

**Ecological Enhancements for developments within Birmingham**

Set out in the table below are a range of ecological enhancements that could be incorporated into developments to improve the value of retained or existing habitats, and/ or be used to enhance the biodiversity value of a development site. Examples and expected levels of enhancement are laid out according to broad development thresholds. It is not expected that everything that is detailed is implemented however the extent and variety expected is exponential to the size of development.  
 Examples: a householder application for an extension would be expected to include up to 3 enhancements from level 1, moderate sized developments would be expected to implement 5 - 6 enhancements from levels 1 and 2 while major developments should include those plus appropriate elements from levels 3 - 4

Level	Types of biodiversity/ Ecological Enhancement	Benefits	Type of development / threshold								
			Householder/ Housing 1 - 4 units	Housing 5 - 10 units	Conversion of old or traditional buildings	Small scale commercial / industrial buildings (less than 100m <sup>2</sup> )	Larger scale development including residential and commercial	High-rise buildings	Major Road/ Rail scheme		
1	Wildlife friendly shrub planting	Provide shelter and screening for development. Nesting sites, food and shelter for birds, insects and small mammals. Provide corridors for wildlife linking areas of habitat.	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species for landscaping	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species. Biodiversity Enhancing Landscaping in at least 20% of landscaping area.	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species. Biodiversity Enhancing Landscaping in at least 25% of landscaping area.	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species. Biodiversity Enhancing Landscaping in at least 30% of landscaping area.	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species. Biodiversity Enhancing Landscaping in at least 50% of landscaping area.	Existing habitats to be retained wherever possible. Refer to RHS " Perfect for Pollinators" lists for suitable replacement species. Biodiversity Enhancing Landscaping in at least 25% of landscaping area.	Where appropriate and is not within or adjoining designated nature conservation landscape (then see native habitats)		
1	Tree planting	Provides multiple ecosystem services benefits in addition to pollinator resources, forage and nesting habitat for birds.	Refer to information on trees and tree planting in Birmingham Design Guide. All trees must follow the "Right Tree - Right Place" principles.								
1	Fencing with Hedgehog/ wildlife access gaps	Aids movement of wildlife between gardens/ habitats and/ or to and from naturalised areas.	Minimum 150mm x 150mm gaps to be left in fencing/ boundaries between adjoining plots where suitable habitat exists or is created								
1	Insect boxes/Bee hotel/ Bee bank	Good for a wide range of invertebrates. Can be prefabricated/ off the shelf units or constructed using available materials. Bee banks can be constructed from layer of turf, soils and sands to create low mounds / vertical faces with a sunny aspect	Where possible. 1 per household on suitable aspect or within garden space	1 per household on suitable aspect or within garden space	Where possible and outdoor/ flat roof space allows	1 per landscaped bed/ 100 square meters of landscaped area and/ or flat roof	2 per landscaped bed/ 100 square meters of landscaped area and/ or flat roof	Dependant on landscaped area available. Where possible and outdoor/ flat roof space allows	Bee banks on appropriate cuttings/ embankments		
1	Woodpile/ log shelter/ Habitat pile	Good for a wide range of invertebrates. Good use of fallen/cut timber. Frogs, toads, hedgehogs, beetles and other insects shelter underneath or among the gaps of rotting logs. Create a log pile by loosely arranging together old branches or pieces of log, leave bark on and use a variety of species if possible. Place the pile in a shady place, such as under a tree, at the foot of a hedge, at the back of the border or behind the shed.	Where possible and garden space allows	Ideally 1 per 5 units or in retained natural / open space	Dependant on landscaped area available. Where possible and outdoor/ flat roof space allows	1 per 200 square meters of landscaped area and/ or on biodiversity roof area	2 per 200 square meters of landscaped area and/ or on biodiversity roof area	Dependant on landscaped area available. Where possible and outdoor/ flat roof space allows	Where appropriate within retained / created landscape. May need to be secured / part buried to ensure safety.		
1	Nesting and roosting opportunities for birds, preferably these will be integrated into built structures on suitable aspects.	House sparrows, swifts and house martins are a declining bird species across the United Kingdom. This is supported by evidence from the Royal Society for the Protection of Birds (RSPB) and the Swift Conservation Trust. Within inner city areas close to canals/ derelict sites, boxes suitable for Black Redstart may be required. peregrine falcon numbers are on the rise within the city, high-rise buildings should seek to include suitable nesting sites.	Where suitable features have been lost. Install a minimum of 1 artificial site per appropriate façade. Type of box should be selected based on the biodiversity assessment and liaison with the Council	Install nest boxes on a minimum of 60% of the suitable façades of the residential units. Target species should be selected based on the biodiversity assessment and liaison with the Council Ecologists Buildings over 7m high should include a band of swift and/ or bat bricks around the top of the building.	Consult with City Ecologists	Install nest boxes on a minimum of 60% of the suitable façades of the residential units. Target species should be selected based on the biodiversity assessment and liaison with the Council Ecologists Buildings over 7m high should include a band of swift and/ or bat bricks around the top of the building.	Install nest boxes on a minimum of 60% of the suitable façades of the residential units. Target species should be selected based on the biodiversity assessment and liaison with the Council Ecologists Buildings over 7m high should include a band of swift and/ or bat bricks around the top of the building.	As large scale developments. Peregrine falcon / Kestrel nesting platform or box 1 per tall building where conditions are suitable. Consult with City Ecologists.	Essential where existing features have been lost. Consult with City Ecologist. Species specific dependant on location		
1	Nesting and roosting opportunities for bats, preferably these will be integrated into built structures on suitable aspects.	Artificial roosts sites to encourage bats particularly into areas with suitable habitat but few/no roosts.	Essential where suitable features have been lost. Install a minimum of 1 artificial site per appropriate façade. Type of box should be selected based on the biodiversity assessment and liaison with the Council	Essential where suitable features have been lost. Install a minimum of 1 artificial site per appropriate façade. Type of box should be selected based on the biodiversity assessment and liaison with the Council	Consult with City Ecologists	Essential Where suitable features have been lost. Install a minimum of 1 artificial site per appropriate façade. Type of box should be selected based on the biodiversity assessment and liaison with the Council Ecologist	Essential Where suitable features have been lost. Install a minimum of 3 artificial site per appropriate façade. Type of box should be selected based on the biodiversity assessment and liaison with the Council Ecologist	Where appropriate connectivity to suitable foraging habitat exist and local environmental conditions are suitable.	Essential where existing features have been lost. Consult with City Ecologist		
2	Low level/ Low UV / Directional and/or timed lighting	Ensures the levels of lighting do not intrude on high quality foraging areas for wildlife (especially Bats) and does not sever continuity of connecting habitats	Reducing Light spill should be an integral part of all developments. In consultation with the city ecologist where the need has been identified as part of the biodiversity assessment process								
2	Bin stores / cycle stores	Provides opportunity to incorporate beneficial plant species and features suitable for pollinator insects and birds where garden / outdoor space is limited.	Bin and cycle stores provide an often overlooked opportunity for small scale green roofs and green screen walls (such as Ivy screens on mesh fencing) Refer to RHS " Perfect for Pollinators" lists for suitable species for landscaping								
2	SUDS - natural swales / attenuation ponds and rain gardens.	Reduces fast changes in water levels in local streams and rivers by local storage, release and percolation. Improves water quality, provides irrigation.	Where possible/ garden space allows and property is in high risk flood zones	Where possible and space allows. Install as a replacement to grass verges	As directed by LFA - Natural above grounds SUDS preferred. Refer to BCC guide.						
3	Green Walls/ Green screens	Provide opportunities for biodiversity where ground level space is limited. Can be tailored towards pollinator insects. Can reduce heating / cooling costs for buildings. Can act as part of a wider SUDS system. Can aid in the absorption and dissipation of poor air quality.	Where designed / required by owner	Where designed / required by owner	Consider where landscaping is not possible and/ or roof space / structure does not allow. Can form part of a wider SUDS system				Can	Potential to improve aesthetics/and wildlife value of retaining features	
3	Biodiversity/ extensive green roofs. (Biodiverse- substrate based roofs proffered)	Provide opportunities for biodiversity where ground level space is limited. Can be tailored towards Specific bird species such as Black Redstart and/ or pollinator insects. Can reduce heating / cooling costs for buildings. Can act as part of a wider SUDS system. Substrate base should use a variety of sized aggregates and vary in depth from 80 -1 50mm. Reference should be made to Buglifes Creating green roofs for Invertebrates - a best practice guide	Where designed / required by owner. Biodiverse substrate - based roofs if possible. Sedum considered as an alternative	Where designed / required by owner. Biodiverse substrate - based roofs if possible. Sedum considered as an alternative	Essential within inner city areas where Black Redstart territory is being lost. Can form part of a wider SUDS system. Should extend to minimum of 50% or available roof space	Essential within inner city areas where Black Redstart territory is being lost. Desirable as part of a wider ecological landscape enhancements where ground level interventions are limited. Can form part of a wider SUDS system. Should extend to minimum of 50% or available roof space	Essential within inner city areas where Black Redstart territory is being lost. Desirable as part of a wider ecological landscape enhancements where ground level interventions are limited. Can form part of a wider SUDS system. Should extend to minimum of 80% or available roof space	Incorporate as part of features for Peregrine Falcon or Kestrel nesting. Ideally 50 - 80% of available roof space	Desirable on associated built structures/ depot buildings/ train stations and or canopies		
3	Large scale Intensive green roofs / roof gardens	Provides green space for workers / residents where ground level space is limited. Can incorporate beneficial plant species and features suitable for pollinator insects and birds	Where this will be the sole outdoor space available. to RHS " Perfect for Pollinators" lists for suitable species for landscaping							Refer	Desirable on associated built structures/ depot buildings/ train stations and or canopies
3	Native habitats - woodland blocks/ shelter belts, wildflower meadow etc.	Provides suitable habitats generally as part of compensation where these features have been lost to development. Provides a buffer between large scale developments and retained/ adjoining sensitive habitats. Consultation with the City's Ecologists will be essential prior to any design / development of these features	Where required by Planning and/ or where adjoining designated conservation areas	Where required by Planning and/ or where adjoining designated conservation areas	Include as part of Public open space provision and/ or as part of landscape buffers when adjoining natural/ designated conservation spaces such as existing woodland blocks.						
4	Green bridges and amphibian/ mammal underpasses	Provide continuity of habitat connectivity between high value spaces or along established migratory routes	In consultation with the city ecologist where the need has been identified as part of the biodiversity assessment process							Essential where existing connectivity between identified protected habitats will be interrupted or lost. Consult with City Ecologist	