Refer to Biodiversity/ Green infrastructure statement

Additional planting

Bird Cherry 1.2-1.5m
Hawthorn 1.2-1.5m
Blackthorn 1.2-1.5 m

50M² Tree planting

bat box

bird box

BARN

bat box

bird box

A

A

A

FARMHOUSE

bat box

extension

C

N

New Marsh Ensign treatment plant
16 person shallow version
below ground 7 m from house. access hardstanding over.

artificial swallows nests

shelter

D

D

D

D

D

Common Hazel (Corylus Avellana) planting 4 No 1.2 -1.5m height Saplings

bat box

Outbuilding

Access bridge

B

garage

bat box

50 M² Planting low level shrubs

35 M² reed bed

Pollinator wildflower mix dispersed around site

Log pile

Retaining wall 2.5m high stepping down bank

visibility splay strip excavated to 0.7m max height and grass seeded

12 road fall

Existing drainage field of septic tank to be replaced by new pipework supporting 12 person treatment plant.
soil mound approx 1.5m deep of new material improving percolation into earth. New reed bed planting to section down to hedgerow to further improve contitions for treated water absorption

Existing Hedgerow repositioned/ cut back for 1m setback behind visibility splay

Planting: Native species only. Bird Cherry, Hawthorn, Blackthorn, Hazel (4 No min.), Dogwood, Rosa canina indispursed between. Spacing 1–1.5 m. Bare root Nov–Mar; cell grown anytime. "Mulch lightly; avoid fertiliser." 150 mm mulch + membrane. Replace failures for 5 years.
Hedgerow: Existing hedge retained and set back 1 m behind visibility splay additional planting using natve species as required.
Pollinators:Pollinator wildflower mix dispersed around site approx 30m² below garage remaining behind barn. 20 species annual/perennial mix. Grass seeded visibility strip (0.7 m). Soil mound (~1.5 m) stabilised with planting.
Wildlife Features: Bat boxes (multiple), bird boxes, artificial swallow nests under open sided shelter. Log pile habitat.
Lighting: Warm white 2200–2700 K. Max height 2.5 m. Downward bollards max 1.2 m. No illumination of hedgerows or bat corridors.
Drainage: Existing septic tank (8 PE) replaced with 16 PE treatment plant. "Final effluent passes through reed bed then soakaway." Foul discharge does not affect peak run off.
BNG Summary: Native planting (100 m²), strengthened hedgerow, pollinator habitat, bat/bird/swallow features, reed bed water quality improvement, dark sky lighting, 5 year maintenance.



Swallow cup artificial nests to be installed below head of sloping open sided shelter. (Swallows build individual mud cup nests on beams, ledges, and accessible structures. They frequently nest in small aggregations simply because suitable ledges occur together in barns or outbuildings. This is a site driven pattern, not a behavioural requirement.)



Bat boxes



Birdboxes





Approx 50 m2 planting area Tree Spacing: 1–1.5 m

Season: Bare-root Nov–Mar; cell-grown anytime with watering.

Establishment: Mulch lightly; avoid fertiliser (encourages weak growth).

Wind exposure: Plant in irregular clusters, not straight lines — reduces wind tunnelling.

Wildlife: Mix thorny (blackthorn) with open form for best habitat structure.

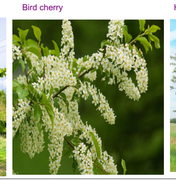




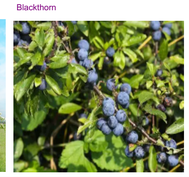














External lighting

A — LED 3.8 W Buston UE
colour:warm white (2,700 K)
Lumens (lm):800 PIR detection

B — GALAXY-FCD22- 150W.
Bat Friendly Floodlights 2200K IP66
2.5m mounting height

C — Paulmann LED outdoor wall light Kimu, anthracite, 2,200 K

D — Warm White 2200K to railing / bollard lighting
no higher than 1.2m from floor level
downward facing

All lighting to be set no higher than 2.5m from ground level to prevent disturbance to to protected species and preserve dark skies

Re : Foul drainage and treatment plant (16 PE, septic tank replacement)
The existing dwelling is currently served by a septic tank discharging to ground, with an estimated design load of 8 PE (approximately 1.2 m³/day, 0.48 kg BOD/day and 0.06 kg N/day). The proposed barn conversion introduces an additional 8 PE, and both the existing house and the converted barn will be connected to a new shared packaged treatment plant sized for 16 PE, with a design flow of approximately 2.4 m³/day, a BOD load of 0.96 kg/day and an ammonia load of 0.13 kg N/day. Although the total foul flow from the site increases, the new plant provides a significantly higher level of treatment than the existing septic tank. Final effluent will pass through a reed bed and then discharge to a soakaway, providing additional polishing and attenuation before infiltration to ground. This arrangement substantially reduces the pollutant load to the environment per unit of flow and replaces an older septic system with a modern, controlled treatment train.
Run-off, soakaway and river impact
The foul system operates at a relatively steady, low discharge rate, which is then further attenuated within the reed bed and soakaway, so it does not contribute to peak surface-water run-off or fluvial flood flows in the nearby river. Surface-water from roofs and hardstanding is managed separately via sustainable drainage measures, with post-development run-off rates and volumes controlled to at or below existing conditions. As a result, peak flows in the adjacent watercourse remain governed by rainfall events rather than foul discharges, and the combination of a modern treatment plant, reed bed polishing and soakaway infiltration represents an overall improvement in the quality of water ultimately reaching the river.

Any existing hedgerow and planting on site to be utilised where possible as part of the final landscaping scheme.
Weed suppressant barrier and mulch to a depth of 150cm to planted borders.
All planting to be maintained for five years with species that fail to take to existing soil to be replaced with more successful planting from the species listed above.
Plants larger than 1.5m will need the support of a stake until the root system is established, placed at a 45 degree angle to the trunk, to avoid damaging the tree root system. Where there is prevailing wind the stake should be positioned upwind of the tree.
For successful planting, trees should be treated with care as newly planted trees are very susceptible to drying winds, as well as dry, waterlogged or frosted ground. Therefore where possible these should be avoided. Bare root stock needs to be planted between November and the end of March.

Landscaping & Biodiversity plan
:Pont Y Meibion, Llanarmon Road, Glyn Ceiriog, Llangollen

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