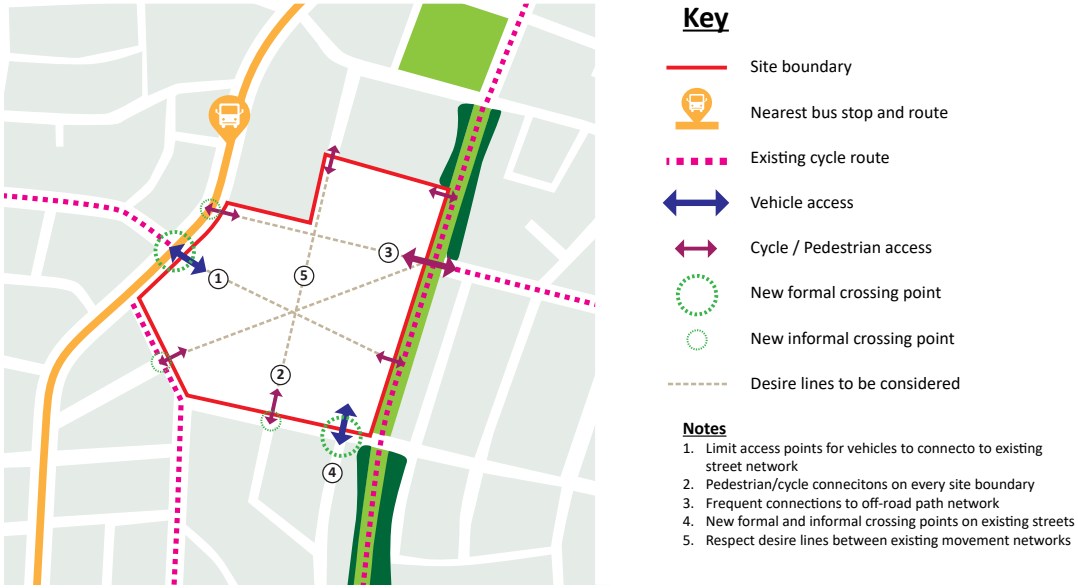
Each modal network in the Future Streets Framework has an associated target 'Level of Service'. The following table sets out how to achieve a high level of service for each network.

Network	Network level	What is needed for a high level of service
Place	All	Opportunities or seating, planting, dwelling and other non-movement functions commensurate with the function of the street
Walk/ wheel	Primary	Widest footways, as these locations have the highest flows. Provision of frequent controlled crossings on streets with primary or secondary general traffic function.
	Secondary	Wider footways than streets on local network, reflecting higher pedestrian flows
	Local	Footway widths to accommodate easy passage of pedestrians, wheelchairs and mobility scooters.
	All	Suitable accessible crossing points of all side streets (dropped kerbs, raised crossing or 'continuous footway' as appropriate.
Cycle	All	Either cycle tracks protected from traffic or using quiet streets with low motor traffic flows (generally less than 2000 vehicles per day).
Bus and tram	All	Little or no risk of delay due to congestion. Vehicles can always readily access stops.
General traffic	Primary and secondary	A high level of service for general traffic entails little or no risk of delay due to congestion. However the primary aim is to seek to avoid congestion causing delays to public transport.
	Local	Ability to reliably and safely access homes and services

The importance of permeable movement networks

A development that is permeable allows for more direct and convenient journeys through and beyond the site. This is particularly important for enabling walking and wheeling, but also applies to accessing public transport and facilitating direct cycling connections (although not general motor traffic).

A permeable layout provides safe, convenient movement routes, based on the hierarchy of walking/wheeling, cycling, public transport, then private car. It prioritises pedestrian and cycle movement over car and minimises significant detours from the crow-flies route for trips by walking/wheeling and cycling.



Connecting to the Existing Street Network *- The diagram above shows connection points to the existing street network.*

A permeable layout also provides:

- Legible, convenient connections to surrounding networks and facilities, respecting key desire lines (including future-proofing links where these cannot be achieved, which may require land for future adoption next to the site boundary).
- Direct access through developments for those walking, wheeling and cycling.
- Car-free links that promote pedestrian/ cycle permeability and are well over-looked.

Impermeable layouts imposing unnecessary additional walking, wheeling or cycling distances will not be supported.

Street design: materials and maintenance

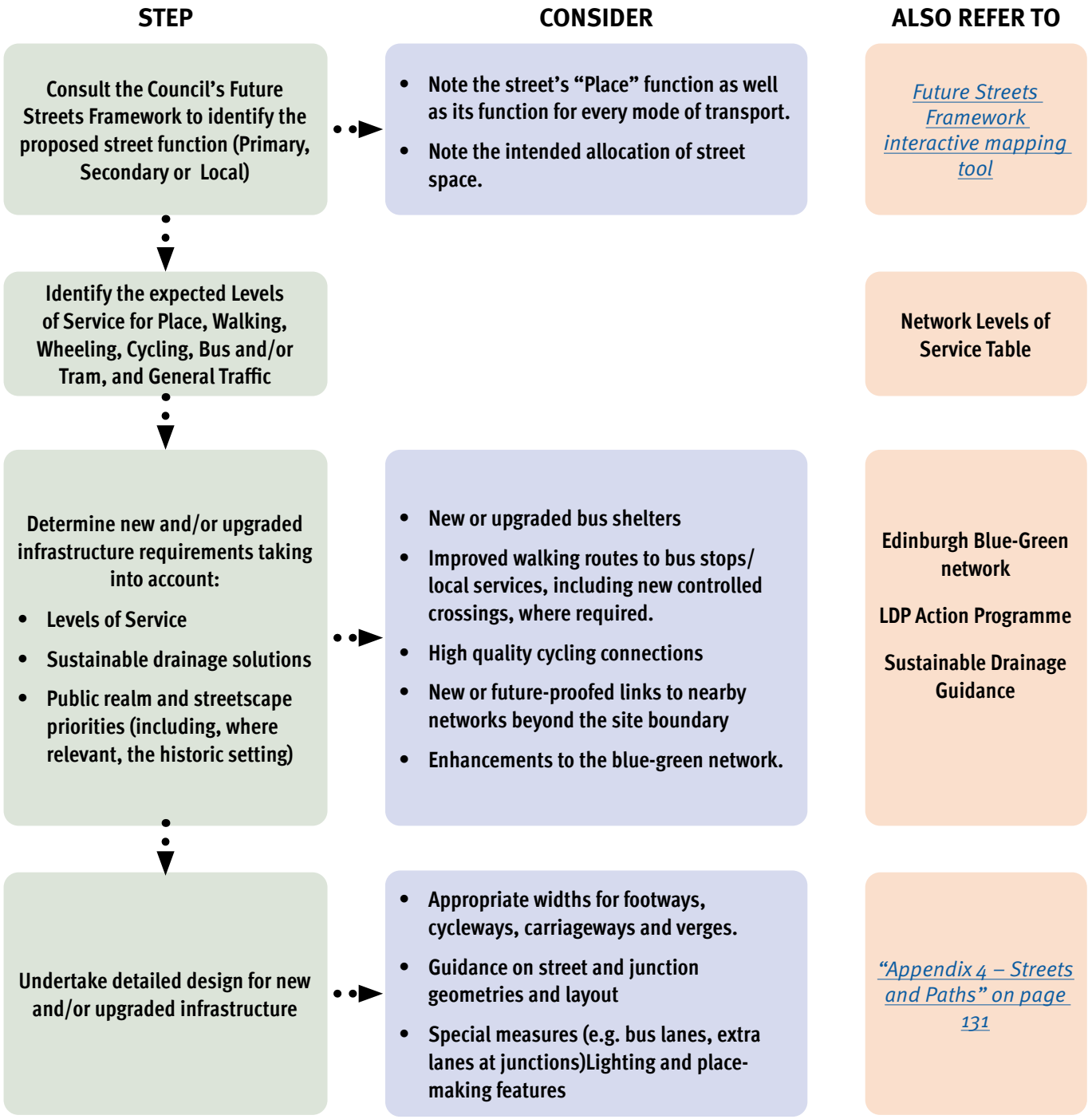
Early discussion with Council's Road Construction Consents team is essential in relation to the quality of street materials and their maintainability.

Layout and street design for development fronting onto existing streets

Development frequently requires changes to existing streets in relation to place quality, blue-green infrastructure, infrastructure for walking and cycling, public transport and/or changes to general motorised traffic. Design and layout are expected to introduce improvements, where necessary, and mitigate any negative impact of development.

Where existing or proposed primary or secondary cycle routes run close to, or pass through, the site, the proposal must show how design and layout provide convenient connections to the existing network and creates safe and accessible routes within the site.

The following flowchart sets out the recommended design process for making changes to existing streets.



Layout and design of new streets and paths

Many developments involve the creation of new streets and/or paths. This may be a connection between two or more streets or publicly accessible paths, a network of new streets, or paths accessing more than one residence/front door.

Proposals are expected to demonstrate how new street networks, streets and paths:

- Connect to and coordinate well with surrounding networks.
- Integrate with the Future Streets Framework.
- Achieve appropriate Levels of Service
- Contribute to sustainable drainage solutions and green/blue infrastructure. *(Refer to "1.3.2 Green Blue Infrastructure" on page 25)*

Applicants are strongly encouraged to engage in early dialogue with the Council's planning and transport teams regarding any potential impact on the tram route, the alignment and design of a bus and/or general traffic route, the Future Streets Framework status, and any primary or secondary walking or cycle routes that may pass through or near the site. Any deviations from Council standards must be agreed with planning and transport.

It is anticipated that a majority of new streets will be 'Local' in function, prioritising the creation of a pleasant place to be and promoting easy, safe and convenient movement by walking, wheeling and cycling. Streets that carry a higher level of motorised traffic than is suited to safe on-street cycling are required to meet different design standards, as set out in the Levels of Service of table.

Design and layout are also expected to respond well to the proposed use class, density and frontage type. For example, streets that generate high footfall, such as higher density housing, local and town centres, require wider footways and a greater allocation of space to

Layout of new streets and paths *- The diagram above shows example street layouts*

'place' functions such as benches or trees.

The Council permits shared surface streets only in exceptional circumstances, such as quiet streets with very low levels of traffic and/or no through routes for vehicles.

The following flowchart sets out the recommended design process for new street networks, streets and paths.

STEP	CONSIDER	ALSO REFER TO
Coordinate the design with wider network connections	• Integration into Future Street Framework • Sustainable Transport Hierarchy • Potential future bus/tram routes though the development • Direct, safe, accessible walking, wheeling and cycling connections to surrounding neighbourhoods, streets and active travel infrastructure. • Waste collection routes and strategy.	*Future Streets Framework interactive mapping tool* *City Mobility Plan*
Develop a permeable movement network	• Connections to adjoining off-road paths • New or future-proofed links to nearby networks beyond the site boundary	*"1.1.4 Coordinate Development" on page 11*
Determine detailed design parameters taking into account: • Street type and function, frontage • Desired Levels of Service • Sustainable drainage solutions • Public realm and streetscape priorities (including, where relevant, the historic setting)	• Desire lines for walking, wheeling, cycling and access to public transport. • Bus stop locations • Location/type of formal crossings. • Measures to minimise and slow down motorised traffic • Community safety, including passive surveillance and clear sight lines. • Adjacent blue-green network. • Appropriate locations for street trees and place-making features. • Flood-risk and sustainable drainage requirements. • Special design factors (e.g. World Heritage Site or Conservation Area considerations)	Future Streets Framework Edinburgh Blue-Green network LDP Action Programme Sustainable Drainage Guidance World Heritage Management Plans Conservation Area Character Appraisals
Undertake detailed design	• Appropriate widths for footways, cycleways, carriageways and verges. • Guidance on street and junction geometries and layout • Lighting • Special measures (e.g. bus lanes, extra lanes at junctions and place-making features)	*"Appendix 4 – Streets and Paths" on page 131*

Car-free Streets *- Sibbalds Walk in Caltongate is an effective layout of a car free street that support walking, wheeling and cycling connections within a development.*

Streets incorporating parallel on-street parking *- Prince Regent Street provides parallel parking on-street, interspersed with build-outs. It is acceptable to assume informal 'give and go' between parked cars, providing relatively narrow residential streets.*

Vehicle crossovers on footways *- This vehicle crossover on Horse Wynd maintains a level footway suitable for wheeling. Vehicle crossovers (e.g. to access driveways) that slope the entire footway down can make journeys with a wheelchair or buggy difficult.*

Raised junctions with narrow corner radii *- Tighter corner radii at side streets can create shorter crossing distances, space for placemaking and SuDS e.g. street trees. Raising the carriageway to footway level slows traffic, making it easier and safer for pedestrians to cross.*

SuDS in Streets *- SuDS is incorporated into this residential street layout.*

1.5.4 DESIGN, INTEGRATION, AND QUALITY OF PARKING

Create a welcoming, attractive and sustainable place that balances the needs of pedestrians, cyclists and motorists effectively, giving priority to the creation of walkable and cycle-friendly environments.

Design cycle parking in the early stages of a development as an integral part of transport provision.

Ensure that private car parking is restricted to what is necessary, led by the design of the development and does not dominate the streetscene.

Consider the quality, accessibility, location, convenience, security and personal safety in all types of parking provision.

Encourage car club initiatives to promote car use as a shared resource that reduces pressure on parking while supporting a wider reduction in private car use.

City Plan 2030 Policies

Env 25 - Layout Design
Hou 4 - Conversion to Housing
Inf 6 - Cycle Parking
Inf 7 - Private Car Parking
Inf 8 - Design of Car Parking
Inf 9 - City Centre Public Parking
Inf 12 - Park and Ride

NPF4 Policies

Policy 13 – Sustainable Transport
Policy 14 - Design, quality, and place

The design, integration and quantity of parking associated with new development has a significant impact on the quality of our places and the way we use them. The Council wants to create a city where ownership of a car is not required to move around. Development is expected to contribute to delivery of the City Mobility Plan by helping people make sustainable choices about how they move around the city. Reducing the impact of the car will create more sustainable, attractive places to live and helps to address congestion, air pollution, noise and climate change.

Development is generally expected to provide low or zero car parking. Development designed around prioritising private car parking over more sustainable travel methods will not be supported.

Whether the proposed level of parking provision is considered appropriate will be based on:

- current and planned levels of walking/wheeling
- cycling and Public Transport Accessibility Level (PTAL)
- the capacity, controls and potential impact on surrounding streets
- alternatives to private car ownership.

Appropriate parking levels

The zones and parking requirements in the parking standards *on page 64* are aligned to public transport accessibility levels, controlled parking zones, and strategic development zones. Proposals for new off-street car parking within highly accessible locations, such as the city centre and Low Emission Zone (LEZ), will not be supported. Sites in accessible locations close to amenities such as town centres are also expected to provide zero or very low levels of car parking.

Prioritising a pleasant, accessible environment *- Parking should be integrated into the streetcape without having a negative impact on the wider environment and other modes of transport.*

The intention to limit car parking must be balanced against the requirements of accessibility. It may be appropriate to provide some car parking on sites with low public transport accessibility and poor walking, wheeling, and cycling infrastructure. However, this must work with, rather than against, measures to improve accessibility to sustainable transport methods.

The Equality Act 2010 and Policy 13e of the National Planning Framework 4 place a responsibility on applicants, the Council and site occupiers to ensure that adequate provision is made for the needs of people with disabilities. The parking standards include minimum requirements where parking is provided but particular attention must be paid to proposals with very low or zero parking provision. Specific provision for people with disabilities should be part of the overall provision and not in addition to it. A larger number of spaces may be required at facilities where a high proportion of disabled users/visitors will be expected, for example health and care facilities.

The parking standards will be applied on a case-by-case basis. This includes applications involving changes of use, conversions and listed buildings, where other guidance and policies will be utilised to ensure that the proposals meet the Council's aims and objectives in terms of transport.

Developers should be aware that restrictions may be placed on the availability of residents parking permits.

Cycle parking

Cycling is an important part of enabling the Council to reduce car kilometres and be a net-zero carbon city by 2030. High quality, secure, convenient and step-free cycle parking at each end of the journey is essential in making cycling as attractive as possible.

Cycle parking provision should conform to requirements set out in the parking standards. Any proposed reduction in the number of spaces will require clear justification. In addition:

- Early consideration of the location and type of provision, is required to avoid retrofitting at the end of the design process;
- Details of on-site cycle parking /storage must be provided on the relevant drawing(s);
- Cycle parking should be in the form of single-tier Sheffield-style racks and must include racks for non-standard cycles, e.g. adapted or cargo bikes, which cannot be accommodated in normal stands;
- Ease of use and convenience must be fundamental to the design. The use of two-tier and other forms of cycle parking requiring lifting or difficult manoeuvring of the cycle should be a last resort;
- Cycle storage should be accessed securely from the building, enabling the highest level of security;
- Purpose-built external storage must be well-overlooked, secure and well-lit. It must also provide a safe and accessible environment for all users;
- Cycle parking should be more conveniently located than vehicular spaces to building entrances;
- For constrained sites, e.g. listed buildings, it may be appropriate to consider on-street provision in the form of hinge top units (also known as 'bread bins').

Car club vehicle provision

Car club vehicles can prove a cheaper and more convenient alternative to owning a car, and businesses can utilise this facility to provide fleet vehicles for employees. The Council promotes car club use in support of lower or zero parking. Car club vehicles can also form part of shared mobility services, as required in by *City Plan 2030*.

Where car club spaces are likely to be provided, early engagement should be made by the applicant with the car club to investigate the location of these spaces. On-site car club provision will be required where provision does not exist within 800m of the development. The Council will require a financial contribution towards the cost of car club provision.

In housing development, prospective residents should be made aware of the car club facility as part of a welcome pack associated with a Travel Plan.

Parking spaces for motorcycles

Motorcyclist requirements are similar to those of cyclists and include convenience, flexibility and security. Motorcycle parking provision should be close by an entrance, clearly marked, secure and safe to use.

Sites without private or shared open space, or garages should have anchor points, quality non-slip level surfacing, CCTV and/or natural surveillance. For long stay parking, such as workplaces, lockers to allow storage of clothing and equipment and changing facilities should be provided.

Design of car parking

Where car parking is considered appropriate it should be designed to have a minimal visual impact on the site and surrounding area. Parking that detracts from the quality of a place, either visually or in terms of how space is used by people walking, wheeling or cycling, will not be supported.

The Council's preference is for parking to be provided in on-street vehicle bays that are well-integrated into the streetscape and prioritise safe movement for pedestrians and cyclists. On-street parking has the potential to be space efficient as well as contributing to the vibrancy of a street, giving neighbours the opportunity to meet each other. It can also offer pedestrians a sense of safety. If integrated well with landscape design, on-street parking can help to limit vehicle speeds.

Where on-street parking is provided:

- Spaces should be arranged in small groups of six to ten parallel bays punctuated wherever possible by street trees to balance the visual impact of parked vehicles.
- End-on parking should be avoided to prevent parked cars overhanging the footway. This can cause particular difficulties for wheelchair users and pedestrians.

End-on parking obstructing the footway *- These end-on parked cars are obstructing the footway, making it inaccessible to many pavement users.*

In higher density development:

- Parking below a landscaped deck may be appropriate, providing the building presents an active frontage to principal streets and spaces.
- Limited use of multi-storey car parking may be appropriate, providing ground floor uses integrate well the surrounding urban fabric. This should be achieved by locating footfall-generating uses (shops, cafés, offices etc) at street level.
- Parking areas must be well-lit and layouts must prioritise safe access for walking and wheeling along key desire lines.
- Car park entrances should be designed to minimise negative visual impact on street character and avoid inconveniencing pedestrians or cyclists.
- Within mixed use development consideration should be given to sharing parking space between different uses, in particular uses that are populated at different times of day.

Limited use of off-street parking in rear courtyards may be acceptable provided:

- Parking is restricted to 10-15 vehicle spaces.
- The space is well-lit and well-overlooked from adjacent buildings.
- High quality landscaping, including trees, mitigates the visual impact of parked cars.

Surface car parks are only supported in exceptional circumstances or as a temporary measure. Where a large area of surface car parking is considered necessary, this should be located towards the rear of the plot, away from the main street frontage. The design and layout of the car park should:

- Make use of structural planting to minimise visual impact.
- Facilitate legible, safe pedestrian movement along key desire lines, making sure pedestrian routes are not determined or restricted by vehicular requirements.
- Make sure parking bays and movement routes form an integral part of the landscape treatment.

Parking within the building curtilage of a new house should generally be avoided. Where considered necessary, space should be provided to the side of the building and should not project beyond the front building line. High quality landscape design, including boundary treatment and street trees, is required to mitigate any negative visual impact. Design and layout should also discourage alternative use of space for additional car parking. In-curtilage parking that dominates the street frontage or restricts passive surveillance will not be supported.

Parking spaces for people with disabilities

Care must be taken to meet the needs of mobility impaired drivers and passengers. Developments with low or zero parking provision must still address their needs. If there are insufficient accessible parking spaces in proximity to the site, it may be necessary to provide accessible spaces as part of the development.

The Design and Access Statement, and transport assessment /statement should set out how the needs of disabled people are being addressed.

Accessible parking should be designed so that disabled drivers and passengers can get in and out of the car easily and spaces should be located close to entrances with step-free access provided between them. The adjacent footway must be clear of obstructions such as planting, bollards, junction boxes, litter bins, etc.

A Traffic Regulation Order will be required for on-street accessible parking bays, in accordance with the Disabled Persons' Parking Places (Scotland) Act 2009, so that use of such spaces can be enforced by the Council. Developers are expected to pay for the necessary road marking, signage and Traffic Regulation Order costs.

Electric vehicle charging infrastructure

The Council recognises the need to switch to cleaner vehicles to improve air quality and meet targets for Net-Zero greenhouse gas emissions. To support this, electric vehicle (EV) chargepoints are required where car parking is provided.

In developments where parking provision is justified, EV infrastructure should be integral to the design. The location and design of EV infrastructure must be convenient for users and maintain adequate space for pedestrian and traffic movement. Particular attention must be paid to the needs of disabled users.

Plans detailing responsibility for managing and maintaining charging infrastructure should be submitted with the planning application, particularly where located within the adoptable or adopted road. For more details of on-street electric vehicle charging provision see *Factsheet F8 – Electric Vehicle Chargepoints*.

Electric vehicle parking spaces are counted as part of the overall car parking provision and not in addition to it. Provision must meet the numbers set out in the Parking Standards.

Mandatory Standard 7.2 of the Scottish Government's Building Standards sets requirements for electric vehicle charging outlets. The technical handbooks explain how to achieve these requirements:

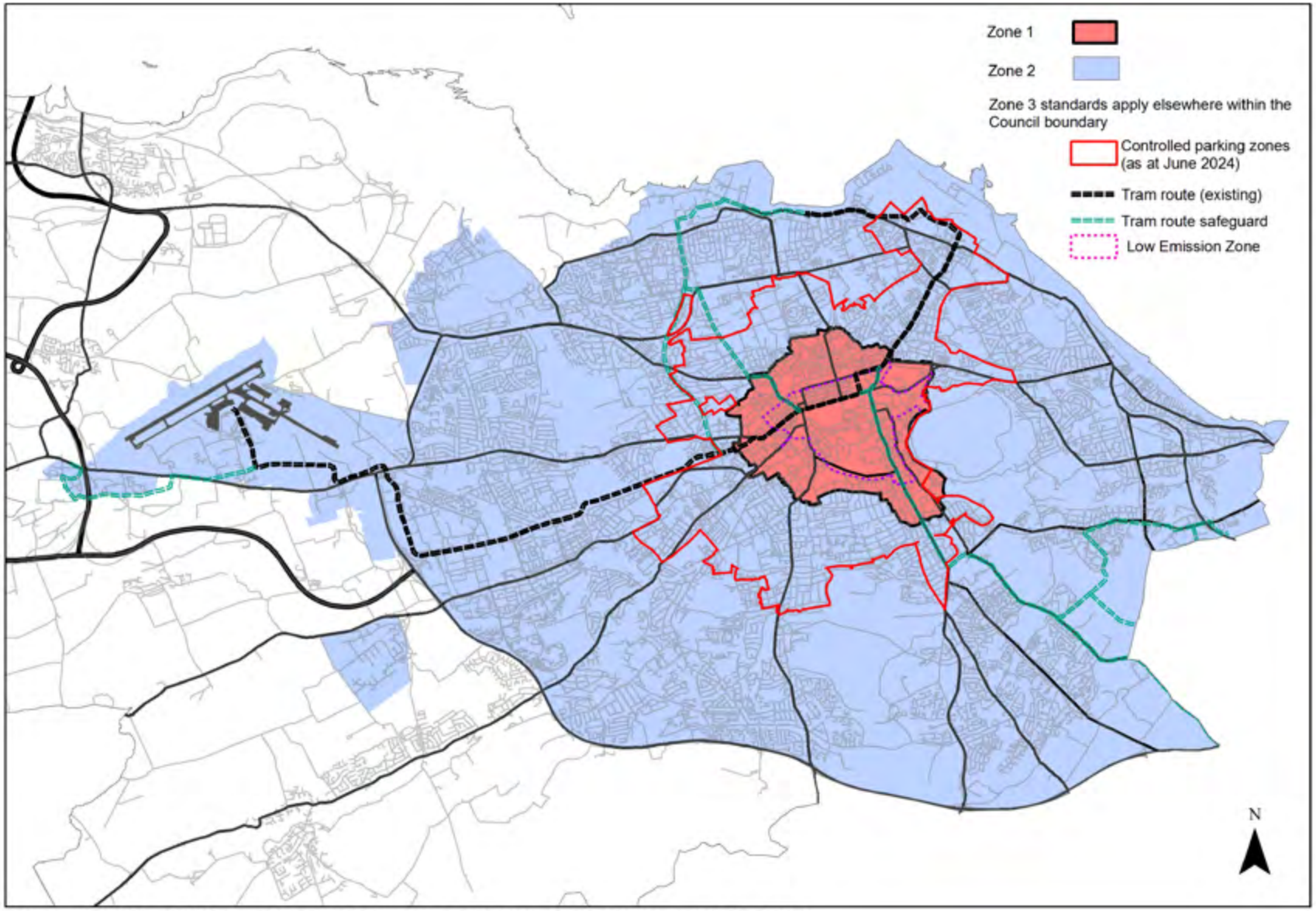
- Building standards technical handbook April 2024: domestic.
- Building standards technical handbook April 2024: non-domestic.

Parking Standard Zones

The city is divided into three different parking standard zones. These are outlined on adjacent the map. These zones determine the acceptable minimum levels of cycling and motorcycle parking and the maximum levels of car parking for developments.

The acceptable levels are set out in the tables following the map. They vary depending on use class.

Note: Major developments with tailored planning guidance parking standards may differ from those in the tables below. (e.g. in West Edinburgh refer to the West Edinburgh Placemaking Framework)



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Map of parking zones

Parking standards for each relevant planning use class

	Cycle MINIMUM		Car parking MAXIMUM per parking zone			Motorcycle MINIMUM	
Development by planning use class	**Employees**	**Customers**	**Zone 1**	**Zone 2**	**Zone 3**	**Employees**	**Customers**
Class 1A (1) Shops							
Retail warehouse (trade only)	1 per 500m²	1 per 1000m2	Zero	1 per 360m²	1 per 180m²	1 per 1000m²	1 per 1000m²
Shops < 500m2	1 per 250m²	1 per 500m2	Zero	1 per 65m²	1 per 30m²	1 per 2000m²	1 per 1000m²
Shops 500m2 to 2000m2			Zero	1 per 91m²	1 per 48m²		
Shops >2000m2 incl retail warehouse (public use)			Zero	1 per 91m²	1 per 48m²		
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 1 space plus 10% of total capacity						
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure						
Class 1A (2) Financial / Professional Services	1 per 150m²	1 per 300m²	Zero	1 per 60m²	1 per 27m²	1 per 2000m²	1 per 1000m²
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 1 space plus 10% of total capacity						
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure						
Class 1A (2) Health Centres and Clinics	2 + 1 per 10 staff	1 per 2 consulting rooms	Zero	1 per consulting room	1 per consulting room	1 per 10 staff	1 per 5 consulting rooms
Accessible parking - minimum provision	When 10 or more car parking spaces are provided, 4 spaces plus 10% of total capacity						
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure						
Class 3 Food / Drink: (incl pubs and takeaways: sui generis)	1 per 75m²		Zero	1 per 20m²	1 per 14m²	1 per 20 car parking spaces	
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 1 space plus 10% of total capacity						
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure						
Class 4 Business	1 per 100m²	1 per 700m²	Zero	1 per 385m²	1 per 210m²	1 per 2000m²	1 per 8000m²
Class 5 General Industry	1 per 100m²	2 per 700m²	Zero	1 per 385m²	1 per 210m²	1 per 2000m²	1 per 8000m²
Class 6 Storage / Distribution	1 per 100m²	3 per 700m²	Zero	1 per 385m²	1 per 210m²	1 per 2000m²	1 per 8000m²
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 1 space plus 10% of total capacity						
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure						

	Cycle MINIMUM		Car parking MAXIMUM per parking zone			Motorcycle MINIMUM
Class 7 Hotels (including serviced apartments and short term lets)	1 per 10 bedrooms		Zero	1 per 3 bedrooms	1 per 3 bedrooms	1 + 1 per 20 car spaces
Coach parking	Coach parking assessed on site by site basis					
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 2 spaces plus 10% of total capacity					
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure					
Class 8 Residential institutions: residential homes	1 per 15 beds	1 per 25 beds	Zero	1 per 6 beds	1 per 4 beds	1 per 25 beds
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 2 spaces plus 12% of total capacity					
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure					
Class 9 Housing (including flats: sui generis)						
Studio / 1 room*	1 per unit		Zero	0.75 per unit	0.75 per unit	1 per 25 units
2 rooms*	2 per unit		Zero	0.75 per unit	0.75 per unit	
3 rooms*	3 per unit		Zero	0.75 per unit	0.75 per unit	
4 or more rooms*	4 per unit		Zero	0.75 per unit	0.75 per unit	
Accessible parking - minimum provision	From a threshold of 10+ dwellings (where parking is communal) 10% of total capacity					
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure					
Car Club	Car club provision to be assessed on individual site basis					
* Number of bedrooms						
Class 10 Non-Residential Institutions						
Schools / nurseries	1 per 9 pupils		Zero	1 per 36 pupils	1 per 22 pupils	1 per 5 car parking spaces +1 per 250 pupils
Libraries (m2 public floor area)	2 per 100m²		Zero	1 per 81m²	1 per 60m²	1 per 5 car parking spaces
Church / community Hall	1 per 67m²		Zero	1 per 60m²	1 per 44m²	1 per 10 car parking spaces
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 2 spaces plus 10% of total capacity					
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure					

	Cycle MINIMUM	Car parking MAXIMUM per parking zone			Motorcycle MINIMUM
Class 11 Assembly and Leisure					
Cinemas / theatres	1 per 50 seats	Zero	1 per 12 seats	1 per 7 seats	1+1 per 20 car spaces
Stadium	1 per 200 seats	Zero	1 per 180 seats	1 per 33 seats	1+1 per 20 car spaces
Leisure centre / gym	1 per 20m2	Zero	1 per 120m2	1 per 66 m2	1+1 per 10 car spaces
Swimming (m2 pool area)	1 per 10m2	Zero	1 per 30m2	1 per 18m2	1+1 per 20 car spaces
Accessible parking - minimum provision	When 5 or more car parking spaces are provided, 2 spaces plus 10% of total capacity				
Electric vehicles - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure				
Sui Generis - Motor Trade: display area	1 per 7 staff	1 per 80m2	1 per 56m2	1 per 50m2	1 +1 per 20 car spaces
Sui Generis - Motor Trade: spares		1 per 40m2	1 per 28m2	1 per 25m2	
Sui Generis - Motor Trade: service / repairs		1 per 2 bays	1 per 2 bays	1 per 2 bays	
Sui Generis - Motor Trade: staff		1 per 15 staff	1 per 4 staff	1 per 1.5 staff	
Accessible parking - minimum provision	All parking spaces should include provision for electric vehicle charging infrastructure				
Sui Generis - Purpose Built Student Accommodation	0.5 per bed	Zero	Zero	Zero	1 per 25 beds
Accessible parking - minimum provision	Accessible parking provision to be assessed on site by site basis, taking into account on-street availability				

PART 2 : DESIGNING LIVEABLE PLACES

2.1 MIXED COMMUNITIES

2.1.1 MIXED-USE NEIGHBOURHOODS

Support local living through the creation of high quality, high density, mixed use and walkable communities.

City Plan 2030 Policies

Env 26 – Housing Density

Env 33 - Amenity

Housing Policies (Hou 1 – 7)

NPF4 Policies

Policy 14 - Design, quality, and place

Policy 16 - Quality homes

Development should be designed to support local living and embed a 'place-based' approach to the creation of high quality, high density, mixed use and walkable communities, linked by better active travel and public transport infrastructure, green and blue networks and bringing community services closer to homes

Housing-led Mixed Use

City Plan 2030 allocates a range of housing-led mixed-use sites within the urban area to support the living well locally approach and to ensure there is enough land to meet the city's housing needs set out by the housing land requirement.

The mix of uses must:

- allow for the delivery of mainstream housing which provides the numbers set out in Table 2 and Table 15 of City Plan 2030 and achieves an appropriate mix of unit size and typology
- be appropriate to a residential environment and enable high standards of residential amenity
- support local living - see *"1.5.2 Living Well Locally" on page 53*
- respond sensitively to the site context, including adjacent uses, key views, landscape and townscape character and the green-blue network
- achieve the development principles set out in City Plan 2030 site-specific place policies and *City Plan Appendix D*

Where there is a failure to meet the Council's expectations in relation to these factors, this would indicate that the proposed mix of uses and/or the quantum of development may not be acceptable. Where a proposal represents piecemeal development on part of an allocated site, the applicant is required to submit an indicative masterplan that demonstrates how policy objectives for the wider site could be met.

Supporting Mixed-Use Neighbourhoods *- The mix of uses and high density at Quartermile supports a vibrant and walkable environment.*

Purpose Built Homes to Rent

The private rental sector continues to be a key provider of homes throughout the city. Purpose-built accommodation to rent, also referred to as Build to Rent (BTR), can offer rapid delivery of high-quality, professionally managed homes under single ownership with shared facilities. BTR may also include the conversion of existing buildings that can accommodate this housing model.

BTR developments are generally characterised by:

- Single ownership and professional on-site management;
- Self-contained units that are let separately;
- High quality amenities for communal use;
- Longer tenancies offered with defined in-tenancy rent reviews; and
- A property manager who is part of an accredited Ombudsman Scheme and a member of a recognised professional body.

BTR developments are considered a strand of mainstream housing. Relevant policies and guidance apply including those relating to affordable housing, floorspace standards, daylighting, dual aspect, amenity, open space, and parking.

Purpose Built Homes to Rent *- These buildings in Fountainbridge have been designed to provide homes for rental.*

Purpose Built Student Accommodation (PBSA)

PBSA provides managed communal accommodation. Provided at an appropriate scale in the correct circumstances it can contribute towards mixed communities. Where student accommodation is proposed on larger sites Policy Hou 5 requires that 50% of the site is developed for general housing. Affordable housing Policy Hou 2 will apply.

Further guidance is provided in the *City of Edinburgh Council's Student Accommodation guidance*.

Accommodation for Gypsy/Travellers and Travelling Showpeople

Gypsy/Travellers are a distinct ethnic group, with their own culture, lifestyle, and accommodation needs. Sites are used by Gypsy/Traveller and Travelling Showpeople communities in different ways. There is no single, appropriate design for sites.

Scottish Government Interim Site Design Guide sets out key considerations for the design of public sites.

In addition to the requirements set out in the Site Design Guide new and refurbished public sites should meet *Minimum Standards* set by the Scottish Government.

Self-build homes

Self-build housing is where an individual or group of individuals commissions or is personally involved in the design and construction of a dwelling that is intended to be their main residence. Self-build allows homes to be designed to suit the needs of the occupier and can add to the diversity of homes. Their development is encouraged. The Council hold a register of people with an interest in self-build housing.

2.1.2 HOUSING MIX, SIZE AND TENURE

- **Provide a mix of homes that meets the needs of a range of household types and sizes, including families, older people and disabled people.**
- **Design new homes to be inclusive, accessible, and adaptable.**
- **Provide a design and layout that is tenure neutral.**
- **Provide future residents with adequate space for healthy living.**

City Plan 2030 Policies

Env 26 – Housing Density

Env 33 - Amenity

Housing Policies (Hou 1 – 7)

NPF4 Policies

Policy 14 - Design, quality, and place.

Policy 16 - Quality homes

Providing a mix of housing options *- This mix of flats, colony houses and townhouses at Ropeworks, Leith accommodates a diverse range of household sizes and tenures.*

Well-designed neighbourhoods provide a variety and choice of homes to suit all needs and ages. This includes people who require affordable housing or other rented homes, families, older people, students, and people with physical disabilities or mental health needs.

Neighbourhoods also benefit when key community facilities are located within safe, convenient walking distance of homes. Please refer to *Chapter "1.5.2 Living Well Locally" on page 53* for guidance on meeting this requirement.

Edinburgh's population is ageing, and the number of single households is increasing. There is net migration out of the city by families. These demographic changes impact on the supply, size, type, and accessibility of housing required.

Mix of dwelling type and size

A mix of unit sizes and housing types creates diverse communities. This mix should respond to differing needs, immediate site conditions and citywide objectives.

For some sites City Plan sets out Place Policies and Development Principles (*City Plan 2030 Appendix D*) which include requirements for design, density and location of housing within developments.

Development of sites should make optimum use of land. Housing types such as flats, colonies, four in a block, terraces, mews houses and townhouses can make for more efficient land use than detached or semi- detached housing. These can provide a range of sizes including larger dwellings suitable for families. *See Chapter "2.2.1 Density" on page 74*

For building conversions, it is accepted that the existing building may provide limitations on the mix of housing that can be provided on site.

Inclusive, accessible, and adaptable homes

Housing in its design and form should provide for different needs and circumstances. People have various housing needs, and these will change through a lifetime therefore homes should be designed to be as adaptable as possible.

Consideration should be given to the accessibility of homes from the surroundings, within the home and to any outdoor space. Scottish Government Housing for Varying Needs Design Guide, which is currently being updated, provides a design benchmark in this regard. It is a key reference document for the affordable housing sector and should be used as best practice across the housing sector.

Key elements:

- Step free access on ground floor properties
- Wider door openings
- Adequate circulation area inside entrance door
- Passages of sufficient width
- Bathrooms which can adapt into wet rooms
- Stairs with the potential to take a stair lift and allowance for the possible installation of a through floor lift.

Scottish building standards also include provisions to ensure all new homes are accessible and inclusive. These requirements apply to all new homes, irrespective of tenure, and those created through conversion. These should be addressed at the planning application stage. A new Accessible Homes Standard is proposed for implementation through changes to building standards from 2025-26.

Developers are encouraged to provide adaptations which facilitate independent living. e.g., lower /adapted kitchen units, level access showers/wet rooms either as part of the basic design or as available options.

Communal lift access allows flats at any floor level to have a step-free entrance. Where lifts are provided, they should meet the criteria set out in Housing for Varying Needs.

Affordable housing

Affordable housing will be required as part of market proposals for developments of 12 or more units in line with the Council's affordable housing policy. Requirements are set out in the *Council's Affordable Housing Guidance.*

Consideration of affordable housing provision should be undertaken at the earliest opportunity to enable the appropriate layouts, mix and affordable housing tenure to be identified. Applicants should engage with the Council and Registered Social Landlords (RSLs) at an early stage to agree the appropriate approach. An affordable housing statement should be submitted with the planning application.

Tenure neutral design

No one should be disadvantaged because of the tenure of their homes. There should be no segregation or difference in quality between tenures by siting, accessibility, environmental conditions, external facade, or materials.

Homes of all tenures should be represented in equally attractive and beneficial locations. Shared open or play spaces should be accessible to all residents around them, regardless of tenure.

Affordable rented housing should be well integrated with housing for sale. Large groupings of the same tenure type should be avoided.

Where a site is predominantly for market housing, it is expected that affordable housing should be provided in the same housing type. If the design is for houses for sale, the affordable dwellings should also be houses. Where it is not possible to deliver the same housing type, alternative types of the same physical scale should be used. For example, colonies and four-in-a-block flats may integrate reasonably well with two-storey houses.

Housing for Families

Families vary in composition. Some families' needs can be met within 2-bedroom homes. To meet the needs of larger families in developments of 12 units or more,20% of the total number of homes should have:

- a minimum internal floor area of 91m2
- three or more bedrooms
- good levels of storage
- direct access to private garden, from either ground or first floor (this could be via private external stairs).

Incorporating family housing *- The inclusion of townhouses in this development on McDonald Place provides a good option for families.*

Housing for Older and disabled people

The needs of many older people can be met by general housing. Older people's main need in the design of their home is that it allows them to live independently as long as possible.

Homes for older people can include retirement villages, care homes, extra-care housing, sheltered housing, independent living and age-restricted general market housing.

Homes for older people should be provided in locations where there is reasonable access to facilities in terms of access to public transport, health care, shopping and other community facilities. They should provide for a range of mobilities including those whose physical disability permits them to walk with or without the use of walking aids and occasional use of a wheelchair.

Dwellings provided specifically for older people should follow the Housing for Varying Needs standards or successor guidance which relate to this specific group.

Wheelchair accessible housing

There is an identified need for wheelchair accessible housing in Edinburgh. The Council has an established target of 10% of all social rented homes being wheelchair accessible. The role of market housing in providing wheelchair accessible housing is recognized by Scottish Government. Local Authorities are required to set all tenure wheelchair housing targets. An Accessible Housing Study has informed a cross-tenure wheelchair accessible homes target of 7% annually for all completions. Provision of wheelchair accessible housing in the market sector will increase choice for households by providing suitable accommodation for both wheelchair users and general needs.

It is accepted that there may be circumstances where it is not possible or desirable to provide wheelchair accessible housing. The suitability of the site should be considered regarding convenient access in terms of distance, gradient and public transport to reach facilities needed for independent day-to-day living.

Wheelchair accessible housing should, as a minimum, comply with the design criteria indicated as a 'basic' requirement for wheelchair users as outlined in *Housing for Varying Needs: A Design Guide* (see column 'B' in 'Summary of Design Criteria') or any successor guidance. It should also include the design criteria indicated as 'desirable' wherever possible (see column 'D' in 'Summary of Design Criteria').

Space Standards for general housing

Dwellings should as a minimum provide the following gross internal floor areas:

36m2 Studio dwelling;

52m2 One bedroom dwelling;

66m2 Two bedroom dwelling;

81m2 Three bedroom dwelling; and

91m2 Dwellings with 3 or more bedrooms and enhanced storage suitable for larger families.

Rooms should be of a size and shape that when furnished they allow space for circulation and access to furniture, windows, heating appliances etc. Additional space over and above the minimum is encouraged, in particular provision within the layout to accommodate a desk for home working.

This could be within the main living area, a larger bedroom or other space within the dwelling.

The minimum floor area for studios is lower than that for one-bedroom flats since the relatively larger single open plan space found in studios compensates for having a smaller space overall. It is expected that studios will be designed to be very space efficient.

Internal storage

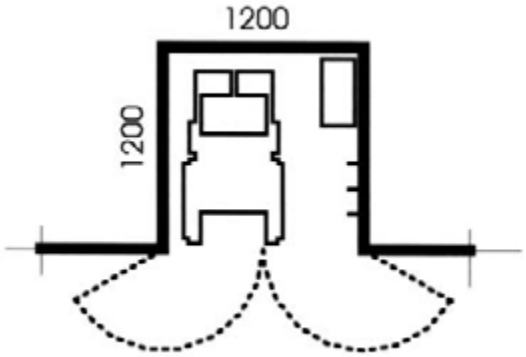
Storage is an important factor in ensuring that people have enough space to enjoy their homes. At least 5% of the net floor area should be provided as dedicated storage cupboards in addition to any kitchen storage or wardrobes. In all dwellings there should be adequate and easily accessible storage for:

- outdoor clothes (beside entrance door)
- cleaning and other household equipment (vacuum cleaner, mop, ironing board, etc.)
- linen
- general storage
- in family houses a pram
- special items such as baby equipment or aids for older or disabled people
- at least three 55 litre storage boxes for recycling.

Any cupboard providing space for water cylinders or tanks, or bedroom wardrobe space, is additional to these storage needs.

All storage should be easily accessible to someone with impaired mobility.

Within individual units, developers are encouraged to meet optional, enhanced storage requirements set out in *Scottish Building Standard 7.1*, including storage that could accommodate a pram, bicycle, or electric wheelchair.



Cupboard to take a wheelchair or pram *- The above diagram indicates the dimensions required for a cupboard to accommodate a wheelchair or pram (Source: House for Varying Needs).*

2.2 DISTINCTIVE PLACES

2.2.1 DENSITY

Make sure proposed density is:

- **sensitive to the immediate and wider context.**
- **the result of a high-quality design and layout, rather than acting as a determinant**
- **an appropriate response to the accessibility of public transport and the provision of local facilities.**

City Plan 2030 policies

Env 26 - Housing Density

NPF4 Policies

Policy 14 – Design, quality & place

Policy 15 – Local Living & 20 minute neighbourhoods

High density development helps Edinburgh be a compact and vibrant city. It allows land to be used more efficiently, helps maintain the vitality and viability of local services and encourages the effective provision of public transport. An increase in density may be appropriate where this enhances the area's character and leads to better placemaking. Density can also make the provision of district heat networks more viable - helping to achieve targets to de-carbonise heat.

Responding to context

The appropriate density for a particular site will depend on both the immediate and wider context. The density of an area is part of an area's character. This is particularly important in areas of heritage significance, such as the World Heritage Site, Conservation Areas, and Victorian and Edwardian villa areas. In these areas density should respect the scale, form and grain of the historic context by making sure the form of any new building and its positioning reflect the spatial characteristics, building forms and heights within the area.

Density through high-quality design: Rowanbank Gardens *- A high level of housing density has been achieved without compromising the quality of the amenity space.*

Density from high-quality design

A desire to achieve a high density is not a justification for poor quality design. If the density of a scheme means it is unable to meet the other design guidelines set out in this document, it will be taken as an indication that the proposed density is too high and that the quantity of development on the site should be reduced or the design re-configured.

Density & accessibility

Consideration should be given to the impact that density will have on surrounding services and the transport network. Successful high density requires good access to a full range of neighbourhood facilities. Sufficient facilities should exist or be proposed in the area. The appropriate density should respond to the accessibility of public transport and active travel.

Increased density

Increased density can enhance an area's character, particularly in low density developments that create featureless townscapes lacking in visual interest or focus points.

For example, higher density low-rise building types, such as small flat blocks, mews, colony, or terraced housing of a high-quality design could be inserted in low-density, low-rise areas without adverse impact on neighbourhood character.

How to calculate and report density and areas

To ensure a consistent approach across the city, built density and areas will be measured as set out below. These simple calculations allow comparisons to be drawn with other developments within the city.

- **Development Site Area (ha/m2)**: the total land area within the site boundary, measured on a horizontal plane.
- **Development Site + Roads Area (ha/m2):** the development site area measured to the middle of roads or other routes bounding the site.
- **Development Floor Area (m2):** the total floor area of the buildings being constructed on the site. This includes all the floors of all buildings, including ancillary buildings or structures. This can be measured as Gross External Area or Gross Internal Area, but whichever is used must be clearly stated.
- **Plot Ratio** – Also known as Floor area ratio, the ratio of total Development Floor Area to Development Site Area.
- **Site Coverage** – the extent of the site that construction is taking place on. This is calculated by the ratio of the Gross External Area of the Ground Floor of all buildings to the Development Site Area. This should be expressed as a percentage.
- **Net Internal Area (m²):** the internal area of all floors of a building measured to the interior surface of external walls including internal walls and partitions but excluding communal features such as stairs.

Residential Density Measures

- **Dwellings per ha/m²**: the number of dwellings per ha/m2 of the Development Site + Roads Area.
- **Habitable rooms per ha/m²**: the number of habitable rooms per ha/m2 on the Development Site + Roads Area.

Examples of these density measures applied to existing Edinburgh neighbourhoods are in *"Appendix 5 - Example Densities" on page 141.*

High-density responding to historic context *- The density of Shrubhill responds well to the heritage and character of the area.*

Density with a mix of housing types - *Cammo includes a mix of flats, colony houses, townhouses, terraced and detached houses.*

Density enhancing an area's character *- Canonmill Gardens provides a large number of homes next to the Water of Leith.*

High-density supporting a mix of uses *- the density of the development at Quartermile supports a range of ground floor uses.*

2.2.2 POSITION OF BUILDINGS ON SITE

Position buildings to:

- **create streets and spaces that are interesting and attractive for walking, cycling, and wheeling**
- **line up with the building lines of neighbouring buildings**
- **reflect surrounding townscape character where this is positive**
- **take account of site orientation, exposure, topography and environmental constraints.**

When locating buildings adjacent or close to a historic building or landscape, make sure their position protects:

- **the historic setting, including key views to and from the building.**
- **the landscape's essential characteristics.**

For infill development, position buildings to respect surrounding spatial character and neighbouring amenity.

Where building lines do not exist, position development to engage positively with streets and spaces.

City Plan 2030 Policies

Env 3 - Development Design – Incorporating and Enhancing Existing and Potential Features

Env 4 – Development Design – Impact of Setting

Env 7 – Sustainable Developments

NPF4 Policies

Policy 14 – Design, quality & place

Contribute to a network of well-defined, attractive streets and spaces

Site layouts must be designed to be safe and attractive for all users and particularly pedestrians, cyclists, and people with disabilities.

It is particularly important to make sure streets and spaces are defined by the position of buildings rather than the route of the carriageway or vehicle parking. This is a key positive characteristic of Edinburgh's historic network of streets and spaces that development is required to replicate.

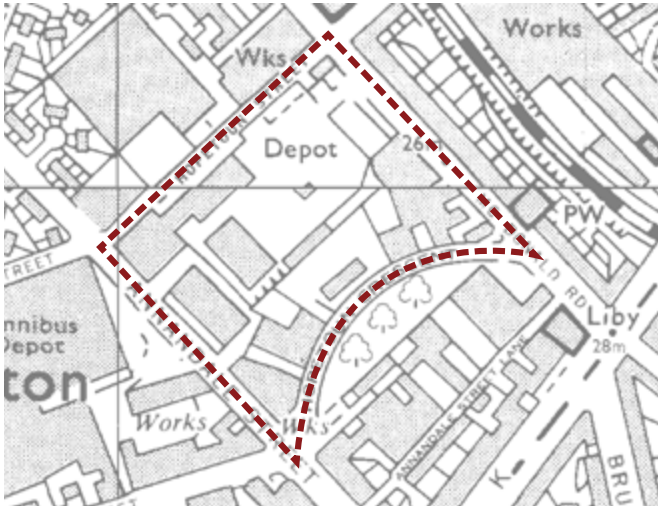
Take cues from the setting and surrounding townscape character

Design and layout should take cues from the historic settlement pattern, urban grain, plot boundaries, pedestrian routes and enclosures, where these exist.

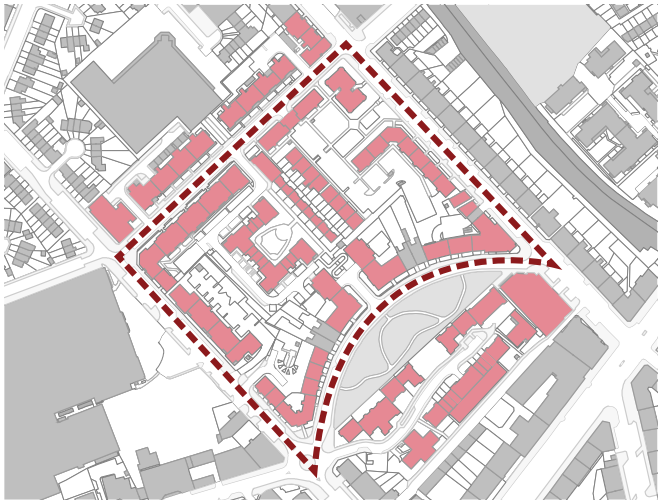
In historic settings and areas with established building lines such as tenement streets, mews streets and villa areas, development should respect and reinforce the predominant building line.

In areas where buildings do not line up (for example the Old Town), plans of the wider context are extremely useful in helping to determine how well the proposed position of buildings on site is likely to make a positive contribution to surrounding spatial character and urban grain.

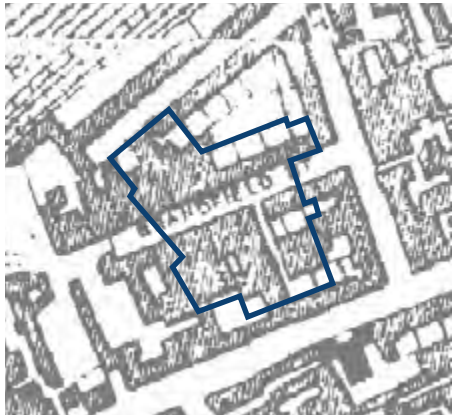
Rebuilding the urban fabric: Hopetoun Village *- New development (shown in pink) has enhanced the urban fabric of this formerly industrial area, taking cues from the tenements, terraces and perimeter block form of the surrounding area and creating a range of new places and spaces.*



1995 OS map showing the historic block structure to serve industrial uses



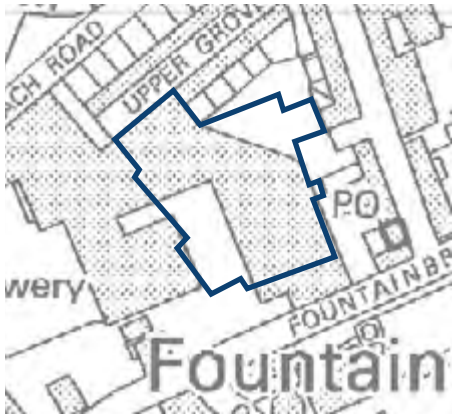
2024 OS map of residential development



Development site boundary

c1900

Map of Fountainbridge showing historic urban grain.



1997

OS map showing loss of historic block structure to industrial uses.

2024

aerial view of residential development informed by historic street pattern.

***Use of historic analysis to inform street layout and block structure** - The design and layout of these new flats were informed by analysis of historic maps, reinstating positive characteristics of the surrounding area.*

Sensitivity to historic context

Where inserting buildings into a historic setting:

- Make sure the principal elevations of a listed building remain visible from main viewpoints.
- Avoid disrupting the relationship of a listed building to surrounding streets.
- Make iterative use of Landscape and Visual Impact Assessment (LVIA) to insert buildings into a historic landscapes or townscape, prioritising protection of the historic setting.
- Demonstrate an understanding of sensitive views and characteristics.

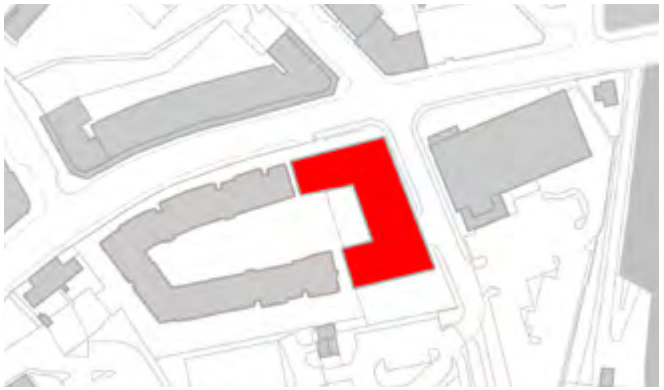
Sensitive infill development

Back-land development may be acceptable where it would not disrupt the spatial character of the area and the amenity of neighbours and future residents.

Proposals will be considered on a case-by-case basis and will consider the cumulative impact of proposals in an area (including impact on surface water drainage, biodiversity, and trees).

***Sensitively constructed in a mews context: Portobello Mews** - The height and pitched roof of this development matches the other buildings in the mews*

***Infill development in a villa area -** The proposed building (shown in red) is roughly the same size in plan as its neighbours and is positioned so that its frontage is the same distance from the road as its immediate neighbours.*



***Infill development in a tenement area -** The proposed building (shown in red) completes a block of development. This will allow active frontages to be placed onto streets and allow private space for the development in the courtyard that is formed between the buildings.*

2.2.3 HEIGHT AND FORM

Match the general height and form of buildings prevailing in the surrounding area.

Where development exceeds the height of neighbouring buildings make sure it enhances the city skyline, roofscape and surrounding townscape.

Tall buildings must be justified and of outstanding quality that enhances rather than detracts from the city skyline and townscape.

City Plan 2030 Policies

Env 4 - Development Design – Impact on Setting

Env 30 – Building Heights

NPF4 Policies

Policy 14 – Design, quality & place

Much of the city's urban area is defined by a traditional townscape character that creates a high quality, sustainable and vibrant urban environment. The Council wants development to integrate well with existing buildings and spaces. The objective is to preserve and enhance the existing townscape character while pursuing the highest architectural and urban design quality.

Architectural form and building heights must be appropriate to location. This means new buildings should be match the building height of neighbouring buildings. This helps to protect the visual character of areas where there are uniform building heights. It also helps to protect key views.

The height of the part of the building where the external wall meets the roof (the eaves) is at least as important to the perception of height as the height of the top of the roof (the ridge). This means that new buildings should sit within the form set by the eaves and ridge of neighbouring buildings. This is particularly important for development in historic settings, where built form should remain within the range of heights of historic neighbouring properties. It is also important in areas where there are established building heights, for example tenement streets, mews streets and villa areas.

Integrating into the historic context *- The height and massing of recent development on Advocates Close help to integrate the building into this important view of the Old Town © Getty Images*

Matching the height of existing mew: Circus Lane *- This newly built house matches the eaves and ridge heights of the adjacent historic mews buildings.*

Matching the height of the context: Fountainbridge *- The height of the modern building is very similar to its historic neighbour. This helps it integrate with its surroundings.*

Taking cues from neighbouring heights - *The height and roof pitch of this new building is designed to match the height and roof pitch of the adjacent building.*

Matching heights in tenement streets - *It is important that new buildings on tenement streets have similar heights to their neighbours. This modern building is designed so that the height of its main walls matches the eaves heights of the adjacent tenement.*

Built form that rises above the prevailing height is only acceptable in exceptional circumstances. It must be of exceptional design quality and contribute to the visual interest of the city's streets and skyline. A slight increase in height may be appropriate in response to a specific context, such as to mark a key focal point in the townscape like a prominent corner or gateway. Or it might be appropriate in response to a specific use, such as a prominent civic or cultural use. Any proposal that will affect any of the key views outlined in *"1.1.3 Visual Impact, Protected Views & City Skyline" on page 9*. will be assessed to ensure that it is not having an adverse impact.

Existing high and intrusive buildings will not be accepted as precedents for the future. If they are being replaced, the redevelopment should include more sensitively scaled buildings.

The impacts of height in relation to aviation safety should be considered.

Roofscape

Edinburgh's topography is a key aspect of the character of the city. This is reflected in the roofscape of buildings, which is often viewed from above. In the design and layout of development the articulation of roofscape needs to be carefully considered. In historic settings, roof forms and materials should reflect the tradition of the locality.

Where there is a prominent difference in ground level between neighbouring buildings that is clearly visible in the surrounding roofscape, it will not be appropriate to match the height of the lower building with the higher neighbouring building.

Plant infrastructure, particularly at rooftop level, should be sensitively integrated into roof design and profile. Where rooftop plant is provided, edge protection railings should be avoided.

Integrating into a key view - *The set back of the upper floors and materials help integrate the new buildings in Caltongate into the view from Calton Hill. The green roofs reflect the nearby Canongate Kirkyard*

Roofscape that responds to context *- The roof of this hotel on Market Street has been designed to reflect the form of the roofscape behind it.*

Tall Buildings

Edinburgh's skyline is composed of tall, slender, elegant objects which, when viewed against the topography, give the city its unique character and identity. Any proposed tall structure will have to be of exceptional quality and emulate these attributes in terms of slenderness, proportions and elegance.

A tall building must be clearly justified in relation to its context and may be acceptable provided:

- The proposed scale, height and massing do not adversely affect a protected or key view, or the setting of an historic asset.
- The design is of exceptionally high architectural and urban design quality, informed by contextual and microclimate analysis.
- The proposal contributes to the visual interest of the city skyline and the immediate townscape.

The Council expects the silhouette of a tall building to take its cue from the exceptional quality of the Edinburgh skyline in terms of verticality, elegance, slenderness and proportion. The silhouette of the top of the building (uppermost storeys, roof and plant) will be particularly important in assessing its impact on the skyline. This "crown" should be articulated through massing or materials.

Where a tall building is justified by relationship to a cluster, it should be demonstrated that existing, consented and proposed development will not merge visually to undermine the city skyline and its backdrop to the Firth. Tall buildings in clusters should vary in height to avoid appearing as a continuous wall of development in distant views.

The building's base should interact with and make a positive contribution to the immediate setting, typically providing a mix of uses that contribute to the safety, diversity and vitality of the neighbourhood. The base should present active frontages and generous footways to all parts of the public realm focussed on creating a safe, attractive pedestrian environment and an appropriate sense of street enclosure. See *"2.3.1 Creating Safe Places" on page 94* The elevational treatment of the base should integrate well with the existing streetscape.

The site layout should provide high quality, usable public open space that benefits from views, shelter and direct sunlight at appropriate times of day. Open space must also relate well to ground floor uses.

Applicants must demonstrate how design and layout respond to and mitigate adverse climatic effects, such as wind and overshadowing, on existing and proposed buildings, streets and open space. Guidance on the visual assessment required is provided in *"1.1.3 Visual Impact, Skyline & Protected Views" on page 9*. Tall buildings should also be designed to limit risk to birds by avoiding large glazed areas that could confuse birds or by specifying bird-safe glass.

Taller buildings that have public or shared access to the roof, balconies or ledges can present a greater risk of suicide by providing easy access for jumping from a height and should follow the guidance on designing for suicide prevention in*"2.3.1 Creating Safe Places" on page 94*.

A landmark for the wrong reasons: Walker Street *- The office tower has a negative impact on views from surrounding streets due to its inharmonious height and form.*

Impact on distant city views. Development should not detract from Edinburgh's skyline and backdrop to the Firth - *Avoid tall, large, square/ rectangular buildings with flat horizontal rooflines as these are very conspicuous. Instead building height and mass should respect the city's townscape. Roof articulation helps to break up built mass and is encouraged. Building materials and colours also need to be chosen with care. White colours and reflective materials are very noticeable in distant views whereas muted colours blend into the landscape much better.*

2.2.4 SCALE AND PROPORTIONS

Harmonise the scale of buildings including their size and form, windows and doors and other features by making them a similar size to those of their neighbours.

Where the scale of development is different to that of surrounding buildings, make sure there is compelling reasoning for this difference.

City Plan 2030 Policies

Env 4 - Development Design – Impact on Setting

Env 30 – Building Heights

NPF4 Policies

Policy 14 – Design, quality & place

Buildings that are designed to work together in harmony are key to creating positive character and a sense of place. Matching the scale and proportions of buildings to their neighbours is important to achieving this.

In parts of the city that have strong townscape character the Council expects development to be sensitively inserted into the townscape framework, respecting its scale. Façades should respond well to the rhythm, scale and proportion of neighbouring properties.

A typical example of a problematic difference in scale is where new tenements are located next to older tenements. Often the windows on the new building are smaller and a different shape and because the floor-to-floor heights are lower than the older buildings there will be an extra row of windows. This creates a visual mismatch that can erode the character of the area.

In sensitive settings, floor to floor heights of new buildings should match their neighbours.

Where elevations have large projections or recesses, three dimensional views may be sought so that the scale and proportions can be assessed.

Matching height, proportions and form, Hopetoun Crescent - *The housing either side of the historic townhouses above has been designed to match the scale originally intended for this street.*

Recessed top floor, Montrose Terrace *- The top floor of this student accommodation scheme has been set back. This means that the dominant height of the front façade matches the eaves height of the adjacent tenements.*

Modern development with a similar scale, Wester Coates Gardens - *This villa has large windows which help to integrate it with the scale of surrounding historic villas. The proportions of stonework help also.*

Windows too small? - *While the five storey tenement has the same eaves height it has much smaller windows than those of neighbouring tenements. The small scale creates an inharmonious relationship.*

2.2.5 MATERIALS AND DETAILING

Maximise use of materials that have low or negative embodied energy and are locally sourced, re-usable and/or recyclable.

Harmonise materials on new development with the materials used on surrounding buildings.

Use sandstone where sandstone is the commonly used building material.

Keep the number of materials on new development to a minimum.

Detail buildings to ensure they have a good visual appearance that lasts over time.

Where alternative materials are used, make sure these either harmonise or provide a striking contrast.

Protect and enhance biodiversity by incorporating habitat structures into the detailing of buildings.

City Plan 2030 Policies

Env 4 –	Development Design - Impact on Setting
Env 7 –	Sustainable Developments
Env 27 -	Public Realm, New Planting and Landscape Design
Env 37 -	Designing-in Positive effects for Biodiversity

NPF4 Policies

Policy 12 -	Zero waste
Policy 14 –	Design, quality & place
Policy 16 –	Quality homes

Materials are key to whether development achieves sufficient design quality, appropriate for its context.

Edinburgh's distinctive appearance and character is partly a result of the limited palette of high-quality traditional materials that are used in its buildings. Much of the city's built heritage is characterised by sandstone buildings and slate roofs.

Most conservation areas have a predominantly consistent design, or one which is layered and made up of diverse components, yet with an overall integrity. The consistent use of a limited range of materials for roof coverings, walls, ground surfaces, and for other elements and details can be vital to the integrity of an area. In these areas, the selection and detailing of materials and boundary treatments should respect and strengthen local traditions, reflecting naturally predominant materials. This includes using traditional means of enclosure such as a wall or hedge that is sympathetic to the local context and/or railings of an appropriate design.

New buildings should be designed with due regard to their site and surroundings using materials that will weather and age well and settle into their place in the townscape.

Some parts of the city use a wider range of materials in addition to sandstone and slate. In these areas there may be more scope to use alternative, high-quality materials than elsewhere.

Development at the urban edge should make use of materials, colours and textures that integrate well with adjacent settlements and contribute to the overall unity of the landscape setting. Materials that detract from the visual character of the greenbelt boundary will not be supported.

The long-term visual success of building materials is dependent on how they are detailed and how they weather. Some materials are more likely to suffer from adverse weathering such as staining. Where the Council thinks this might be the case, detailed drawings may be required to fully assess the proposals. The durability of materials can be assessed by observing how well they have performed in existing buildings.

Supporting information

The reasoning behind the selection of materials should be set out in a Design Statement. The choice of building materials may be a condition of planning permission. On larger or more prominent schemes, sample panels may need to be constructed for approval. This is to demonstrate how the proposed building materials fit together. This should include hard landscaping details.

Where a Sustainability Statement is required, this must demonstrate how materials and detailing address the climate emergency, including requirements set out in *"1.2.1 Whole-Life Energy Approach" on page 13.* In addition to minimising the embodied energy of building materials, sustainable development prioritises materials that are:

- Recycled and recyclable (e.g. stone; timber; slate);
- Renewable (e.g. timber from a sustainable source);
- Non-toxic and non-polluting in manufacture and disposal
- Easily repaired and maintained.

On-site recycling of materials, e.g. hardcore from demolition materials, is strongly encouraged to minimise construction waste.

The following pages set out in more detail the Council's technical expectations for building materials. *"1.4.5 Hard Landscape" on page 46*, sets out the Council's expectations for materials in hard landscaped areas.

Technical guidance

Stone

Edinburgh's distinctive sandstone forms the basis of the city's traditional character and inherent quality.

Much of Edinburgh's sandstone was hewn from local quarries that are now closed; most famously Craigleith but also at other quarries such as Hailes, Humbie, Ravelston, Binnie and Granton.

Red sandstone, historically from the West of Scotland, also contributes towards the city's character. It has been used effectively to help integrate modern buildings into historic areas where red sandstone is already used.

Scottish sandstone is still available from a few quarries, such as Clashach in Moray and Cullaloe in Fife, a good match for Craigleith stone. Pennine Sandstones – Crosland Hill can also provide suitable matches.

It is expected that natural sandstone will be used as the main external building material in development where sandstone is the dominant material on neighbouring buildings or in the surrounding area. This is particularly important on façades that can be seen from the street.

This principle applies in conservation areas but also to other areas of the city with stone buildings including prominent areas such as arterial routes.

Design and detailing of stone cladding should respond well to the character of surrounding built form, especially where this is of special interest or importance. Stone coursing and sizes, and depth of window reveals, should take cues from the pattern of nearby elevations.

Granite is considered acceptable where a contrast with surrounding buildings is appropriate (for example to emphasise important public buildings) and as a secondary element (for example on plinths where its robustness and good weathering characteristics helps maintain the appearance of buildings).

Modern use of stone in an historic context: Market St - *Hotel development on an important gap site next to the City Art Centre introduced a modern stone façade to this historic street*

Sandstone in a villa area: Newbattle Terrace *- Sandstone will be sought for new buildings in villa areas where the surrounding buildings are built of sandstone.*

Sculptural and contextual stone cladding *- At the Museum of Scotland rigorous and sculptural use of sandstone cladding provides the building with a striking contemporary aesthetic that responds positively to the surrounding historic context. Care needs to be taken with any proposal like this, that the detailing mitigates adverse weathering and staining.*

Informatics Forum: Charles Street *- Sandstone is built into vertically proportioned panels which are used to order the design of the elevations.*

Cast stone and Concrete

Cast stone and concrete are acceptable where their uniform appearance is appropriate and where measures have been taken to avoid adverse weathering such as the build-up of dirt, streaking and staining.

It is important that there is a strong underlying reason for using cast stone or concrete rather than stone such as, for example, a design approach that uses large or unusual shaped panels that would be difficult to construct in single blocks of stone.

Measures to avoid adverse weathering include:

- Architectural detailing that controls rainwater run-off from a facade in ways that enhance weathering characteristics, such as overhangs and drips
- The specification of the surface finish
- The application of surface sealants

Cast stone is manufactured with aggregate and a cementitious binder. Its appearance is intended to be similar to natural stone. Unlike naturally formed stone, which tends to be visually rich, it is usual for blocks of cast stone to have a uniform appearance. This can look dull in comparison with natural stone. This effect is emphasised over time when typically cast stone will weather in a more uniform way than similarly detailed natural stone.

Further information about pre-cast concrete cladding can be found at www.britishprecast.org

A mixture of cast stone & natural stone: Morrison St. - *Cast stone was used at high level on the drum shaped part of the building while natural stone was used at low level on the corners.*

Sculptural concrete - *In-situ concrete is used on the Museum of Scotland building to create a sculptural effect.*

Concrete used sculpturally to contrast with brick - *At Bangholm Outdoor Centre, precast concrete with the school badge creates an attractive contrast to the texture and colour of the brickwork, while marking the entrance of the centre.*

Textures created with concrete - *Concrete panels with a textured surface treatment are used on this recent building on Princes Street.*

Cladding

High quality metal cladding may be acceptable in some historic environments where there is already a range of building materials. It may also be acceptable where overt contrast is sought and considered appropriate. The surface finish of the cladding should be raw or treated metal which does not have a coating. The fixings of any cladding should be hidden.

Metal cladding can provide buildings with a striking contemporary appearance; however, if used inappropriately it can have a negative visual effect. Its appropriateness of depends on the quality of the finish and detailing as well as the character of the surrounding environment. For example, high quality metal cladding might be acceptable in some locations in the Old Town but is less likely to be acceptable amongst the Georgian frontages of the New Town.

Resin and cement-based panels can be used on less sensitive sites and where their use is limited or will have a minimal visual impact. Because of their poorer visual characteristics in comparison with metal claddings (such as anodised aluminium, stainless steel, and zinc), these cladding systems should be avoided in conservation areas including those with villas.

Where resin-based panels are used as cladding, synthetic prints which aim to emulate wood should be avoided. Their visual effect is not as positive as natural timber.

Using zinc to provide striking contrast: Infirmary St. *- The zinc cladding combined with the modern building form for Dovecot Studio provides a positive contemporary contrast to the historic former Infirmary Street Baths building.*

Aluminium: Simpson Loan *- Multi-toned anodised aluminium cladding provides a striking and positive contrast to the historic buildings making the distinction between new and old very clear.*

High quality detailing: metal cladding - *Carefully detailed metal cladding on the rear wall of new flats in the New Town creates a variety of textures and a rich relationship of solid to void.*

Timber

Timber should be appropriately specified and detailed to ensure that the species is sufficiently durable, from a sustainable source and retains a good visual appearance over time. Durable species include European Oak, Western Red Cedar and Sweet Chestnut. Durable timber should be used in all major developments and for local developments in sensitive sites, including conservation areas and arterial routes into the city.

Moderately durable timber species such as Larch, Douglas Fir and European redwood can be used on smaller proposals that are not in sensitive locations.

Tropical hard-woods should be avoided unless it can be clearly demonstrated that these are sourced sustainably. Information about sourcing sustainable timber for construction can be found at:

- *Sourcing Timber Sustainably*
- *Sustainable construction timber: sourcing and specifying local timber*

Specification and architectural details of proposed timber cladding, at a scale of 1:5 or 1:10, may be sought. These should set out the thickness of the timber (which should not be less than 19mm finished size) and the types of fixings, which should be specified to ensure no staining. The details should show how timber will be prevented from absorbing moisture, including how water will be shed clear of the end grain.

Careful detailing: Arboretum Place - *The timber cladding overhangs cladding on lower levels of the building. This helps shed water from its surface, and protects it from adverse weathering.*

Timber and stone: Meadow Lane - *Timber cladding to the upper floor of this mews development provides a positive contrast to the stone base that adds visual interest to the lane.*

Timber informed by historic context: Sugar House Close - *Timber cladding to the upper floors of this development off the Royal Mile takes a cue from the pattern of external finishes on adjacent historic buildings.*

Creative timber cladding *- This new timber-clad garden café at Saughton Park forms part of the conversion of the stable block into a popular community hub.*

Brick

Although not a prevalent building material, brick has been used in certain locations within Edinburgh to positive effect. Brick is commonly used in industrial structures such as maltings and as a secondary element, for example on side and rear elevations or chimney stacks. Many traditional Edinburgh examples used locally produced Portobello brick which was produced into the early 20th Century.

Brick generally has good weathering characteristics and can be specified so that its colour and texture harmonise with surrounding buildings.

In sites outside of conservation areas and where the design proposed is of a high quality, brick can be used positively. Where used in an existing context of stone buildings it is expected that the brick and mortar will be specified to harmonise with the range and tone of colours in the surrounding buildings. Note that generally, the expectation is for the use of natural stone where natural stone is the prevalent building material.

Brick can also be used to provide contrast. However, care needs to be taken with this approach to ensure that the architectural effect is not at the expense of the wider street character.

The proportions of windows play a major role in giving new brick buildings an Edinburgh character. Traditional tenements have large vertically proportioned windows with generous reveals. Using windows of the same size and alignment can help integrate brick buildings into their surroundings.

Care needs to be taken in both specification and construction of brick façades to avoid efflorescence. This is the build-up of salts present in the brick material appearing on the surface of the wall as the mortar cures.

Modern use of brick in an historic environment: McEwan Square, Fountainbridge - *Brick has been used to integrate this development into its historic surroundings. The development is overtly contemporary in its appearance. The colour of bricks was chosen to harmonise with the stone of the adjacent tenements. Combined with the vertical emphasis to the window and the building's scale, the material choice has helped ensure this development adds to Edinburgh's sense of place.*

Sculptural brick - *The massing and brick detailing of the design of these mews buildings in Portobello creates an interesting and varied sculptural form.*

Subtle variation: MODA, Fountainbridge - *Variation in brick colour has been used to modulate large building mass and add rhythm and variety to new streets and spaces.*

Modern use of brick in a historic setting - *This Fountainbridge hotel was built using a modular off-site construction system and clad in brick to present a contemporary aesthetic that references the area's industrial heritage.*

Render/Harl

There is a strong tradition of rendered buildings in parts of the city area which pre-date the building of the New Town, for example, the Old Town and the centre of Queensferry. This use has continued and, in locations like these, render can be used to provide contrast in contemporary buildings. Traditional lime renders and lime harling are encouraged, as appropriate.

When appropriately specified and in appropriate locations, render can be used as an external building material which can contribute towards the city's sense of place. Render also has a contemporary appearance that is appropriate in areas where the overall character is modern.

Where render would make a building stand out in long range views, this should generally be avoided.

In some areas, because of levels of vehicular traffic and microclimate, pronounced weathering is evident. This can detract from the appearance of rendered buildings as is evident, for example, on the Cowgate where the canyon-like form of the street traps pollution that stains the surface of external walls. Render tends to highlight these effects rather than suppress them. Contextually appropriate alternative materials, with better weathering characteristics, will be more appropriate in areas or streets where staining might occur.

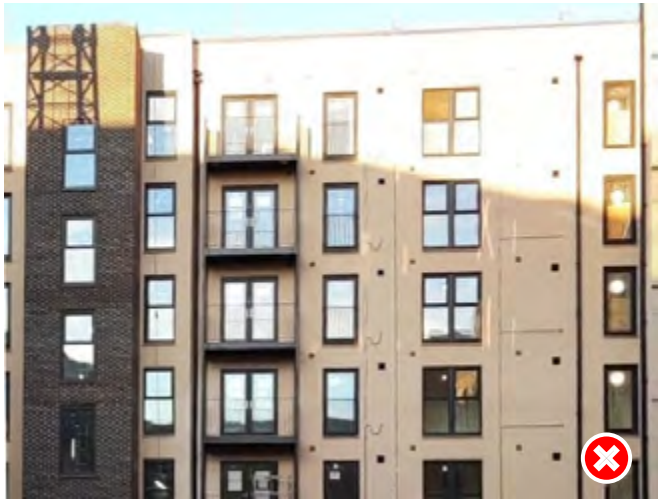
When specifying render, it is important to:

- Ensure it will not discolour or fade over time and it does not suffer from algae growth or lime bloom.
- Consider the location of expansion and movement joints, slim vents, service runs, boiler flues, extract ducts and rainwater goods etc. to ensure these do not have an adverse visual impact; and
- Use architectural detailing to shed water from the surface of the render. Note that applicants may be required to submit details of how this will be achieved.

Integrating the new with the old: Scottish Storytelling Centre, High Street - *The controlled use of render, combined with sandstone, create a positive modern addition to the Old Town.*

Positive contrast: Old Fishmarket Close, off High St - *The use of render and timber contrast positively with surrounding stone buildings.*

Impacting adversely on views - Calton Hill - *The rendered buildings stand out against the surrounding stone and slate buildings. Alternative materials may have allowed the buildings to integrate better into the view.*



Render dominated by servicing *- The dominance of service runs, flues, vents, and rainwater goods detract from the overall appearance of this rendered wall.*

Hard roofing materials

Edinburgh has a strong tradition of using slate (such as Ballachulish) as a roofing material. The slate palette of darker greys helps to draw out the warmth of sandstone. Pantiles and metals such as lead, stainless steel, zinc, and copper also contribute to the city's roofscape. All these materials are generally considered appropriate.

The vulnerability of metal roofing to theft should be considered at an early stage in the design process.

Synthetic versions of traditional roofing materials should be avoided in conservation areas. Synthetic materials typically fail to replicate the characteristics of materials they seek to emulate, resulting in a poor appearance.

In other parts of the city the use of synthetic materials will be considered on a case-by-case basis. Their appropriateness will be assessed against:

- The extent of use
- The prominence of the material on the building
- The prominence of the building in the context of both the immediate setting and the setting of the city

Traditional roofing materials - *Slate, Lead and zinc are traditional roofing materials used in Edinburgh © Getty Images*

Gull and Pigeon Deterrents

The design and detailing of all roofs should deter roosting and nesting gulls and pigeons. Example of roof designs which are unattractive for nesting are:

Roofs which have a smooth surface and a pitch of more than 25%; and

Intensive green roofs that serve as accessible roof gardens, where human activity will deter nesting.

Where a flat roof, or features on other types of roofs, could support roosting and nesting, appropriate deterrent measures should be included in the design. Measures must be carefully designed and maintained to avoid negative impact on non-target bird species and to avoid welfare issues such as trapping, injury, or death of birds. Gulls and Pigeons are protected by law (Wildlife & Countryside Act 1981). Measures that would have an adverse impact on the special character of the building or its context will not be supported.

Measures to offset risk of collision between aircraft and hazard bird species (including Gulls and Pigeons) in the vicinity of the airport are addressed in *"1.4.3 Green Roofs" on page 39.*

Metal roofing in a historic context: Canongate *- Stainless Steel roofing has been used on the Scottish Parliament.*

Enhance Biodiversity

New building standards have reduced opportunities for building-reliant species such as birds and bats. Habitat features should be designed and built in to create spaces for wildlife within new and existing buildings. Examples include integrated Bat, Swift and other Bird boxes – these can be bespoke or utilise ready-made options. Consideration should also be given to artificial lighting, designing wildlife-friendly lighting schemes to prevent disturbance. These measures will further support biodiversity. *See Chapter "1.4.1 Biodiversity" on page 30*

Installation of roofing membranes must consider likelihood of bats within the structure. Where bats are known to roost, bituminous roofing felt must be used to reduce the risk of entanglement. Non-bitumen-coated roofing membranes should not be installed where bats may be present.

Further information can be found in *'Design for Biodiversity: A Technical Guide for New and Existing Buildings' (2019)*

Windows

For guidance on windows in listed buildings and conservation areas refer to the Council's *Guidance on Listed Buildings & Conservation Areas*.

Use of uPVC window frames on major planning applications will not be supported. Timber windows, aluminium/timber composites, and thermally broken aluminium windows may provide suitable alternatives.

Opaque panels in glazing systems or windows should be avoided.

Frameless glazing: Festival Theatre, Nicolson Street *- The refined detailing of the frameless glazing helps create a striking modern addition to the street.*

Glazing to provide contrast *- Glazing is used in Quartermile to create a clear contrast between the new buildings and the retained historic buildings.*

Frameless glazing: Chapel of Saint Albert the Great, George Square Lane - *Glazing is used to create the effect of a floating roof on this distinctive Catholic Church.*

Curtain Walling: Buccleuch Place - *The potential offered by glazing systems with variations in the window widths, patterning of the glass and mullion depths is fully taken advantage of here.*

2.2.6 INCORPORATE ART IN PUBLIC PLACES

Match the quality of existing public art in the design and delivery of new work.

Make sure the position and scale of public art, and the materials used, make a positive contribution to the setting.

Consult the Council's planning team for advice at the outset of the design/delivery process.

City Plan 2030 Policies

Env 27 - Public Realm, New Planting and Landscape Design

NPF4 Policies

Policy 31 – Culture and creativity

Public art involves the placing of art and craft works in areas which are in public use within the environment. It can include building and landscaping related works of art, fixed or free-standing, permanent or temporary. It aims to integrate artists' skills and creativity into the environment.

Public art can enrich the appearance of an area, make a positive contribution to its cultural and community identity and act as a catalyst for wider improvement. It can also encourage sustainable cultural and economic activity through the employment of artists and reach a public who may never have any other first-hand contact with the arts.

The Council is drafting a Public Art Strategy that is due to be considered by the Culture and Communities Committee in spring 2025.

Consents for public art

Public art works that have fixed foundations or are fixed to buildings will require planning permission and/or listed building consent. The location, scale and in some cases the materials of proposed new art works are principal material considerations in the assessment of a planning application. Other essential considerations are:

- An appreciation of existing public art work.
- The established architectural character and artwork tradition of the area.

Proposals may also be considered in terms of road safety. A permit under Section 56 of the Roads (Scotland) Act 1984 may be required for construction of art works on any public road, footway or footpath. A road safety audit may also be required.

The content of public art

The content of art works is not subject to Planning control. The issue of content is due to be addressed in the Council's forthcoming Public Art Strategy.

Projects should be site specific and carefully integrated with existing built form and the context of the surrounding environment. They should illustrate a comprehensive understanding of site considerations and the physical, social, historical, topographical, and architectural context.

In the World Heritage Sites public art should celebrate events or persons of generally accepted national importance. A period of five years should have elapsed from the death of anyone proposed for commemoration by a statue.

Community Approval

Engagement with and participation of the local community is encouraged at all stages of a public art project. Projects will be more appropriate, and more valued, if they have some social relevance or significance to the local community.

Edinburgh's strong tradition of public art

Edinburgh has a long history of using monuments and civic statuary to mark important events and special people. They tell us about the history of the city - like a museum collection, but on display in the parks and streets.

Community-led art enhancing place, Coalie Park *- This brick wall next the Water of Leith was painted by volunteers to a design created by Kate George through a series of community workshops.*

Public art works can be divided into one or more of four categories:

- **Symbolic:** Normally representing civic, national, or military events or prominent individuals in the form of bronze or stone statuary groups, and commemorative monuments and memorials.

Symbolic Art: *Mortonhall baby ashes memorial, Princes Street Gardens*

Symbolic Art: *Memorial to Wojtek the soldier bear, Princes Street Gardens*

- **Functional:** Elements in the urban environment serving a functional requirement which have functional artistic qualities by their design, materials, and craftsmanship.

Functional Art: *Statue of Greyfriars Bobby drinking fountain for people and dogs*

- **Informative:** Works providing a public reference to specific sites, to provide informative interpretation of its relevance or importance. Decorative wall plaques or façades mounted sculptures are the normal form for these.

Informative Art: *Plaque at the entrance to Advocate's Close*

- **Aesthetic:** Non-functional elements which are intended directly to enhance the urban aesthetic environment.

Aesthetic Art: *Literary panel at middle Meadow Walk*

Technical Guidance

Public Safety

Proposals should consider their potential to increase or detract from people's perception of safety in public space by, for example, improving lighting levels or generating footfall at different times of day or, conversely, attracting anti-social behaviour *"2.3.1 Creating Safe Places" on page 94*.

Location and ownership

The approval of the owners of the land on which the art work is proposed will be required. On most street locations the owner will be the Council. The Council will assist in identifying suitable location for proposed public art. In considering granting approval, as owners of the land, this guidance will be used to assess proposals.

The Council will normally agree to accept the work into public ownership if a future maintenance provision is agreed. Maintenance costs should be calculated at about 15% of overall costs and endowments for maintenance are accepted. Design and materials used should demonstrate minimum maintenance requirements, and resistance to theft and vandalism.

World Heritage Site Locations

There is a particular demand for new public art in the Old and New Towns of Edinburgh World Heritage Site. The aims in World Heritage Site locations are that public art should result in landmark structures of the highest quality and make a positive contribution to the Outstanding Universal Value of the Site.

Quality

Projects should involve the highest aesthetic standards, structural and surface durability, innovation and originality within the traditions of the area. Design and materials should be of the highest quality and give permanence to the artwork with little or no maintenance required.

Opportunities for public art in development

Development, either architectural or landscape, can provide opportunities for inclusion of contemporary public art works. Art works should be seen as an integral part of the project, with experienced artists involved from the outset in conception and design.

Temporary Installations

Temporary moveable installations have no fixed foundations (although they may be tied down as a safety measure) and are displayed for a limited period not exceeding 6 months.

Temporary installations will not normally require Planning Permission. They should be designed to be appropriately durable for the period of their display, equal to the quality of permanent art works and present no road safety risk.

Interventions on existing public art works are not encouraged. Where considered appropriate, they will be limited in time scale and should not result in any possibility of damage to the existing art work.

Public art as part of a new development *- 'Going to the Beach' by Vincent Butler is public artwork located in Saltire Square, near Granton Beach. The bronze shows a family in 1950s dress.*

Artwork referring to a building's history *- The cast concrete artwork 'Catalogue Wall' by Mark Doyle is located on the wall of Edinburgh Printmakers. It references the history of this former rubber factory and the products it manufactured.*

Public art at Edinburgh Park *- The Orangery Urns by Andrew Burton were initially part of a temporary exhibition at Gibside, before being located on Edinburgh Park.*

2.3 HEALTHY, SAFE AND WELCOMING ENVIRONMENTS

2.3.1 CREATING SAFE PLACES

Create active frontages directly onto important streets and publicly accessible routes and spaces.

In flatted development:

- **Provide main door flats that are accessed directly from the street.**
- **Make sure all external space (including pedestrian and cycle paths, bin, and cycle stores) is well overlooked.**

Show how external lighting is designed to promote community safety.

Take account of suicide risk in the design of buildings and structures.

City Plan 2030 Policies

ENV 3	Development Design – Incorporating and Enhancing Existing and Potential Features
ENV 25	Layout Design
ENV 27	Public Realm, New Planting, and landscape Design

NPF4 Policies

Policy 14 –	Design, quality, and place
Policy 23 –	Healthy and safety

Design and layout play a key role in promoting and enhancing people's perception of safety in streets and public space, and in deterring and preventing crime and antisocial behaviour. This guidance addresses the principles of protecting the safety of women, girls and marginalised groups.

People feel safer where buildings overlook and provide direct access to public space, streets, and paths. An active frontage, where the ground floor is designed to promote visual contact and pedestrian movement between inside and out, ensures that this is achieved.

People also feel safer knowing that other people are nearby. Streets and spaces that attract high footfall or offer good passive surveillance (e.g. from restaurants with outdoor seating) are more likely to signal that an area is safe, particularly at night.

Perception of safety is also influenced by the quality and condition of the public realm. Neglected and poorly maintained spaces often attract litter, graffiti or antisocial behaviour which, in turn, can make them feel unsafe.

Safety at different times of day and season

Perception of safety varies according to time of day and season. This is especially relevant in Scotland, with short winter days. In darkness, people feel less safe on streets and spaces that attract little human activity, including traffic, are poorly lit or are dominated by blank frontages. They can also feel threatened, particularly at night, where businesses such as late-night venues attract antisocial behaviour. In assessing the suitability of ground floor uses, the Council will consider each case individually and balance implications for community safety against the need for development, including change of use.

Eyes on the street *- The well-lit active frontage of this hotel on Torphichen Street contributes to the sense of safety on the adjacent pavement.*

Street frontages

Edinburgh has a wealth of neighbourhoods with active frontages that contribute to community safety. This is an important positive characteristic of the urban environment that development is required to replicate. To do so, design and layout should:

- Enclose streets and spaces with strong frontages that have active ground floor uses.
- Position principal entrances to take direct access from the street or space; where doors are accessed by paths, make sure these are well-lit.
- Configure ground floor plans to maximise opportunity for frequently spaced windows and doors facing the street.

- At street level, enable high levels of transparency and passive surveillance between inside and out.
- Locate “back of house” uses (e.g. plant rooms and cycle storage) away from the street edge to avoid blank walls or visually “dead” space;
- Minimise ground level recesses to deter antisocial behaviour; where these occur, make sure they are well-lit.

Movement routes

It is common for pedestrians and cyclists to take longer journeys, particularly at night, to avoid routes that are perceived to be unsafe – including deserted streets, underpasses and paths that are isolated or have poor sightlines, blind corners, high vegetation etc. Instead, people often favour routes where pedestrians, cyclists and vehicles travel safely alongside each other, offering activity, human presence, and natural surveillance. On isolated paths, wayfinding can contribute to a sense of safety by indicating proximity to destinations and landmarks and directing people to alternative routes.

Design and layout should enable safe, convenient access to key facilities and destinations at all times of day. Proposals will be assessed on the extent to which they:

- Create or contribute to a legible street hierarchy that integrates the needs of all street users
- Provide, where necessary, alternative links for walking, cycling and wheeling that avoid under-used routes with poor natural surveillance, blind corners, underpasses etc
- Locate public transport stops, if required, to maximise opportunity for passive surveillance and passing footfall
- Make sure paths leading to and through development are well-overlooked and have good sightlines that are not obscured e.g. by planting
- Make sure storage areas (e.g. for bins, cycles) are well-lit with good natural surveillance
- Use gable windows wherever possible to enhance passive surveillance over paths and footways

Lighting

Effective lighting can make a very positive contribution to a person’s sense of safety. People feel less safe in areas where lighting is insufficient, poor quality or poorly maintained.

In addition to lighting levels, it is important to consider the quality, type and consistency of lighting that people need to feel safe. To promote a sense of pedestrian safety, street lighting must illuminate pavements as well as the carriageway.

In parts of the city, particularly in or near parks and water courses, lighting interventions could have a significant detrimental impact on ecology. In these locations design must take account of nocturnal ecology and the needs of different wildlife species. Applicants should refer to Park Lighting Technical Guidance that the Council expects to publish in 2024.

External lighting is a key test of community safety and overall design quality and should be integrated into the design from the outset. It must also be considered as part of Road Construction Consent.

Active frontages and housing—Marchmont Tenement - *Traditional tenements (above) have main doors directly into ground floor flats which maximises activity on the street and help ensure front gardens are used.*

Lights and active frontages improving the sense of safety - *The lampposts and active ground floor uses on Middle Meadow Walk work together to make the area feel safer.*

Maintenance

Applications are required to provide a satisfactory scheme of maintenance for external space. *See Chapter “1.4.4 Landscape Design and Public Realm” on page 41*.

Liaison with Police Scotland

The Council will refer all major planning applications and local developments that have particular security issues to the Police Architectural Liaison service for their comments. Developers are encouraged to make early contact with the Police Architectural Liaison service.

Secured by Design is the Police’s initiative to design out crime in the built environment. This has many benefits. However, sometimes there can be a conflict between the needs of Secured by Design and planning requirements. It is important that these matters are understood early in the process so that they can be addressed without compromising the design as a whole. Meeting the needs of Secured by Design should not be at the expense of the overall quality of the external space within the site.

Eyes on the Street Principles

The following matrix illustrates five key principles to consider in order to allow passive surveillance and potential interaction in streets and spaces in order to make these spaces safe.

For more information, refer to Edinburgh Street Design Guide Factsheet P09 - Women's Safety.

ES1 – Street use and activity

Human activities on the route which make people feel safer, e.g. people waiting at bus stops, walking or sitting outside cafes.

High levels of positive on-street activity. Multiple diverse activities and users throughout the day.

No significant positive on-street activity during the day. Issue is worse when dark.

ES2 – Building frontages

Glazing at ground level allowing people to see into and out of the building. A mix of uses to ensure social activity in the daytime and evening.

Transparent frontages that provide more visibility to the activity inside. Active frontage along majority of route which includes a range of amenities which are open during daytime and evening.

No active frontage or potential relationship between activity inside and outside.

ES3 – Hidden Corners

Minimal hidden corners and areas where people could hide e.g., alleyways, underpasses, tunnels, recesses, large street furniture.

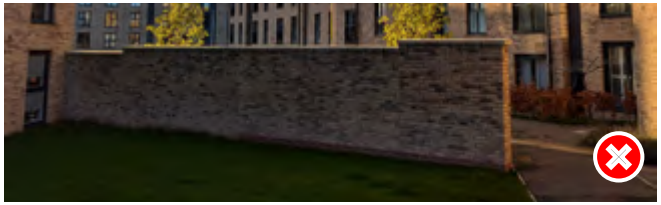
Avoiding hidden corners, maximising visibility, passive surveillance and opportunities for escape.

Multiple hidden corners and areas where people could hide. Restricted visibility, passive surveillance and opportunities for escape.

ES4 – Walls or barriers

Walls or barriers are kept to a minimum with clear entrances and exits providing good visibility.

No walls or barriers or if present are less than 1m in height, discontinuous, and promote good inter-visibility. Wide entrances and clearly visible exits.



Walls or barriers are over 1m in height for walking routes with long and continuous sections or dead ends, limiting safety and opportunity for escape.

ES5 – Carriageway activity

Low speed, low volume vehicular traffic, and/or high levels of cycle traffic, offering passive surveillance and interaction with pedestrians.

Low speed, low volume vehicular traffic passing that may allow interaction between pedestrians and carriageway users, whilst promoting a pedestrian-friendly space.

High speed and volume of vehicular traffic, and low cycling levels, resulting in little opportunity for interaction and creating a physical barrier.

Designing for Suicide Prevention

Buildings and structures that have public or shared access to an external space adjacent to a drop can present a greater risk of suicide by jumping from a height. Due to the topography of Edinburgh this is not limited to tall buildings. This risk is further increased where buildings and structures are located next to rivers. While it is not possible to create an entirely risk-free location, the design should include features that decrease this risk. Potential methods include the following:

- Designing physical barriers to prevent or delay jumping from height. This can be through balustrading or fencing.
- Including strategically placed dense, thorny or prickly planting to delay and deter access to a potential jumping location. This method must include consideration of the maintenance of the planted barrier.

Different methods may have an aesthetic impact. Not all solutions may be appropriate for buildings of a higher heritage status.

The level of surveillance of high outdoor areas should also be considered. Jumping from height is most common in unobserved locations. Providing passive or active surveillance through the inclusion of uses that overlook roofspaces or through CCTV may deter suicidal individuals and increase the opportunity for human intervention.

If roof or balcony areas are open at night-time, the lighting strategy should ensure that there are no unlit areas where suicidal individuals can linger unobserved for prolonged periods of time.

High risk locations can also include clear signage that provides appropriate messaging that can deter suicidal individuals and direct them to places of support.

Rooftop planting to reduce risk *- The intensive planting on the rooftop of the National Museum of Scotland provides an attractive edge, while also delaying or deterring anyone from accessing the roof edge.*

2.3.2 PUBLICLY ACCESSIBLE OPEN SPACE

Make sure new homes are within walking distance of good quality, well-designed greenspace.

Design public open space in residential development to:

- **meet the needs of existing and future communities.**
- **connect to surrounding networks that promote active travel, green-blue infrastructure, and biodiversity.**

Make sure open space is useable, well-designed and has good natural surveillance.

Where appropriate, provide new, publicly accessible open space in non-residential development.

City Plan 2030 Policies

Env 6 – Green Blue Infrastructure

Env 27 – Public Realm, New Planting and Landscape Design

Env 31 – Useable Open Space in New Development

Inf 1 – Access to Community Facilities

NPF4 Policies

Policy 14 - Design, quality and place

Policy 15 - Local Living and 20 minute neighbourhoods

Policy 20 - Blue and green infrastructure

Policy 21 - Play, recreation and sport

Local greenspace, close to homes, plays an important role in how people feel about their neighbourhood. It also offers convenient spaces for everyday enjoyment of the outdoors such as meeting up with neighbours, harbouring wildlife, enjoying a walk to the shops, or playing after school.

Neighbourhoods also benefit from proximity to a large park where the whole community can enjoy free time. A well-designed park enables people of all ages and abilities to come together for local events, experience natural open space and engage with wildlife and scenery across different seasons. It's a place to exercise and play informal ball games, walk the dog, or go for a run.

Housing development is required to promote health and well-being by providing outdoor spaces that are useable and attractive.

Non-residential development may be required to provide publicly accessible open space, justified by the scale of development and the needs it gives rise to.

Useable open space

Publicly accessible open space should be useable and suitable for a range of functions and should cater for a variety of needs and ages. *See Chapter "2.3.3 Inclusive Design of Public Space" on page 102*.

Provision, design and management of open space, including greenspace and play areas, must be considered as an integral element of placemaking from the start of the planning process. This should be informed by an understanding of local community needs, including health and well-being, and should establish the necessary framework for new neighbourhoods to thrive.

As far as possible, public open space should be directly overlooked from adjacent businesses or main

Publicly accessible open Space providing a range of uses - Saughton Park *- This open space works well with the adjacent cafe, providing outdoor seating alongside tables for playing chess.*

living areas in adjacent homes, such as living rooms and kitchens. Open space that lacks good natural surveillance will not be supported.

Areas that will not count towards the provision of useable public open space include:

- Sloping or heavily overshadowed open space;
- Narrow corridor space;
- Verges on the periphery of development;
- Left-over grassed areas lacking a specific use and/or high biodiversity value.
- Poor quality, poorly located planting.

Walking distance

Walking distances to public open space should be based on actual routes, rather than distance 'as the crow flies'. Wherever possible routes should avoid crossing busy roads. *see "1.5.2Living Well Locally" on page 53*

Edinburgh's Open Space Strategy

The Council's *Open Space Strategy* sets standards to ensure that all communities have access to quality greenspaces that cater for a variety of needs and ages. The strategy sets separate standards for Local Greenspace, Large Greenspace and Play Access. It also guides the protection, management, and expansion of the city's parks, play areas, sports pitches, and community growing space.

All residential development should support the delivery of the strategy by providing publicly accessible open space on site. Where this is not possible, contributions may be sought for the improvement of open space within the area.

Incorporating green space into high-density developments, Fountainbridge *- A range of green space is included in the public realm of McEwan Square as part of this development.*

Local Greenspace

All homes should be within 400 metres walking distance of 'good' quality, accessible greenspace measuring at least 500 square metres.

Local green space should:

- Complement provision of private gardens for new houses, blocks of flats, garden flats and communal back greens
- Have surfaced paths linked to the surrounding area
- Provide features to attract wildlife
- Incorporate seating or walling, cycle parking and waste bins
- Provide a safe and stimulating place for unequipped play
- Incorporate urban tree planting and use of hedges and shrub planting to define spaces and create appropriate shelter and shade
- Incorporate fruit trees and raised beds for community growing

In addition:

- Areas of open grass should be balanced with the use of herbaceous perennials and bulbs to create year-round interest
- Local greenspace can be complemented by drainage features, such as grass or planted swales and rain gardens, providing these form part of useable open space
- Below ground surface water storage should be avoided

Small open space in the Old Town—Hope's Court on Trunk's Close - *This small space makes good use of its constrained site and provides an attractive, tranquil green setting for surrounding uses.*

Providing a range of new local greenspace, Lawrie Reilly Place *- This housing development includes informal play space and wildlife planting to supplement the private gardens in the area.*

Large Greenspace

All homes should be within 800m walking distance of an accessible large greenspace of 'good' quality, measuring at least two hectares.

New large greenspace must relate well to homes, schools, public buildings, and commercial uses, placing it at the centre of community life. Its location should provide options for refreshment and access to conveniences. It should also meet local greenspace needs.

The overall size and form of new parkland should respond to the topography and the opportunities of the site. Parkland design, location and layout should also:

- Provide well drained, level ground for community events, markets, informal ball games, outdoor learning, and personal exercise
- Create opportunities for outdoor socialising including group activity and events
- Deliver measured walking and running circuits, linking, wherever possible, to the wider green/blue network
- Integrate community growing space such as gardens, orchards and/or allotments
- Incorporate existing built, cultural, and natural features, including skyline views to celebrate distinctive local characteristics
- Maximise opportunities for new landmark features such as woodland and forest scale trees

In addition:

- Surface water management solutions should deliver amenity and biodiversity benefits. Examples include planted swales and storage basins that create wetland habitat or open water as a landscape feature
- Grassland management may include a mix of close mowing, naturalised grass, or meadows

Play Access

Edinburgh's vision is to achieve a 'play friendly city, where all children and young people can enjoy their childhood.' Play is vital to help children learn how to get along with each other and keep healthy.

Parks and other large green spaces provide the ideal setting for high quality, equipped play space. Exploring woodland and meadows, or running up and down slopes, also provide ways for children to develop creativity and imagination.

Housing development is required to comply with the Play Access Standard set out in the Council's *Open Space Strategy*. Play area design must comply with requirements set out in the Council's *Play Area Action Plan*.

In addition to equipped play spaces, new green space and residential streets should be designed to encourage more 'free play' without equipment.

New large greenspace at the centre of community life *- Meadowfield Park in West Craigs has been created to providing access to good quality green space to new homes being bult in the area. The park includes a range of greenspaces, include new tree planting, a wildflower meadow, new playspace and an intergrated SuDS basin with a raised timber walkway.*

Play space included alongside new housing *- This play area in Cammo has been designed in the central green space with good passive surveillance provided by the adjacent housing.*

Community growing space

Facilities such as community gardens and growing space, orchards, woodlands and allotments within new greenspaces allow both new and existing communities to have a greater influence on how places develop over time. They can also strengthen bonds and contribute to the sustainable management of the city's greenspace resources.

The Council is committed to widening access to more local food production and promoting more sustainable management of food growing. *Growing Locally (Edinburgh's Food Growing Strategy 2021 - 2026)* sets key objectives and showcases the wide range of food growing sites and food-related activity that already exists. The Council's *Allotment Strategy* describes the current approach to planning and managing allotments in the city. Advice on site planning and design is presented in *Scotland's Allotment Site Design Guide*.

Opportunities to integrate community gardening and food growing into publicly accessible open space should be considered from the outset of the design process. Provision should be tailored to local needs and should address ongoing management requirements. This is likely to require engagement with neighbouring communities throughout the planning process.

Where development is phased, it may be appropriate to consider community food growing as a 'meanwhile' use on part of the site.

Community growing space alongside housing *- The Ropeworks housing in Leith includes allotment space for the community*

Path surfaces

Path surface plays a key role in enabling and encouraging people to spend time outdoors. Materials must be tailored to the context and footfall:

- A grass edged multi-user path with Macadam wearing course will generally provide the most robust long-term solution, enabling access for all, including wheelchair users and pushchairs. This can be enhanced using rolled stone chips
- Bound gravel may be suitable for local greenspaces or feature spaces
- Whin dust paths are generally only acceptable in semi-natural settings, subject to appropriate build up, drainage and ongoing maintenance

Providing pleasant, accessible and durable paths - *The all-abilities path network at Saughton Park*

2.3.3 INCLUSIVE DESIGN OF PUBLIC SPACE

Make sure open space is welcoming and safe for individuals and families, and for people of all ages, abilities and gender identities.

Make open space and play facilities easily accessible from bus stops, pedestrian and cycle routes.

Design play areas to be stimulating and challenging for a range of ages, genders and mobility needs.

City Plan 2030 Policies

Env 27 -	Public Realm, New Planting and Landscape Design
Env 31 –	Useable Open Space in New Development

NPF4 Policies

Policy 14 –	Design, quality and place
Policy 21 –	Play, Recreation and Sport

Public open space, including parts of the green-blue network, should be welcoming and safe for individuals, families and people of all ages, abilities, and gender identities. Inclusive design considers the needs and preferences of different users including requirements for shelter, safety, seating, opportunities of social interaction, quiet areas, movement, and play.

Meeting the needs of a range of users

Meeting the needs and preferences of different users involves creating spaces of distinct and different landscape character that serve a range of functions and experience.

The variety of functions will vary by scale but in all circumstances, space is required to provide:

- Sheltered areas for neighbours to meet, walk and dwell, incorporating safe space for informal play.
- A range of resting and seating areas to suit people of all ages including some with:
  - both back and arm rests
  - space for buggies, wheelchairs etc.

Small parks should typically include a variety of green spaces with functions such as gardens, play, exercise, strolling and quiet seating.

Larger parks should typically provide:

- Seating within easy access of public transport links and car parking bays
- Formal and informal play facilities
- Locations for public toilets and drinking fountains (and connected infrastructure)
- Fenced, dog-free quiet zones
- Outdoor classrooms with accessible space suitable for primary school children
- Accessible waymarking and interpretation (e.g. natural and built heritage, archaeology)

Making open space accessible - *An all abilities surface has been incorporated into recent improvements to Coalie Park, adjoining the Water of Leith Walkway.*

Safe, accessible routes

Inclusive design creates routes that are safe and accessible for all users. Site topography is considered from the outset ensuring routes are designed to achieve gentle gradients. Where steep level changes are unavoidable, a choice of routes must be provided.

Route choices should also include:

- direct, clearly legible connections to surrounding streets, spaces and active travel routes
- meandering routes providing access to quieter areas, away from principal paths and cycleways

Design and layout should also deliver:

- Safe crossing points at entrances
- Open and inviting gateway features
- Routes that are wide enough, and adequately surfaced, for safe wheeling in two directions
- Good lighting and clear sightlines along principal footpaths and cycleways
- Good natural surveillance on principal routes ensuring, wherever possible, these are well-overlooked by adjacent buildings
- Places for people to rest on their journeys
- Waymarking signage to help people navigate and orientate themselves easily. Navigation should also be supported by incorporating landmarks, such as trees, buildings and public art into movement layouts and views

Play for a range of ages, Meadowfield Park - *The playspace at Meadowfield park provides a range of play equipment and landscape.*

Sensory garden in a therapeutic setting, Royal Edinburgh Hospital Garden - *The accessible community garden has been designed to supports sensory experiences, like smelling flowers, touching and tasting. Photo courtesy of erz landscape, © Christopher Swan Photography*

Inclusive play space

Inclusive design delivers play areas that are stimulating and challenging for the entire range of ages, genders and mobility needs. This includes areas suitable for children who should be accompanied by a guardian, those who can go and play independently, and older children.

Inclusive design provides:

- Safe, stimulating unequipped play for children of all ages and levels of mobility (through either manufactured features or playable natural landscapes)
- Opportunities for older children and adolescents to socialise as well as play
- Sheltered, outdoor space that is safe and inviting to older and adolescent girls
- Quiet areas that enable sensory experiences
- Spaces and equipment that engage the senses (such as tactile experience, smell and taste, use of colour, texture, sound, movement, vibration, water, and lighting)

Play areas should be enclosed in attractive settings that are overlooked, well-lit and take advantage of direct sunlight. They should be easily accessible from bus or tram stops and active travel routes. They should also be equipped with space to park buggies, prams, mobility equipment and non-standard cycles. A range of seating choices should be provided for adults of all ages to keep watch over children playing

2.3.4 PRIVATE OPEN SPACE

Provide all residential accommodation with useable, well defined, good quality private open space.

Provide houses and ground floor flats with good quality private gardens.

Make sure the design and orientation of private open space provide satisfactory levels of privacy, amenity, sunlight, and shelter.

City Plan 2030 Policies

Env 31 -	Useable Open Space in New Development
Env 32 -	Useable Communal Space and Private Gardens in Housing Development
Env 33 -	Amenity

NPF4 Policies

Policy 14 -	Design, quality and place
Policy 16 -	Quality homes

Providing attractive, useable private open space is key to fostering a healthy living environment that benefits residents and other building users. Well- designed private open space encourages social interaction and cohesion and can influence people's physical and mental well-being. It can also play a significant role in helping the city respond to climate change, including safeguarding and enhancing biodiversity.

All development that includes long term accommodation (including housing, HMOs, purpose built student accommodation, and residential care homes) must satisfy useable private open space requirements.

The appropriate range of open space functions will vary by tenure and the needs of individual resident groups.

Functions are also likely to be informed by the site context, including setting and orientation. Design and layout of all private open space must achieve a clear distinction between public and private space, defined by appropriate boundaries such as walls, railings or hedges both to the street edge and between neighbouring properties.

Private open space in high density development

The Council's commitment to high quality, high density, mixed-use development makes it likely that residential development will rely on a mix of communal open space and private gardens. High density development requires efficient and effective use of space, emphasising the importance of high-quality design. Applications will be assessed on the extent to which the design and layout of open space, its attractiveness and range of functions, will meet the varying needs of future residents.

Ground floor flats should generally be provided with private rear gardens of a minimum depth of 3M, which may open directly on to communal gardens. Where the depth of private gardens is limited (for example less than 3M), patio doors to the main living space and a defined threshold space should be provided.

Wherever possible, communal open space should be located at ground level, maximising opportunity for high quality landscaping, SuDS and green blue infrastructure. It should provide a sense of enclosure and privacy and be well-overlooked by properties who share the space. It should also be easily accessible to all residents. Residents should not normally have to cross streets or car parking to access communal open space. Where development comprises more than one building in multiple occupancy, each building is expected to satisfy individual/standalone requirements for open space provision.

Combining private and communal open space: Rowanbank Gardens - *Balconies and private gardens provide natural surveillance to the communal garden.*

Little private space can be successful—Lady Stair's Close - *There is very little private outdoor space in the Old Town. This is compensated by the outstanding quality of the semi-private spaces in the form of closes and courtyards.*

Where it is difficult to achieve the areas normally required for private open space - for example, because of a need to adhere to a spatial pattern in an area - balconies, shared or private roof terraces may count towards open space provision. It should be demonstrated that these will benefit from adequate sunlight or have an outstanding view. They should also be adequately sheltered and preserve reasonable privacy.

Useability

Functions that count towards useable private open space include spaces for play, outdoor socialising, sitting, food growing and laundry drying. Elements that provide visual amenity such as trees, planting and water features can be included provided these form part of well-designed, multifunctional open space.

Areas not considered useable include:

- Space that is sloping, heavily overshadowed or has poor outlook
- Narrow peripheral or corridor space
- Planted buffer strips, including threshold spaces abutting flats unless these allow direct access from the properties served
- Poor quality, poorly located planting
- Left-over grassed areas lacking a specific use and/or high biodiversity value;
- Primary paths
- Parking areas and vehicle routes

A SuDS feature can count towards open space provision only if it attenuates up to 1 in 30-year rainfall and is effectively designed as useable open space that also provides temporary, safe water storage.

Private and shared gardens for flats - *This drawing is sliced through a courtyard development to show its interior and street side. It shows small private front gardens with private rear gardens opening on to a communal space. Additional space is required in gardens where there is insufficient natural sunlight. North facing gardens should be longer to compensate for this. Private garden grounds need to be of an adequate width and shape to be attractive and useable for residents.*

Private communal open space

Private communal open space, including shared terraces and decks, should be designed to balance a range of functions, including play, outdoor socialising, sitting and visual amenity. It should feature attractive planting and trees and, wherever possible, reinforce surrounding green blue networks.

Good quality communal open space typically provides:

- A defensible, attractive outdoor environment for residents and building users, secluded from vehicles
- Good passive surveillance from homes that surround and share use of the space
- A range of functions that includes sheltered sitting areas and space social interaction

Private and shared open space *- The design of the flats at Canonmills Gardens follows the approach in the diagram above.*

- Play opportunities serving a variety of age groups
- Planting that provides year-round visual interest and enhances biodiversity
- Well-proportioned space that relates well to the interior spaces and uses that surround it
- Sustainable surface water management and opportunities for rainwater harvesting, together with outdoor taps

Private balconies supplementing shared space, Shrubhill - *Balconies have been included to provide private outdoor space at high density*

Balconies and roof terraces

A balcony or private roof terrace should have an area that is not less than 5% of the net floor area of the dwelling and should be accessed from the main living area.

Recessed rather than projecting balconies should be considered because they are more likely to benefit privacy and shelter. Where the balcony is recessed, care should be taken to avoid excessive reduction in daylight to main living rooms.

Roof terrace design should consider sensitive integration of blue-green infrastructure, including green roofs and raised planters.

Private front gardens

Private front gardens and threshold spaces play an important role in softening the urban environment and providing planting on streets. They also preserve privacy by separating ground floor rooms from the public realm.

The need for street trees increases where gardens or threshold space cannot be provided.

It is likely that development will be required to provide a garden or threshold space of a similar size to nearby frontages, where these exist, to preserve the character of an area. Garden size often contributes to the character and attractiveness of an area, which is particularly evident in villa areas.

Boundary treatments are equally important to neighbourhood character. Driveways and in-curtilage parking should not interfere with the continuity of boundary treatments and/or street tree planting. Wooden fencing must not be used in the public realm.

New houses with private rear gardens

The Council wants development to be adaptable and capable of meeting residents' changing needs. Design and layout of new houses should allow sufficient space for house extension while retaining reasonably sized gardens. This also ensures that neighbouring amenity can be protected.

Useable terraced space should be provided where development is set out across sloping ground. High retaining walls must be avoided and excessive changes in level should not be taken up across private rear gardens.

Wooden fencing may be used to separate private back gardens, providing these are screened from public view e.g. by a sensitive response to site topography. Consideration should be given to different heights of fencing to allow the communication between neighbours and to add visual interest.

Gardens should be equipped with outdoor taps and opportunities for rainwater harvesting.

Residential Homes and Care Homes

Particular attention should be paid to the orientation of care homes and long-term residential homes.

Residents should have access to garden space that is attractive and welcoming and provides a circuitous walking route. Garden areas should benefit from a good level of sunlight throughout the year.

Open space: amenity

Privacy, sunlight and shelter are key factors in ensuring open space is useable. These will be influenced by layout, orientation and position of built form and open space, together with trees and planting.

Chapter "2.3.5 Daylight, Sunlight, Shelter, Privacy and Outlook" on page 108 sets requirements for sunlight standards in private open space. Space that does not meet sunlight standard will not usually count towards open space provision except on heavily constrained sites, such as in the city centre where development achieves a sensitive response to the historic setting.

Private and communal open space, including gardens, decks, roof terraces and balconies, should also receive adequate shelter from the wind. Open space that is not comfortable or safe for year-round standing, walking and frequent sitting by people of all ages and abilities will not count towards open space provision.

A clear distinction—Marchmont - *It is clear what is public and private space in traditional tenements. The buildings enclose shared gardens making them private. At the front , the walls and hedges separate the public street from the private gardens.*

Technical guidance

Wind assessment

Wind is a key consideration in the design of streets and spaces that are sheltered, safe and comfortable for people to use. Strong winds and wind gusts affect the attractiveness of streets and the useability of public and private open space. Wind impacts are influenced by layout, orientation and position of built form and open space, along with trees and planting.

When there is concern that streets and/or open space could be exposed to strong winds, applicants may be required to submit a wind microclimate assessment that analyses the local wind environment and suggests ways to mitigate adverse impacts. This assessment should be carried out at an early stage in the planning process. The design statement should demonstrate how wind analysis has informed layout and design highlighting, where relevant, necessary mitigation measures.

It is anticipated that wind patterns will be assessed using computational simulations, based on round-the-clock analysis for all four seasons. Results should be reported using the Lawson Wind Comfort Criteria (LWCC), which classify wind conditions in relation to safety and comfort levels of people sitting, standing, walking and cycling. Conditions are expressed in terms of Gust Equivalent Mean (GEM).

To meet LWCC comfort standards, GEM must not exceed the following thresholds for more than 5% of the time:

Activity	GEM Speed (m/s)
Sitting	≤ 4
Standing	≤ 6
Strolling	≤ 8
Business walking/ running/ cycling	≤ 10

To meet LWCC safety standards GEM must not exceed the following thresholds for more than 0.022% of the time:

Activity	GEM Speed (m/s)
Unsafe	› 15
Dangerous	› 20

Wind conditions at relevant locations within and surrounding the development proposal should be analysed. These typically include entrances, open space (including decks, roof terraces, balconies), seating areas, play areas, and the street environment (e.g. footways, bus stops, pedestrian crossings, and cycle lanes). Applicants are encouraged to agree relevant locations with planning officers in advance. Analysis should address the impact of any mitigation measures.

Depending on the context, it may be necessary to analyse the difference between the wind environment before and after development is in place where, for example, the scale and position of built form could alter the local wind environment of an existing street or open space. Applicants must demonstrate that any impact on the existing wind environment falls within acceptable levels of comfort and safety. Analysis is required for:

- The site, as existing
- The development proposal with existing surrounding buildings; and
- (where relevant) the development proposal and adjacent, approved future development

2.3.5 DAYLIGHT, SUNLIGHT, SHELTER, PRIVACY AND OUTLOOK

Design built form and position windows to ensure that the amenity of neighbouring developments and/or open space is not adversely affected and that future occupiers have reasonable levels of amenity in relation to:

- **daylight**
- **sunlight**
- **privacy and immediate outlook.**

Maximise provision of dual aspect dwellings to limit potential for overheating.

City Plan 2030 Policies

Env 33 Amenity

NPF4 Policies

Policy 14 - Design, quality and place

Policy 16 - Quality homes

Providing good levels of natural light and sunlight in buildings and spaces is beneficial to the health and quality of life of the residents and users of the buildings as well as helping to save energy through reducing lighting and heating demands. For this reason all development that includes long term accommodation (including housing, HMOs, purpose-built student accommodation, and residential care homes) must meet the daylight requirements for living spaces (living rooms, kitchens and bedrooms).

It is important that buildings are spaced far enough apart that reasonable levels of privacy, outlook, daylight, and sunlight can be achieved. However, care should be taken that buildings do not become so far apart that the townscape becomes uninteresting. Therefore, achieving reasonable amenity needs to be balanced against the requirement to achieve good townscape.

Trees impact daylight and sunlight. This can be positive - for example, deciduous trees provide shading from the sun in summertime but let sunlight into buildings in winter. However, if buildings are too close to trees, daylight can be adversely affected.

To achieve reasonable levels of daylight, windows must be big enough and interiors must be designed to allow daylight to penetrate deep within them. Reasonable levels of sunlight to buildings and spaces will be achieved if sufficient account is taken of orientation.

Daylight and privacy are particularly important in single aspect flats.

Edinburgh has a wealth of successful areas where good levels of daylighting, sunlight, privacy, and outlook have been achieved. These can be used as a guide to the layout and form of new development. When comparing proposed new development against existing situations, scale drawings, showing layout including external spaces, building height and elevations should be provided along with the relevant calculations and methodology. It is the responsibility of the agent/ applicant to ensure that this information is provided and that all affected properties are clearly shown and tested.

Including a set back from a gable: Haymarket Terrace - *The upper floors of the modern office are set back from windows on the tenements' gable. This allows some daylight to reach the windows, but importantly maintains the street frontage.*

This section applies to all new development where these aspects of amenity are particularly valued including housing, schools, nurseries, residential care homes, hospitals, and clinics

Dual and single aspect dwellings

The quality of internal space needs careful consideration especially in higher density or flatted development. To provide a good standard of overall amenity, most dwellings should have two (dual) or more aspects. Dual aspect dwellings have windows on two external walls, which may be on opposite or adjacent sides of the dwelling.

The provision of more than one aspect can deliver multiple benefits for internal amenity including opportunities for:

- better daylight and sunlight
- greater flexibility as to the use of spaces, such as positioning bedrooms towards a quieter aspect if the development is on a busy road

Single aspect dwellings should not make up more than 50% of the overall dwelling numbers. In addition, development should avoid single aspect dwellings that are north facing or exposed to noise sources, or contain three or more bedrooms.

Where single aspect dwellings are proposed, applicants should demonstrate that they meet the requirements for daylight, sunlight and privacy for each habitable room and provide good levels of ventilation and internal amenity.

Design to prevent overheating

Designing for a future climate includes considering the impact of heatwaves on living and working environments. Excessive indoor temperatures can affect thermal comfort, health and productivity. Buildings formed of lightweight construction are at greater risk of overheating than traditional stone buildings. High levels of natural ventilation, particularly cross ventilation, are an important means of mitigating the impact of excessive heat. Dual or multiple aspect properties provide better opportunities for cross ventilation so typically withstand high temperatures better than single aspect units.

Generous window heights: Marchmont, Arden Street - *These tenements manage to provide good levels of daylight to all the properties. This is a result of the high floor to ceiling heights and relatively large and tall windows which allow daylight to go deep into the rooms.*

Privacy and outlook

People value privacy within their homes but they also value outlook - the ability to look outside, whether to gardens, streets or more long-distance views. To achieve both, windows should be set out so that direct views between dwellings are avoided.

The rearward side of development often provides a better opportunity for privacy and outlook than the streetward side. To some degree, privacy on the streetward side is already compromised because people in the street can come relatively close to the ground floor windows. In a street situation, privacy is generally achieved by means of blinds, curtains, translucent glass, etc.

The pattern of development in an area will help to define appropriate distances between buildings and consequential privacy distances. This means that there may be higher expectations for separation in suburban areas than in historic areas such as the Old Town.

On the rearward side, as well as spacing windows far apart, reasonable levels of privacy can be achieved by setting out windows on opposing buildings so that there are not direct views between them, angling windows and erecting screens between ground floor windows. In assessing this, the Council will look at each case individually and assess the practicalities of achieving privacy against the need for development.

Though private views will not be protected, immediate outlook of the foreground of what can be seen from within a building may be. Unless there are exceptional circumstances, development that blocks out the immediate outlook of an existing dwelling must be avoided.

This guidance does not seek to protect the privacy of gables of existing housing.

Technical guidance

Protecting daylight to existing buildings

New buildings should be spaced out so that reasonable levels of daylight to existing buildings are maintained. The Council will use the layout of existing buildings in an area to assess whether the proposed spacing is reasonable.

Daylight is a requirement for living rooms, kitchens (unless internalised) and bedrooms, and for non-domestic buildings where daylight would be a reasonable expectation such as schools and hospitals.

All daylight analysis and reporting must be undertaken by a suitably qualified professional. When there is concern about potential levels of daylight, the Council will refer to the BRE Guide, *Site layout planning for daylight and sunlight: a guide to good practice (BRE 209 2022 edition)* which shows how to measure daylight and sunlight.

It is important to understand the difference between the levels of daylight before and after the proposed development is in place. Applicants should provide assessment information showing the amount of daylight in an existing building before and after the proposed development is in place to demonstrate that there would not be an unacceptable impact on daylight to existing buildings.

The amount of daylight reaching an external wall is measured by the Vertical Sky Component (VSC). This should be more than 27% or 0.8 of its former value. If this is not the case, changes to the building design, including a reduction in building height may be required.

27% VSC is achieved where new development does not rise above a 25° line drawn in section from the horizontal at the mid-point of the existing window to be tested. This is the 25° method.

VSC can be measured using more complex methods that

are set out in the BRE guide. The applicant's daylight report should clarify which VSC method has been used.

If proposed development would not meet VSC requirements, particularly in more sensitive and densely planned parts of Edinburgh, the Council may require more detailed information on the likely amount of daylight in affected rooms in existing buildings. This will be assessed using the Daylight Factor methodology, as set out in the BRE Guide.

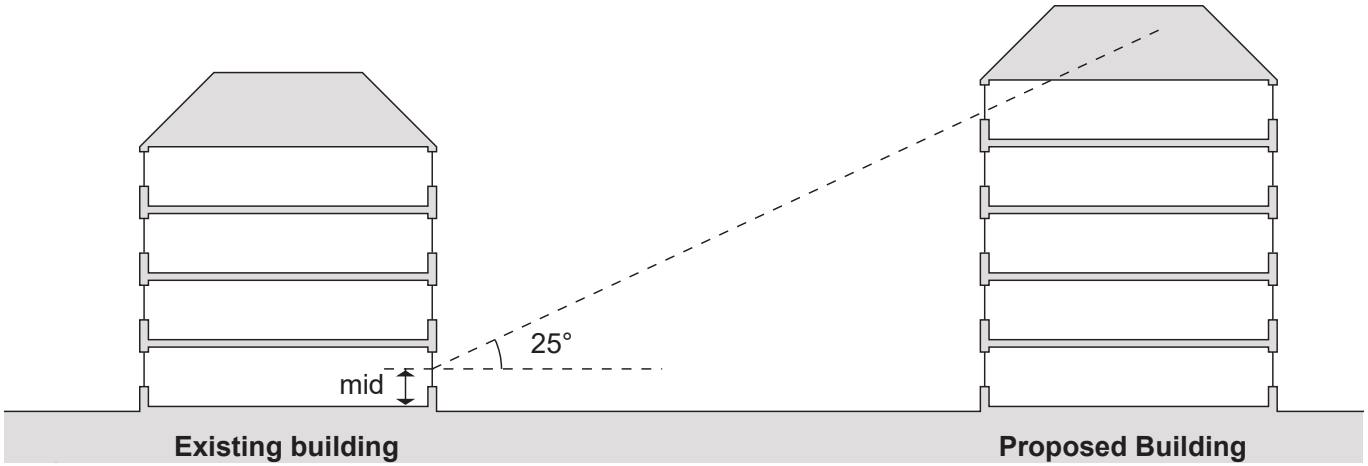
Daylight Factor measures the amount of daylight reaching grid points on a horizontal plane within rooms. The assessment is expected to demonstrate that daylight levels in existing homes will achieve the following targets:

Target daylight factors to achieve over at least 50% of the assessment grid		
Bedroom	**Living Room**	**Kitchen or Living / Kitchen**
0.7%	1.1%	1.4%

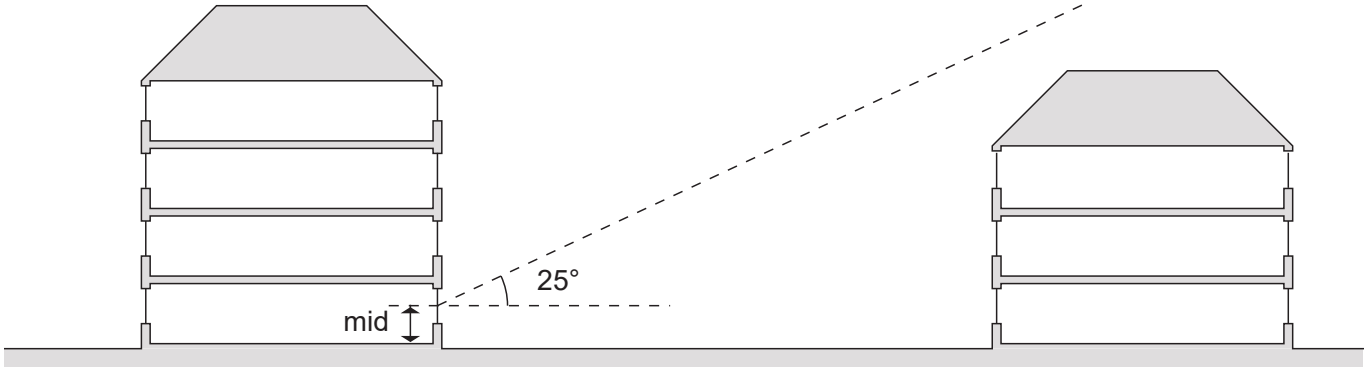
Daylight to bathrooms, stores and hallways will not be protected. Daylight to gables and side windows is generally not protected.

In calculating Daylight Factor the following criteria should be used:

Daylight Factor calculation criteria		
Default surface reflectances	**Surface**	**Default reflectance**
	Interior walls	0.5
	Ceilings	0.7
	Floors	0.2
	Exterior walls and obstructions	0.2
	Exterior ground	0.2
Transmittance of double glazing		0.68



Measuring Vertical Sky Component 25° method example 1 - *This situation may fail to provide reasonable levels of daylight to the existing building.*

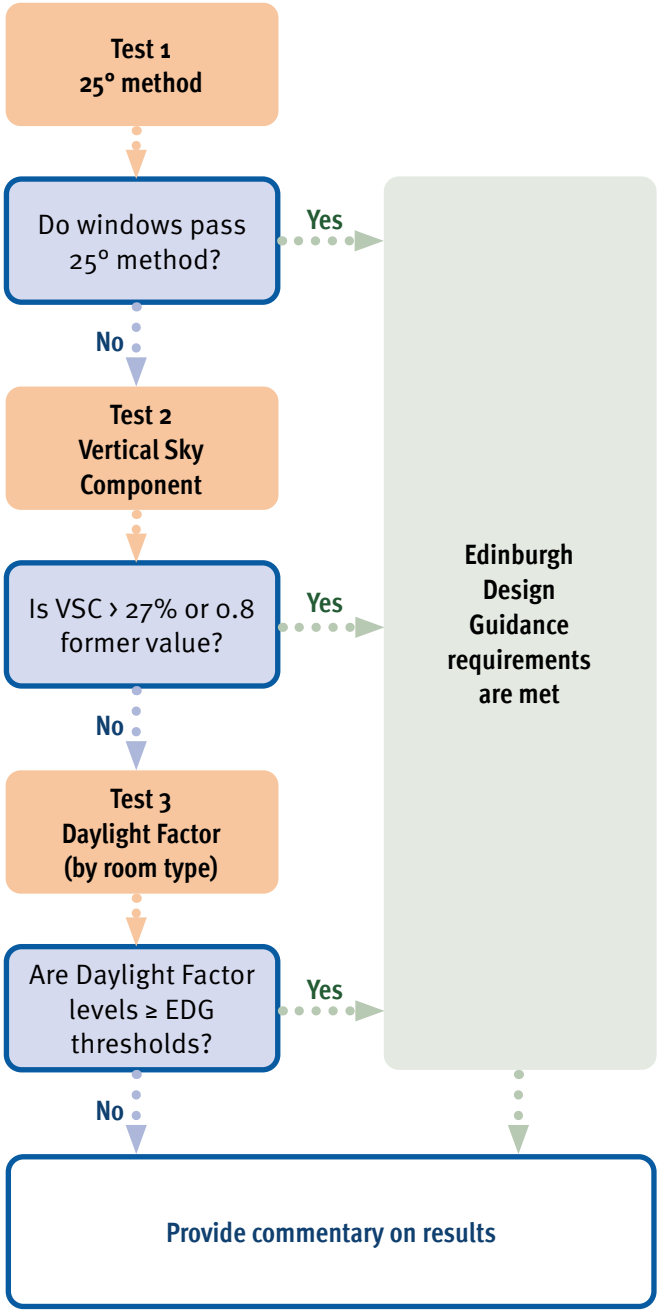


Measuring Vertical Sky Component 25° method example 2 - *This situation would provide reasonable levels of daylight to the existing building.*

Framing factor (net to gross area of window)	0.6
Maintenance factor (for dirt on glass etc)	0.92
Assessment grid height	0.85
Assessment grid spacing maximum	0.3m
Grid distance from walls	0.3m

In assessing impact on neighbouring daylight, the Council will consider each case individually. The Council recognises that a marginal breach of Daylight Factor targets may be unavoidable where, for example, development replicates existing relatively high density and/or prevailing townscape character, or where daylight levels in neighbouring properties are already low.

Assessing daylight to existing homes



Daylight report: impact on daylight to existing homes

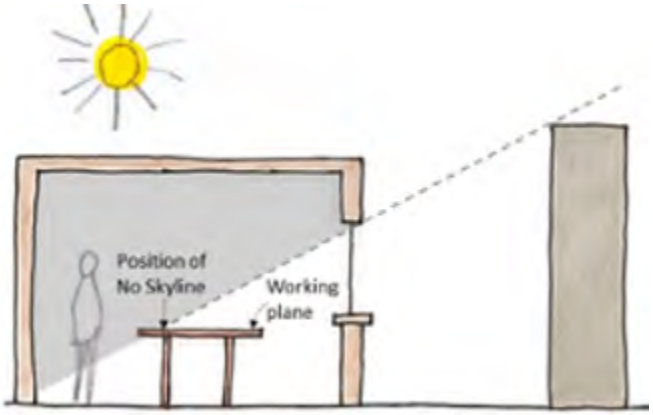
This report should:

- Provide a map (dated) of the surrounding context showing residential properties where daylight may be affected by adjacent development
- Provide elevations and photos of these properties showing windows of habitable rooms that may be affected, individually numbered
- For each window:
  - supply an accompanying table recording existing Vertical Sky Component (VSC), proposed VSC, and factor of former value
  - Cross reference this data, by window number, to each elevation
- For windows where proposed VSC falls below EDG threshold:
  - Supply daylight data for affected rooms expressed as the Daylight Factor (DF), including annotated room layouts and an accompanying table
  - Confirm whether or not rooms conform to EDG target Daylight Factors
  - Confirm that the method used to calculate DF conforms to EDG and BRE guidance
- Provide a commentary on the impact on daylight to existing homes

Providing daylight to new buildings

Another measure of daylight is known as the position of the “No Sky Line” (NSL), the point beyond which the sky cannot be seen on a working plane*. The BRE guide explains this in detail. The NSL test is satisfied where direct skylight penetrates at least half-way into a room at the height of the working plane* and where the window surface makes up more than 25% of the external wall area.

Providing adequate daylight to new development does not guarantee that adequate daylight will be maintained to existing development. This could be the case in instances where the existing building is lower.



No sky line method *- The no sky line divides areas of the working plane* which can and cannot receive direct skylight. The extent of skylight in a room can be increased by raising the height of the window head.*

**The working plane will be different for different types of rooms – in housing it is assumed to be 0.85m above floor level and 0.7m high in offices.*

Daylight report: daylight levels in future homes

The report of daylight levels in future homes should provide a “No Sky Line” assessment for all habitable rooms that includes:

- Annotated context drawings
- Layouts of all dwelling units showing room numbers and daylight distribution contours
- Accompanying tables, cross-referenced to context drawings, showing NSL data for individual rooms, including whether rooms conform to EDG thresholds for daylight in new residential accommodation

- Confirmation that the method used to calculate NSL conforms to EDG and BRE guidance
- A commentary on proposed daylight levels in new dwelling units

Providing sunlight to open space

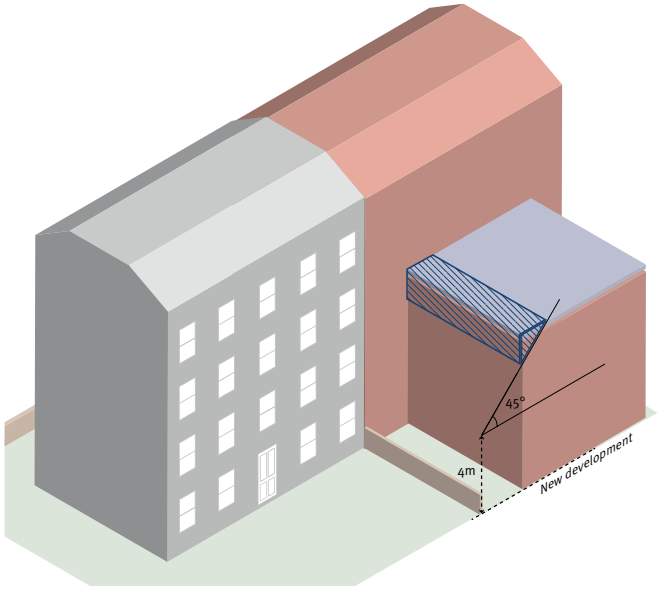
Sunlight is an important feature of gardens and open spaces. Applicants should assess the availability of sunlight to all open spaces that are created or affected by development. These include:

- gardens (usually a main back garden)
- communal private open space
- parks (including pocket parks) and public squares
- sitting out areas such as: between non-domestic buildings and public squares; along the waterfront promenade
- focal points for views, such as monuments and fountains
- playgrounds
- playing fields

Each type of space will have different sunlight requirements. When there is concern about potential levels of sunlight, the Council will refer to the BRE Guide, Site layout planning for daylight and sunlight: a guide to good practice (Second Edition, 2011).

Sunlight to new gardens and amenity space

Half the area of new gardens and amenity space should be capable of receiving potential sunlight for more than two hours during the spring equinox, at a time of day that will be of benefit to future occupiers. This will be assessed using hour by hour shadow plans for each hour of 21 March.



45° method for sunlight - *This sketch shows proposed development located on the north side of an existing garden. The sunlight to the existing garden might be adversely affected because development rises above the 45° line drawn from 4m above ground level at the boundary between the properties.*

Sunlight to existing gardens and open space

Built form should be laid out so that reasonable levels of sunlight are maintained to existing gardens and open space, including public open space.

Impact on sunlight to neighbouring gardens can be tested by checking whether new development rises above a 45° line drawn in section from the site boundary. If a development rises above this line, the amount of sunlight falling in the neighbouring garden might be affected. To take account of orientation, the 45° line should be drawn at the following heights above ground level along the different boundaries around the site:

Orientation of boundary in relation to potentially affected garden	Height of 45° line above boundary
N	4m
NE	3.5m
E	2.8m
SE	2.3m
S	2m
SW	2m
W	2.4m
NW	3.3m

Note that these heights do not indicate whether a development will be acceptable when assessed against other considerations.

The use of an affected area of garden and the size of the garden will be considered when assessing whether any loss of sunlight is adverse.

Sunlight to spaces between gables will not be protected unless the affected space is of particularly high amenity value when compared with the remainder of the garden. Examples include a patio space designed as an integral part of the ground floor plan.

Where there is an established, high-quality townscape (such as the Old Town) that in itself would not satisfy the requirements of the 45° method, sunlight will be assessed using before and after plans showing shadows for each hour on 21 March. The qualities of the existing space, and sunlight effects both before and after will inform whether any loss of sunlight is considered adverse.

Hour-by-hour shadow plans should be accompanied by a commentary on:

- the capacity of affected space to receive sunlight throughout the day, and
- the quantity and quality of sunlight lost

2.3.6 ENVIRONMENTAL PROTECTION

Adopt good design principles to minimise public exposure to poor air quality, noise, odour and light pollution, and contaminated land.

Enable all future residents to ventilate homes with clean outside air.

Avoid creating street canyons.

Minimise emissions and contribute to better pollution management.

Protect amenity and ensure noise levels are acceptable for new and existing residents alike.

Where land has potential to be contaminated, use site-specific assessment to identify and remediate contamination.

City Plan 2030 Policies

Env 33 -	Amenity
Env 34 -	Pollution and Air, Water and Soil Quality

NPF4 Policies

Policy 14 -	Design, quality and place
Policy 23 -	Healthy and safety

Development should actively enhance the environment, limit exposure to pollutants and minimise overall emissions, and this should be evident in the design approach.

Air Quality

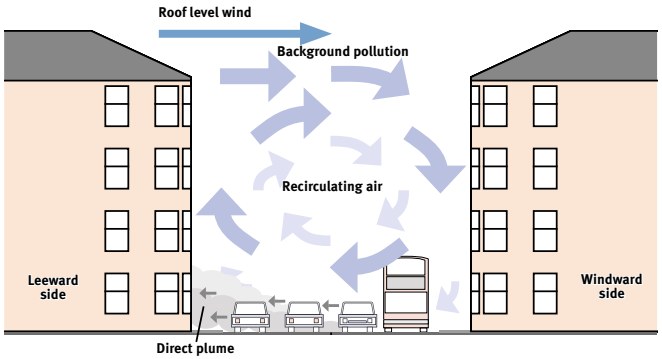
The location and design of a development has a direct influence on exposure to elevated air pollution levels. This is particularly relevant where developments include sensitive uses such as residential uses, hospitals, schools, open spaces, and playgrounds. Good practice principles in the design stage should be aligned to delivering *Cleaner Air for Scotland 2*, and should consider the following:

- New developments should not contravene the Council's *Air Quality Action Plan*, or render any of the measures unworkable
- Wherever possible, new developments should not create a new "street canyon" or building layouts that inhibit effective dispersion of pollutants. New trafficked roads should align to prevailing winds which may help with pollutant dispersal; alternatively, the creation of a buffer zone between busy roads and buildings could be another practical solution to pollution exposure
- New development should be designed to minimise public exposure to pollution sources, e.g., by locating habitable rooms away from busy roads
- Whether a ventilation system could be appropriately designed to mitigate against Particulate Matter pollution, which has no safe threshold.
- Zero carbon energy schemes are supported and the use of fossil fuels should be avoided

In areas of poor air quality, use air quality assessments to determine the suitability and location of outdoor space, including gardens, balconies, and outdoor and roof terraces

Design and position open space to minimise exposure to pollutants. Screen outdoor spaces by planting where practical

Where parking is offered, 100% electric vehicle charging infrastructure should be installed



Air flow pattern in a street canyon *– where vehicular traffic is expected street canyons should be avoided*

Protecting internal air quality

Residents should be able to ventilate their homes with clean outside air. Developers should be cognisant of the recommendations in the *NICE Guideline NG149: Indoor Air Quality at Home (January 2020).*

To protect internal air quality, developers should specify environmentally sensitive (non-toxic) building materials. The use of materials or products that produce volatile organic compounds and formaldehyde which can affect human health should be avoided. The applicant should ensure this information is include in their Sustainability Statement.

Odour

Chimney or flue termination points located at low levels in relation to adjacent sensitive receptors are not supported. When designing extract for commercial kitchens, new plant, or industrial processes, careful consideration must be given to the location and height of these points. It is more effective to address odour at the design and planning stage of a new food business, plant, or process than to seek to resolve an odour issue retrospectively.

Wood burning stoves in particular give cause for concern regarding general air quality, indoor air quality and odour. These are discouraged, especially in the urban environment. In 2024 a Scottish Government consultation on air quality instigated work to look at how limitations on Permitted Development Rights for the siting of flues could be geographically targeted to help address the issues of nuisance and air quality.

Noise

In addition to reducing overall quality of life, excessive noise can damage health and harm the environment. The density and mix of uses within Edinburgh contribute to the vibrancy of the city. However, noise associated with this mixture of land uses can have a significant impact on the health and amenity of noise sensitive receptors.

- Where a proposed development will emit noise, site layout should be designed to minimise future noise complaints, incorporating the most appropriate mitigation measures into the scheme
- Where a proposed sensitive development is likely to be exposed to noise, the layout should be designed to minimise noise and implement the most appropriate measures to ensure amenity is protected
- This could include locating noise sensitive areas / rooms away from the noise source or designing the building so its shape and orientation reflect noise and protect sensitive uses
- Masterplan layouts should be designed to allow enough external space to accommodate landscape buffers (with mounding and planting) from any source of noise (e.g., busy roads, factories) in preference to the use of acoustic barriers which are visually unsightly. Green acoustic barriers may be more attractive, but they have a high maintenance burden so landscape mounding and planting, which contributes to visual amenity and biodiversity, is better
- In general, cumulative plant machinery noise should meet (Noise Rating Curve) NR25, and general commercial noise should meet NR15 when assessed within a noise sensitive receptor. Traffic noise should be assessed using BS8233 and vibration using BS6472
- Consideration should be given to *Planning Advice Note 1 /2011: Planning and Noise*.

Lighting

Lighting is a critical component in the design of high-quality public realm, and it has a key role in supporting placemaking across the city.

Lighting should be designed to eliminate glare into receptors properties and minimise light spillage onto neighbouring land.

Further advice can be found in the Scottish Government's *Guidance Note: Controlling Light Pollution and Reducing Lighting Energy Consumption (2007), and the Institute of Lighting Professionals' Guidance Notes for the Reduction of Obtrusive Light (GN01/21) .*

Land Contamination

Consideration of land contamination is necessary to avoid a wide range of potential impacts that may include harm to health, damage of structures, pollution, and the legal and financial implications of a development deemed unsuitable for use.

Early identification of land contamination issues by site investigation enables the consideration of mitigation measures, phasing, and the potential to implement cost-effective and sustainable in-situ clean up technologies.

A site-specific assessment of the risks associated with developing land potentially affected by contaminants is essential to inform decisions about the appropriate level of treatment, and to identify sustainable remediation options that may be required.

Site investigations must be consistent with a recognised standard such as BS.10175.2017 Investigation of Potentially Contaminated Sites.

It is the developer's responsibility to ensure that the site is, or can be made, suitable for the proposed development. Further guidance can be found in *PAN 33: Development of Contaminated Land* and Environmental Protection Scotland's *Land Contamination and Development (August 2019).*

Further Reading

- *Planning Advice Note 51 (Revised 2006): Planning, Environmental Protection and Regulation.*
- *Local Air Quality Management Guidance*
- *The City of Edinburgh Council's Air Quality Action Plan*
- *Planning Advice Note 1 /2011: Planning and Noise*
- *PAN 33: Development of Contaminated Land*

2.3.7 WASTE MANAGEMENT

Provide adequate storage for waste and recycling.

City Plan 2030 policies

Env 8 - New Sustainable Buildings

The storage and collection of waste is an important consideration in the design of a new development. Poor waste management practices tend to be unsightly and can spoil otherwise attractive developments. Good waste management practices can encourage more sustainable lifestyles and help to achieve recycling targets.

It is important that the integration of waste management facilities is considered at the outset of the design process.

Designers and developers of any development that contains housing must engage with the Council's Waste and Cleansing Service to agree a waste management strategy. This must happen as early as possible to ensure that their requirements can be satisfactorily incorporated within the design. This includes new-build housing, refurbished housing, housing within mixed-use developments and student accommodation.

For other types of development information would need to be provided regarding how waste will be stored and collected on the site.

Waste Collection in Liveable Neighbourhoods

Enabling practical waste collection in high-density, mixed-use neighbourhoods requires the waste strategy to be considered early in the design process. Refuse collection vehicles are large vehicles. The access routes and bin store locations should therefore be optimised to minimise the number of streets and junctions that need to accommodate these large vehicles. This is to ensure that the development is still able to satisfy the guidelines on street design and the requirements of promoting walking, wheeling and cycling see *"1.5.3 Layout Design to Support Sustainable Transport" on page 55*

These are the key considerations at each stage of the development of the waste management strategy. Refer to the Council's *Waste and Recycling Instructions for Architects and Developers* for detailed technical guidance on these considerations:

Preparation and Briefing - Overall access strategy

- A development must have a waste collection system that is appropriate for the design, layout and building uses. The Council only collects household waste. A private collection must be arranged for all other uses, including the non-residential parts of developments that include housing. This should be agreed from the outset so that the waste collection requirements are known.
- Kerbside collection may be acceptable for lower density schemes. A communal collection arrangement will be required for higher density schemes.
- Most waste collection systems will be collected at ground level. For some schemes an underground system may be appropriate, providing there are no underground constraints, such as archaeology or energy infrastructure, and this is agreed with the relevant waste collection service.

Concept Design - Agreed route & bin store locations

- The route that the refuse vehicle will follow across the development must be agreed. This should include clearly defined entry and exit points and should work with the street hierarchy of the development. The extent to which the refuse vehicle needs to travel should be minimised to avoid unnecessarily oversized roads and junctions. Limit the instances where the refuse vehicle must cross the path of other road users – for example, making a right turn on a two-way road.
- The location and size of waste storage spaces must be suitable for the needs of the development and must work with the agreed route. Bin store locations should be consolidated or located near to each other where possible, providing this doesn't exceed permitted travel distances and bins are safely accessible for both residents and waste collection staff.

Accessible bin enclosures, Leith Fort *- These carefully designed bin stores are discrete but easily accessible*

Spatial Coordination - Detailed route development

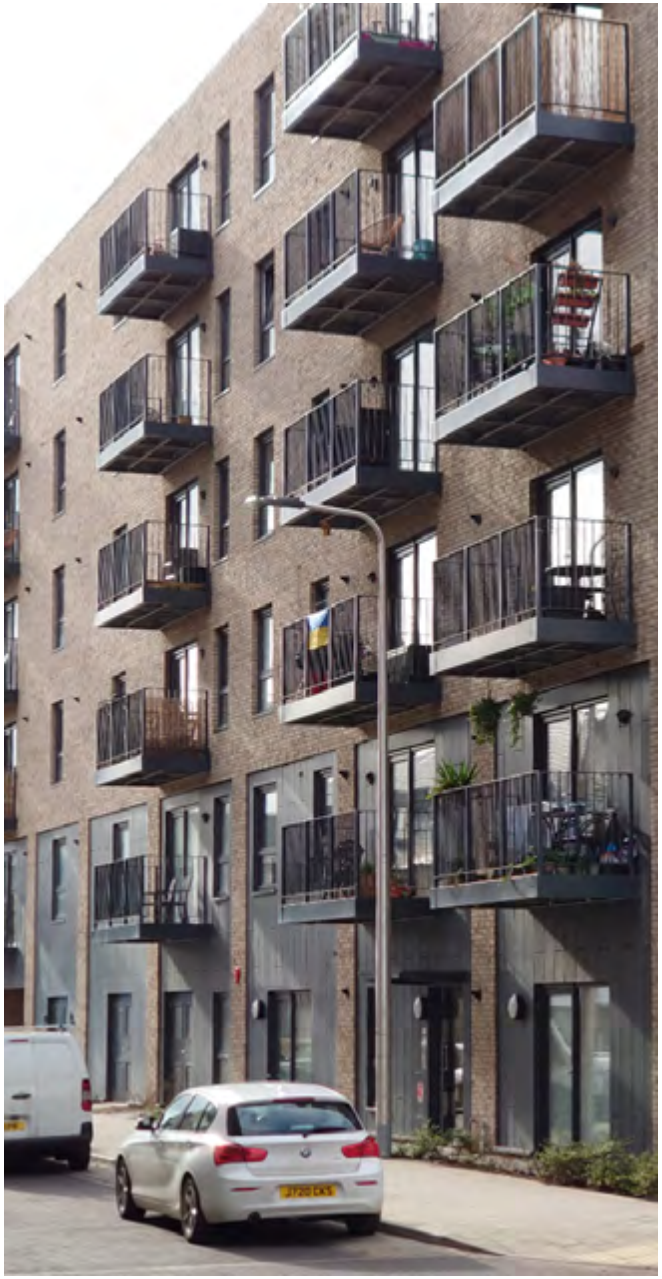
- The detailed design of the streetscape on the access route must accommodate the refuse vehicles while still providing a safe and pleasant environment for walking, wheeling and cycling. Different waste collection services will have different requirements and vehicle sizes. Private waste collection vehicles are often wider than the Council's vehicles. Ensure that the access route accommodates the swept path analysis of the relevant refuse collection vehicle but avoid widening streets unnecessarily.
- The design must consider the construction phases of the development and whether temporary arrangements are needed to ensure operational waste collection is possible for the earlier phases of the development.

Once agreement has been made, Waste Services will issue a letter of agreement detailing this and any further requirements. The letter of agreement is valid for 12 months. If the commencement of development is delayed beyond this time, the waste management strategy may need to be reviewed and renewed. This is to ensure the design is aligned with the latest requirements. Similarly, if any design changes occur which could impact on access to bins by collection crews or residents, or which impact the ability to site the agreed bins, Waste Services must be consulted.

Creating Healthy & Safe Communal Bin Store Environments

The siting and design of communal bin storage must provide a safe and accessible environment for people of all ages, genders and abilities, at all times of day. Storages areas must be well-lit and their entrances well-overlooked. In addition:

- Where the location for bin storage is in a publicly accessible area, or in an open area around a building, the bin store should be enclosed or contained within a shelter.
- All bins must be accessible within the bin store. A clear space of 150mm should be provided between and around the containers.
- Enclosures, compounds, or storage rooms should be of adequate height to allow the lids of containers to be fully opened.
- Clear, colour-coded signage should be used to indicate different waste and recycling bins.
- There must be adequate lighting that is easily maintained
- Bin stores must be well ventilated.
- All materials used within the bin store should be non-absorbent and easily cleaned and maintained. There should be consideration for washing down the bin store, including a drainage system suitable for receiving polluted effluent. Drainage should include a trap which maintains a seal even in prolonged periods of disuse.
- Plates or other protective materials must be provided to prevent damage to internal walls.
- The bin store must be a secure environment. It should be designed to deter anti-social behaviour. The bin store should also be designed to prevent the spread of fire.



Overlooked and secure bin store entrances: Ropewalks, Salamander Street *- The secure entrances to the bin stores are well overlooked and on a street with active frontages and access off a main route.*

APPENDIX 1 - ACRONYMS & GLOSSARY

Acronyms

AIA - Arboricultural Impact Assessment

AVR - Accurate Visual Representation

BRE - Building Research Establishment

BS - British Standard

BTR - Build to Rent

CEMP - Construction Environmental Management Plan

CEZ - Construction Exclusion Zone

DF - Daylight Factor

EcIA - Ecological Impact Assessment

EIA - Environmental Impact Assessment

ESDG - Edinburgh Street Design Guidance

ESRG - Edinburgh Sustainable Rainwater Guidance

EV - Electric Vehicle

FRA - Flood Risk Assessment

FSF - Future Streets Framework

GHG - Green House Gases

GEM - Gust Equivalent Mean

HMP - Habitat Management Plan

HMO - House in Multiple Occupation

HRA - Habitats Regulations Appraisal

LDP - Local Development Plan

LETI - Low Energy Transformation Initiative

LHMP - Landscape and Habitat Management Plan

LVA - Landscape and Visual Appraisal

LVIA - Landscape and Visual Impact Assessment

LWCC - Lawson Wind Comfort Criteria (a classification system for wind conditions in relation to safety and comfort levels of different activities)

LZCGT - Low and Zero Carbon Generating Technologies

NSL - No Sky Line

OS - Ordnance Survey

PEA - Preliminary Ecological Appraisal

PBSA - Purpose Built Student Accommodation

PPP - Planning Permission in Principle

PTAL - Public Transport Accessibility Level

PV - Photovoltaic

OUV - Outstanding Universal Value

RICS - Royal Institute of Chartered Surveyors

SEPA - Scottish Environment Protection Agency

SuDS - Sustainable Drainage System

SWMP - Surface Water Management Plan

TCP - Tree Constraints Plan

TVIA - Townscape Visual Impact Assessment

UKGBC - United Kingdom Green Building Council

VSC- Vertical Sky Component

WHS - World Heritage Site

ZDE - Zero Direct Emissions

Glossary

Active Frontage	Ground floor building frontage designed to allow people to see and walk inside and out.
Active Travel	Modes of travel that involve a level of activity, such as walking or using a wheelchair, scooter or bicycle.
Affordable Housing	Housing that is for sale or rent, to meet the identified needs of people who cannot afford to buy or rent housing generally available on the open market.
Biodiversity	The variety of life on earth, both plant and animal species, commonplace and rare, and the habitats in which they are found.
Brownfield	Land which has previously been developed. The term includes vacant or derelict land, land occupied by redundant or unused building and developed land within the urban area where further intensification of use is considered acceptable.
Built Heritage	The city's buildings and built spaces of special value.
Character	The patterns we recognise around us that makes one place distinct from another.
City Plan 2030	The adopted Local Development Plan of the City of Edinburgh Council. It is a long term plan looking to 2030 that sets out policies and proposals to guide development within the council boundary.
Climate Adaptation	Actions to adapt and build resilience to a changing climate.
Climate Mitigation	Action to limit or reduce the emission of greenhouse gases into the environment.
Community	Individuals and groups that share a location (for example people who live in, work in or use an area) or a common interest (for example businesses, sports or heritage groups).
Community Facilities/ Infrastructure	A collective term used to describe buildings and/or land, and the uses to which they are put, that are required; of proven value, and foster a vibrant community. Examples of such buildings, land and uses include, but are not restricted to schools/lifelong learning; green spaces; community gardens; allotments; sport and recreation; local doctor and dental surgeries; local shops; community halls; shared work/meet spaces; public toilets; and water fountains.
Conservation Area	An area designated under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 as being of special architectural or historic interest, the character and interest of which it is desirable to preserve or enhance.
Density	The floorspace or number of dwellings in a development divided by its land area.
Embodied Energy	The energy involved in the sourcing of materials, transportation, and construction of the proposed design.
Fluvial Erosion	The loss of material from the river bed and banks due to the force of the river water
Greenspace	Any vegetated land or structure, water or geological feature in the urban area including playing fields, grassed areas, trees, woodlands and paths.
Heat Network	A network distributing heat or cooling from a central source or sources to a variety of consumers.
Horonised	A paved surface consisting of irregular fragments of stone (usually by products of the manufacture of setts or cobbles) set in cement or another binder.
Immediate Outlook	The foreground of what can be seen from within a building. Does not include medium or long views from properties.
Infill Development	Development of buildings or other facilities that are on vacant or unused land between existing buildings.
Infrastructure	Physical networks which serve development such as roads, paths, street lighting, supplies of water, gas, electricity and wastewater drainage and services for occupants of developments such as public transport measures, schools and healthcare.
Landmark	An object or feature of a landscape or town that is easily seen and recognized from a distance, especially one that enables someone to establish their location.
Landscape	How we see the land around us and how it has been shaped by people and nature.
Listed Building	A building identified by Historic Scotland as being of special architectural or historical interest as set out in the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. Categorised A, B, C(s) to reflect their relative importance.

Low and Zero Carbon Generating Technology (LZCGT)	Equipment provided on-site or integrated into buildings and which use solely renewable sources, resulting in zero carbon dioxide emissions, or which include use of fossil fuels but with significantly lower carbon dioxide emissions overall, which may include combined heat and power and/or a range of other methods.
Low Emission Zone	A zone in which vehicle emissions are managed and helps air quality improve by discouraging the most polluting vehicles from entering the area. Mandated by The Scottish Government to reduce longstanding exceedances of legal air quality objectives (Nitrogen Dioxide, (NO_2)) originating from urban road traffic.
Masterplan	A detailed document that explains how a site or sites will be developed, usually prepared by or on behalf of the landowner, including a representation of the three-dimensional form of proposals and an implementation programme.
Mobility Hub	A local and accessible place which brings together different transport modes alongside associated facilities, services and information to encourage more sustainable travel. Can include a range of shared mobility services, click and collect and electric vehicle charging.
Microclimate	The climate of a very small or restricted area, especially when this differs from the climate of the surrounding area.
National Planning Framework 4 (NPF4)	Scotland's fourth National Planning Framework. A long-term plan looking to 2045 that guides spatial development, sets out national planning policies, designates national developments and highlights regional spatial priorities
Natural heritage	The natural features, spaces and landscapes that are of special value.
Net-Zero	When any greenhouse gas emissions put into the atmosphere are balanced out by the greenhouse gases are removed from the atmosphere, so that the 'net' effect is zero emissions.
Open Space	Includes 'greenspace' (see definition) and 'civic space' consisting of squares, marketplaces and other paved or hard landscaped areas with a civic function.
Operational Energy	The energy used during because the operation of a building. This includes the energy used in heating, cooling, lighting, and ventilating the building, as well as the energy used by the occupants of the building.
Passive/Natural Surveillance	The natural interest and observation that occurs when physical features, activities and people are located in a way that maximises visibility and positive social interaction.
Permeable	Easy to move and pass through in several different directions.
Place Brief	A set of high-level principles established to shape the future development of a site and informed by outcomes from community engagement.
Placemaking	The process of creating better places, places that people enjoy being in. It is achieved through developers, public sector agencies and local communities working together.
Planning Conditions	Conditions attached to a planning permission that are enforced through planning legislation.
Public Art	Features of the public realm which are designed to provide more distinctive, vibrant, interesting and attractive places. Public art should be cognisant of its context; reflecting the identity of an area as well as complementing and diversifying the range of art in an area, for example to ensure children and adults alike can engage with the art and culture of their area. Such art may take many forms, including, but not limited to sculptures, engravings, murals and written text.
Public Realm	The parts of the city (whether publicly or privately owned) that are available for everyone to see and use without charge 24 hours a day, including streets, squares and parks.
Renewable Energy	Natural energy from sources which will never run out such as sunlight, wind, rain, tides, waves and geothermal heat.
Roofscape	A scene or view of roofs, especially when considered in terms of its aesthetic appeal.
Sense of Place	Our perception of a place, including the attachments and meanings we associate with that place.
Special Protection Area (SPA)	An area of international importance for rare, threatened or migratory species of birds.

Sky Space	The space around the city's landmark features that will protect their integrity.
Street furniture	Objects placed or fixed in the street for public use, such as postboxes, road signs, and benches.
Street hierarchy	A categorisation of streets and routes in response to their importance in the wider street network.
Sustainable Drainage Systems (SuDS)	Drainage Systems that mimic natural drainage, encouraging infiltration where appropriate and attenuating both hydraulic and pollutant impacts with minimal adverse impact on people and the environment.
Sustainable Transport	Ways of transportation that are sustainable in terms of their social and environmental impacts, including active travel (see definition) and public transport.
Tree Preservation Order	An order made by a local authority under the Town and Country Planning (Scotland) Act 1997 to protect trees of importance for amenity.
Topography	The arrangement of the natural and artificial physical features of an area.
Townscape	The patterns we recognise in the built-up area, including the type and layout of buildings and the open spaces between them.
Urban Grain	The arrangement or pattern of the buildings and streets within the built form.
Walkability	The accessibility of amenities by walking.
Weathering	Changes to materials over a period of time because of the effects of sun, wind, or other weather conditions.
Whole-Life Energy Approach	An approach that considers both the embodied energy in the construction and demolition of a building and the operational energy during the use of a building across a building's lifespan.
Zero Direct Emissions (ZDE)	A source of energy that doesn't produce any emissions

APPENDIX 2 – PROTECTED VIEWS

ASSESSING THE IMPACT ON KEY VIEWS

The bottom of the sky space can be measured and is calculated from Ordnance Datum, so once the height of any proposed development is known, it will be possible to assess its impact on any feature in the city by the extent to which it pierces the bottom of the sky space.

Each feature listed has different sky space around it depending on the nature of the feature. The amount of sky space around a feature will be sufficient, not just to protect a view of the feature, but to protect its context or setting. In some cases, the sky space can be accurately defined, whilst in others, it will be more of a matter of judgement. Views to the landmark features from any key view are in the form of view cones. The diagram to the right illustrates how view cones take account of topography and how proposals in different parts of the view cone might impact on a particular view.

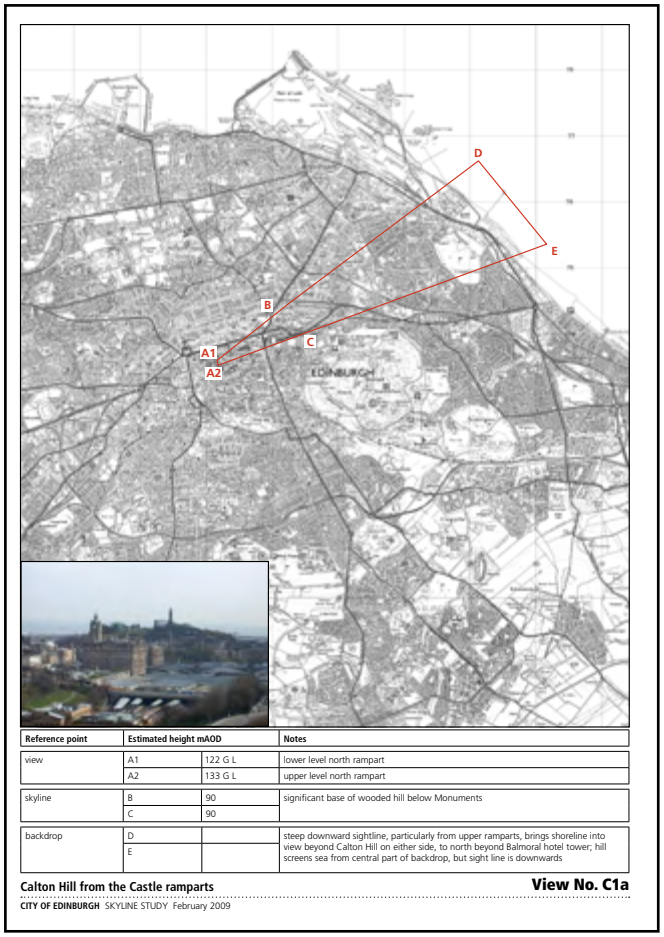
Impacts on key views will vary depending on the nature of what needs to be protected in the key view itself, the location of the proposal and its height and form. Explaining in detail all circumstances in which the key views can be affected is beyond the scope of this guidance. However, it is possible to highlight some issues;

- Some areas are more sensitive to even small increases in height in relation to existing development due to their prominence in key views and exposure to sky space. An example of this is development in the area between Princes Street and Queen Street, where even the addition of an extra storey could impact upon views.
- In other areas, there may be scope for taller buildings but care needs to be taken that impacts on key views are fully considered. For example, some parts of the Port of Leith may have the capacity for buildings that will exceed building heights typical of the immediate context. However, these areas may be very near parts of the docks within which similar development could have an adverse effect. An assessment of the suitability of these or any other proposed locations for high buildings, in terms of their contribution to the strategic development of the city, will be required.

View information sheet

Each key view is referenced and has an associated information sheet which sets out the parameters of the view cone and includes a photograph of the view being protected.

Key views that are to be protected are set out on the following pages. Click on the links to view the information sheet. The key views are to be kept under review.

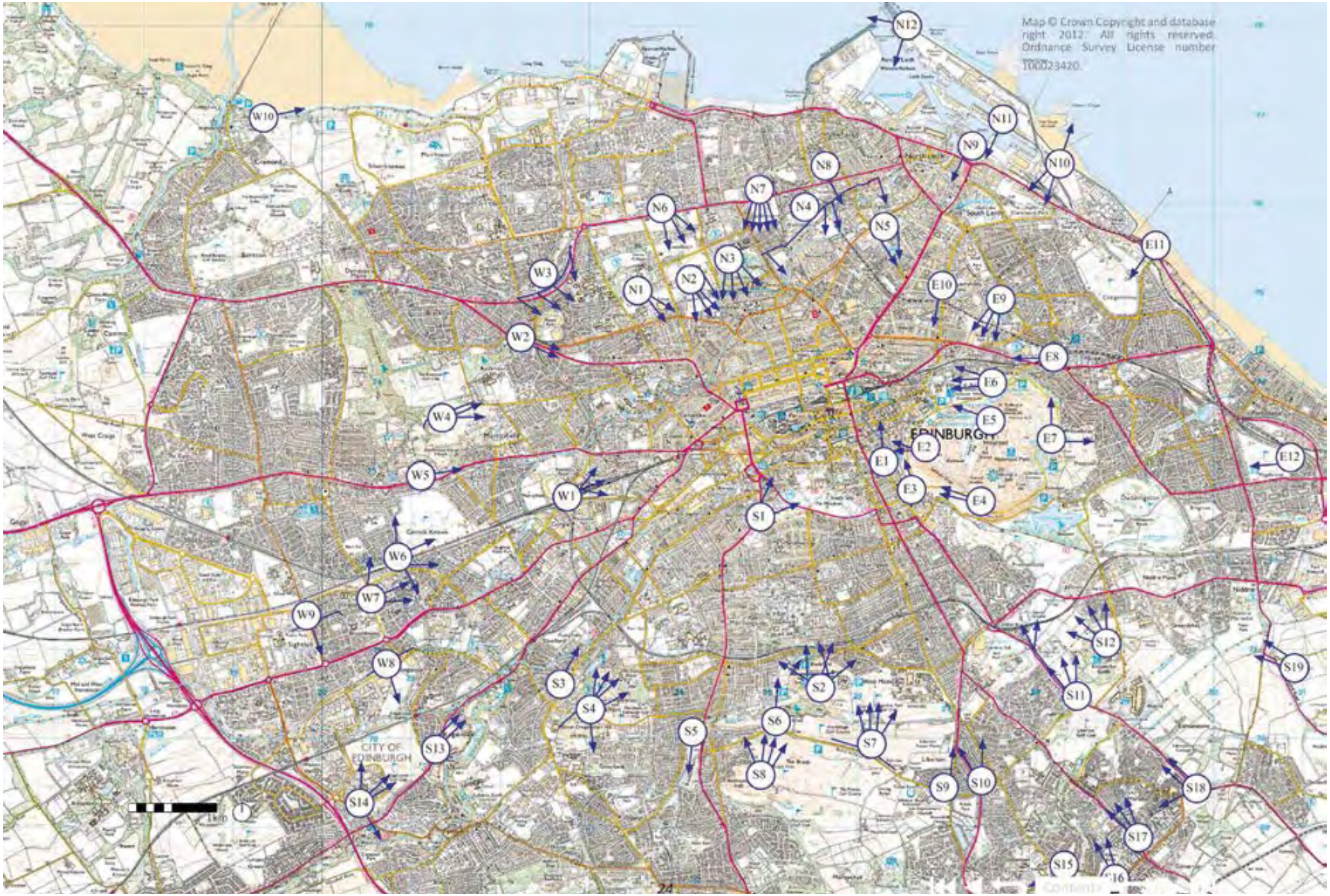


Reference point	Estimated height mAOD		Notes
view	A1	122 G L	lower level north rampart
	A2	133 G L	upper level north rampart
skyline	B	90	significant base of wooded hill below Monuments
	C	90	
backdrop	D		steep downward sightline, particularly from upper ramparts, brings shoreline into view beyond Calton Hill on either side, to north beyond Balmoral hotel tower; hill screens sea from central part of backdrop, but sight line is downwards
	E		

Calton Hill from the Castle ramparts **View No. C1a**

CITY OF EDINBURGH SKYLINE STUDY February 2009

Example view information sheet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N12
N11
N9
N10
N8
N7
N4
N6
N5
N3
N2
N1
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S4
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S9
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S18
S14
S17
S15
S16
CITY OF EDINBURGH
1km

Protected Skyline Views - North of the City

N1a Carrington Road - Arthur's Seat

N1b Carrington Road - Charlotte Square dome, Castle & Hub spire

N2a Inverleith Park - Arthur's Seat

N2b Inverleith Park - Charlotte Square dome, Castle & Hub spire

N2c Botanic Gardens, west gate - along Arboretum Place to Castle

N2d Inverleith Park - St Mary's spires and west Edinburgh skyline

N3a Botanic Gardens - Arthur's Seat

N3b Botanic Gardens, in front of Inverleith House - Castle, Hub spire and Charlotte Square dome

N3c Botanic Gardens - Pentland Hills

N3d Botanic Gardens, in front of Inverleith House - St Mary's spires

N4a Eildon Road - Arthur's Seat

N4b South Fort Street - Salisbury Crags

N4c Newhaven Road and Warriston Path - Calton Hill

N4d Castle framed by trees from points along Warriston Path

N5a Pilrig Park and Pilrig Street - Arthur's Street

N5b Pilrig Park - Calton Hill

N6a Ferry Road & Merchant Maiden Playing fields - Arthur's Seat

N6b Ferry Road at Merchant Maiden Playing Fields - Castle, Hub spire and Charlotte Square dome

N6c Ferry Road at Merchant Maiden Playing Fields - St Mary's spires

N7a Ferry Road at Goldenacre - Arthur's Seat

N7b Ferry Road at Goldenacre - Salisbury Crags

N7c Ferry Road at Goldenacre - Pentland Hills

N7d Ferry Road at Goldenacre - St Marys' spires

N7e Ferry Road opposite Clark Road and Eildon Street - Castle and Old Town skyline

N8 Newhaven Road and Victoria Park - Arthur's Seat

N9 Constitution Street, north end - Calton Hill monuments

N10a Inchkeith Island, Arthur's Seat - Arthur's Seat, Inchkeith Island

N10b Leith Docks - Calton Hill

N11a Leith Docks - Arthur's Seat

N11b Leith Docks - Calton Hill and Hub spire

N12a Leith Docks, west end - Castle and Hub spire

N12b Leith Docks, west end - Forth Bridge

Protected Skyline Views - West of the City

W1a Western Approach Road raised bridge - St Mary's spires

W1b Western Approach Road raised bridge - Castle

W1c Western Approach Road raised bridge - Arthur's Seat

W2a Queensferry Road, west of Craigleith Road junction - Castle and Arthur's Seat

W2b Queensferry Road, west of Craigleith Road junction - St Mary's spires

W3a Telford Road, east of old railway bridge - Arthur's Seat

W3b Telford Road, near old railway bridge - Castle and Hub spire

W3c Telford Road, old railway bridge - St Mary's spires

W3d Telford Road - Pentland Hills

W4a Corstorphine Hill - Calton Hill and New Town Monuments

W4b Corstorphine Hill, south east end - Castle and Arthur's Seat

W5 Corstorphine Road, south of Zoo - Castle & St Mary's spires

W6a Carrick Knowe railway footbridge - Corstorphine Hill

W6b Carrick Knowe railway footbridge - St Mary's spires

W6c Carrick Knowe railway footbridge - Castle

W6d Carrick Knowe railway footbridge - Arthur's Seat

W6e Carrick Knowe - Pentland Hills

W7a Saughton Road south of railway bridge

W7b Saughton Road, south of railway - Castle and Hub spire

W7c Playing field east of Broomhouse Community Centre - Arthur's Seat

W8 Longstone - Pentland Hills

W9 Sighthill and Broomhouse - Pentland Hills

W10 Cramond foreshore looking east

Protected Skyline Views - East of the City

E1a Pleasance - Salisbury Crags

E1b Pleasance Calton Hill

E2a Salisbury Crags, south side - Pentland Hills

E2b Salisbury Crags, Radical Road - St Mary's spires, Castle, Hub spire

E2c Salisbury Crags, Radical Road - Corstorphine Hill

E2d Salisbury Crags, Radical Road - Calton Hill

E3 Queen's Drive - Calton Hill

E4a Queen's Drive, Powderhouse Corner - St Mary's spires

E4b Queen's Drive, Powderhouse Corner - Castle and Hub spire

E5 Holyrood Park, Whinny Hill, Lonw Row - Calton Hill

E6a Holyrood Park, Meadowbank Lawn - Castle and Old Town

E6b Holyrood Park, St Anthony's Chapel - Castle and Old Town

E6c Holyrood Park, Meadowbank Lawn and St Anthony's Chapel - Calton Hill

E7a Holyrood Park, Dunsapie Loch - the sea

E7b Holyrood Park, Dunsapie Loch - Inchkeith Island

E8 London Road, Meadowbank - Calton Hill

E9a Lochend Park, upper level and Lochend Road South - Arthur's Seat

E9b Lochend Park - Arthur's Seat and Salisbury Crags

E9c Lochend Park, upper level - Calton Hill

E10 Easter Road - Salisbury Crags

E11 Seafield Road, Craigentinny - Arthur's Seat

E12 Magdalene Field - Arthur's Seat

Protected Skyline Views - South of the City

S1a Bruntsfield Place - Castle

S1b Bruntsfield Links, south side - Castle

S1c Bruntsfield Links and Meadows - Arthur's Seat & Salisbury Crags

S2a Blackford Hill crest - Castle, spires and Firth of Forth

S2b Blackford Hill, Royal Observatory - Castle, spires & Firth of Forth

S2c Blackford Hill - the sea with Inchkeith Island

S2d Blackford Hill - Arthur's Seat and Salisbury Crags

S2e Midmar Drive - Arthur's Seat and Salisbury Crags

S2f Blackford Hill Crest - Corstorphine Hill

S3 Colinton Road - St Mary's spires

S4a Craiglockhart Hills - St Mary's spires

S4b Wester and Easter Craiglockhart Hills - Castle and Hub spire

S4c Wester Craiglockhart Hill - Salisbury Crags

S4d Wester Craiglockhart Hill - Arthur's Seat and sea

S4e Craiglockhart Hills - Pentland Hills

S5 Braidburn Valley Pentland Hills

S6 Braid Hills Drive West - Castle, Hub spire & Barclay Church spire

S7a Braid Hills Drive East - Castle, Hub spire & distant mountains

S7b Braid Hills Drive, east end - Calton Hill

S7c Braid Hills Drive, east end - the sea

S7d Braid Hills Drive, east end - Arthur's Seat and Salisbury Crags

S7e Braid Hills Drive, east end - Pentland Hills

S8a Buckstone Snab - Castle, Firth of Forth and distant hills

S8b Buckstone Snab - the sea

S8c Buckstone Snab - Arthur's Seat

S8d Buckstone Snab - Corstorphine Hill

S9 Liberton Drive along Alnwick Hill Road to Arthur's Seat

S10a Liberton Cemetery - Arthur's Seat and Salisbury Crags

S10b Junction of Liberton Brae and Kirkgate - Castle

S11a Old Dalkeith Road, by Craigmillar Castle - Castle

S11b Old Dalkeith Road, by Cameron Toll - Salisbury Crags

S11c Old Dalkeith Road, south of Cameron Toll - Arthur's Seat and Salisbury Crags

S12a Craigmillar Castle - Inchkeith Island

S12b Craigmillar Castle, upper battlements - Castle and Hub spire

S12c Craigmillar Castle - Salisbury Crags

S12d Craigmillar Castle - Arthur's Seat

S13a Lanark Road, Dovecot Park - St Mary's spires

S13b Lanark Road, Dovecot Park - Castle and Hub spire

S14a Clovenstone Community Woodlands - Corstorphine Hill

S14b Clovenstone Community Woodlands, west side - St Mary's spires

S14c Clovenstone Community Woodlands, west side - Castle and Hub spire

S14d Clovenstone Community Woodlands - Pentland Hills

S15 Captain's Road - Pentland Hills

S16a Hyvots Bank, Gilmerton Dykes - Castle and Hub spire

S16b Gilmerton Dykes Street - Arthur's Seat and Salisbury Crags

S17a Gilmerton Road, near junction with Ferniehill Road - Castle and Hub spire

S17b Gilmerton Road - Salisbury Crags

S17c Gilmerton Road - Arthur's Seat

S18a Junction of Old Dalkeith Road and Ferniehill Road and Moredun Park Road - Castle and Hub spire

S18b Moredun Park Road - Arthur's Seat and Salisbury Crags

S18c Ferniehill Road, east end - Pentland Hills

S19 A68, near Wester Cowden - Castle, Hub spire and Old Town

S20 A68, near Wester Cowden - Arthur's Seat

Protected Skyline Views - in and around the City Centre

C1a Castle Ramparts - Calton Hill

C1b Castle Ramparts - Inchkeith Island

C1c Castle Ramparts - Arthur's Seat

C1d Castle Ramparts - Pentland Hills

C2a Camera Obscura - Calton Hill

C2b Camera Obscura and Castle Esplanade - Pentland Hills

C2c Junction of Ramsay Lane and Castlehill - Firth of Forth

C3a North Bank Street - Corstorphine Hill

C3b Milne's Close - Firth of Forth

C4a Royal Mile, Lawnmarket - the sea

C4b Royal Mile, North/South Bridge junction - the sea

C5a North Bridge - Calton Hill

C5b North Bridge - Firth of Forth

C5c North Bridge - Salisbury Crags

C6 Jeffrey Street and Cranston Street - Calton Burial Ground monuments

C7a Waterloo Place and Regent Terrace - Arthur's Seat and Salisbury Crags

C7b Carlton Terrace Tron spire - along Regent Terrace

C7c Royal Terrace, east end - Greenside church tower

C8a Calton Hill - Arthur's Seat and Salisbury Crags

C8b Calton Hill - Pentland Hills

C8c Calton Hill - Castle, Hub spire, St Giles crown and Tron spire

C8d Calton Hill - along Princes Street

C9 Waterloo Place and Princes Street - St Mary's spires

C10 Waverley Bridge - Castle and National Gallery

C11a Junction of Queen Street and North Castle Street - east along Queen Street

C11b Junction of Queen Street and Dublin Street - west along Queen Street

C11c Dublin Street - east along Albany Street

C11d Junction of George Street and Frederick Street - east to St Andrew Square column

C11e Junction of George Street and Frederick Street - west along George Street

C12 East half of George Street - Firth of Forth Central

C13 George Street at Charlotte Square - Firth of Forth

C14 Princes Street - Calton Hill

C15 Queensferry Street - along Melville Street to St Mary's spires

C16a Dean Bridge - north to Rhema church tower

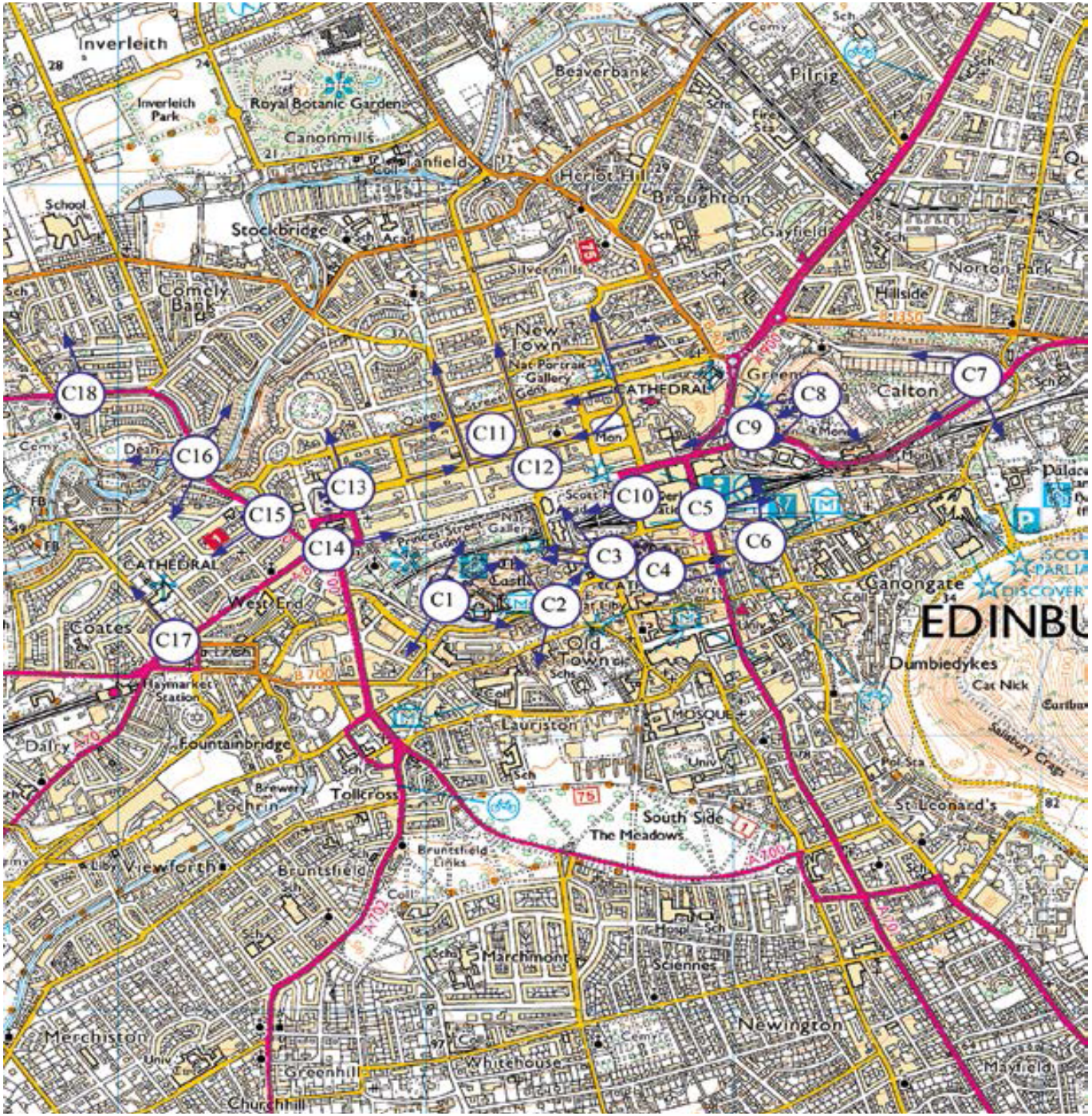
C16b Dean Bridge - Firth of Forth

C16c Dean Bridge south-west view

C16d Dean Bridge - Corstorphine Hill and Dean Gallery towers

C17 West Maitland Street - along Palmerston Place

C18 Queensferry – Road - Fettes College



DETAILED GUIDANCE ON THE LANDMARK FEATURES

Taken from the 'Skyline Report: The Protection of Key Views' report to Planning Committee 28th February 2008.

The Castle, Castle Rock and Tolbooth St John's Spire

Guidance:

In order to protect the views of Castle Hill, the Castle and Tolbooth St John's spire, rooftops in the central core of the city should remain below the bottom of the sky space around the Castle: this recedes in all directions from the cliffs below the Castle and the landform below Castle Hill.

Perception of the Castle and Castle Rock is enhanced by awareness of the height of the castle and St John's spire above the surrounding city. This depends upon seeing both the monuments and the landform from which they rise, particularly the cliffs below the Castle. In order to achieve this, surrounding rooftops should not rise above a plane which represents the bottom of open sky surrounding the city centre. This would also protect outward views towards the hills and the sea from the Esplanade and the Castle.

While many spires and domes and monuments rise above the bottom of the sky space and contribute positively to the skyline of the city, roof levels in the city centre have reached a general height above which higher new development is beginning to intrude upon the character of both inward and outward views.

Calton Hill

Guidance:

In order to protect the views of the Calton Hill monuments and the hill from which they rise, the sky space defining the bottom of open sky around the Castle and Castle Hill, should include the surroundings of Calton Hill.

Close views to Calton Hill from along Princes St and from the north are rising sight lines. The same applies to views from east and south. In these cases of comparatively short views (within a distance of 2km), the foreground is sensitive to excessive height where the tops of buildings can easily cut off parts of the view.

From higher viewpoints, the backdrop to Calton Hill is particularly important, since the hilltop monuments are seen against open sky or distant water.

Three distant views need protection:

- from Constitution St - the narrow street view is a rising sight-line, the foreground of which needs protection,
- from Corstorphine Hill - the view from Corstorphine Hill needs foreground protection,
- from Braid Hills Drive -the whole of the foreground needs protection but the backdrop is not considered critical as long as the top of the Nelson Monument remains silhouetted against the sky.

Castle Hill from Surrounding Hills, Lower Viewpoints and Approach Roads

Guidance:

The dramatic silhouette of the Castle, cliffs and St John's spire seen in space from surrounding hills, suburban roads and lower viewpoints, should be safeguarded.

The protection of the long views to the Castle and the St John's spire will be achieved by securing the foreground within the viewing corridors of certain key views. Backdrop skyspace is important to the perception of the silhouette.

In order to protect the primacy of the Castle and St John's spire, an open space zone around the Castle and spire should preclude any upstanding building. This defines the width of the view cones as they pass Castle Hill.

Coastal Backdrop to Views of Castle Hill and Calton Hill

Guidance:

Development in coastal backdrop areas should be kept at heights such that key profiles are clearly perceived against distant sea, hills or sky.

For the most part the relevant views will be from the south looking towards Castle Hill and Calton Hill with the Firth of Forth in the background. In many cases the coastal backdrop coincides with the lengths of coast which lie in sea views from the city centre (see below). The latter are at right angles to the street layout of the New Town and the Royal Mile.

Each distant view of the sea needs to be evaluated to determine what length of background needs to be protected, for example, the amount of open water around the Castle when viewed against the Firth of Forth.

In a similar way to which the bottom of open skyspace was defined around the city centre, the bottom of open sky, in the background to views, can be defined along the coast.

Views of the Firth of Forth from the City Centre

Guidance:

Looking north from the New Town and east from the Old Town, wherever sea is visible, open sky space is to be safeguarded down to low levels.

The grid pattern layout of the New Town related to the underlying topography, creates a series of framed views of the sea. Diagonal views are screened by buildings or hills. In the same way, the Royal Mile overlooks a framed sea view to the east - which is within the same area of sea viewed from North Bridge and, more distantly, Corstorphine Hill. The amount of visible sea varies along different alignments, but in some cases the narrowness of the band of water makes it susceptible to any loss of vertical space by increasing building height at certain critical locations.

Open Sky beyond New Town Streets

Guidance:

Sightlines rising beyond the ends of New Town streets should be safeguarded.

Other than the westerly view along Princes St, these are rising sightlines.

The formality of many of these streets lends itself to the placements of objects - spires, domes, monuments and statues, at the end of the streets, e.g. the Melville Monument looking east down George St.

Views of Open Hills

Guidance:

Key views of hills from within the city should be safeguarded by protecting selected viewing corridors towards Salisbury Crags, and Arthur's Seat, Corstorphine Hill, and the Pentland Hills. Open ground should be safeguarded down to the foot of the hills.

Arthur's Seat

The key quality to safeguard is the unbroken skyline from every direction, usually above the 100m contour. Long views from the south show the whole profile of the hill to the distant sea beyond.

Salisbury Crags

Close views to the crags are often framed by streets (e.g. from the Pleasance). These are most striking when unobstructed by buildings across the ends of streets. It is important to retain open hillside below the cliffs. Long views from the south show sightlines falling towards a backdrop of sea and sky. The amount of open sea requiring protection varies between viewpoints.

Corstorphine Hill and Pentland Hills

Sightlines to the Pentland Hills are rising lines. However, as the landform is also rising, there are places where the bottom of the skyspace is close to the ground contours. This is particularly the case across the West End and Fountainbridge, as seen from Ferry Road and the Botanical Gardens. In these instances, a few metres of extra roof height can have an impact on perception of the profile.

City Silhouette from the North

Guidance:

In order to safeguard the city silhouette from the north, background skyspace should be kept open and foreground roof levels should be kept down.

The silhouettes from the north are so wide that viewing corridors are not so helpful.

Skyline between the Castle and Arthur's Seat

This section of skyline consists of a long series of spires and towers. They show up against the sky because they rise above the roof levels. The roof levels have reached critical height where a rise in height would diminish the quality of the skyline. Sightlines beyond this long silhouette generally pass high above the southern side of the city and are safeguarded by the roof planes needed to protect views from the south.

Skyline west of the Castle

West of the castle the skyline is lower. To protect the silhouette, the whole skyspace needs to be carefully restrained by definition of maximum roof levels.

The Foreground

The foreground of views from the north is sensitive to obstructions as the sight lines rise gradually across open spaces. This same skyline is enjoyed from the north shore of the Firth of Forth and from ships sailing up the Forth. While it is desirable to keep open sightlines along the coast, short lengths of taller buildings, well arranged, would not deprive ship passengers of experiencing the city's iconic distant silhouette.

The Forth Bridges

Guidance:

Where views to the Forth Bridges are intervisible with key features of the city, they should be safeguarded.

Views to the Forth Bridges from Edinburgh are limited and it is not generally considered that special measures are required for their protection. The most impressive view is from Leith Docks Development Area and care should be taken to ensure it is safeguarded.

There is additional guidance protecting 4 specific views of the Forth Bridges as part of the World Heritage Site listing.

Incidentals

Guidance:

The foreground and relevant backdrop to special views should be safeguarded. A limited number of additional special features make a particular contribution to the skyline, and these should also be safeguarded.

St Mary's Cathedral Spires

There are several important views to the triple spires of St Mary's Cathedral from the west, south west and north of the city. Roof levels in the West End are important to a clear perception of the spires.

Views from the Dean Bridge

The view west of the Dean Bridge, of sky or Corstorphine Hill, needs protection.

Fettes College

The background to the view of Fettes College from Queensferry Road needs to be protected from buildings rising above the tree canopy along the ridge.

Eastward sea views from Dunsapie Loch

Downward sight lines from the east side of Arthur's Seat limit the height of buildings along the coast between Portobello and Seafield.

The Rest of the City

The protected views set out above in relation to particular features can be combined to show that some form of constraint on building height should continue across most of the city. If the existing key views are to remain widely visible, firm enforcement of maximum height will be essential.

Maximum roof levels are proposed across the core area, usually at existing heights.

In the arc of the city bounded by the hills and the coast, view cones criss-cross not far above natural ground levels. From these arise widespread zones where high buildings will puncture the bottom of the skyspace. For this reason the existing policy guidance stating that "development should conform to the general height of buildings prevailing in the surrounding area" remains valid with some exceptions (see below).

Much of the northern coastal zone between Muirhouse and Craigentinny has a larger scale due to its past industrial activity. Nevertheless, views down onto the water and backdrops of important silhouettes place limitations on building height along parts of the coast. Such restraints are needed between Granton and Newhaven harbour to the north and across Craigentinny down to Portobello to the east.

In considering all the views, there are locations where higher buildings may be acceptable. These are:

- Sighthill
- West of Granton between Birnie Rocks and General's Rock
- Port of Leith

Where high buildings are proposed in these areas, it is recommended they are grouped to create an interesting and positive form within the townscape. A continuous wall of high buildings is not recommended as this forms a barrier and is unlikely to be sympathetic to its location.

APPENDIX 3 – SUSTAINABILITY STATEMENT TEMPLATE

A sustainability statement should accompany all applications for new development apart from alterations and extensions to existing domestic properties. The scale of the development should consider the proportionate response to the requirements of addressing climate adaptation, embodied carbon and sustainable travel. The Edinburgh Design Guidance provides further details on the interpretation of the implementation of Polices ENV 7and ENV 8 of Cityplan 2030.

It is considered that the Sustainability Statement should address the topic areas set out below. These points represent a guide to inclusion and should not be used as a checklist for compliance. Site characteristics will determine the appropriate information and should be informed by a holistic approach to sustainability.

1. Climate Adaptation

- That the flood risk assessment and surface water management plan has accounted for higher volumes and greater intensities due to climate change.
- The sustainable drainage measures and extent of nature-based solutions implemented.
- How the thermal comfort and risk of overheating has been assessed and takes into consideration the higher risk of heatwave due to climate change.
- How the design responds to site specific risks (e.g. landslip risk, river/coastal flooding)
- The extent of green, brown and/or blue roofs included in the design including any maintenance requirements

Refer to:

Flood Risk and Surface Water Management Plan Guidance

Sustainable Rainwater Management Guidance

Vision for Water Management (2020)

Climate Ready Edinburgh Plan (2024)

ESRMG Factsheet W6 - Living Roofs

2. Sustainable Travel & Accessibility

- How walking, wheeling, cycling and public transport will be prioritised over road users.
- The inclusion of shared transport options (e.g. car club parking, mobility hubs)
- How the development active travel network connects to the surrounding area.
- The design and location of cycle parking.
- How the development is designed to be accessible for all users, including how the specific of needs of different, ages, mobilities and disability have been responded to (e.g. step free access, circulation)
- Considerations of community safety (e.g. the design of lighting and passive surveillance)

Cross reference to Transport Statements and Assessments, where applicable.

Refer to:

City Mobility Plan

Edinburgh Street Design Guidance

Inclusive Mobility. A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure

Scottish Government Planning Guidance: Local living and 20-minute neighbourhoods (2024)

Housing for Varying Needs: A Design Guide

3. Minimising Embodied Energy

- The extent to which the layout is optimised for spatial efficiency (e.g. inclusion of flexible, multi-use spaces)
- Measures taken to reduce the embodied energy of material choices using natural / renewable materials.
- The extraction/manufacturing locations of proposed materials and methods to reduce the energy involved in transporting materials to site.
- The extent to which the design is optimised for construction efficiency (e.g. design for manufacture and assembly)

Refer to:

LETI Embodied Carbon Primer (2020)

4. Building Adaptability & Maintenance

- How the design maximises future adaptability (e.g. potential repurposing of spaces)
- How the design allows for maintenance of the building (e.g. repair and replacement strategy of individual components)

Refer to:

UKGBC – Circular Economy Guidance for Construction Clients (2019)

5. End-of-life Emissions

- Measures to reduce the end-of-life emissions of the building, including the extent that the materials and components can be re-used, reclaimed or recycled.

Refer to:

Zero Waste Scotland – Designing Out Construction Waste

6. Minimising Operational Energy

- Measures to minimise the energy demand of the building (e.g. passive heating, ventilation and cooling, ultra-high fabric efficiency)
- Inclusion of low and zero carbon generating technologies.
- Connections to existing and new heat networks.

Refer to:

Scottish Government - New Build Heat Standard

LETI - Climate Emergency Design Guide

UKGBC – Net Zero Carbon Buildings Framework

7. Recycling & Food Waste

- Space allocated for recyclable and food waste, including details of access, safety and sufficiency.

Refer to:

Waste and Recycling Instructions for Architects and Developers

8. Whole-Life Carbon Assessment

For proposals involving the replacement of existing buildings the proposals should be accompanied by a carbon assessment setting out the 'whole-life' carbon footprint of the proposed development compared to the option of re-using the existing building to accommodate the proposed use. Where this comparative assessment fails to show an overall lower carbon footprint then it must be set out why the developer considers the proposal justified.

RICS – Whole Life Carbon Assessment for the Built Environment

Change of Use

Where a change of use involves significant physical external alterations or extensions a sustainability statement will be required.

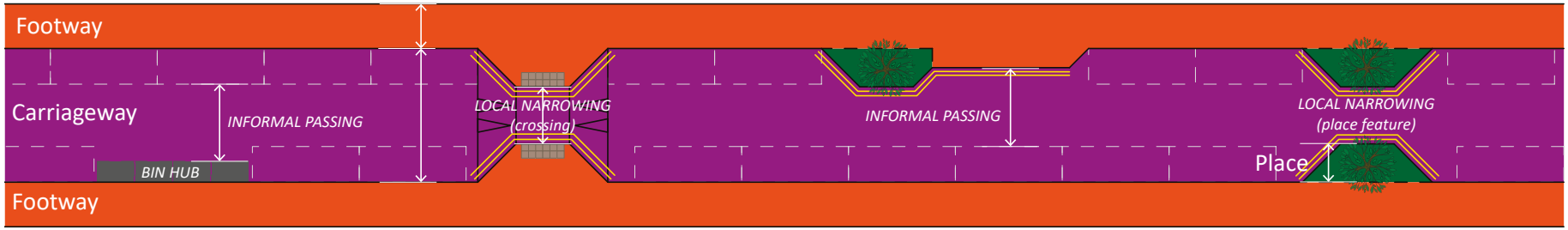
APPENDIX 4 – STREETS AND PATHS

The target widths and dimensions provided in these tables should be used as a starting point when designing new streets. Deviation from the target/ minimum/ permitted range measurements will only be acceptable on new streets in exceptional one-off circumstances. Where values deviate from the target, a clear rationale/explanation to their appropriateness will need to be provided.

Table A: Dimensions for Local Streets

Footways		**Target widths (m)**	**Notes**
	High Density Housing	2.5m	
	Medium to Low Density Housing	2m	
	Service Sector Employment	2.5m	May be more, depending on likely footfall (*see Factsheet P3 Footways - page 3*)
	Retail / High Street		
	Industrial Employment	2m	
Place features		**Target widths (m)**	**Notes**
	Street Furniture / Public Art / Suds Features / Street Trees*	2m	These features can form 'build-outs' into the carriageway, interspersed with parking. Must avoid conflicts with street lighting
Carriageways		**Permitted width range (clear widths)**	**Notes**
	No parking, or only occasional parking (all residences have off-street parking and/or on street parking is controlled)	5.5m to 6.5m (3.5m- 6.5m)	Local narrowings to 3.2m (3.5m+ for lengths over 10m) are acceptable to accommodate features such as trees, benches or crossing points. If clear width is less than 4.5m, Inter-visible passing opportunities at least 4.5m wide are required at least every 75m. This can include junctions, bin hub locations, narrow build outs or parking restrictions.
	Parallel parking, one side only (May alternate - other side must be controlled)	5.5m to 7.5m (3.5m - 5.5m)	
	Parallel parking, both sides	7.5m to 9.5m (3.5m - 5.5m)	

*For inclusion of rain gardens or street trees please refer to Factsheets *F5 Street Trees*, *F6 Street Lighting* and the *Sustainable Rainwater Management* factsheets - in particular m³ soil requirements

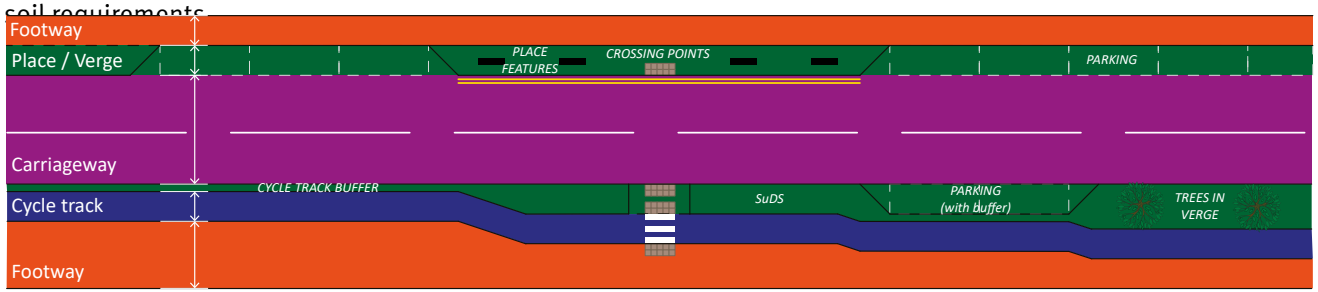


Key for Table A: Dimensions for Local Streets

Table B: Dimensions for Primary / Secondary Streets

		Target widths (m)	Notes
Footways	High Density Housing	2.5m	
	Medium to Low Density Housing	2m	
	Service Sector Employment	2.5m	May be more depending on likely footfall (*see Factsheet P3 Footways - page 3*)
	Retail / High Street		
	Industrial Employment	2m	
		Target widths (m)	**Notes**
On-street Cycletrack	One-way	2	A reduction of up to 0.5m may be acceptable in some cases, for example over short lengths at pinch points. At high flows (>300 cycles per hour), greater widths may be required (see Cycling by Design page 68)
	Two-way	3	
		Minimum widths (m)	**Notes**
Place / Verge / Cycletrack buffers	No parking or loading permitted/likely.	0.5	Width allows for flexible post at start of segregation and controlled pedestrian crossings
	Uncontrolled / informal pedestrian crossing	1.2	
	Other 'Place features (e.g. street furniture, public art)	2	
	SuDS (swales, rain gardens)	1.5	Appropriate length and m³ soil defined by context.*
	Parking	3	2m bays plus 1m door opening refuge
	Clearance to vertical elements (signage, lighting etc.)	0.25	When positioning vertical elements in buffers, 0.25m minimum clear space between the element and the cycle track must be available
Carriageways	see *Factsheet G2 - Carriageway Widths*		

*For inclusion of rain gardens or street trees please refer to Factsheets *F5 Street Trees*, *F6 Street Lighting* and the *Sustainable Rainwater Management* factsheets - in particular m³ soil requirements.



Key for Table B: Dimensions for Primary / Secondary Streets

Table C: Cycletrack widths

Function of path	Path Width requirement	Segregation of cyclists from pedestrians	Verge
Link in Primary cycle network	5m+ (potentially more for busier links), consult Transport Planning Team	Segregated by white line or kerb	For path connections longer than 20m a verge should be provided . The target width for each verge should equal 50% of the path's width. May be reduced in high density developments if agreed by the Council. Generally no shrubs. Trees should always be incorporated in verge*
Link in Secondary cycle network	4m+, consult Transport Planning Team		
Link to local shops, school, major employment site	4m		
Other shared used link	3m	No	
Pedestrian only	2m	n/a	

*For inclusion of rain gardens or street trees please refer to Factsheets *F5 Street Trees*, *F6 Street Lighting* and the *Sustainable Rainwater Management* factsheets - in particular m^3 soil requirements

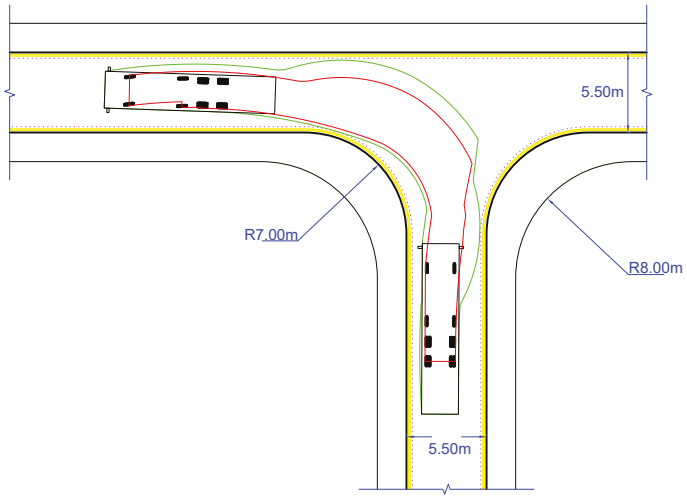
Table D: Kerb Radii for Local Street/ Local Street junctions

		Street 1 Carriageway width at junction (m)			
		5.5m – 6.49m	6.5m – 7.49m	7.5m – 8.49	More than 8.49
Street 2 carriageway width at junction (m)	5.5m to 6.49m	7[a]	6[a]	5[a]	4[a]
	6.5m to 7.49m	6[a]	3	2	1
	7.5m to 8.49m	5[a]	2	1	1
	More than 8.49	4[a]	1	1	1

a. - These junction configurations should be avoided due to excessive radii to accommodate waste vehicles resulting in excessive and inconvenient walking/wheeling distances. Where possible carriageway widths at junctions should be increased to 6.5m (see Diagram B below)

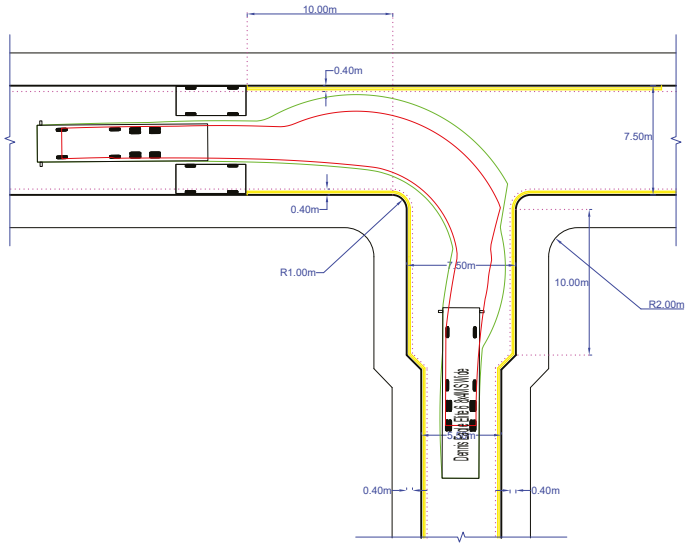
Note: Where possible junction radii should be reduced when using one-way streets – this would require additional vehicle tracking to be carried out

Diagrams for Table D: Kerb Radii for Local Street/ Local Street junctions



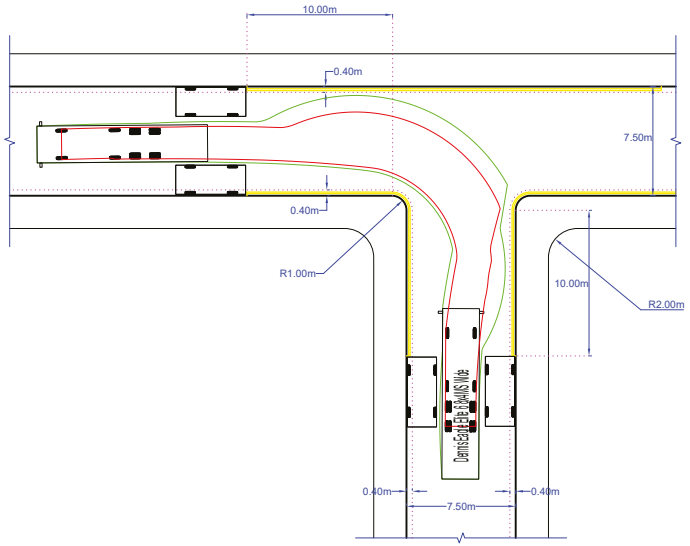
A. 5.5m / 5.5m with no parking

This arrangement is not recommended due to the large radii required.



B. 5.5m (no parking) / 7.5m with parking both sides

This arrangement requires a widening at the junciton to accomodate a large vehicle while maintaining tight radii.

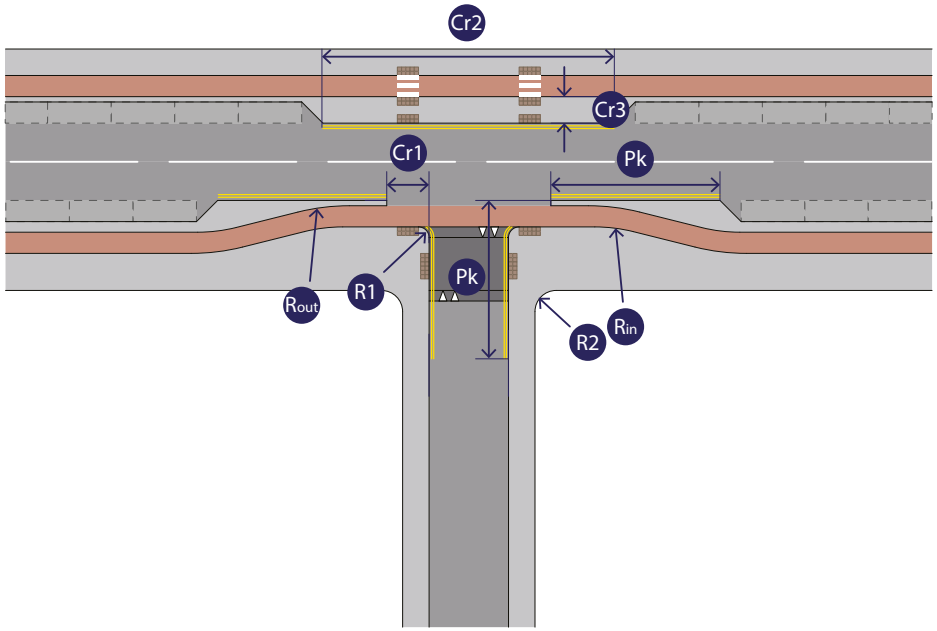


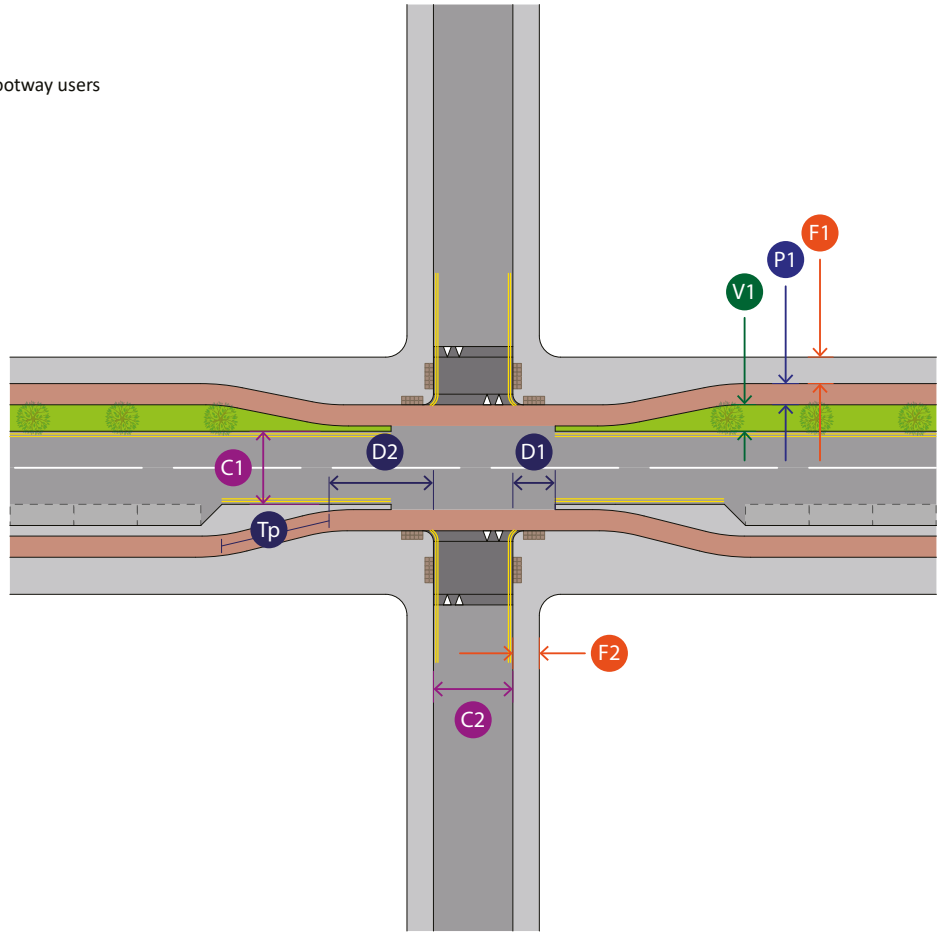
C. 7.5/ 7.5m with parking both sides

This arrangement accomodates a large vehicle while maintaining tight radii.

Example Street Layout 1 - Junction of Primary/Secondary Street and Local Street with one-way segregated cycling

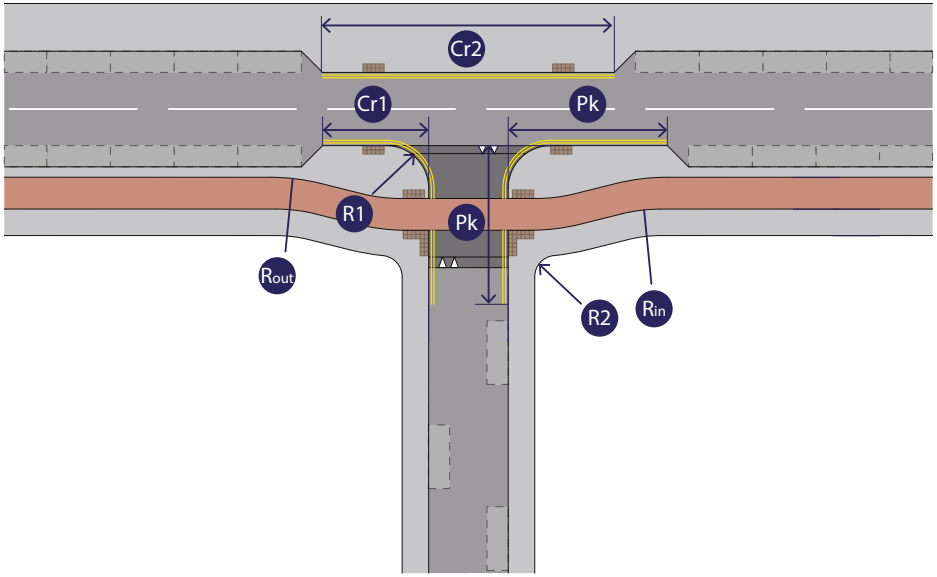
	Dimension	Meaning
C1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Carriageway width (excl. Parking)
C2	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
D1	4m+	Start/End of segregation prior to side road. To allow for vehicle turning and dropped crossing
D2	10m+	Start/end of straight section of cycle track.
F1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Footway width
F2	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
Cr1	(R1+4)m	Footway area to allow crossing of main road.
Cr2	C2+(2xCr1)	Area of footway opposite side road to allow crossing.
Cr3	2m+	Landing area of footway on opposite side road to allow breakpoint before crossing cycle track.
P1	Varies see Table B: Dimensions for Primary / Secondary Streets	Cycle track width (one-way)
Pk	No parking 15m 'upstream' or 10m 'downstream'	Parking restrictions at junctions
R1	1m	Kerb Radii to allow safe manoeuvre of large vehicles
R2	(R1+1)m	Plot boundary radii to provide visibility at corners for footway users
R_{in}	15m	Inside radii of cycle track
R_{out}	20m	Outside radii of cycle track
Tp	1:3	Max taper for bend out cycle track
V1	Varies see Table B: Dimensions for Primary / Secondary Streets	Verge / buffer width (inc Parking/Street Trees etc.)

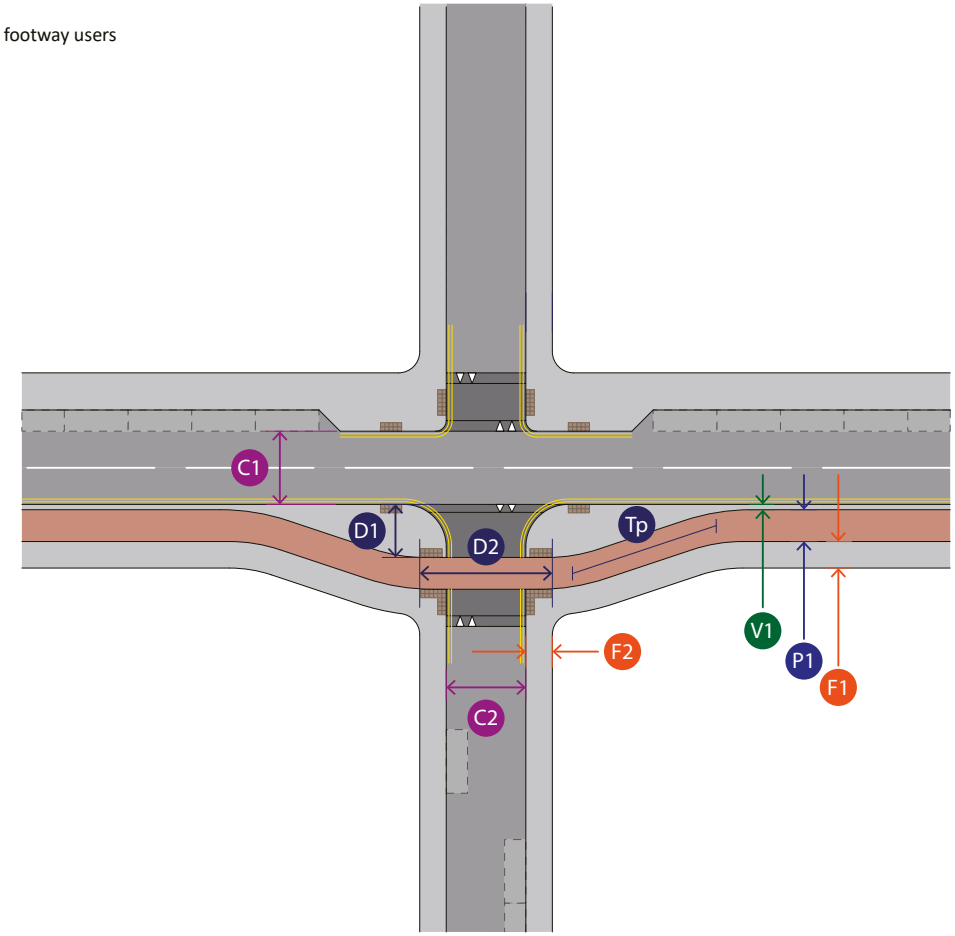




Example Street Layout 2 - Junction of Primary/Secondary Street and Local Street with two-way segregated cycling

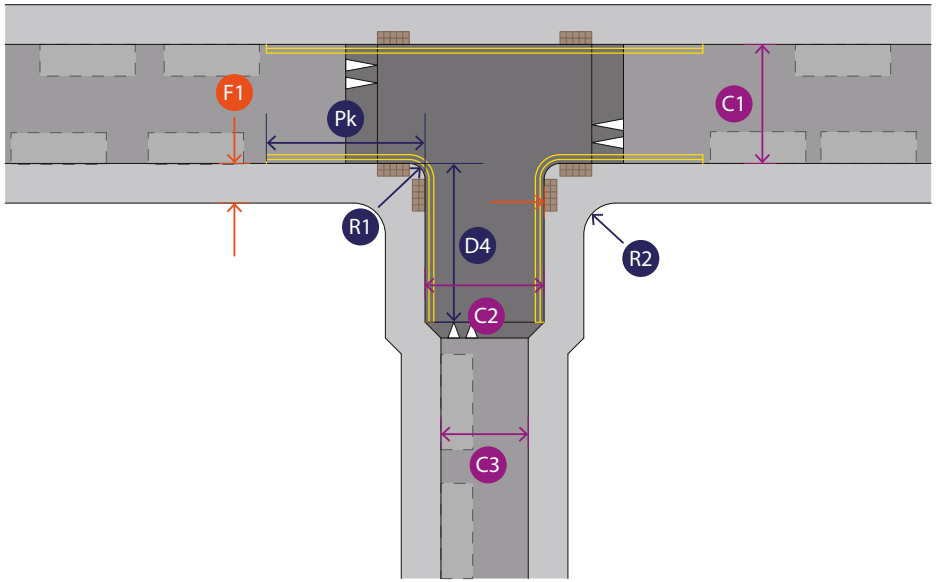
	Dimension	Meaning
C1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Carriageway width (excl. Parking)
C2	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
D1	5m+	Space to allow a car/ light van to pull off the main road
D2	C2 + (2xF2)	Start/end of straight section of cycle track.
F1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Footway width
F2	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
Cr1	(R1+4)m	Footway area to allow crossing of main road.
Cr2	C2+(2xCr1)	Area of footway opposite side road to allow crossing.
P1	Varies see Table B: Dimensions for Primary / Secondary Streets	Cycle track width (two-way)
Pk	No parking 15m 'upstream' or 10m 'downstream'	Parking restrictions at junctions
R1	Varies see Table D: Kerb Radii	Kerb Radii to allow safe manoeuver of large vehicles
R2	(R1+1)m	Plot boundary radii to provide visibility at corners for footway users
R_{in}	15m	Inside radii of cycle track
R_{out}	20m	Outside radii of cycle track
Tp	1:3	Max taper for bend out cycle track
V1	Varies see Table B: Dimensions for Primary / Secondary Streets	Verge / buffer width (inc Parking / Street Trees etc.)

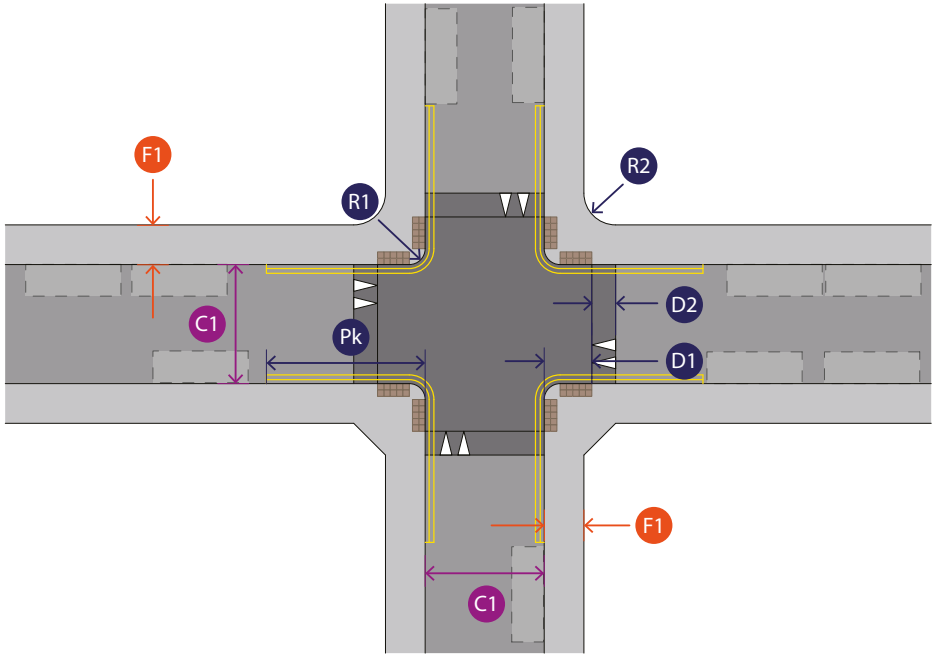


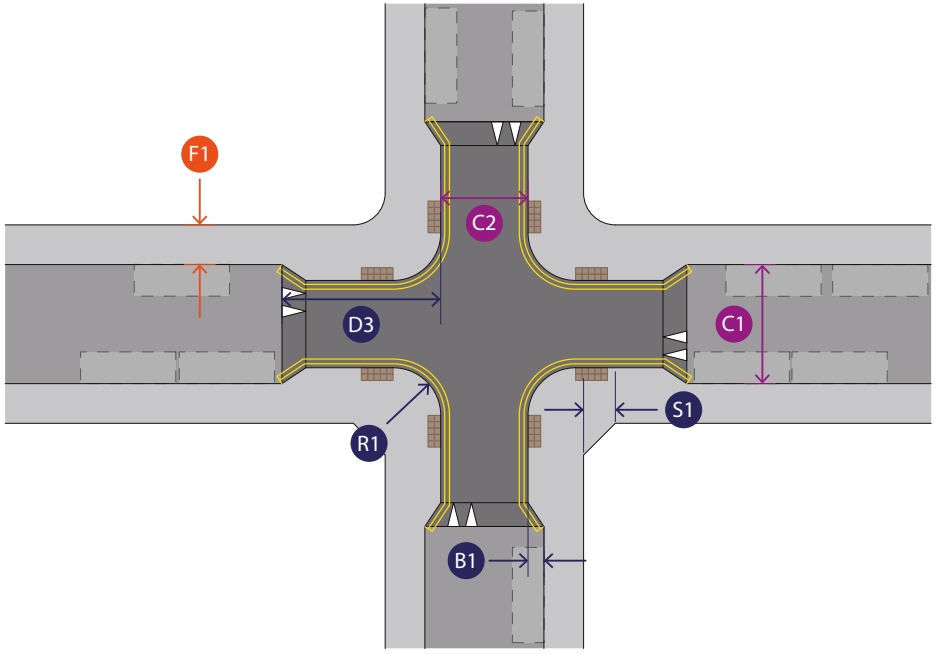


Example Street Layout 3- Crossroads and T-junctions on Local Streets

	Dimension	Meaning
B1	≤2m	Build-out size to achieve maximum carriageway narrowing of 6.5m (see Table D: Kerb Radii)
C1	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
C2	≥6.5m	Narrowing at junction to not be less than 6.5m to allow tight radii
C3	5.5m – 6.5m	Carriageway width requiring widening as it approaches junction to allow passing opportunities and tight radii
D1	(R1+4)m+	Raised table length back from junction to allow level crossing
D2	Varies typically between 1:5 to 1:10 (1:20 on a bus route)	Gradient of ramp to raised table
D3	10m+	Start of ramp -up to raised area and of angled kerb to build-out
D4	10m	Length of widened carriageway at junction to allow large vehicle to manoeuvre around tight radii
F2	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
Pk	No parking 15m 'upstream' or 10m 'downstream'	Parking restrictions at junctions
R1	Varies see Table D: Kerb Radii	Kerb Radii to allow safe manoeuvre of large vehicles
R2	(R1+1)m	Plot boundary radii to provide visibility at corners for footway users
S1	= R2	Set back of boundary wall to provide visibility for footway users

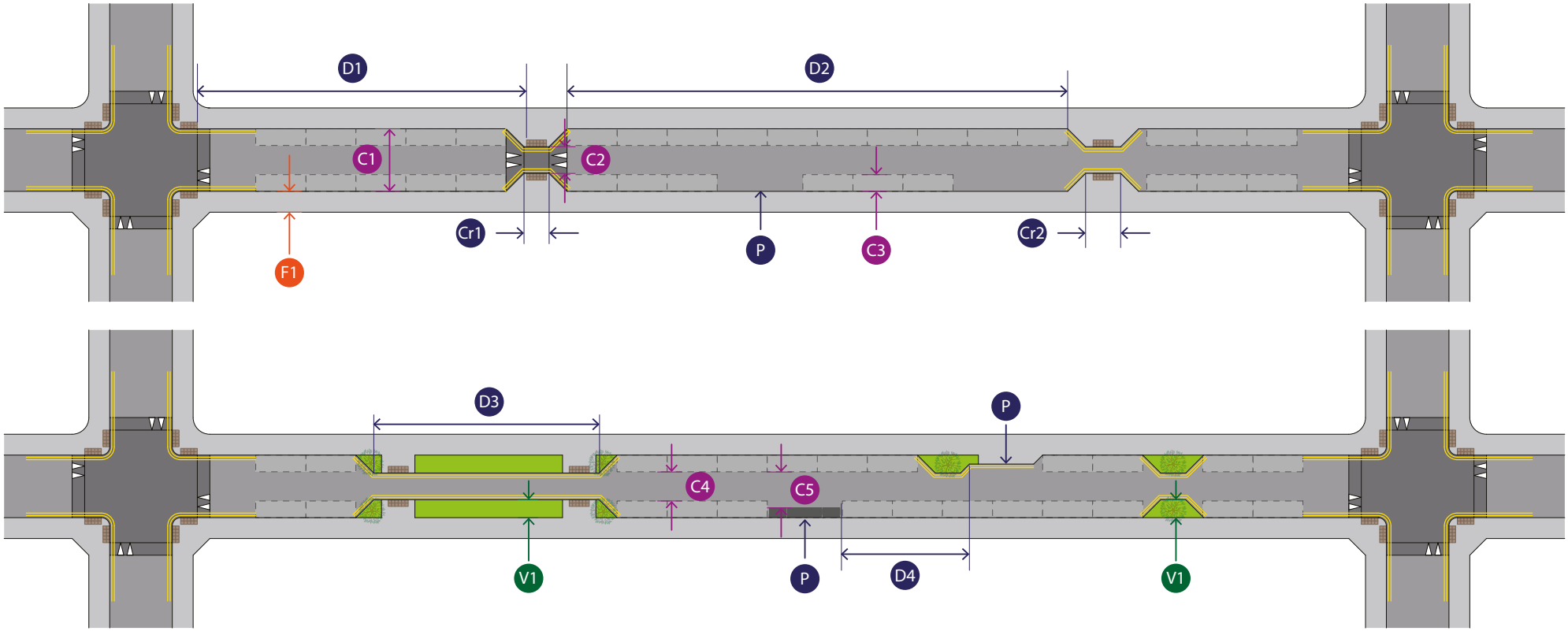






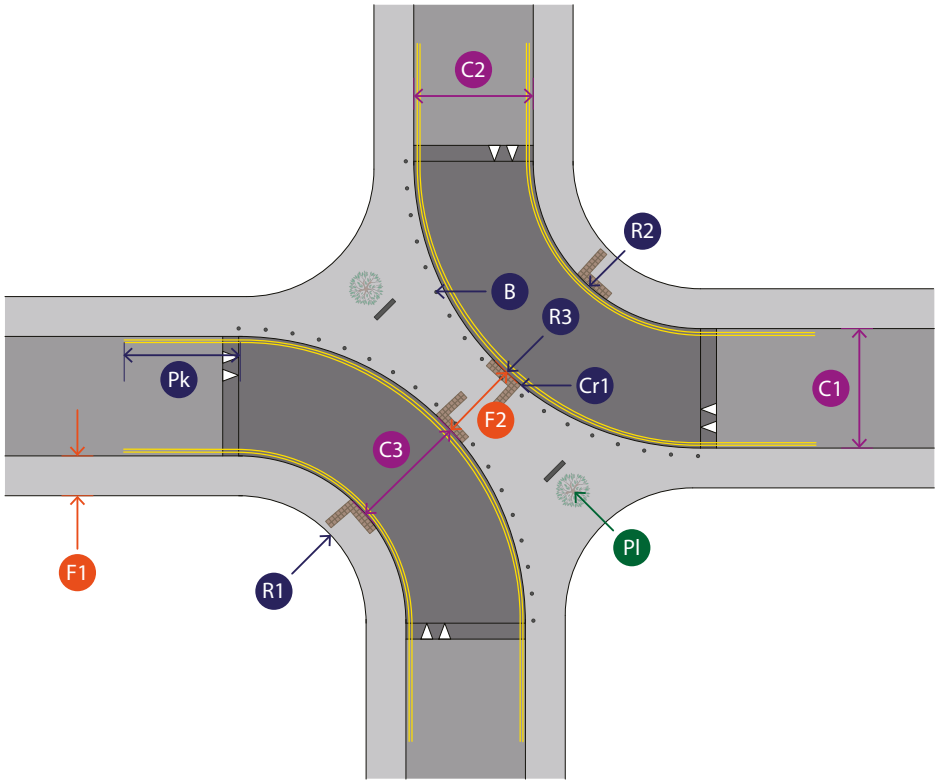
Example Street Layout 4 - Parking, carriageway narrowings and 'Place' features on Local Streets

	Dimension	Meaning
C1	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
C2	3.2m (3.5m+ for lengths over 10m)	Local narrowings to accommodate place features such as trees, benches or crossing points.
C3	2m	Parking bay allowance – requires to be marked in CPZ
C4	Varies depending on C1	Clear-width between parked cars – if less than 4.5m Informal passing places required every 75m. See D4
C5	≥4.5m	Clear width of Informal passing places formed by bin-hub/narrow build-outs etc. May require parking restrictions
Cr1	3m	Pedestrian crossing point length if on a raised table
Cr2	4m	Pedestrian crossing point length if a dropped crossing
D1	100m	Maximum distance between crossing locations, including junctions
D2	60m	Maximum length of parking = 10 spaces
D3	100m	Maximum length of narrowing
D4	75m	Maximum distance between informal passing places formed by bin-hub/narrow build-outs etc.. See P
F1	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
P	6m+	Informal passing places to allow give/go operation. May require parking restrictions.
V1	Varies see Table A: Dimensions for Local Streets	Verge / build-out width (inc SuDS / Street Trees etc.)



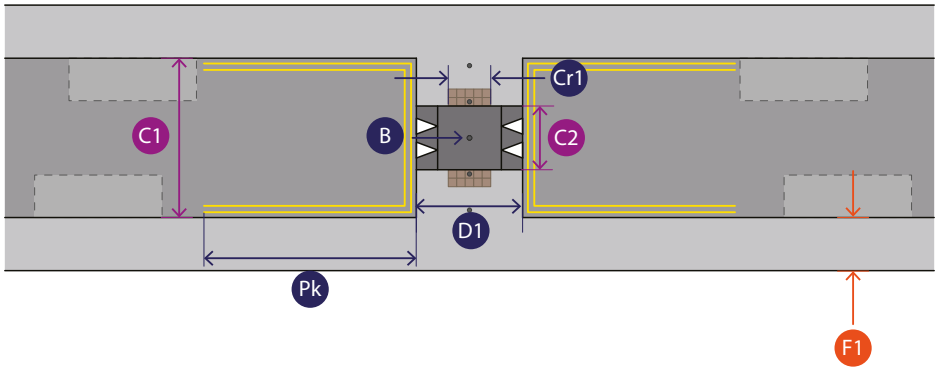
Example Street Layout 5 - Diagonal Modal Filter on Local Street

	Dimension	Meaning
B	1.7m centres	Bollard spacing with central removeable bollard for emergency/servicing access
C1	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
C2	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
C3	If C1= C2, then no carriageway widening factor is needed. If C1<C2, then a carriageway widening factor of 1.5 x (C1-C2) must be applied.	Carriageway widening factor - to allow a refuse vehicle to navigate the bend without coming into conflict with an oncoming cyclist, motorcyclist or mobility scooter user.
Cr1	4.5m wide (2.7m fully dropped)	Cycle dropped crossing at centre of curve
F1	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
F2	5m+	To allow comfortable walking and wheeling access and space for benches/ trees etc.
Pk	10m+	Parking restrictions required from start of curve
Pl	n/a	Place features inc. Street Trees, benches, play equipment etc.
R1	8m + C3	Plot radii
R2	F1+8m + C3	Inside kerb radii
R3	C1+F1+8m + C3	Outside kerb radii



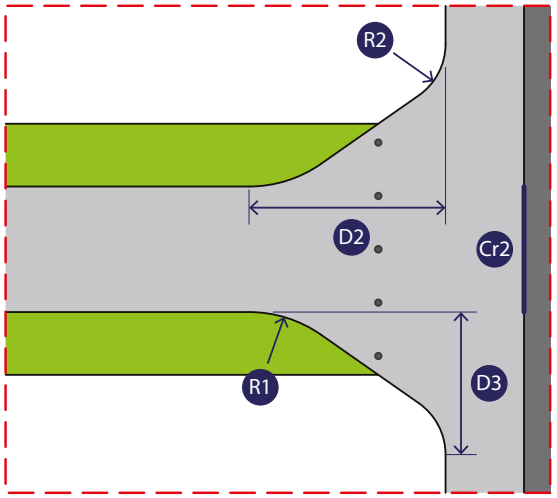
Example Street Layout 6 - Mid-block modal filter on Local Street

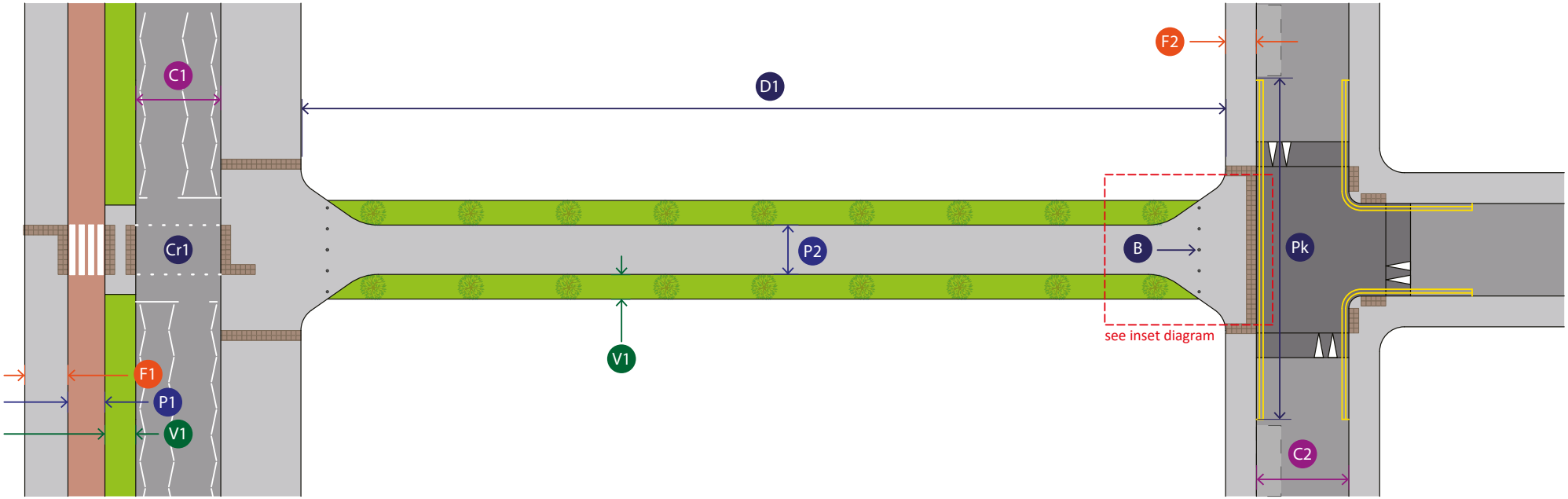
	Dimension	Meaning
B	1.7m centres	Bollard spacing with central removeable bollard for emergency/servicing access
C1	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
C2	3.2m	Carriageway narrowing with raised table
Cr1	3m+	Level footway crossing
D1	5m+	To allow for ramps to footway crossing area, can be longer to incorporate place features (see also Diagram 5)
F1	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
Pk	10m+	If carriageway is ≤7.5m on approach parking restrictions required to provide turning area.



Example Street Layout 7 - Off-road pedestrain / cycle only link

	Dimension	Meaning
B	1.7m centres	Bollard spacing with central removeable bollard for emergency/servicing access
C1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Carriageway width (excl. Parking)
C2	Varies see Table A: Dimensions for Local Streets	Local Street Carriageway width (inc. Parking)
Cr1	= P2	Width of crossing of Primary/Secondary street. For type of crossing see Factsheet G4 -Crossings
Cr2	= P2	Width of dropped kerb for cycles / entry to raised table
D1	100m	Maximum length of path between buildings. To aid personal security, it should generally be possible to have clear line of sight
D2	5m	Start/end of tapered path edge from main path
D3	3.5m	Widening of path to form bell-mouth opening at path end
F1	Varies see Table B: Dimensions for Primary / Secondary Streets	Primary /Secondary Street Footway width
F2	Varies see Table A: Dimensions for Local Streets	Local Street Footway width
P1	Varies see Table B: Dimensions for Primary / Secondary Streets	Cycle track width (one-way)
P2	Varies see Table C: Path widths by type	Path width for pedestrian/cycle use
Pk	No parking 15m 'upstream' or 10m 'downstream'	Parking restrictions at junctions
R1	4m	Kerb Radii to allow safe manoeuvre of large vehicles
R2	2m	Plot boundary radii to provide visibility at corners for footway users
V1	Varies see Table C: Path widths by type	For path length longer than 20m a verge should be provided.





APPENDIX 5 – EXAMPLE EDINBURGH DENSITIES

The following represent some examples of the different densities that can be found around Edinburgh.

Stockbridge colonies

115 Dwellings/ha

0.96 GFA/site area

0.34 Footprint/site area

2.8 Average number of storeys

Marchmont tenements

99 Dwellings/ha

1.32 GFA/site area

0.33 Footprint/site area

4 Average number of storeys

Lochrin Place tenements

164 Dwellings/ha

1.89 GFA/ site area

0.35 Footprint/site area

5.3 Average number of storeys

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Westfield

172	Dwellings/ha
1.23	GFA/site area
0.24	Footprint/site area
5	Average number of storeys

Margaret Rose Avenue

23.6	Dwellings/ha
0.43	GFA/site area
0.20	Footprint/site area
2.1	Average number of storeys

21st Century Homes - Gracemount

69	Dwellings/ha
0.65	GFA/site area
0.23	Footprint/site area
2.9	Average number of storeys

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