TACPArchitects

Stori Brymbo
Biodiversity Enhancement





Control Sheet

Please ensure when referencing this document that you are using the most recent Issue in accordance with the table below and ensure previous issues of this document are destroyed or marked as superseded.

Author	Checked	Approved By
JB	AC	AC

Document Issue Register

Issue	Date	Description of Amendment	By	Checked
1				
2				
3				
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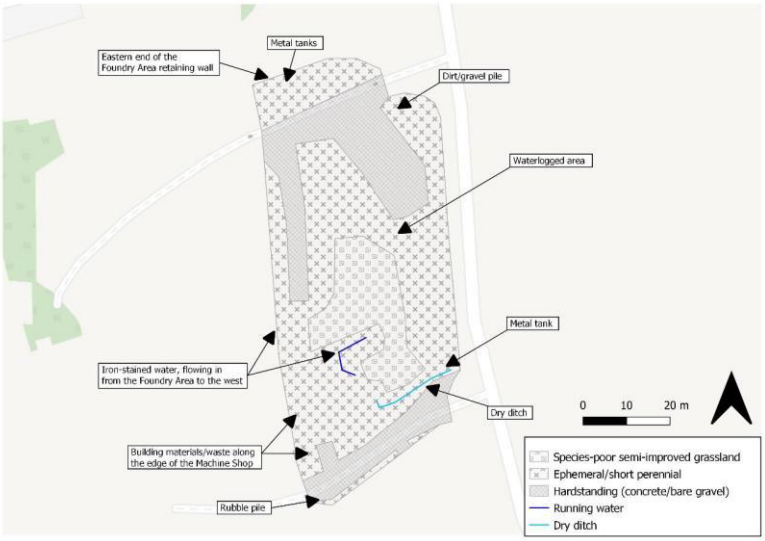
1.0 Bio Diversity Enhancements

1.1 Baseline Ecological Information

The existing site's habitats and ecological features are identified in the two Enfys ecological survey appraisals of the site at Brymbo ironworks identified below. The main site and car park area.



Enfys Ecology survey of brymbo site



Enfys Ecology survey of new car park site



Enfys ecology have undertaken several surveys of the site as part of the project which include:-

EE373LB - Brymbo Heritage Area - PEA V3
EE.672.24b.Brymbo Bat Conservation Plan v2
EE.672b.LB - Brymbo Machine Shop, Pattern Shop and Foundry Area - Bat and Bird Surveys V5
EE.672.24d.RC Brymbo Barn Owl v2
EE.672.24a.RC Brymbo Car Park EA v2
EE.672.24c.RC GCN Conservation Plan
EE.672.24e.RC Brymbo Lighting Review

1.0 Net Bio diversity

The proposed development has been designed to deliver biodiversity enhancements that contribute positively to the ecological value of the Brymbo ironwork site and support the wider ecological network around the larger site areas. Ecological improvements will be secured through the retention and protection of existing vegetation and habitat features where practicable, together with the introduction of native planting and habitat enhancement measures appropriate to the local landscape character.

The proposals seek to achieve ecological benefits beyond the mitigation of site-specific impacts. In addition to avoiding harm to existing ecological features, the development will provide opportunities for biodiversity enhancement through measures such as native species planting, the incorporation of pollinator-friendly landscaping, and the provision of bird and bat nesting and roosting features where appropriate. These measures will increase habitat diversity, improve foraging and nesting opportunities for wildlife, and strengthen ecological connectivity across the site and surrounding area.

The scheme has been developed in accordance with **Planning Policy Wales (PPW)**, which requires development proposals to maintain and enhance biodiversity and promote ecosystem resilience, delivering a net benefit for biodiversity wherever possible. The proposed enhancement measures are intended to leave the site in an improved ecological condition compared to its existing baseline and contribute positively to local biodiversity objectives.

The proposals are also consistent with the objectives of **Technical Advice Note (TAN) 5: Nature Conservation and Planning**, which seeks to ensure that the planning system contributes to the conservation, enhancement and management of biodiversity and geological interests. The development follows the recognised hierarchy of avoidance, mitigation and enhancement, securing ecological gains as an integral part of the scheme.

Furthermore, the proposals accord with **Wrexham Local Planning Guidance Note 32: Biodiversity and Development**, which encourages developments to conserve and enhance biodiversity interests and supports measures that improve the biodiversity value of sites. By providing habitat enhancement and ecological improvement measures



in excess of those required solely for mitigation, the scheme will make a positive contribution to biodiversity and the resilience of local ecosystems, in accordance with local planning policy objectives.

Habitat Creation and enhancement proposals

As part of the enhancements the project improvement measures include:

Native tree planting and management to the project site and wider site area:

- Tree planting around car park (5 ash)
- Tree planning Leaves of Love wood (500 hazel, holly, crab apple, blackthorn, dog rose)
- Hedgerow laying (300 hazel, hawthorn, willow)
- Created hazel and willow coppice coups from selected woodland areas and planted additional trees (100 hazel, 20 oaks) and dead hedged their borders
- Food Forest planting (15 fruit trees apple, pear, cherry, plum)
- Orchard maintenance (on and off site)
- Additional dead hedging
- Soil management increasingly a focus, recognising this whole area is former brownfield land

Wildflower planting and meadow management

- Wildflower borders where around edge of car park and other verges on site – 100m2 turf and seeded areas
- Wildflower meadow managed to promote self-seeding through timely scything
- Management of Orchid preserve to protect the wild orchids (common spotted, bee orchid and hybrids) and dead hedged the border to the preserve.

Pond and wetland creation

As part of the wider car park improvement works, an existing open watercourse located adjacent to the Machine Shop has been replaced with a new landscaped swale. The original watercourse received surface water runoff from the former foundry area and was characterised by iron-stained water resulting from iron-oxide contamination within the drainage network.

To improve both water quality and ecological value, a new filtration system has been incorporated within an existing iron-lined open ditch/pipe. The system utilises a clean stone filter bed, which has significantly reduced the visible iron-oxide discolouration of the water. This has resulted in an improved water environment and enhanced visual appearance of the drainage feature.

The newly created swale has been supplemented with native planting, providing greater habitat diversity and ecological interest than the former engineered channel. The introduction of vegetation within and around the swale creates opportunities for invertebrates, pollinators and other wildlife, whilst also improving habitat connectivity across the site.



Site Specific Enhancement measures

Bat and bird boxes

- 20 bird boxes installed across the site
- 10 bat boxes installed across the site
- 2 Owl boxes installed
- Stori Byrmbo team hold a Bat Licence

Caring for Reptiles and Small Mammals

- Newt fence in place to keep newts away from areas of high human activity
- 3 newt ponds
- Min 5 Hibernaulas being installed once breeding season is over and machinery off site (October 2026 onwards)
- Regular surveying
- Newt Licence secured
- Refugia Board being installed
- Hedgehog house being installed

Further Enhancement measures across the Brymbo site

A Half mandala community garden

The Brymbo team have planted this project with over 50 mixed fruit bushes and over 30 herb plants
Created a polytunnel for

- propagation of seeds which we will self generate
- grafting of fruit trees

Vegetable, fruit, herb and flower beds at Enterprise Centre to provide easily accessible community garden area

Bee Area

Relocated 12 colonies into 12 new hives further away from visitors for their peace and visitor safety
Planted 600 wildflower bulbs (snowdrops, bluebells, wood anenome)
A Bee House is being sited for solitary bees also

Invasive Species Management (in association with North Wales Wildlife Trust)

Experimental Chemical Free treatment of Knotweed (Root Reset) – Stori Brymbo hosts 1st UK trial of this treatment
Continue with active management of other invasive species of which the site has little of.



Appendices



Site photos of bird and bat boxes installed on site

(Refer to plan 17003 – Wildlife Enhancement Plan 711 for photo locations)



Bat Box - Ecology area



Bird Box (Robin) – Ecology area



Photo 1 - Butterfly



Photo 2 - Bird Box





Photo 3 - Owl Box



Photo 4 - Bird



Photo 5 - Bat Box



Photo 6 - Bird Box





Photo 7 - Owl Box



Photo 8 - Bat Box



Photo 9 - Bird Box



Photo 10 - Bat Box



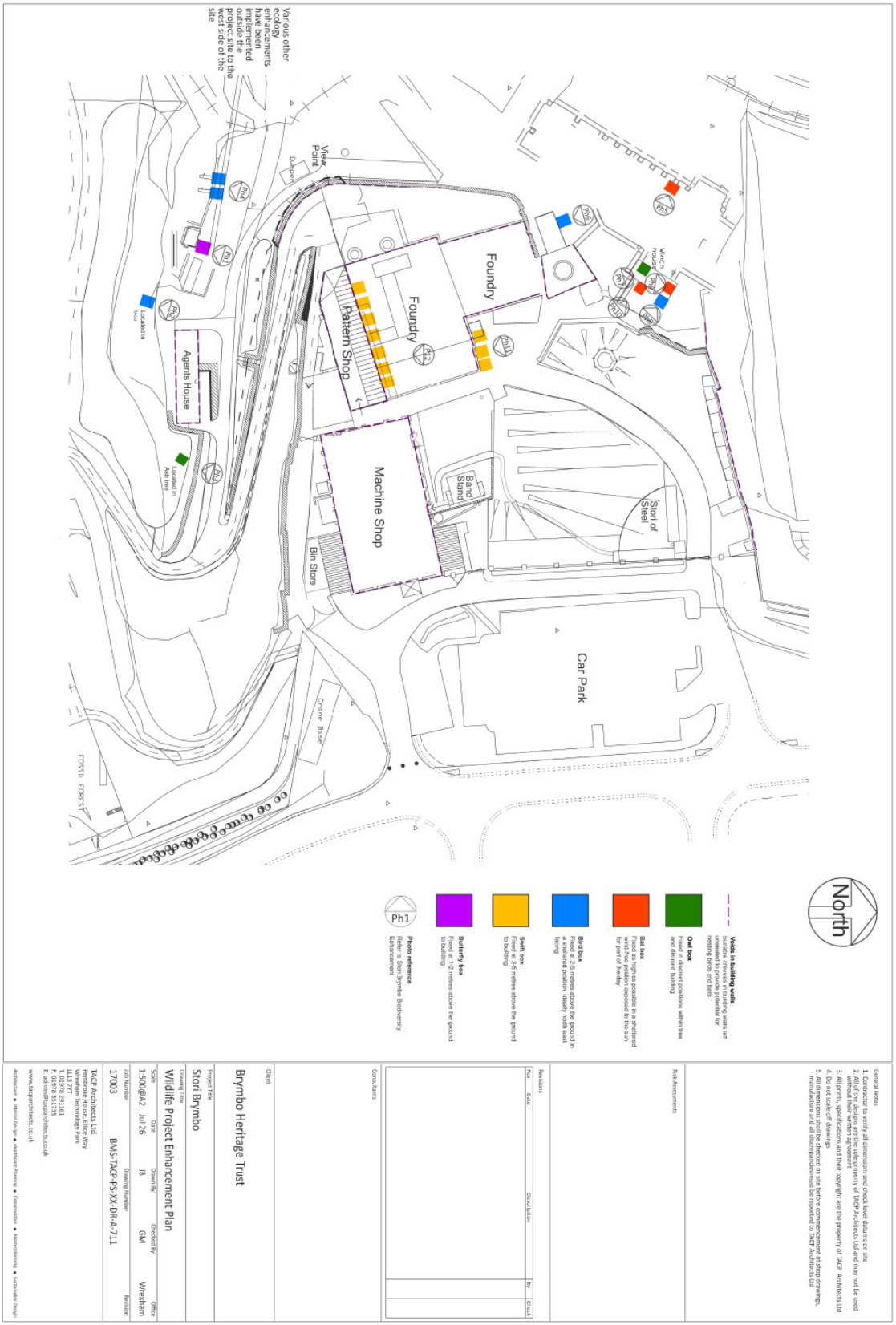


Photo 11 - Swift



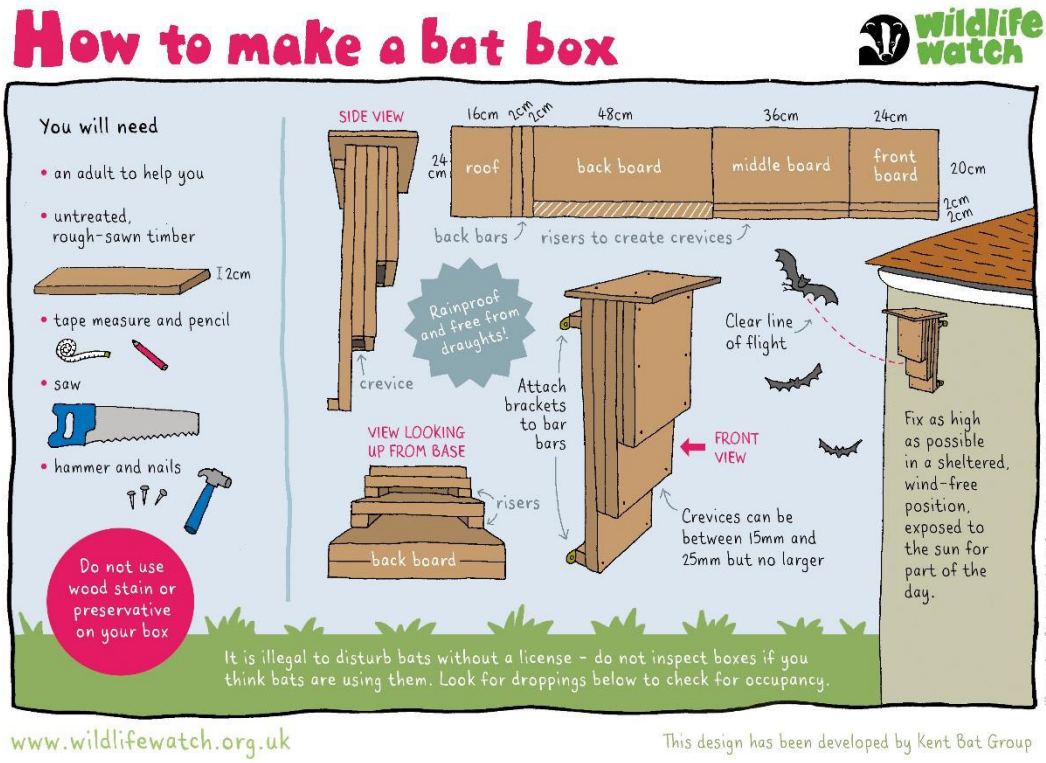
Photo 12 - Swift Boxes




North
Various other ecology enhancements have been implemented outside the project site to the west side of the site
Foundry
Foundry
Pattern Shop
Machine Shop
Agents House
Band Stand
Bin Store
Car Park
Stori of Steel
View Point
Winch House
Crane Base
FOSSIL FOREST
Ph1
Photo reference
Refer to Stori Brymbo Biodiversity Enhancement
Butterfly box
Fixed at 1-2 metres above the ground to building
Swift box
Fixed at 3-6 metres above the ground to building
Bird box
Fixed at 2-5 metres above the ground in a shaded position ideally north east facing
Bat box
Fixed as high as possible in a sheltered west/south position exposed to the sun for part of the day
Owl box
Fixed in discreet positions within tree and disused building
Voids in building walls
Various voids within existing walls are unsealed to provide potential for nesting birds and bats
General Notes
1. Contractor to verify all dimensions and check level datums on site prior to commencement of any work.
2. This drawing is the property of TACP Architects Ltd and may not be used without their written agreement.
3. All prints, specifications and their copyright are the property of TACP Architects Ltd
4. Do not scale off drawings.
5. All dimensions shall be checked on site before commencement of shop drawings, manufacture and all discrepancies must be reported to TACP Architects Ltd
Risk Assessments
Revisions
Rev Date Description By Check
Consultants
Client
Brymbo Heritage Trust
Project Title
Stori Brymbo
Drawing Title
Wildlife Project Enhancement Plan
Scale 1:500@A2
Date Jul 26
Drawn By JB
Checked By GM
Office Wrexham
Job Number 17003
Drawing Number BMS-TACP-PS-XX-DR-A-711
Revision
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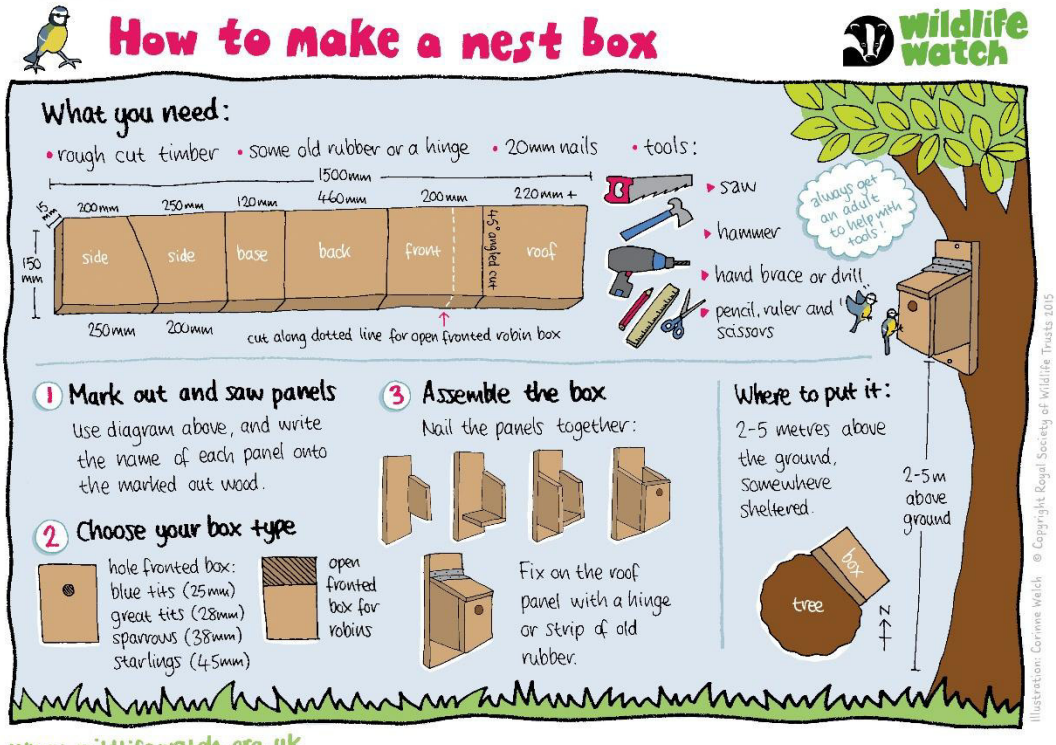


Details of bird and bot box construction on site



www.wildlifewatch.org.uk

This design has been developed by Kent Bat Group



www.wildlifewatch.org.uk



Site wide tree planting Schedule and dates

Tree planting on Lodge Valley Park
During 2025

Memorial wood and Miller Field
90 Hazel
90 Holly
90 Crab apple
120 Silver birch
60 Willow
30 Blackthorn
30 Dog Rose
30 Juniper

During 2026
Lodge Valley Park hedge March:
60 Black alder
30 Silver birch
30 Aspen
75 Blackthorn
30 Field maple
30 Beech
30 Pear
30 Rowan



Specification for Wildflower turf

Wildflower Turf® Landscape 34

Product Specification

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Maintenance Plan 6

Product Code:
WFTL34BP
Manufacturer:
Wildflower Co.

Manufacturer Contact Details
01256 771 222
wildflower@wildflowerexperts.com
www.wildflowerexperts.com

Technical Specification

Manufacturer	Wildflower Co.
Turf dimensions	1m x 1.2m slabs or 0.77m x 1.62m rolls, 15-35mm thickness (depending on age)
Weight	16-20kg per metre.
No of species	41 species (37 wildflowers, 4 non-invasive grasses) See full species list for further details.
Grass:flora sowing ratio	80% UK native wildflowers*, 20% grasses
Flowering period	April - October
Established height	70-150cm (Avg height 80cm)
Time to establish	2-3 months (at least 1 year for plants that need vernalisation period)
Soil types	Suitable for all soil types
Seed provenance and testing	Grown in England using UK native species. Seed analysis results available on request.
Recyclability	Packaging 100% recyclable, product 100% biodegradable
BNG suitability	16 Lowland Meadow species, 15 Lowland Calcareous species. Also suitable for ONG - Refer to Habitat & Condition assessment.
Root system	Intact/uncut**
Reinforcing material	Bio-based, biodegradable netting
Substrate features	Contains Hydropor™ for greater moisture retention
Seed mix	Calibrated using seed weight analysis

How can I tell if a contractor has used Wildflower Turf®?

Peel up a corner and you should be able to see our white bio-based netting amongst the roots - no-one else uses a white membrane.

* Actual % may vary, based on environmental factors and seed availability. You may not see every species listed as the product is designed to adapt to individual settings, including a wide range of soil types and environmental conditions. Many species may not flower within the first year.

** Growing system: Wildflower Turf® is a soil-free, whole root turf system that is nursery grown to produce a mat of wildflower plants that retains 100% of its root system. A biodegradable, plant-based netting is included within the turf to support the root structure and enable the turf to retain its structural integrity. More information.

Species List

Wildflower Turf® Landscape 34

Product code: WFTL34BP

All seed grown by Wildflower Co. is tested to stringent standards for germination and purity.

Seed analysis results are available on request.

Species	Flowering Time	Ultimate Height	Colour	Life Cycle
Wildflower Species				
Autumn Hawkbit ***(Scorzoneroides autumnalis)***	June - Oct	50		P
Betony ***(Betonica officinalis)***	June - Aug	60		P
Birdsfoot Trefoil ***(Lotus corniculatus)***	May - Sept	30		A
Bladder Campion ***(Silene vulgaris)***	May - Sept	100		P
Cat's-Ear ***(Hypochaeris radicata)***	June - Sept	45		P
Common Sorrel ***(Rumex acetosa)***	June - Aug	80		P
Common Knapweed ***(Centaurea nigra)***	June - Sept	100		P
Common Toadflax ***(Linaria vulgaris)***	June - Nov	75		P
Common Vetch ***(Vicia sativa)***	Apr - Sept	75		P
Cowslip ***(Primula veris)***	Apr - June	25		P
Field Scabious ***(Knautia arvensis)***	July - Oct	150		P
Greater Knapweed ***(Centaurea scabiosa)***	June - Sept	100		P
Hedge Bedstraw ***(Galium mollugo)***	June - Sept	100		P
Hoary Plantain ***(Plantago media)***	May - Aug	30		P
Kidney Vetch ***(Anthyllis vulneraria)***	June - Sept	25		P
Lady's Bedstraw ***(Galium verum)***	June - Sept	50		P
Meadow Buttercup ***(Ranunculus acris)***	May - Aug	90		P
Meadow Crane's-bill ***(Geranium pratense)***	June - Sept	90		P
Meadow Vetchling ***(Lathyrus pratensis)***	May - Aug	120		A
Musk Mallow ***(Malva moschata)***	July - Aug	100		P
Oxeye Daisy ***(Leucanthemum vulgare)***	May - July	90		P
Perforate St Johns Wort ***(Hypericum perforatum)***	June - Aug	150		P
Ragged Robin ***(Silene flos-cuculi)***	June - Aug	100		P
Red Campion ***(Silene dioica)***	Apr - July	100		SLP
Ribwort Plantain ***(Plantago lanceolata)***	Apr - Oct	90		P
Rough Hawkbit ***(Leontodon hispidus)***	June - Sept	50		P
Sainfoin ***(Onobrychis vicifolia)***	June - Aug	80		P
Salad Burnet ***(Sanguisorba minor)***	June - Aug	65		P
Self-heal ***(Prunella vulgaris)***	May - Sept	30		P
Small Scabious ***(Scabiosa columbaria)***	June - Oct	70		P
Tufted Vetch ***(Vicia cracca)***	June - Aug	120		P
White Campion ***(Silene latifolia)***	May - Sept	100		P
Wild Carrot ***(Daucus carota)***	June - Oct	150		P
Wild Marjoram ***(Origanum vulgare)***	June - Aug	100		P
Wild Red Clover ***(Trifolium pratense)***	May - Sept	50		P
Yarrow ***(Achillea millefolium)***	June - Aug	90		P
Yellow Rattle ***(Rhinanthus minor)***	May - July	50		SLP
Grasses				
Annual Meadow-grass ***(Poa annua)***	Year-round	30		A
Crested Dog's-tail ***(Cynosurus cristatus)***	June - Aug	75		SLP
Sheep's Fescue ***(Festuca ovina)***	May - June	30		P
Yellow Oat-Grass ***(Trisetum flavascens)***	June - July	60		P

*You may not see every species listed as the product is designed to adapt to individual settings, including a wide range of soil types and environmental conditions. Many species may not flower during the first year.

Get a Quote: www.wildflowerexperts.com

Biodiversity Net Gain (BNG) Projects

BNG Habitat & Condition Assessment

The below information is subject to ecologist & LPA approval/report and is dependent on installation guide and maintenance instructions provided by Wildflower Co. being correctly followed.

What BNG habitat can Landscape 34 create?			
	Lowland Meadow	**Lowland Calcareous**	**Other Neutral Grassland**
No of indicator species	16	15	N/A
Condition on installation	Moderate	Moderate	Moderate
Condition at 5 years *(providing management plan followed)*	Good	Good	Good
Condition at 30 years *(providing management plan followed)*	Good	Good	Good

Time to Target Condition

Wildflower Turf® can provide a quicker method of establishing habitats with a high number of species per m² as the plants are mature on installation. This can dramatically improve 'Time to Target Condition'.

Ensuring Success - Consultancy and Handover

Our consultancy offers several options for ensuring long term success of wildflower installations. High value projects will benefit from early advice on the practicalities of planning, establishment, handover and long-term maintenance, verifying products meet specifications and objectives for wildflower habitat creation.

We can also ensure the installation and maintenance contractor understands specification, product and maintenance requirements at any stage of the project. This is particularly valuable at site handover, in advance of maintenance work or where contracts and/or contractors change during the lifetime of the project.

An Installation Certificate can be provided upon installation as part of some consultancy packages to certify that the product has been installed correctly.

View consultancy and BNG consultancy packages here.

Preparation and Installation

For a project to thrive, correct installation and management plans must be planned for from the offset.

Soil Conditions and Fertility

Ensure soil is not waterlogged or compacted prior to laying the turf. The soil does not need to be fertilised before or after laying the turf. We would advise not stripping back the topsoil to reduce soil fertility before using Wildflower Turf® as it needs some level of fertility to get well-established initially and is an unnecessary ground preparation step. However, where soil is fertile, particular attention must be paid to the maintenance regime - see maintenance section.

Soil Preparation

Existing vegetation should be killed or removed. Dig over or rotovate the soil to at least 100mm deep and rake over to create a reasonably fine tilth. Remove large stones, roots or clods of earth so that the roots of the plants in the turf are all in close contact with the soil. There is usually no need to import topsoil unless the levels on site are not sufficient or there is just sub-soil. In this case, a thin layer of 25-50mm (minimum) of low fertility topsoil is recommended. Avoid compaction of subsoil layer. Please contact Wildflower Co. if unsure.

Laying the Turf

Turf should be laid on the day of delivery. The turf needs to be laid on a minimum of 100mm (4 inches) of growing medium or topsoil, the deeper the soil depth the greater capability of moisture retention and less irrigation required. Care should be taken to ensure that all joints are butted up correctly to prevent the growth of weeds. Use WFT-Finisher at this stage. Do not overlap the turf at the joints or create tension so joints pull apart or shrink.

Watering

Once laid, water the turf thoroughly for the first couple of weeks (weather dependent), until the turf is rooted in. Ensure the soil underneath the turf is damp to be sure you have given it adequate water. Do this by lifting a corner of the turf. Do not allow the turf to dry out while it establishes, which should take approximately 2-3 weeks (weather dependent). Do not over water the turf, as this can promote grass domination in the sward.
Once established the wildflowers can be fairly drought tolerant and shouldn't need watering again.

BNG Considerations

To ensure condition assessment criteria are met, ensure cover of bare ground is between 1-5% and weed species such as bracken, bramble, thistle, dock, nettle, creeping buttercup, greater plantain, white clover and cow parsley are completely removed prior to installation. A post installation management plan must also be in place to ensure longevity of the habitat - see maintenance plan.

Maintenance

For a project to thrive, correct installation and management plans must be planned for from the offset.

Wildflower turf should be well established within a few weeks and once established requires little maintenance other than an essential annual maintenance cut.

The cut is an important part of the meadow's life cycle and ensures re-growth and species diversity year-on-year. The annual maintenance cut should be done in late September, early October. There is no need for a set date, but this timing will allow the plants in the meadow to regenerate before the first frost typically in November.

You can choose to cut only half of the meadow area at one time to allow time for fauna to migrate to the uncut meadow. Allow some regrowth of the cut area before cutting the second half, but aim to have finished all cutting by the end of the first week of October. Over time alternate the areas that are cut early and the areas that are left, as this will benefit species diversity.

It is important to cut the meadow down to 2-3 inches off the ground and remove all cuttings. This can be done by strimming and raking, or using a mower and collecting the cuttings. Cuttings should not be left on the meadow, as they add undesirable fertility to the ground. It is also important to remove all leaf litter that falls onto the area.

Managing for BNG (if applicable)

Ensure the sward height is varied throughout the year to provide microclimates for wildlife. Cover of bare ground should be kept between 1-5% and physical damage must account for less than 5% of the total area. Cover of species of sub-optimal condition (including thistles, dock, nettles, creeping buttercup, greater plantain, white clover and cow parsley) and scrub should be kept below 5%, and bracken cover should be kept below 20%. Weeds such as these can be managed through physical or chemical removal, being careful not to damage the surrounding plants.

Managing fertility

On fertile sites or where you might have species dominance or too vigorous early growth, a second cut at the end of May, beginning of June, can be introduced.

This high cut, approx. 8-10 inches off the ground, to remove the flower heads but leaving enough plant stems and leaf area to regenerate, and removal of all cuttings, will help to knock back some species dominance, reduce soil fertility and open up the sward to more light and air circulation to promote the diversity of lower growing species. Once the cutting has been completed and all cuttings removed, give the area a good soaking with water to encourage the next flush of growth. Introducing this early summer cut and removal will mean your second autumn cut and removal will be later that year, up to the end of October.

Fertiliser

No fertiliser is needed, although in some circumstances, for example on a green roof or where the turf is on very low fertility soil such as sand or gravel, the addition of a light dose of fertiliser in the spring may improve plant development.

Wildflower Turf®
Native Enriched

Product Specification

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Product Code:
WFT-Native-Enriched
Manufacturer:
Wildflower Co.

Wildflower Co. products are developed to outperform comparable solutions – delivering faster establishment and superior long-term results.

Manufacturer Contact Details
01256 771 222
wildflower@wildflowerexperts.com
www.wildflowerexperts.com

Technical Specification

Manufacturer	Wildflower Co.
Turf dimensions	1m x 1.2m slabs or 0.77m x 1.62m rolls, 15-35mm thickness (depending on age)
Weight	16-20kg per metre.
No of species	52 (37 UK native wildflowers, 11 naturalised wildflowers and 4 non-invasive grasses. See full species list for further details.
Grass:flora sowing ratio	85% wildflowers*, 15% grasses
Flowering period	March - October
Established height	30-150cm
Time to establish	2-3 months (at least 1 year for plants that need vernalisation period)
Soil types	Suitable for all soil types
Seed provenance and testing	Grown in England using UK native species. Seed analysis results available on request.
Recyclability	Packaging 100% recyclable, product 100% biodegradable
BNG suitability	Not suitable to BNG projects
Root system	Intact/uncut**
Reinforcing material	Bio-based, biodegradable netting
Seed mix	Calibrated using seed weight analysis

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Peel up a corner and you should be able to see our white bio-based netting amongst the roots - no-one else uses a white membrane.

* Actual % may vary, based on environmental factors and seed availability. You may not see every species listed as the product is designed to adapt to individual settings, including a wide range of soil types and environmental conditions. Many species may not flower within the first year.

** Growing system: Wildflower Turf® is a soil-free, whole root turf system that is nursery grown to produce a mat of wildflower plants that retains 100% of its root system. A biodegradable, plant-based netting is included within the turf to support the root structure and enable the turf to retain its structural integrity. More information.

Species List

Wildflower Turf®
Native Enriched

Product code: WFT-Native-Enriched

All seed grown by Wildflower Co. is tested to stringent standards for germination and purity.

Seed analysis results are available on request.

*You may not see every species listed as the product is designed to adapt to individual settings, including a wide range of soil types and environmental conditions. Many species may not flower during the first year.

Species	Flowering Time	Ultimate Height	Colour	Life Cycle
Wildflower species				
Autumn Hawkbit ***(Scorzoneroides autumnalis)***	June - Oct	50		P
Babys Breath ***(Gypsophila elegans)***	June - Aug	100		A
Betony ***(Betonica officinalis)***	June - Aug	60		P
Birdsfoot Trefoil ***(Lotus corniculatus)***	May - Sept	30		P
Bladder Campion ***(Silene vulgaris)***	May - Sept	100		P
Borage ***(Borago officinalis)***	May - Sept	60		A
Cats Ear ***(Hypochaeris radicata)***	June - Sept	45		P
Common/Cottage Pink ***(Dianthus plumarius)***	May - July	50		P
Common Knapweed ***(Centaurea nigra)***	June - Sept	100		P
Common Toadflax ***(Linaria vulgaris)***	June - Nov	75		P
Common Vetch ***(Vicia sativa)***	Apr - Sept	75		A
Common Poppy ***(Papaver rhoeas)***	June - Aug	60		A
Corn Chamomile ***(Anthemis arvensis)***	June - Sept	30		A
Corn Marigold ***(Glebionis segetum)***	June - Oct	100		A
Corncockle ***(Agrostemma githago)***	May - Sept	120		A
Cornflower ***(Centaurea cyanus)***	June - Sept	100		A
Cowslip ***(Primula veris)***	Apr - June	25		P
Crimson Clover ***(Trifolium incarnatum)***	June - Sept	50		A
Dames-violet ***(Hepseris matronalis)***	May - July	90		BI
English (Pot) Marigold ***(Calendula officinalis)***	June - Oct	50		BI
Field Forget-me-not ***(Myosotis arvensis)***	Apr - Sept	40		SLP
Field Scabious ***(Knautia arvensis)***	July - Oct	150		P
Golden Candytuft ***(Iberis sempervirens)***	Apr - May	30		A
Great/Large Bellflower ***(Campanula latifolia)***	June - Aug	120		P
Greater Knapweed ***(Centaurea scabiosa)***	June - Sept	100		P
Hedge Bedstraw ***(Galium album) (prev. mollugo)***	June - Sept	100		P
Hoary Plantain ***(Plantago media)***	May - Aug	30		P
Kidney Vetch ***(Anthyllis vulneraria)***	June - Sept	25		P
Lady's Bedstraw ***(Galium verum)***	June - Sept	50		P
Larkspur ***(Delphinium consolida)***	June - Sept	120		A
Meadow Cranesbill ***(Geranium pratense)***	June - Sept	90		P
Mountain Madwort ***(Alyssum montanum)***	May - July	15		P
Musk Mallow ***(Malva moschata)***	July - Aug	100		P
Nodding Catchfly ***(Silene pendula)***	June - Sept	50		A
Oxeye Daisy ***(Leucanthemum vulgare)***	May - July	90		P
Perforate St John's Wort ***(Hypericum perforatum)***	June - Aug	150		P

Species List

Wildflower Turf®
Native Enriched

Product code: WFT-Native-Enriched

All seed grown by Wildflower Co. is tested to stringent standards for germination and purity.

Seed analysis results are available on request.

Species	Flowering Time	Ultimate Height	Colour	Life Cycle
Wildflower species				
Perrenial Flax ***(Linum perenne)***	May - June	60		P
Ragged Robin ***(Silene flos-cuculi)***	June - Aug	100		P
Red Campion ***(Silene dioica)***	Apr - July	100		P
Ribwort Plantain ***(Plantago lanceolata)***	Apr - Oct	90		P
Sainfoin ***(Onobrychis vicifolia)***	June - Aug	80		P
Salad Burnet ***(Sanguisorba minor)***	June - Aug	65		P
Self Heal ***(Prunella vulgaris)***	May - Sept	30		P
Sweet William ***(Dianthus barbatus)***	June - Sept	80		BI / SLP
Sweet William Catchfly ***(Silene armeria)***	May - Sept	45		P
Tufted Vetch ***(Vicia cracca)***	June - Aug	120		P
Viper's Bugloss ***(Echium vulgare)***	June - Aug	120		BI
Wallfower ***(Erysimum cheiri)***	Mar - June	50		BI / P
White Campion ***(Silene latifolia)***	May - Sept	100		SLP
Wild Marjoram ***(Origanum vulgare)***	June - Aug	100		P
Wild Red Clover ***(Trifolium pratense)***	May - Sept	50		P
Woodland Sage ***(Salvia nemorosa)***	June - Sept	80		P
Yarrow ***(Achillea millefolium)***	June - Aug	90		P
Yellow Rattle ***(Rhinathus minor)***	May - July	50		SLP
Grasses				
Annual Meadow Grass ***(Poa annua)***	Year-round	30		A
Quaking Grass ***(Briza media)***	June - July	60		SLP
Sweet Vernal ***(Anthoxanum odoratum)***	May - June	70		SLP
Yellow Oat Grass ***(Trisetum flavascens)***	June - July	60		P

*You may not see every species listed as the product is designed to adapt to individual settings, including a wide range of soil types and environmental conditions. Many species may not flower during the first year.

Appendix

Preparation and Installation

For a project to thrive, correct installation and management plans must be planned for from the offset.

Soil Conditions and Fertility

Ensure soil is not waterlogged or compacted prior to laying the turf. The soil does not need to be fertilised before or after laying the turf. We would advise not stripping back the topsoil to reduce soil fertility before using Wildflower Turf® as it needs some level of fertility to get well-established initially and is an unnecessary ground preparation step. However, where soil is fertile, particular attention must be paid to the maintenance regime - see maintenance section.

Soil Preparation

Existing vegetation should be killed or removed. Dig over or rotovate the soil to at least 100mm deep and rake over to create a reasonably fine tilth. Remove large stones, roots or clods of earth so that the roots of the plants in the turf are all in close contact with the soil. There is usually no need to import topsoil unless the levels on site are not sufficient or there is just sub-soil. In this case, a thin layer of 25-50mm (minimum) of low fertility topsoil is recommended. Avoid compaction of subsoil layer. Please contact Wildflower Co. if unsure.

Laying the Turf

Turf should be laid on the day of delivery. The turf needs to be laid on a minimum of 100mm (4 inches) of growing medium or topsoil, the deeper the soil depth the greater capability of moisture retention and less irrigation required. Care should be taken to ensure that all joints are butted up correctly to prevent the growth of weeds. Use WFT-Finisher at this stage. Do not overlap the turf at the joints or create tension so joints pull apart or shrink.

Watering

Once laid, water the turf thoroughly for the first couple of weeks (weather dependent), until the turf is rooted in. Ensure the soil underneath the turf is damp to be sure you have given it adequate water. Do this by lifting a corner of the turf. Do not allow the turf to dry out while it establishes, which should take approximately 2-3 weeks (weather dependent). Do not over water the turf, as this can promote grass domination in the sward.
Once established the wildflowers can be fairly drought tolerant and shouldn't need watering again.

Appendix

Maintenance

For a project to thrive, correct installation and management plans must be planned for from the offset.

Wildflower turf should be well established within a few weeks and once established requires little maintenance other than an essential annual maintenance cut.

The cut is an important part of the meadow's life cycle and ensures re-growth and species diversity year-on-year. The annual maintenance cut should be done in late September, early October. There is no need for a set date, but this timing will allow the plants in the meadow to regenerate before the first frost typically in November.

You can choose to cut only half of the meadow area at one time to allow time for fauna to migrate to the uncut meadow. Allow some regrowth of the cut area before cutting the second half, but aim to have finished all cutting by the end of the first week of October. Over time alternate the areas that are cut early and the areas that are left, as this will benefit species diversity.

It is important to cut the meadow down to 2-3 inches off the ground and remove all cuttings. This can be done by strimming and raking, or using a mower and collecting the cuttings. Cuttings should not be left on the meadow, as they add undesirable fertility to the ground. It is also important to remove all leaf litter that falls onto the area.

Managing fertility

On fertile sites or where you might have species dominance or too vigorous early growth, a second cut at the end of May, beginning of June, can be introduced.

This high cut, approx. 8-10 inches off the ground, to remove the flower heads but leaving enough plant stems and leaf area to regenerate, and removal of all cuttings, will help to knock back some species dominance, reduce soil fertility and open up the sward to more light and air circulation to promote the diversity of lower growing species. Once the cutting has been completed and all cuttings removed, give the area a good soaking with water to encourage the next flush of growth. Introducing this early summer cut and removal will mean your second autumn cut and removal will be later that year, up to the end of October.

Fertiliser

No fertiliser is needed, although in some circumstances, for example on a green roof or where the turf is on very low fertility soil such as sand or gravel, the addition of a light dose of fertiliser in the spring may improve plant development.



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