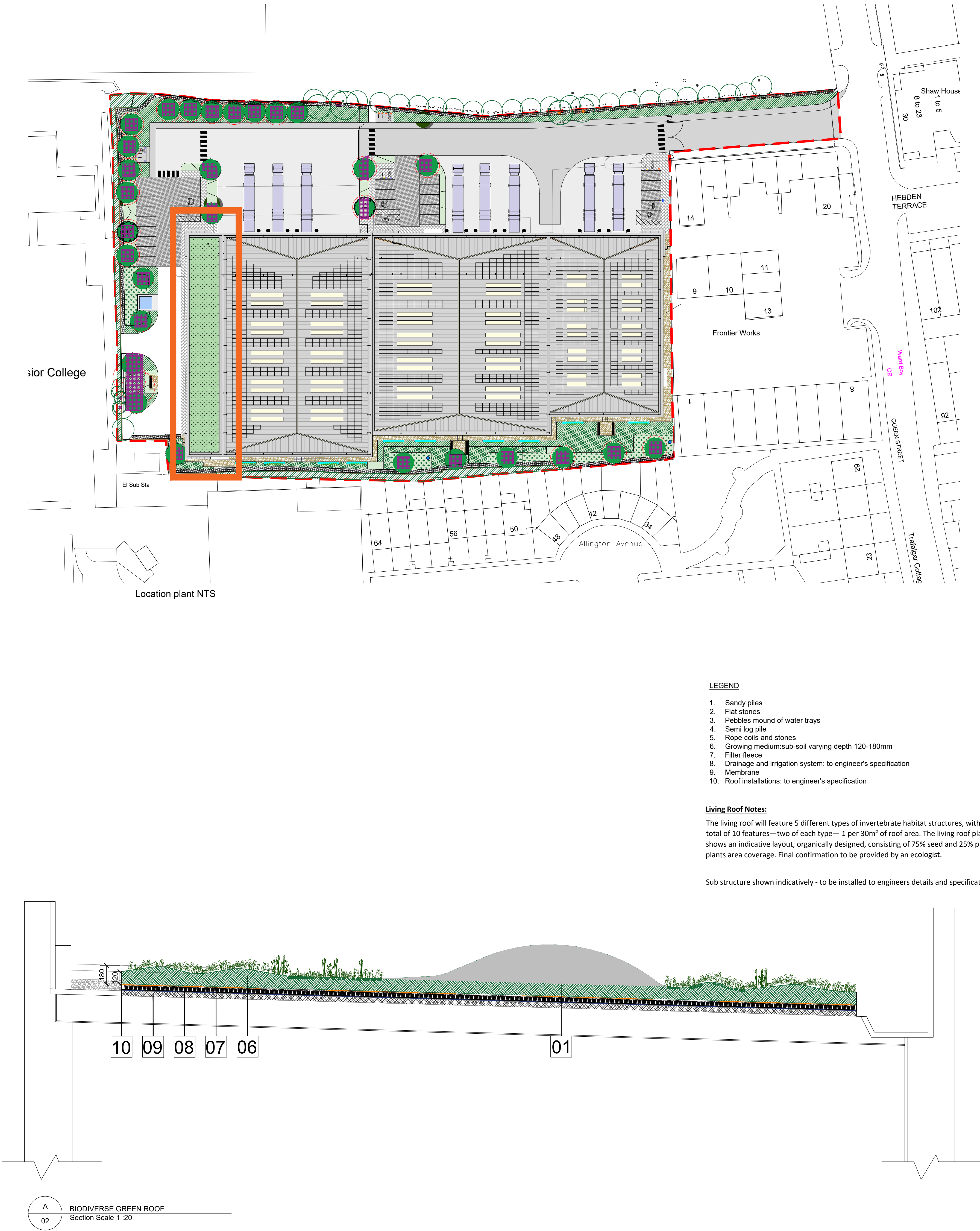
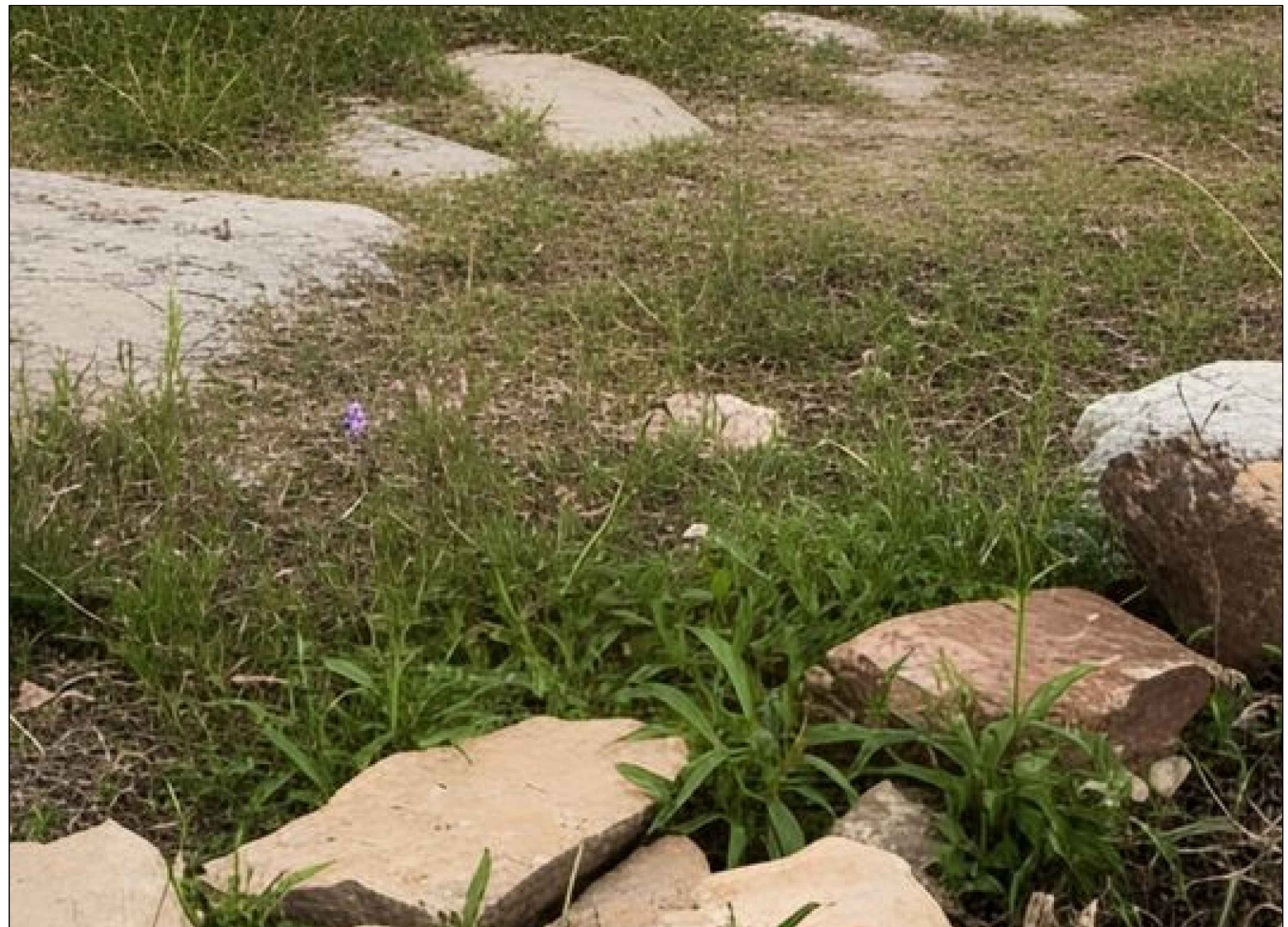




Bio diverse feature precedents



1.Sandy piles



2.Flat stones for invertebrates



3.Pebble mounds of water trays



4.Semi buried log pile



5.Rope coils and stones



01 LIVING GREEN ROOF
Section Scale 1 : 100

Indicative List Only: No more than 30 species should be selected from the list above to create an appropriate mix, with selections made at the optimal planting time. The list includes only suitable plugs; however, some early-flowering plants may become unavailable later in the season. The availability of plugs will vary month to month, and the final selection must be approved by a qualified ecologist.

British Native Wildflower Plug Plants

1. Achillea millefolium	Yarrow
2. Agrimonia eupatoria	Agrimony
3. Allium schoenoprasum	Wild Chives
4. Alium scorodoprasum	Sand Leek
5. Anthoxanthum odoratum	Sweet Vernal grass
6. Anthyllis vulneraria	Kidney vetch
7. Arabis glabra	Tower Mustard
8. Armeria arenaria	Jerry Thrift
9. Armeria maritima	Thrift
10. Bellis perennis	Daisy
11. Briza media	Quaking Grass
12. Campanula rotundifolia	Clustered Bellflower
13. Campanula medium	Scottish bluebell
14. Carex arenaria	Sand sedge
15. Carex flacca	Glaucous sedge
16. Centaurea cyanus	Cornflower
17. Clinopodium vulgare	Wild Basil
18. Cynosurus cristatus	Crested Dog's-tail
19. Dianthus deltoides	Maiden Pink
20. Echium vulgare	Viper's bugloss
21. Erigeron acer	Blue fleabane
22. Erysimum cheiri	Wild Wallflower
23. Festuca ovina	Sheep's Fescue
24. Festuca rubra	Red Fescue
25. Fragaria vesca	Wild Strawberry
26. Galium verum	Lady's bedstraw
27. Geranium pyrenaicum	Hedgehog Crane's-bill
28. Geranium sanguineum	Bloody Cranesbill
29. Glechoma hederacea	Ground ivy
30. Helianthemum nummularium	Common rock rose
31. Hypericum perforatum	Perforate St John's-wort
32. Hypochaeris radicata	Cat's ear
33. Leontodon autumnalis	Autumn Hawkbit
34. Leontodon hispidus	Rough hawkbit
35. Leucanthemum vulgare	Oxeye Daisy
36. Linaria purpurea	Purple toadflax
37. Linaria vulgaris	Common toadflax
38. Lotus corniculatus	Bird's-foot trefoil
39. Lychnis flos-cuculi	Ragged robin
40. Oenothera stricta	Fragrant evening primrose
41. Ononis spinosa	Spiny retharow
42. Origanum vulgare	Wild marjoram
43. Papaver rhoeas	Common field Poppy
44. Plantago coronopus	Buck's-horn plantain
45. Plantago lanceolata	Ribwort plantain
46. Potentilla argentea	Hoary cinquefoil
47. Potentilla reptans	Creeping cinquefoil
48. Potentilla rupestris	Rock cinquefoil
49. Potentilla sanguisorba ssp. sanguisorba	Minor Salal burnet
50. Primula veris	Cowslip
51. Primula vulgaris	Primrose
52. Prunella vulgaris	Selfheal
53. Saponaria officinalis	Soswort
54. Scabiosa columbaria	Small scabious
55. Sedum acre	Biting stonecrop
56. Sedum album	White stonecrop
57. Sedum anglicum	English stonecrop
58. Sedum rupestre	Reflexed stonecrop
59. Silene latifolia subsp. alba	White campion
60. Silene uniflora (maritima)	Sea campion
61. Silene vulgaris	Bladder campion
62. Stachys officinalis	Belony
63. Teucrium scorodonia	Wood sage
64. Thymus polytrichus	Wild thyme
65. Viola riviniana	Dog violet
66. Viola tricolor	Wild pansy

PROPOSED LIVING GREEN ROOF Bauder
BIO DIVERSE UK Native Flora 5 Seed Mix Green Roof System by Bauder or similar approved. To be installed as per manufactures details and specifications.

PROPOSED LIVING GREEN ROOF Bauder
BIO DIVERSE UK Native Plug Plants Green Roof System by Bauder or similar approved. To be installed as per manufactures details and specifications.

British Native Wildflower Plug Plants Notes:
Indicative List Only: No more than 30 species should be selected from the list above to create an appropriate mix, with selections made at the optimal planting time. The list includes only suitable plugs; however, some early-flowering plants may become unavailable later in the season. The availability of plugs will vary month to month, and the final selection must be approved by a qualified ecologist.



Image showing wild flowers and grasses typical of an living green roof

Please note as advice by Bauder, once established, there is no difference in the maintenance of seeded and plug planted green roofs

- Bio diverse green roof systems require regular maintenance to remain in good condition. Following installation, the planting will require frequent watering and basic maintenance until it has roots into the growing medium and adapted to its surroundings. The level of continuous maintenance required will vary depending on the vegetation species included and the original purpose for which it was installed. While the intention was to create a naturalised biodiverse roof, if not properly maintained, this can lead to the accumulation of dead or undesired vegetation, as well as possible fire hazards. Maintenance is best performed on an annual basis, in the spring and late autumn. This may involve strimming and the removal of dead organic materials.
- Designated biodiverse areas should be disturbed as little as possible during maintenance to minimise the upset of any micro-habitats that may have colonised.

Preliminary Maintenance Procedures

- The following actions should be done to ensure the roof remains in good condition and to retain the validity of the waterproofing system guarantee:
- When operating at roof level, ensure that all essential health and safety standards are followed, including providing safe access to the roof. It is recommended by Bauder that the contractor obtain proof of current maintenance for any man-safe roof access systems before beginning work on-site.
- Use a strimmer to remove dead plants, then dispose of the material safely.
- Bauder suggests removing unwanted leaf litter that has fallen onto the roof surface from overhanging trees in both the spring and autumn to avoid smothering the flora beneath.
- Remove the covers from all inspection chambers, make sure that all rainfall outputs and downpipes are clear, and that water flows freely away.
- Ensure that any protective metal flashings and termination bars are securely fixed in place. Renew or repair as necessary.
- Examine any mastic sealer and mortar pointing for signs of degradation. Repair or replace as needed.
- Check that all promenade tiles and pavement slabs are still in place, secure and in good shape.
- Ensure that any new items of plant/equipment that may have been introduced to the roof are mounted on suitable isolated slabs and that roof fixings used to secure the plant/equipment in place do not penetrate the waterproofing. If in doubt, contact Bauder for further advice is recommended.
- The Building owner should keep a record of roof inspections and upkeep. Any signs of damage, contamination, or degradation to the waterproofing should be notified to Bauder promptly so that preparations can be made to carry out remedial work as needed.
- When performing maintenance on adjacent roof areas, take care not to damage the green roof vegetation or the waterproofing system. If it is suspected that either element has been affected, Bauder should be approached for advice. Any waterproofing damage produced after the original installation may void the guarantee.
- If any illegal changes to the waterproofing system will void the guarantee. If such a circumstance arises, Bauder should be called for advice on the change and how to implement it without affecting the guarantee.

Plant Related Maintenance Tasks

Plant encroachment

- Any plant that has gotten into drainage outlets, inspection chambers, pathways, and vegetation barriers (pebbles) should be removed. If the pebble vegetation barrier moves or settles, additional washed stone pebbles comparable to those already present can be added.

Plant Maintenance

In the absence of a management plan for the green roof, the following activities should be carried out:

- Maintenance of Bauder's Native Wildflower Planting
- In late autumn, trim the foliage to a height of 50-70mm and rake up and eliminate any undesirable waste. To stimulate growth, apply 80g/m² of slow-release organic fertiliser to the vegetation.
- Weeding - in a biodiverse green roof, with the exception of saplings which should always be removed, weeds are only considered as an aesthetic problem. If weeds become invasive, they can be manually removed.
- Irrigation - The need for irrigation in a biodiverse green roof system is determined through a client's visual requirements of the vegetation.
- If the aim is to keep the roof colourful and interesting for the longest period of time during the growth season, irrigation will help significantly. If the primary criterion is to provide biodiversity, then providing enough watering points at roof level to allow for only occasional irrigation during lengthy droughts can be considered sufficient.

Green roof maintenance is carried out by Bauder's preferred maintenance providers. A typical maintenance schedule involves evaluating a Bauder green roof and determining any necessary repairs, and the following tasks:

- Weed and unwanted item removal - Over time, a green roof may get congested with leaves, debris, and other unwanted vegetation, which can be removed.
- Inspection includes checking roof outlets and removing any encroaching vegetation to allow water to flow freely into rainwater pipes
- Application of fertiliser - to help restore a green roof to its best, an organic slow-release granular fertiliser will encourage growth.
- Testing - after all work has been performed, the irrigation system will be examined to ensure it works as expected.

Installation details of plug plants and seed mixes (as advised by Bauder).

Bauder recommends that plant plugs be installed prior to seeding the green roof area, and the installation steps required are as follows:

Plug Plants

- Plants are pre-grown in plug format and can be planted individually on a green roof.
- To prevent dryness, keep plugs moist and wet them regularly. Plugs can last for 4-5 days if kept moist and out of direct sunlight.
- Plug planting should be the last constructing activity on the roof, usually carried out in the spring or autumn.
- Begin at the far end of the roof to avoid walking on the vegetation. Work on a 10m² area at a time, laying out plugs in a random manner with no more than 3-4 species per m². Avoid placing any near 100mm of the edge.
- Plant density as specified.
- Create a hole in the substrate and insert the plug so that the soil inside is level with the substrate. Firm up the substrate around the plug immediately water each 10m² area with a light spray.
- Continue for the following 10m². Avoid traffic and disturbances in the planted area to prevent plant growth issues.

5 Seed Mix

- The Bauder Flora 5 Seed Mixes are specifically designed for sowing at roof level, they contain tackifier and fertilizer with the seed to ensure the seed is stuck to the substrate and not blown or washed off the roof, this ensures the highest germination rates.
- Ensure the substrate is at the correct level and is raked out to give a smooth finish.
- Seeding is best done in the spring and autumn. Please note that during the summer and winter months, more post-installation aftercare will be required.
- Water the substrate thoroughly before applying Seed Mix.
- To obtain a sow rate of 100g/m², seed in two passes at 90° angles and sow 50% of the mix in each direction.
- Do not water or rake afterward.
- Avoid disturbing the sown area to ensure proper seed germination.

Watering vegetation

- Watering is essential for successful establishment. The requirements for seed mixed and plant plugs are outlined below. However, weather conditions may change during installation, therefore adjustments should be made accordingly. Watering is best carried out using a soft spray or sprinkler system.

Bauder flora 5 seed mixed

- Establishing the vegetation - Once seeds have started to germinate and grow, the substrate should be kept damp through regular watering with a soft spray for the first 10-12 weeks, particularly if no significant rainfall has occurred.

- Maintenance watering once established - Summer months: Water in times of hot dry weather where no significant rainfall has taken place for two weeks. Twice a week in evening or early morning.
- Winter months: Once a week if there is enough rain to keep the blanket and substrate moist to the touch.

Plug plants

- Establishing the vegetation - To prevent substrate erosion, water plugs immediately after installation using a soft spray to avoid erosion of the substrate.
- Summer months: 10-12 weeks of regular watering, every other day for the first six weeks and then frequency as required keeping the blanket and substrate damp to the touch.
- Winter months: Once a week if there is enough rain to keep the blanket and substrate moist to the touch.
- Maintenance watering (once established) - Summer: Water only during hot, dry weather with no rain for two weeks. Frequency: twice a week in the evening or early morning.
- It is the responsibility of the roofing contractor to liaise with the main contractor/building owner to provide water and ensure that the necessary watering programme (as indicated above) is instigated following installation.
- An adequate mains water supply of sufficient pressure must be available and operational prior to the plants being delivered and installed. Initial watering must be by surface mounted sprinklers. Please refer to the Bauder Watering Guide document for further information on watering.

Figured dimensions only are to be used. All dimensions to be checked on-site. Differences between drawings and between drawings and specification or table of quantities to be reported to the PRC Group.
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Architecture
Landscapes
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Urban Design
London 0203 5863548
info@prc-group.com
Milton Keynes 01908 385246
prc-group.com

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Project: BOOKER, TOTTENHAM
Drawing/Title: LIVING ROOF DETAIL

Job No: 11472
Project Stage: PL
Status: INFO
Revision Date: AUG 25
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