

WENTLOOG ROAD

KEY

-  Proposed Tree Planting
-  Proposed Single Species Native Hedge
-  Proposed Shrub Planting - Hardy, mixed shrub planting, including species from RHS Plants for Pollinators
-  Proposed Amenity Grass - Hardy flowering lawn mixture
-  Proposed Rain Garden
-  Proposed Green-Blue Roof System with Bauder Flora 9 Seed Mix for coastal roof top sites.

TREE PLANTING

Code	Species	Form	Girth cm	Height cm	Root condition	Quantity
AG	Alnus glutinosa	EHS	14-16	425-600	65/85 L	1
BP	Betula pubescens	EHS	14-16	425-600	65/85 L	4
PA	Prunus avium	EHS	14-16	425-600	65/85 L	1

SHRUB PLANTING

Code	Species	Height/ spread cm	Pot size (Litres)	Habit	Min no. of breaks	No. / m2	Quantity
BCP	Bergenia cordifolia Purpurea	15-20	3L	-	-	5	25
CSK	Cotoneaster 'Skogholm'	30-40	3L	Spreading	3	3	15
HH	Hypericum Hidcote	30-40	3L	Bushy	5	2	13
LAV	Lavandula Hidcote	20-30	3L	Bushy	5	5	60
LM	Lonicera 'Maygreen'	30-40	2L	Bushy	3	3	12
POL	Prunus Otto Luyken	30-40	3L	Bushy	3	2	30
RK	Rosa 'Kent'	30-40	3L	Bushy	4	3	12
RH	Rosa 'Hertfordshire'	30-40	3L	Bushy	3	3	12
RS	Rosa 'Suffolk'	30-40	3L	Bushy	4	3	27
SH	Symphoricarpos Hancock	40-60	3L	Branched	2	2	13
SKW	Skimmia 'Kew White'	30-40	3L	Bushy	3	3	15
SS	Senecio Sunshine	30-40	3L	Bushy	4	2	22
VD	Viburnum davidii	30-40	3L	Bushy	3	3	13

HEDGE PLANTING

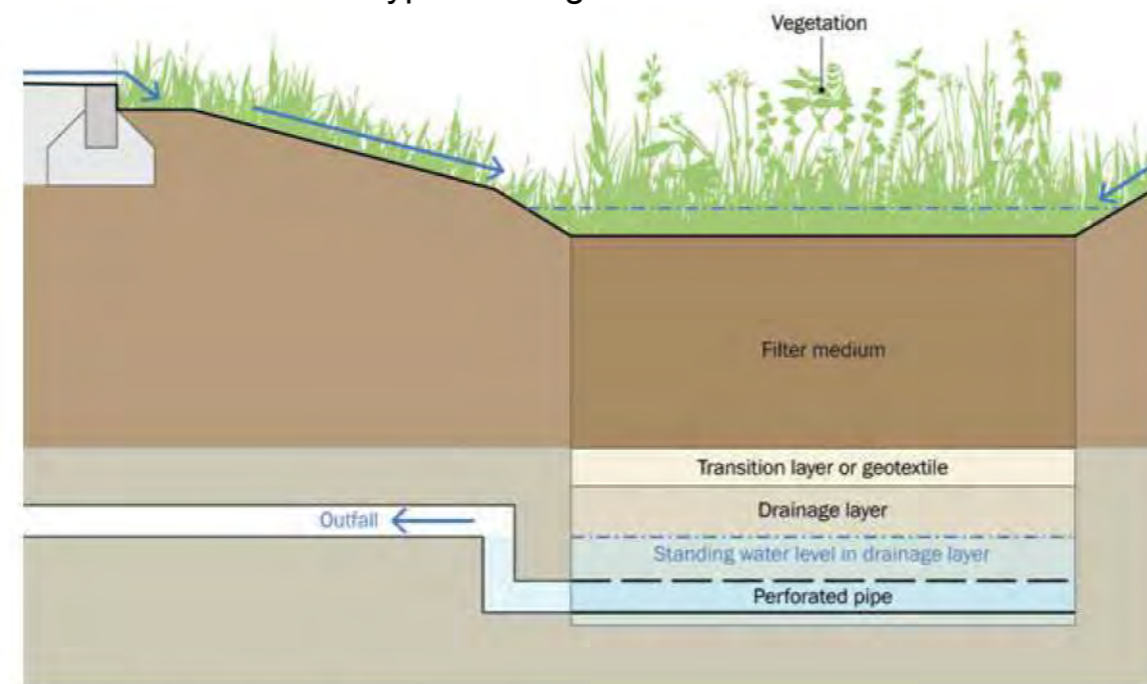
Code	Species	Height/ spread cm	Pot size (Litres)	Habit	Min no. of breaks	No. / m2	Quantity
FSH	Fagus sylvatica (hedge)	60-80	2L	Feathered	4	5/lin m	535

RAIN GARDEN SPECIES

Code	Percentage	Species	Root condition	No per sq.m	Quantity
AR	10%	Ajuga reptans	9cm Pot	8	70
HF	10%	Helleborus foetidus	2 L	8	70
EC	10%	Eupatorium cannabinum	9cm Pot	8	70
OR	10%	Osmunda regalis	9cm Pot	8	70
DFM	10%	Dryopteris felix-mas	9cm Pot	8	70
DD	10%	Dryopteris dilatata	9cm Pot	8	70
CP	10%	Carex pedula	2L	8	70
JE	10%	Juncus effusus	9 cm	8	70
CG	10%	Campanula glomerata	2L	8	70
CL	10%	Crocsmia 'Lucifer'	2L	8	70



Typical rain garden detail



Blue Roof System With Extensive Green Roof Surface Finish.

Bauder Flora 9 Seed Mix provides a biodiverse assemblage of wildflowers that are adapted to tolerate salt laden winds, dry sandy conditions and the exposed, thin soils on roof top coastal sites.

See Bauder Technical Data Sheet for vegetation mix and maintenance, and ACO Roofbloxx Blue roof construction details.

Hard Landscaping

See site layout LT2108.04.01 - Proposed Site Layout - Rev.G - Proposed Site Layout for hard surfacing details

Revision	Description	Date
-	First issue	4/12/20
A	Second issue	14/9/21
B	Third issue	4/5/23

LANDARB SOLUTIONS

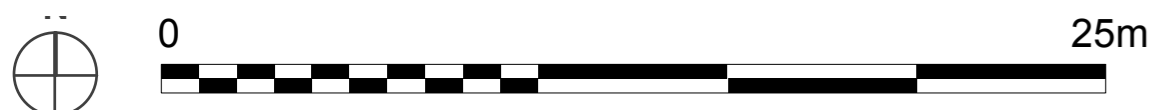
Project:
Rompney Castle, Cardiff

Description:
Landscape Proposals Plan- Sheet 1 of 2

Status:
For Planning

Scale: **1:200 @A2** Drawn I Checked **DP MP** Date: **04/05/2023**

Job Number: **LAS 167** Drawing Number: **01** Revision: **B**



1. TREE PLANTING

1.1 All trees to be planted in accordance with BS: 8545:2014, and the Soils and Development TGN.

Ground Preparation and Tree Pit Excavation

1.2 If the formation level is compacted it will be ripped through before top soiling.
 1.3 A ripping tooth will be used for de-compacting subsoil.
 1.4 Where necessary existing weeds will be treated with a suitable glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

1.5 Tree pits will be excavated to at least twice the diameter of the root spread and to be planted in accordance with BS 4428 (1989). The bottom and sides shall be forked to break up the subsoil. All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter in any dimension will be removed from site.

Planting

1.6 At the time of planting, root ball wrapping shall be removed once the tree and rootball are placed in the planting pit.
 1.7 Trees are then to be backfilled with local topsoil previously stripped from the site. Where tree pits are more than 300mm deep, backfilled material shall be consolidated/firmed in 150mm layers.

1.8 Trees shall be well firmed-in and secured with stakes, proprietary rubber tree ties and spacers as below.

1.9 All newly planted trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. Therefore, low staking (75mm dia x 1.5m length) will be used and attached to the tree at approximately 600mm above ground level. Stakes will be driven 300mm into undisturbed ground before planting the tree, taking care to avoid underground services and cables. The trees will be staked using proprietary rubber ties and must be firmly fixed with a spacing device used to prevent chafing against the tree.

1.10 Trees will be double-staked. Organic bark mulch will be spread to a depth of 75mm, across in a 1.2m diameter circle around all individual trees, tapered to 25mm within 20cm of the stem, ensuring that desirable groundcover plants (where present) are not buried, and making sure not to build up around the root flare.

1.11 All trees shall be watered in at the end of each day of planting.

Maintenance during first growing season

1.12 All dead, dying or diseased trees will be replaced with trees of similar size and species. If the failure of the tree is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.

1.13 The site is to be visited throughout the year to undertake the following operations:

1.14 Weed clearance: All tree planting areas will be kept weed free by hand weeding.

1.15 Checking trees: All tree ties and stakes will be checked and adjusted if too loose, too tight or if chafing is occurring. Any broken stakes will be replaced.

1.16 Formative pruning: Any damaged shoots/branches will be pruned back to healthy wood. Trees will be pruned in accordance with good horticultural practice (BS: 3998) to maintain healthy well-shaped specimens.

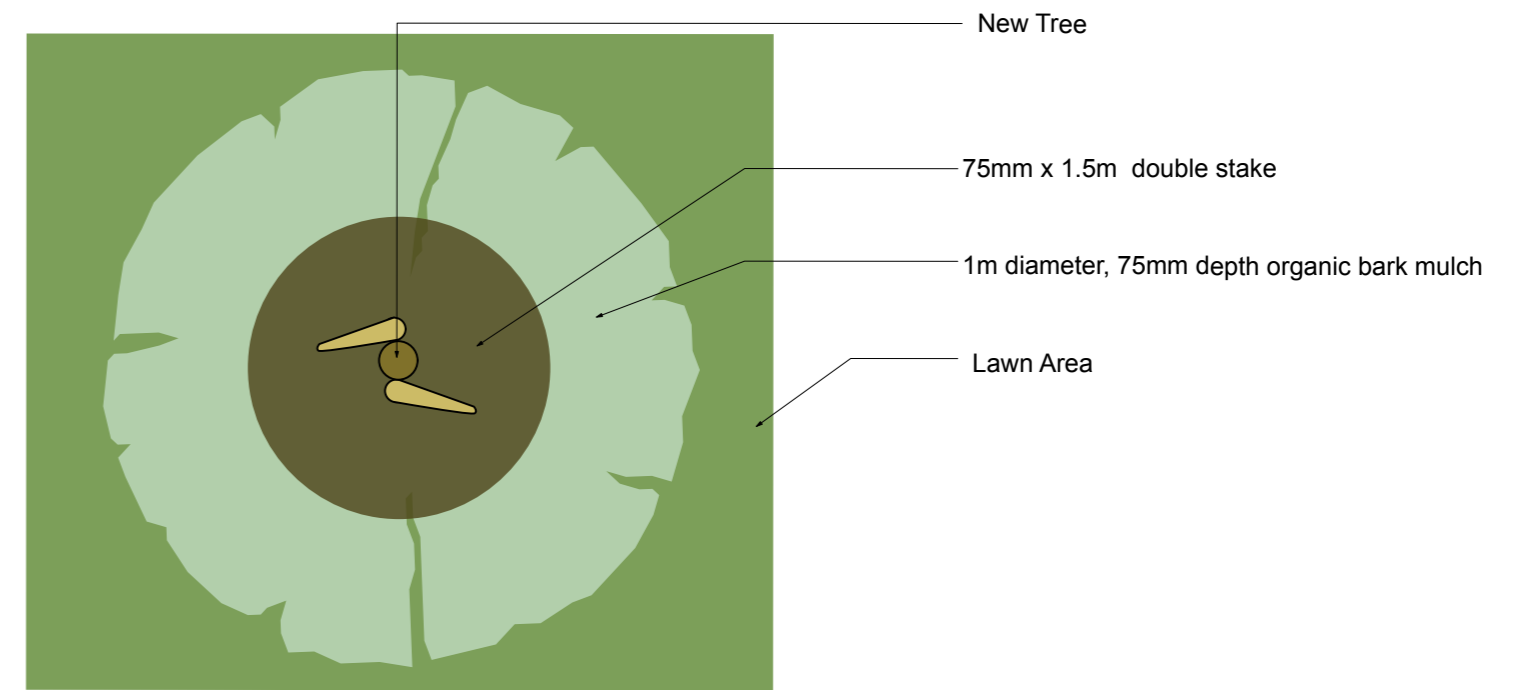
Watering during first growing season

1.17 The requirement for watering of newly planted trees will generally be dependent on weather conditions during the first growing season following planting. In a dry season watering may be required on a fortnightly basis from immediately after planting until the end of the growing season, but in a wet season watering may not be required at all. Therefore, trees shall be monitored regularly by test digging down to root level to assess the water content of the soil, with watering undertaken as required to ensure that the soil is at field capacity 2-3 days after watering.

5-Year Management Programme

1.18 The following management schedule will be adhered to in respect of post tree planting management.

1.19 Tree planting will be checked twice yearly, in spring and autumn, for signs of stress, pests, disease or any structural or physiological defects. Checks will also ensure the post planting management has been carried out and any remedial measures required or any changes in management required as the tree establishes and grows.



1.2m diameter, 75mm depth organic bark mulch, mulch tapered to 25mm within 20cm of stem

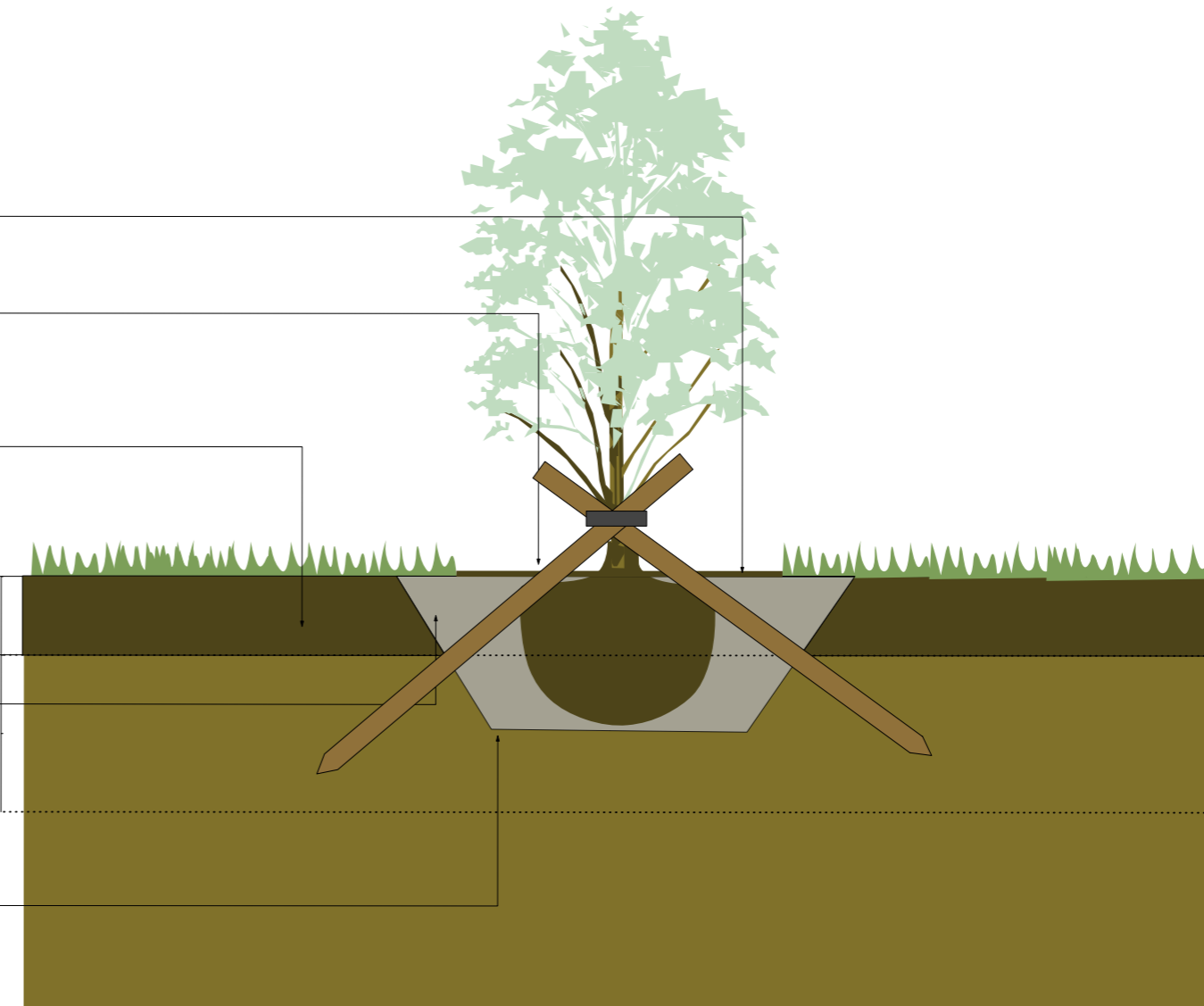
Two 75mm x 1.5m treated timber stakes

Site won Topsoil backfilled, layered and tamped in 300mm layers.

Surrounding sub soil to be decompacted. Tree pits to be excavated to approx twice the width of the rootball at opening, with sloping and scarified sides. Pit to be backfilled with site won subsoil and site won topsoil in accordance with Trees and Technical Guidance Note 2007

Topsoil 300mm
Subsoil 600mm

Sloped side to allow for lateral root expansion



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-	First issue	4/12/20
A	Second issue	14/9/21
B	Third issue	4/5/23

LANDARB SOLUTIONS

Project:
Rompney Castle, Cardiff

Description:
Landscape Proposals Plan - Sheet 2 of 2

Status:
For Planning

Scale: **1:25 @A2** Drawn | Checked: **DP | MP** Date: **04/05/2023**

Job Number: **LAS 167** Drawing Number: **01** Revision: **B**

1. GENERAL

- 1.1 All plants will conform to BS 3936-1 (1992): and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. Trees will be planted in accordance with BS: 8545:2014. All plants will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.
- 1.2 Planting will not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds.
- 1.3 If the formation level is compacted it should be ripped through before topsoiling. Recommended topsoil depths are 450mm for shrubs and 150mm for grass.

2. TREE PLANTING

Ground Preparation

- 2.1 If the formation level is compacted it will be ripped through before topsoiling.
- 2.2 Where necessary existing weeds will be treated with a suitable glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

Planting

- 2.3 Shrubs and hedges are to be set out as shown on the drawing and pit planted into the prepared soil at the specified centres with minimal disturbance to the rootball and well firmed in. Spread ornamental pine bark mulch to a depth of 75mm across all new planting areas, ensuring groundcover plants are not buried.

Maintenance during first growing season

- 2.4 All dead, dying or diseased trees will be replaced with trees of similar size and species. If the failure of the tree is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.
- 2.5 The following operations are to be carried out throughout the year:
- 2.6 Weed clearance: All planting areas will be kept weed free by hand weeding or herbicide treatment.

- 2.7 Checking trees: All tree ties and stakes will be checked and adjusted if too loose, too tight or if chafing is occurring. Any broken stakes will be replaced.
- 2.8 Formative pruning: Any damaged shoots/branches will be pruned back to healthy wood. Plants will be pruned in accordance with good horticultural practice to maintain healthy well-shaped specimens.

Watering during first growing season

- 2.9 The requirement for watering of newly planted trees will generally be dependent on weather conditions during the first growing season following planting. In a dry season watering may be required on a fortnightly basis from immediately after planting until the end of the growing season, but in a wet season watering may not be required at all. Therefore, trees shall be monitored regularly by test digging down to root level to assess the water content of the soil, with watering undertaken as required to ensure that the soil is at field capacity 2-3 days after watering.

3. GRASS

Preparation

- 3.1 The area to be seeded will be sprayed out with a glyphosate herbicide and cultivated to a depth of 100mm removing all weeds, debris and stones over 25mm diameter. The surface will be raked to smooth flowing contours with a fine tilth, incorporating pre-seeding fertiliser at 70 g/m².

Seeding

- 3.2 Grass seed will be sown in accordance with BS 4428 (1989), and will be sown from April to May or from September to October, during calm weather and not when the ground is frost bound or waterlogged. Seed will be sown in two equal sowings in transverse directions at 4g/m² for EL1 flowering lawn mixture. After sowing the seed will be lightly raked to create intimate contact with the soil.

Amenity Grass Cutting

- 3.3 When newly seeded areas reach 40mm they will be lightly rolled and cut to a height of 30mm. All arisings will be removed. Any bare patches will be made good at this time. Seeded areas shall be cut for a second time when the sward reaches 50mm high.

Proposed Tree Planting – Management Objectives

- To ensure successful establishment of tree planting
- To maintain newly planted trees to ensure a good survival rate and development
- To minimise competition from grass and weeds

Management Objective	Maintenance Task	Method	Timing	Years
Ensure successful establishment of tree planting	Check stakes and ties	Adjust/replace stakes and ties and remove when the tree is self-supporting (minimum year 3).	Twice yearly, spring and autumn	1,2,3
Keep planted areas free from weeds to reduce competition	Weeding	Weed clearance by hand, hoe or fork. Bark mulch to be used around new trees. Take care not to disturb roots and avoid excessive treading of bed surface.	Monthly from March to October or as required	1,2,3,4,5
Keep planted areas free from weeds to reduce competition	Check and top up mulch	Check and top up mulch to 75mm	As required.	1,2,3,4,5
Avoid damage to trunks of trees	Keep weed free area around tree trunks	Take care during mowing operations. The use of trimmers within 1.2m of tree is not acceptable.	Whenever mowing and strimming operations take place	1,2,3,4,5

BAUDER FLORA 9 SEED MIX

Coastal

The Bauder Flora 9 Seed Mix provides a biodiverse assemblage of wildflowers that are adapted to tolerate salt laden winds, dry sandy conditions and the exposed, thin soils on roof top coastal sites. The seed mix includes a high diversity of plant species found on British coastlines, delivering maximum BREEAM credits and biodiversity enhancements for wildlife.

The seed mix delivers a typical coastal cliff top plant community that will blend into or complement surrounding coastal habitats, whilst also providing a nectar and pollen rich habitat for pollinators and larval food plants for butterflies and moths.



Mix Details:

- British Provenance Seed Mix
- 24 species including:
 - 14 native / naturalised wildflower species
 - 3 annuals
 - 4 grasses
 - 3 sedums
- 20 wildflowers classed as RHS Perfect for Pollinators
- 8 butterfly larval food plants
- Mix percentages; 75% perennial wildflowers, 10% annuals and 15% grass



Key Specification Features

- Suitable for exposed coastal areas.
- Contains salt tolerant species.
- Lengthy flowering season – April to October.
- Varied heights of flowers to give structured planting.
- Species include Sea Campion, Sheep's Fescue and native sedums for ground cover and soil stabilisation.
- Attractive to wildlife, mix includes Viper's Bugloss and Common Rock-rose.
- Can be added to other Bauder Flora Seed Mixes.

Ecological Value

The Flora 9 Seed Mix has a high diversity of wildflower species selected to deliver a long flowering period and rich nectar sources for priority coastal species. Plants with long flower tubes, such as Viper's Bugloss, will provide valuable nectar sources for native bumblebee species, such as the White-tailed Bumblebee.

The mix also comprises larval food plants for butterfly species including Common Sorrel for Small Copper and Sheep's Fescue for Marbled White and Grayling, which are prevalent in coastal areas. Plants were chosen with a variety of heights to give a good vegetation structure all year round for invertebrates, such as spiders and beetles. A rich invertebrate fauna will attract foraging for priority coastal bird species, such as the Ringed Plover and Black Redstart. Seed heads of plants like Teasel provide foraging for finches, such as Linnets and Goldfinch, which inhabit coastal areas.

BAUDER FLORA 9 SEED MIX

Establishment and Growth

Typically, the Flora 9 Seed Mix delivers a long flowering period from April to October, with Thrift and Dog Violet giving early flowering and Sea Aster and Wild Marjoram providing nectar at the end of the season. The mix contains pioneer and ephemeral species such as annuals (which will give cover and colour in the first season), biennials and grasses, allowing time for the slower growing perennials to establish in later years. The mix has been specified to include low growing robust species of exposed habitats. Grasses can be invasive, however the mix only contains two non-aggressive species (typically <15%), which will also help to establish and stabilise the substrate.

The seed source is British Provenance and all plant species are widely naturalised along British coastlines, the mix also including some "naturalised" plants such as Red Valerian and Seaside Fleabane. All the Seed suppliers are signatories to the Flora Locale Code of Practice for growers and suppliers.



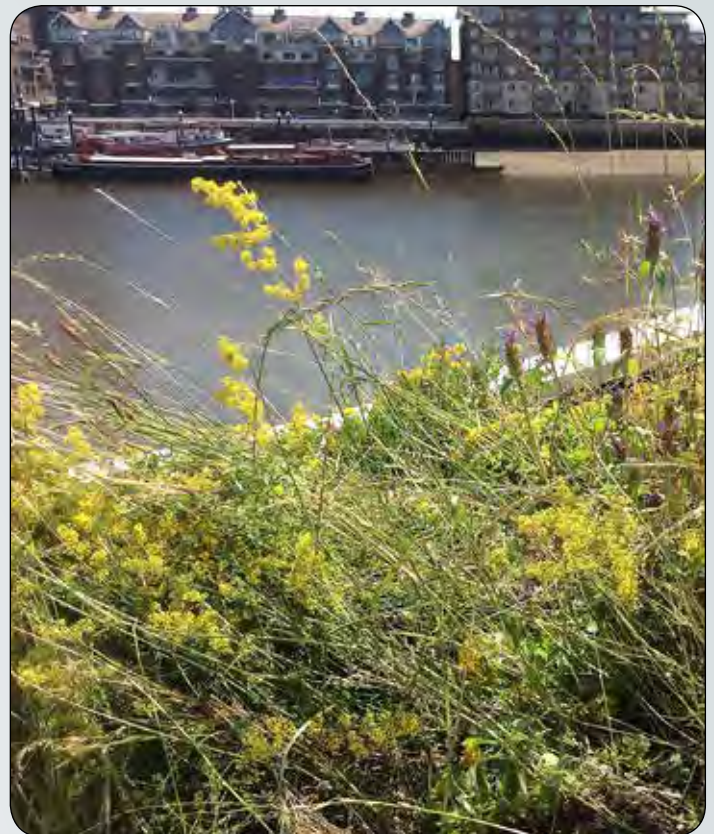
(Flora locale is an independent charity. Promoting and advancing the conservation and enhancement of native wild plant populations)

Bauder's Unique Additive Mix

To maximise the germination and establishment of the seed, Bauder has developed a unique blend of seed, adhesive, organic nutrients and mycorrhizal fungi.

- Mycorrhizal fungi increases the root surface area helping the transfer of water and nutrients from the substrate to the developing root system of the plant, enabling the plants to establish quickly.
- The adhesive binds the seed to the substrate preventing it from being blown away in windy conditions or being washed deep into the substrate and failing to germinate.
- A small quantity of organic slow release fertiliser gives the seed a gentle boost as it establishes.

The seed mix and additives are combined with a bulking agent, which enable the correct sowing rate to be achieved.



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Specification Support



Specification downloads:

www.bauder.co.uk/technical-centre



Telephone helpline:

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BAUDER



GENERAL MAINTENANCE

Green Roof Extensive System

Lightweight sedum system XF301.

BAUDER EXTENSIVE GREEN ROOF SYSTEMS

XF301 and SB & WB vegetation blankets and other substrate based planting schemes.

What to Expect From a Bauder Extensive Green Roof System

There is a common misconception that extensive green roofs, and sedum plants in particular, are always green and that from ground level they resemble grass. This is misleading, as they consist mainly of low growing, drought tolerant plants including sedums, saxifrage, wild flowers, grasses, moss and herbs.

The appearance of the vegetation within an extensive green roof will change year on year, dependent upon fluctuations in the seasonal weather throughout the period. It should also be expected that more grass and moss will be present during the wetter months, because the conditions will be ideal for these species to exist, they will tend to die off during the dry summer months, as free-draining extensive substrates will not hold sufficient moisture for them to survive.

The growth and flowering of the individual species within the vegetation mix through the late spring and summer will be dependent upon the weather prevailing at the time, which will also determine which species will be most prominent in any given year.

In the winter, sedum will become smaller and turn red/brown in colour as they prepare themselves to withstand the coming winter frosts. This gives the vegetation a red/brown hue in the late autumn and winter months, which is sometimes mistaken for the plants being distressed, when in fact they are in optimum condition for the time of year.

It is another misconception that extensive green roofs are maintenance free> Green roofs are 'low maintenance' rather than 'no maintenance'. Bauder recommend that all green roofs have a way of watering during prolonged periods without rain. All green roofs will benefit from water during droughts (See Bauder's Watering Guide).

All green roofs will require feeding from time to time e.g. Bauder's lightweight Xero Flor Sedum Blanket contains little in the way of natural nutrient, so fertiliser must be applied annually to ensure that the plants become resistant to extremes of weather and temperature.

The Bauder XF301 Sedum Blanket contains approximately 14-17 different plant species, some very similar in appearance to others but being more drought tolerant. Not every species incorporated will survive and the more dominant will be expected to prevail over time because they will adapt better to a particular location. Regardless of this, we would anticipate that at least 50% of the species will flourish.

Extensive green roofs that have a deeper substrate growing medium, where the vegetation is provided either by selected plug plant species or seeds, will generally support a broader species mix, which can include wild flowers, grasses and herbs. An increased amount of dead vegetation will arise from this type of species mix following flowering, which will need to be cut back and removed, both to reduce the biomass on the roof and to encourage seed drop from the dead flower heads.

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Watering and Irrigation: all green roofs will require water during prolonged periods of dry weather, generally sedums are much more drought tolerant than native wildflowers but both will benefit from a prolonged soaking (not little and often) to prevent them from fully drying out (Details are in the Bauder Watering Guide).

General Maintenance

General maintenance is normally carried out annually during springtime. However, certain tasks which will be dependent upon the location of the roof, such as the removal of weeds, seedlings and accumulated leaf litter from overhanging trees may also need to be done during the autumn.

The following procedures should be carried out as indicated below, in order to ensure that the roof is maintained in good condition and to protect the validity of the guarantee.

Preliminary Maintenance Procedures

- Ensure safe access can be gained to the roof and that relevant Health and Safety procedures are followed when working at roof level. It is advised that the contractor should always seek proof of current maintenance for any man-safe roof access systems prior to proceeding with the work on site.
- Remove all dead vegetation and debris from the roof surface, taking particular care to ensure that all chute outlets, gutters and downpipes are clear. Where the species mix incorporates wild flowers and grasses it is recommended that all dead vegetation is strimmed off and the waste lowered to the ground and carted away.
Please note: Roofs in the vicinity of taller trees will need more frequent maintenance. We recommend removing dead leaves during the spring and again in the autumn, to ensure that they do not damage the roof vegetation.
- Remove the lids of all inspection chambers, ensure that all rainwater outlets and downpipes are free from blockages and that water can flow freely away.
- Ensure that any protective metal flashings and termination bars remain securely fixed in place. Advise the client of the need to repair or renew as necessary.
- Examine all mastic sealant and mortar pointing for signs of degradation. Advise the client of the need to repair or renew as necessary.
- Check that all promenade tiles and paving slabs remain in position, secure and in good condition.
- Ensure that any new items of plant/equipment that may have been introduced to the roof are mounted on suitable isolated slabs and that any fixings used to secure the plant/equipment in place do not penetrate the waterproofing. If in doubt, please contact Bauder for further advice.
- The Building owner should keep a record of all inspections and maintenance carried out on the roof. Any signs of damage, contamination or degradation to the waterproofing should be reported to Bauder immediately, in order that arrangements can be made for remedial work to be carried out if necessary. Damage to the landscaping should be reported to the building owner. If this damage includes Bauder components, then Bauder may be contacted for remedial advice.

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- When carrying out maintenance to adjoining areas, care must be taken not to damage either the landscaping or the waterproofing system. If it is considered that either has been affected, the Bauder should be contacted for advice. Any waterproofing damage caused after completion of the original installation may invalidate the guarantee.
- Any unauthorised alterations to the waterproofing system will invalidate the guarantee. If such a situation should arise, then Bauder should be contacted so that we may advise on the alteration and how it should be incorporated without affecting the guarantee.

Vegetation Maintenance Tasks

The following tasks should be carried out annually: -

Application of Fertiliser to the vegetation: As a general rule all sedum based green roofs require feeding annually to promote strong growth in the sedum and make them more drought tolerant. Biodiverse and Wildflowers system often do not need annual fertiliser as this may allow weed species to out compete them.

1. Plant encroachment

Any vegetation which has encroached into drainage outlets, walkways and the vegetation barriers (pebbles) should be removed. The vegetation removed may be set aside and used to repair any bare patches if required (see below). If movement/settlement of the pebble vegetation barrier has occurred, additional washed stone pebbles similar to the existing are to be added.

2. Monitor the colour and rate of growth

The colour and rate of growth of the vegetation should be reviewed to establish the health of the plants. It should be noted that many factors can affect the growth and colour of the vegetation and that plants tend to be greener in wetter, mild conditions (springtime) and where the roof pitch is shallow.

Notes

- During May, June and July, sedum plants flower and you will see a mixture of colours – predominantly whites, pinks and yellows with some purple. The foliage of some species of sedum, such as Sedum Album “Coral Carpet”, is blush red naturally during the summer and autumn, and so the vegetation can take on a more ‘red/brown appearance. This becomes more noticeable once plants have flowered, leaving remnants of dry brown seed heads. The best visible indication of the health of a plant is if the leaves are fleshy and contain plenty of water.
- When exposed to extreme conditions, sedum plants have a tendency to turn a deep red colour. This is a natural phenomenon and is important to help the plant to acclimatize, ready to survive a cold winter or hot summer. This will usually occur during extreme cold weather as well as periods of prolonged drought, in very exposed locations or when the plants are in distress through lack of nutrient (fertiliser).
- If an irrigation system is fitted, it is best to run it only during prolonged dry weather and for limited periods – see ‘Irrigation’ information below.

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- If sedums are showing signs of distress, but have received regular rainfall, then the most likely problem is a lack of nutrient and a fertiliser should be applied.
- Only a relatively few species of sedum and other plants suitable for an extensive green roof installation will persist in partial and full shade, and they will generally be greener in colour and grow “leggier” in these locations. There will be a significant variance in the growth and colour between the plants growing in full or partial shade and those in full sun and this should be recognised as a feature of the living nature of each individual roof.
- If problems with the vegetation are suspected, Bauder may be contacted for advice and, if necessary, a suggested course of action.

3. Weeding

With the exception of saplings, which should always be removed, weeds in an extensive green roof should be considered as a problem only of aesthetics. If considered excessive, they can be removed either manually or by using a ‘spot weed wipe’, ensuring that care is taken to follow specific instructions regarding the use of any proprietary products. After the removal of weeds and saplings, treat the affected area as if it were a bare patch (see below). All extensive green roof installations will at times include some moss and grass.

4 Repairing Bare Patches.

Bare patches can be easily repaired and this is best done during the main growing seasons of March/April or from late August until the end of September. Take vegetation cuttings from surrounding areas of abundant growth and place on bare patches, pressing gently into the soil. A light sprinkling of sand mixed with compost should then be dressed over the affected area to improve the uptake of the cuttings. The best results will be achieved if this work is carried out during spring maintenance and the affected area is kept moist for a short period afterwards. Please contact Bauder for further project-specific advice.

Please note: In areas of extreme exposure or where localised wind-swirl is caused by adjacent structures, it is possible that both the vegetation and substrate will be disturbed by periods of high wind. Should this occur, consideration should be given to how best to secure the installation against similar conditions in the future prior to re-instatement. If a problem of this type is suspected, Bauder may be contacted for advice and, if necessary, a suggested course of action.

5 Fertiliser for Bauder XF301 sedum blankets

Bauder Sedum Blankets are grown in a shallow growing medium which contains very little nutrient, so the annual application of fertiliser is crucial to ensure that the plants remain healthy. Fertiliser should ideally be applied during March/April, as it helps the plants to prepare for extreme weather conditions and flowering whilst also allowing the different species to gain sufficient nutrients without competing against each other.

Organic fertiliser can be obtained direct from Bauder in 25kg bags, which is sufficient for an area of 312.5m² when applied at the recommended rate of 80gm/m². Areas of up to 30m² may be applied using either a hand held spreader or strewn by hand from a bucket. Larger roofs should always be done using a trolley applicator, which can be purchased direct from Bauder. Always apply the fertiliser at the given rate written on bag.

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It is recommended that the fertiliser is lightly 'watered in' immediately after application, to avoid "burning" of the foliage, which may occur if fertiliser pellets settle on the leaves. Dung-based organic fertilisers should be avoided.

6 Irrigation

Bauder SB sedum blanket and XF301 systems

When Bauder sedum systems are installed we recommend the provision of either a sprinkler or drip line irrigation system where the following conditions apply: -

- All south-facing roof without shade.
- All roof slopes exceeding a 2° pitch.
- Windy or exposed site locations, where the wind can dry out the blanket.
- Sites up to 50 miles inland of the east coast of the UK mainland.

Irrigation should only be activated during periods of dry weather, or if the sedum plants are showing signs of distress. The irrigation system is best activated for 2-3 hours, preferably at dawn or dusk to minimize unnecessary evaporation. Then once every 4-6 days for the duration of the hot weather conditions. This can be easily managed by using an inexpensive battery-powered, programmable timer.

Native Wildflower/Biodiverse Roofs

Extensive substrate green roof systems vary greatly in the amount of water they require. Sedum is very drought tolerant, wildflowers much less so. The watering requirements will depend on the following factors:

- The Pitch of the roof
- The amount of rainfall it receives.
- The exposure of the roof.
- The vegetation growing on the roof.
- The depth of the substrate and drainage board.

Bauder always advise that there should be a way to water the roof during times of dry weather. This might be a water supply point adjacent to the green roof, or a fully automatic irrigation system.

Some Biodiverse roofs are designed not to be watered. Whilst this will remove the water demands from the roof, it will reduce the flowering period of the plants and over time reduce the number of species as plants struggle with the harsh environment.

In these cases Bauder would strongly recommend that increasing the depth of substrate in some areas (15-2000mm+) to help prevent the substrate drying out completely (See Bauder Water Guidelines).

Please note - continuous daily watering is neither recommended nor necessary and will only promote weeds and other unwanted plant species.

Advice and Supply of Irrigation Equipment

Access Irrigation Ltd is one of the country's longest established irrigation specialists and has considerable experience in green roofs. They are happy to provide irrigation advice on any Bauder project and can supply a wide range of irrigation products.

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Please contact:-
Access Irrigation Ltd
Crick Northampton NN6 7XS
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E: sales@access-irrigation.co.uk
www.access-irrigation.co.uk

Support

Extensive roofs should require only minimal maintenance. Bauder is happy to offer advice on any issues concerning your green roof and any such query should be forwarded to the Bauder Green Roof Technical Department at the address below in the first instance. We believe our products and systems are of the highest standard and we are always prepared to discuss any queries or concerns that may arise. It is always of great help if you can provide photographs of the affected area(s) to accompany any such queries.

Please note: In the event of any query arising which it is thought may affect the condition of the system, then Bauder should be contacted at the address below. We cannot accept responsibility for any problem or failure due to use outside those parameters for which the system was designed or 'acts of god' beyond our control e.g. extreme weather conditions or damage through pests.

BAUDER GREEN ROOF MAINTENANCE SERVICE

With over 30 years' experience in the design and supply of green roofs throughout the UK and Ireland Bauder can offer unparalleled experience and expertise in green roof maintenance including sedum, plug planted and wildflower.

Having established the largest UK facility cultivating green roof vegetation blanket we have unique knowledge and horticultural expertise for roofscape vegetation. With national coverage by over 50 field personnel, you can be assured of a prompt reliable service to fully meet your requirements.

Our Service

Bauder's experienced team will provide you with a tailor-made maintenance programme for your green roof. A typical Bauder maintenance programme Includes:

- Full inspection and evaluation of your green roof
- Application of organic slow release granular fertiliser
- Removal of leaves and debris
- Removal of unwanted vegetation
- Inspection and clearance of outlets
- Examination and testing of irrigation

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This work is undertaken by Bauder's experienced maintenance technicians who will carry out the necessary risk assessments and comply with all current health and safety legislation throughout the duration of the work. Finally, you will be provided with a bespoke report with photographic verification outlining the condition of the planting and any areas requiring on going treatment.

To discuss your specific requirements, please call our Green Roof Maintenance Team for a no obligation quote.

T: 0845 271 8801 E: greenmaintenance@bauder.co.uk

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