Attractive Routes: People can be encouraged to walk and cycle by paths set within an attractive setting. Linear open spaces, such as green corridors, can help enhance active travel routes and emphasise existing features like burns, trees, and hedgerows. Images: Lionthorn Community Woodlands, Falkirk (top), Kinnaird, Larbert (middle) and Mungal, Falkirk (bottom).

Legible Routes: Well placed signage can help people make aware of the most direct route to local facilities and public transport connections.

Safe and Secure Routes: Active travel routes should feel safe, having clear sightlines, entrance and exit points while being well-lit and overlooked. Image: Mydub 2, Denny (bottom, left) and Canavan Court/Park, Falkirk (bottom, right)

Direct and Connected Routes: Routes should be direct and, if appropriate, follow natural desire lines. Development should connect seamlessly to active travel routes to form a permeable and logical network. Suitable crossing facilities should be provided where routes meet the public road network. Images: Mungal, Falkirk (top) and Bo'ness -Blackness Foreshore path improvements (bottom)

Supporting Infrastructure: Bike storage, changing facilities, good drainage, seating, information boards, good maintenance, public art, cleanliness, lighting etc. can contribute to user comfort. Images: Forth Valley Royal Hospital, Larbert (top left to right) and Forth and Clyde Canal, Falkirk (bottom)

Information board

Bike repair station

Forth bikes' e-bike hire

Seating and public art

Inclusive design: Aspects such as path width, gradient, camber, surface, steps, signs, visitor information etc. should be designed to make spaces accessible for the widest range of people as appropriate. Inclusive design is underpinned by the Equalities Act 2010.

Path Diversions: Where an access route is to be temporarily disrupted by development, an alternative route should be provided for the duration of construction works with satisfactory reinstatement on completion. Image: path diversion notice

Other Useful Guidance

Designing Streets

Core Path Plan

Cycling by Design 2010

Falkirk Green Space Strategy

Falkirk Area Disability Access Panel

Inclusive Design Hub website

SUSTRANS

SG02- Neighbourhood Design Guidance

6. WELL BEING: COMMUNITY GROWING

Key Principles

- **Access to community growing space should be explored** as an integral part of the masterplanning process for new residential developments of 200 homes or more. This may involve on-site provision or contributions to off-site space.
- **Options for providing community growing space in a development will depend on a range of considerations** but may include internal courtyards, rooftops, balconies, green walls, allotments and community growing spaces, land within large open spaces, grass verges, grounds of community facilities, and vacant or derelict sites.
- **Demand for community growing space in the locality should be taken into account.** Falkirk Council is required to establish and maintain a list of people requesting an allotment plot in the area. Consulting the Council to establish levels of demand will help establish the type and size of facility needed.
- **The suitability of any particular site for community growing should be carefully assessed,** including such factors as character of the area, access, ground/soil conditions, sun and wind exposure, security, water supply and future management.
- Consideration of how development can contribute to community growing should take account the Council's **Community Food Growing Strategy** and **Allotments Action Plan**.

Key LDP Policies

PE01	Placemaking
PE13	Green and Blue Network
PE17	Open Space and New Development
INF02	Developer Contributions

Good Practice

Dig In - Falkirk Community Food Growing Strategy: This provides an introduction to community food growing in the area and is a useful reference document, giving information on organisations that can offer advice on community growing projects. Image: Dig in, Falkirk High Street Planters

Review delivered projects: Successful case-studies can be a source of inspiration for designers. Image: Carrongrange High School, Grangemouth

Location, Location: Ideally, growing spaces should be south facing and accessible with good soils, drainage, wind shelter and natural surveillance. A reliable water supply is also needed. Images: Kinneil Walled Garden Food Bank Farm, Bo'ness

Co-location: The co-location with open spaces can provide natural surveillance, and flexibility in case demand for community growing changes in future. Image: Muiravonside Community Growing Area

Small growing spaces: Roof spaces, balconies, walls, verges, planters, etc. could provide small spaces for individuals to grow food or flowers, especially where there is limited available space within a site. Image: Dig in, Falkirk High Street Planters.

Other Useful Guidance

Dig In - Falkirk Community Food Growing Strategy

Falkirk Allotments Action Plan

Falkirk Greenspace

Living Roofs website

Scotland's allotment site design guidance 2013

Scottish Allotments and Gardens Society website

One Brighton - Rooftop Allotments

7. WELL BEING: LANDSCAPING

Key Principles

- **A ‘landscape led’ approach to development should be taken** with landscape considered at the conceptual stage to enhance, structure and unify the development, and professional landscape expertise engaged at the outset.
- **Landscape plans are an essential part of planning applications,** and should be cross referenced in Design Statements. Information in landscape plans should be consistent with other plans submitted.
- **Development should achieve a good landscape fit,** with existing topography, trees and other features exerting a strong influence on the layout and design.
- **Every opportunity for incorporating trees and planting should be taken,** recognising their multiple benefits for amenity, wildlife, carbon sequestration, air quality, shelter, shade, surface water management and mitigation of visual impacts.
- **Species choice should be carefully considered, having regard to the context and the proposed function of the planting.** Planting should be chosen to encourage wildlife, with a preference for native species.

Key LDP Policies

PE01 Placemaking

PE13 Green and Blue Network

PE17 Open Space and New Development

PE18 Landscape

PE19 Biodiversity and Geodiversity

PE20 Trees, Woodland & Hedgerows

Good Practice

Landscape Plans: Prepared by a professional landscape architect, these plans should provide full information on the landscape treatment of the site, showing the design concept and how the landscaping will contribute to green infrastructure. Detailed planting plans, specification of hard landscaping, maintenance schedules, and phasing plans will also be required.

Incorporating existing trees: Existing mature trees and hedgerows should be integrated into the development, but care is needed to ensure root systems are protected. Further guidance on trees surveys and tree protection is provided in SG10 - Trees and Development. Image: Kinnaird, Larbert

Amenity planting: This can enhance the character and identity of green spaces within the development, providing structure and definition for the space and seasonal colour. Images: Carrongrove, Stoneywood

Street Trees: Street trees help to provide structure and unity to a development, and can help to give identity and formality to main streets and boulevards. Images: The Drum, Bo'ness

Contrast: A mixture of mown and wild areas can achieve an attractive, distinctive contrast. Sculptural elements (like the seating shown below) can add visual diversity and interest to open spaces. Images: Maggie's Centre, Larbert

Colour: The use of seasonal colour in planting schemes can enhance their interest and impact. Image: Forth Valley Royal Hospital, Larbert

Hedges: Hedging provides a softer and more attractive form of enclosure than walls and fences. It can be used to screen the visual impact of car parks. Image: Forth Valley Royal Hospital, Larbert

Planting for wildlife: Trees, and woodland, meadows and other natural planting enhance the biodiversity value of development, providing habitat for a wide variety of species. Larger and linked areas are of much greater value than isolated pockets of habitat. Image: Camelon Park meadow, Falkirk (below right and middle) and Grangepans meadow, Bo'ness (below left).

Before

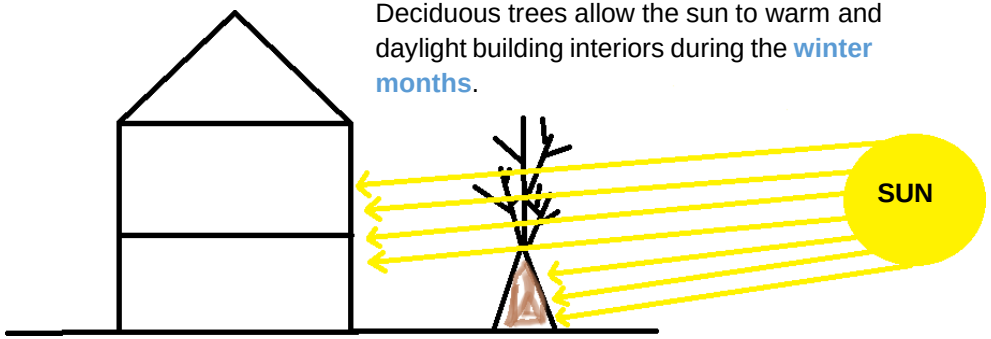
After

Design for future growth: Tree location and choice should allow for future canopy, trunk and root growth. The trees shown below have been deliberately chosen and planted to achieve an attractive rhythm. Images: Glenbervie, Larbert

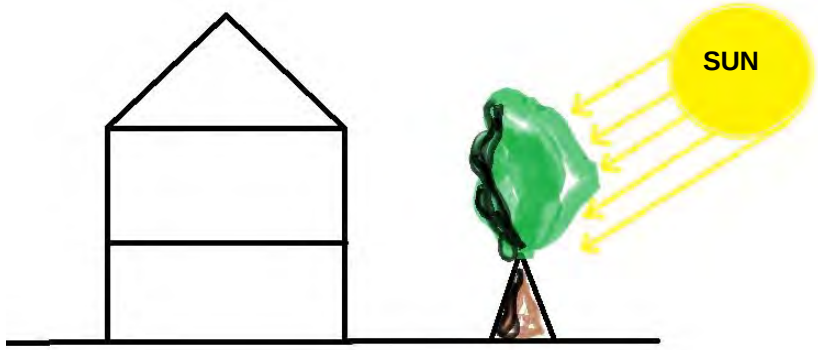
Structure Planting: Structure planting is an essential tool in integrating large new developments into the landscape, particularly on the periphery of the urban area to soften the urban-rural transition. Planting will normally require to be 10-15 metres in depth to achieve the necessary effect. Images: new planting, Kinglass, Bo'ness (top left), mature planting, The Drum, Bo'ness (top right) and planting integrated with the path network, Mungal, Falkirk (bottom)

Moderating Climate and Air Quality: Suitably located planting can have positive effects on the microclimate within developments, providing shelter and shade. It can also have beneficial effects on air quality, particularly in urban situations, and contribute to carbon sequestration.

Deciduous trees allow the sun to warm and daylight building interiors during the **winter months**.



Deciduous trees shade building interiors from direct sunlight and help prevent overheating during the **summer months**.



Leaf loss: The images, below, illustrate how natural screening can change seasonally with deciduous planting due to leaf loss. Appropriately chosen and placed evergreens can reinforce deciduous planting as well as provide natural variation and effective all year round screening.

Other Useful Guidance

BS 5837:2012 ‘Trees in relation to design, demolition and construction’

Landscape and Urban Design for Bats and Biodiversity

Royal Horticultural Society

Second Nature: A Biodiversity Action for Falkirk Council area

SG01 - Development in the Countryside

SG02- Neighbourhood Design Guidance

SG07 - Biodiversity and Development

SG09 - Landscape Character Assessment and Landscape

SG10 - Trees and Development

8. WATER: SUSTAINABLE DRAINAGE

Key Principles

- **The management of surface water and flood risk is a fundamental consideration in site planning,** and should be considered at the outset of the design process. Developers and designers should have an understanding of the site's hydrology and the space needed to deal with these issues.
- **Water and its management should be used positively and creatively,** to improve the amenity and sense of place, and to contribute to the wider green/blue network. It should be fully integrated with the strategy for landscape and open space. It should not be regarded purely as an engineering exercise, and should avoid overly engineered solutions.
- **All developments should incorporate requirements for sustainable urban drainage system (SUDS),** which will be set out in the drainage strategy, having regard to the four 'pillars' of SUDS design, the SUDS management train, the range of available SUDS techniques, and the relevant policy and design guidance, as referred to on the following pages.
- **At the outset, developers should be mindful of Scottish Water's Surface Water Policy.** Scottish Water's most preferred solution is rainwater storage and use, and will only consider drainage to a combined sewer under exceptional circumstances.

Key LDP Policies

PE01 Placemaking

PE12 Canals

PE13 Green and Blue Network

PE19 Biodiversity and Geodiversity

PE22 The Water Environment

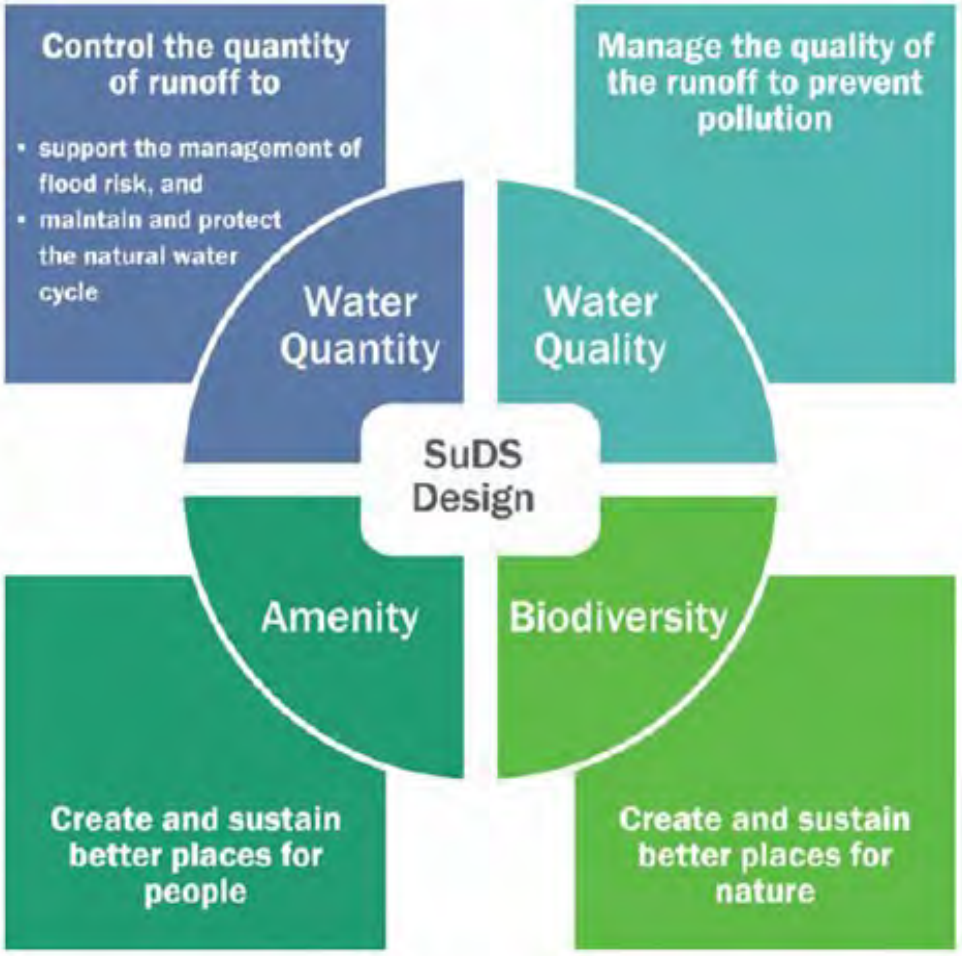
PE24 Flood Management

IR02 Developer Contributions

IR10 Drainage Infrastructure

Good Practice

Four pillars of SUDS design: Schemes should replicate the natural drainage as closely as possible, maximising the benefits for water quantity, water quality, biodiversity and amenity. Each category should have an equal footing in the design process. Image: B Woods Ballard *et al* (2015), The SuDS Manual, CIRIA C753, London (ISBN: 978-086017-760-9), Go to CIRIA.org



SUDS management train: SUDS should not be considered as individual items but as an interconnected system where different SUDs components are linked and used to manage the flow and water quality of run-off in stages close to the surface as much as possible. Different SUDS components should be integrated at every scale of development from individual buildings to large areas of open space. The management train provides resilience in the SUDS system enabling it to still work after one component fails. The first 5mm of surface water run off (or first flush) carries the vast majority of pollutants. It is important to intercept this early in the management train to prevent pollution entering receiving water such as streams and rivers. Image: Stephen Dickie *et al* (2010), Planning for SUDs - making it happen, CIRIA C687 (ISBN 978-0-86017-687), Go to CIRIA.org

Range of SUDS components: The following table summarises the various types of SUDS from constructed ponds through to trees. Visit susdrain.org for useful case-studies and advice on each type.

Component	Brief Description
Constructed ponds and wetlands	Permanent pools of water which are used to store and treat surface run-off. Landscaped to improve pollutant removal and enhance wildlife habitat.
Bioretention areas	Shallow landscaped areas with engineered gravel and soil layers which convey, filter and treat water.
Extended Detention Basins	Vegetated basins designed to detain a certain volume of runoff as well as providing water quality treatment.
Filter Drains and Perforated Pipes	Surface water from the edge of paved areas flows into shallow stone filled trenches. The water is filtered and conveyed to other parts of the site. A slotted or perforated pipe may be built into the base of the trench to collect and convey surface water.
Filter Strips	Wide, gently sloping areas of grass or other dense vegetation that allow conveyance and infiltration (if suitable).
Green roofs	Vegetation covering a building's roof. Green roofs are laid over a drainage layer to create a living surface which intercepts, stores and absorbs water.
Infiltration systems	Designed to collect and store runoff and enables water to infiltrate into the ground. Infiltration basins may be landscaped to provide aesthetic and amenity value.
Pervious paving	Allows rainwater to infiltrate through the surface into an underlying storage layer, where water is stored before infiltration into the ground.
Rainwater harvesting systems	Used to collect and store run-off from roofs or paved surfaces.
Swales	Broad, shallow channels covered by grass or other suitable vegetation. Swales are designed to convey and/or store runoff, and can allow infiltration of water into the ground (if ground conditions allow).
Trees	Trees planted within specially designed pits, planters or structural soils to collect, store and treat surface water run-off.