

# LANDSCAPE PROPOSALS

Gwern- Y- To, Shocklach Road, Threapwood, Wrexham



**Aspinalls Planning & Landscape**  
December 2020

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## INTRODUCTION

The design does not require excavation into the soil, including through lowering of levels and/or scraping, other than the removal, using hand tools, of any turf layer or other surface vegetation. If it is intended to use the new surface for construction access, it is essential that the extra loading and wear arising from this are considered during the design process.

The structure of the hard surface is designed to avoid localized compaction by evenly distributing the loading over the track width and wheelbase of any vehicles expected to use the access.

Where a permeable surface is to be used by vehicular traffic, a geotextile should be used at the base of construction to help prevent pollution contamination of the rooting area below. Permeable hard surfacing can result in soil volume moisture content remaining at or near field capacity for long periods. Where there is a risk of waterlogging, the design should incorporate appropriate land drainage. Land drainage within the Root Protection Area (RPA) should be designed to avoid damage to the tree and the soil structure, e.g. sand slitting formed by compressed air soil displacement with the slits set radially to the tree.

## LANDSCAPE PROPOSALS (Planning Condition 6)

The Arboricultural Report prepared by Mathew and Goodman provides proposals in respect of the management of the existing trees on site. The recommendations outlined in the arboricultural report will be followed and will inform the landscape design process. Indeed, the planting can be categorised in the following functional terms:

1. Replacement of dead or dying trees (category U in Arboricultural Survey)
2. Planting to supplement existing (retained) trees on site, and
3. Planting Plans & Specification – Bed Ref ‘A’ adjacent to house – species selection to improve biodiversity and to provide suitable wildlife habitats.

The planting plan will be influenced by position of trees to be removed, along with the tree protection zones and the areas surrounding the new dwelling, where more ornamental trees and shrubs would be more appropriate.

## 1. Replacement tress

T3, T6, T9, T22 and T27 were identified as retention category 'U'. These are trees that are either dead or have highly limited life expectancy, and thus it is proposed to replace these with the same species to provide continuity, consistency and synergy with the landscape character of the area. The table below lists the trees to be removed along with the specification of their replacements:

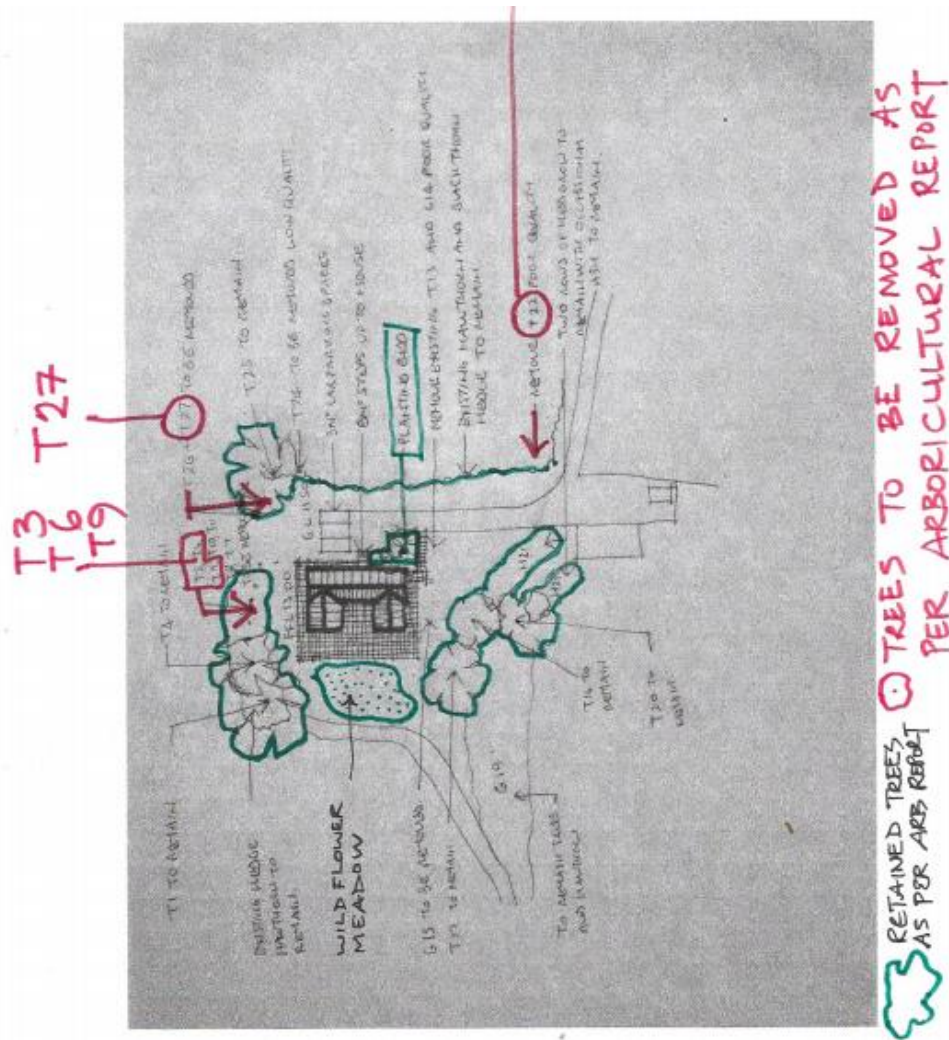
| <b>Trees to be removed<br/>(Ref/quantity)</b> | <b>Species</b> | <b>Replacement species</b> | <b>N0 &amp; size of tree</b>               |
|-----------------------------------------------|----------------|----------------------------|--------------------------------------------|
| <b>T3/</b> 1 No.                              | Goat Willow    | Goat Willow (Salix caprea) | 2 No: feathered whip - 150 - 175 mm high   |
| <b>T6/</b> 1 No.                              | Ash            | Alder (Alnus glutinosa)    | 3 No: - feathered whip - 150 - 175 mm high |
| <b>T9/</b> 1 No.                              | Alder          | Alder (Alnus glutinosa)    | 2 No: - feathered whip - 150 - 175 mm high |
| <b>T22/</b> 1 No.                             | Unknown        | Birch (Betulus pendula)    | 1 No: - feathered whip - 150 - 175 mm high |
| <b>T27/</b> 1 No.                             | Willow         | White Willow (Salix alba)  | 2 No: - feathered whip - 150 - 175 mm high |

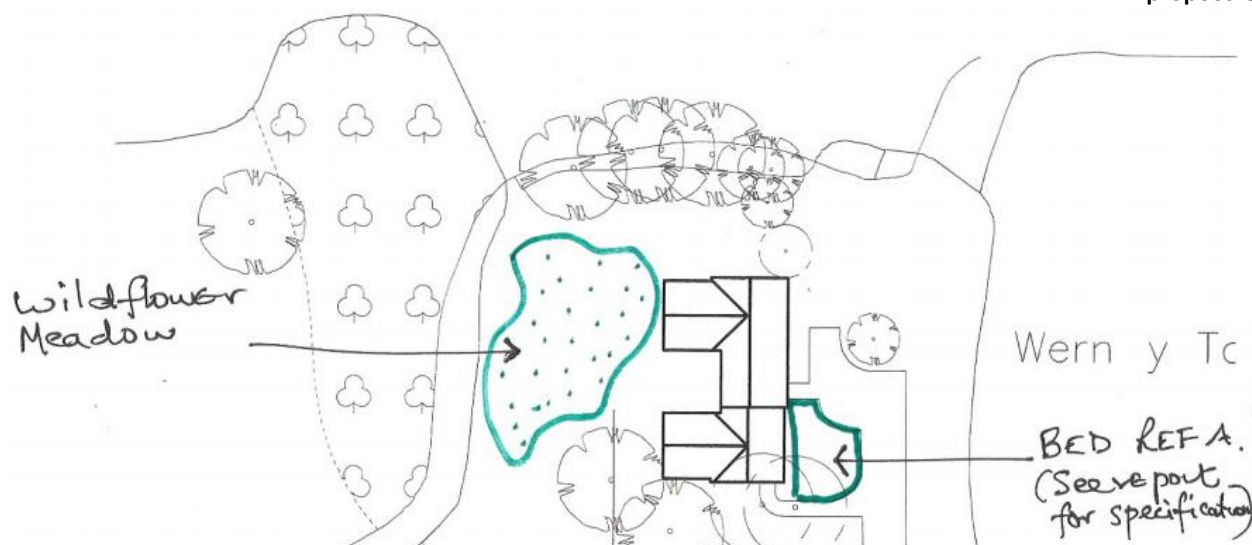
Note: refer to tree plan below for position

## **2. Planting to supplement existing (retained) trees on site**

Supplementary planting will be focused on a large planting bed adjacent to the proposed dwelling, which will comprise largely of native species and which will attract wildlife. Whist the planting adjacent to the house is more ornamental, it will nevertheless provide a range of diverse habitats for wildlife, consistent with similar woodland edge species. Planting plans and specifications are outlined below, developing the objectives and themes identified above:

## **3. Planting Plans & Specification – Bed Ref 'A' adjacent to house**

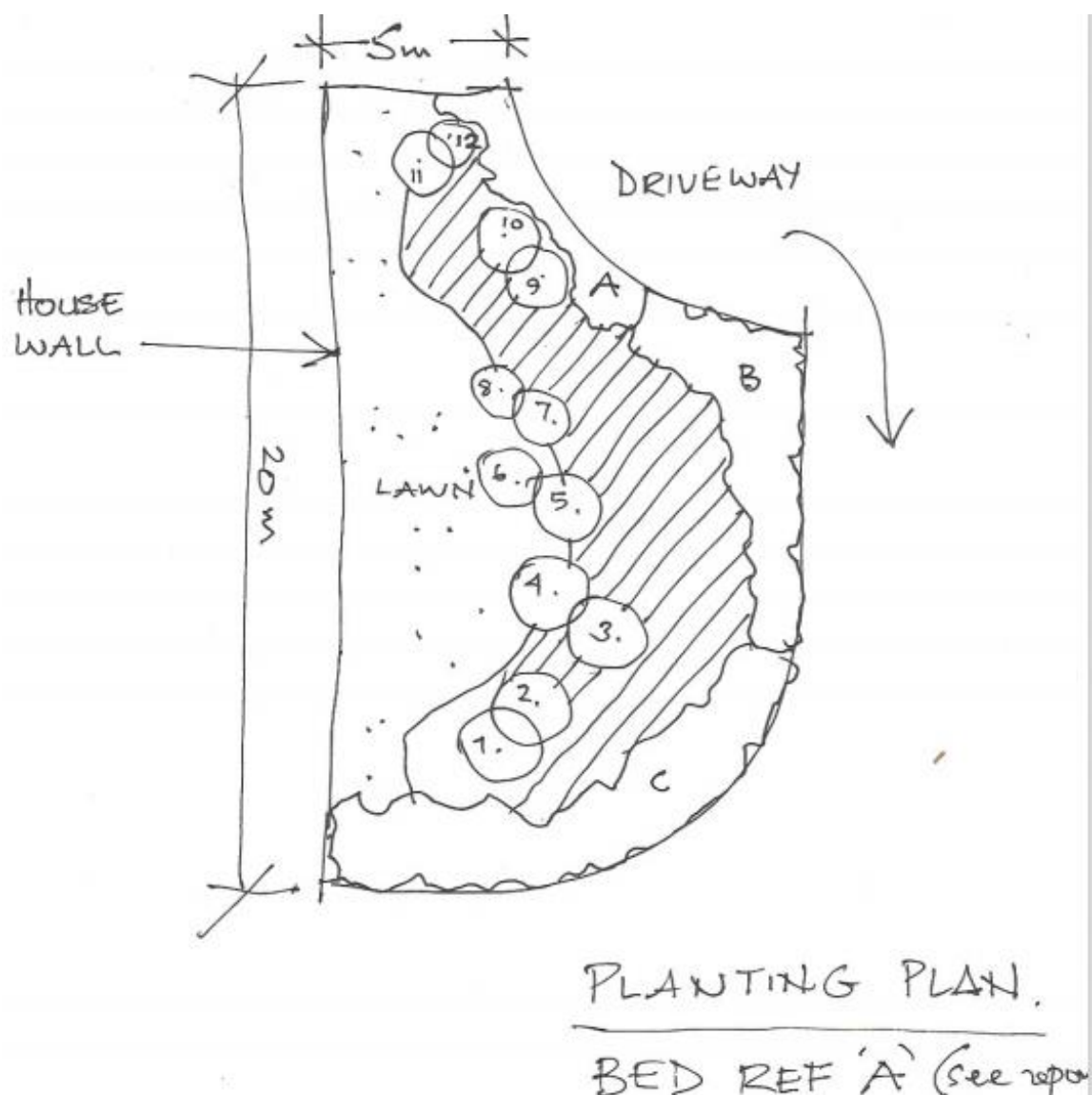




**SPECIFICATION FOR BED 'A' (see plan below)**

| Ref. on plan | Species                                                                                                                                                                                                                               | No.  | Size                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------|
| 1            | Sorbus aucuparia                                                                                                                                                                                                                      | 1    | Standard - 60 - 80 cm          |
| 2            | Sorbus aucuparia                                                                                                                                                                                                                      | 1    | Standard - 60 - 80 cm          |
| 3            | Betulus pendula                                                                                                                                                                                                                       | 6    | Heavy standard - 80 - 100 cm   |
| 4            | "                                                                                                                                                                                                                                     |      | "                              |
| 5            | "                                                                                                                                                                                                                                     |      | "                              |
| 6            | "                                                                                                                                                                                                                                     |      | "                              |
| 7            | "                                                                                                                                                                                                                                     |      | "                              |
| 8            | "                                                                                                                                                                                                                                     |      | "                              |
| 9            | Sorbus aria                                                                                                                                                                                                                           | 2    | Standard - 60 - 80 cm          |
| 10           | "                                                                                                                                                                                                                                     |      | Standard - 60 - 80 cm          |
| 11           | Populus alba                                                                                                                                                                                                                          | 2    | Heavy standard - 80 - 100 cm   |
| 12           | "                                                                                                                                                                                                                                     |      | "                              |
| Cross hatch  | Viburnum opulus x6<br>Budleia globose x 7<br>Ilex aquifolium x 9<br>Acer campestre x 8<br>Rosa rugosa x 20<br>Cornus - midwinter fire x 14<br>Sambucus nigra x 21<br>Crataegus monogyna x 4<br>Rosa canina x 7<br>Rosa rubiginosa x 7 |      | Medium shrubs<br>2 - 3 Ltr pot |
| A            | Rubus cockburnianus                                                                                                                                                                                                                   | x 12 | Ground cover 2 - 3 Ltr pot     |

|   |                 |      |   |
|---|-----------------|------|---|
| B | Vinca minor-    | x 19 | " |
| C | Rubus tricolour | x 12 | " |



## WILDFLOWER MEADOW

### Ground conditions

For the establishment of perennial wildflowers, it is often necessary to have a soil or planting medium low in nutrients; this applies particularly to calcareous grassland.

Mesotrophic (neutral) grassland can tolerate higher nutrient levels. Soil fertility can be reduced by removing the topsoil (approximately the upper 20 cm) to reveal the subsoil.

If the soil is deficient in nutrients or organic content, or have poor structure, it may be necessary to add materials. While applying chemical fertilisers is an unsustainable technique, the incorporation of compost or rotting organic matter is a valuable use of recycled material. It is important to know the source of such material to avoid the introduction of invasive plant species or contamination.

Grass and weeds should be removed by ploughing or rotovation prior to seeding. Such methods can bring the native seed bank to the surface, encouraging it to germinate. Rank and pernicious species such as Common Nettle (*Urtica dioica*), Spear Thistle (*Cirsium vulgare*), Creeping Thistle (*Cirsium arvense*), Broad-leaved Dock (*Rumex obtusifolius*), Curled Dock (*Rumex crispus*) and Common Ragwort (*Senecio jacobaea*) should be controlled if they begin to dominate. This can be achieved by cutting or mowing, spot-spraying with glyphosate or, where this is not possible, over-sowing may provide an alternative

Some existing managed lawns/grassland may be transformed into wildflower meadows by allowing the grassland to flower so that meadow flowers already present may seed and reproduce (Figure 2). In addition, it may be necessary to forage harvest the grass in the autumn to prevent nutrient build up, and to create bare patches by raking or machine. Wildflower seed mix can then be applied to the patches or generally over-seeded.

#### Sowing

A wildflower meadow seed mix should be in the ratio 4:1 (grass seed: wildflower seed). It should be sown in September/October in calm, dry weather, by machine or hand at a rate of 2-5 g m<sup>-2</sup>.

Details of the proposed wildflower mix can be found in Appendix 1 below.

### **SAFEGUARDING HEDGEROW (Condition 8) ADJACENT TO ACCESS ROAD**

The plan below indicates the position of the hedgerow that is to be protected. No earthworks are proposed alongside the hedge boundary so as to safeguard the roots.

Routine hedgerow maintenance will be undertaken under the supervision of the project arboriculturists. All maintenance to be undertaken between October and March



## TREATMENT OF AREAS AROUND NEWLY PLANTED AND EXISTING TREES

The general treatment of areas around newly planted and existing trees should allow for adequate infiltration of water and free gas exchange, reduction of water evaporation and the retention of an open soil structure to encourage root growth. Care should be taken to ensure that grass or weed growth does not compete with young root growth by intercepting available water supply. Care should also be taken to avoid the risk of damage to the stems of young trees from future strimming or mowing operations. An area with a radius of at least 500 mm from the stem of newly planted trees should therefore be kept free from competing vegetation by chemical weed control or by the more environmentally friendly option of mulching.

[NOTE: Soft landscape finishes, including mulch and cultivated beds, will generally provide more favourable conditions for young tree establishment than most hard surfaces or grass. The use of ground-cover shrubs with an appropriate organic mulch is particularly beneficial: this treatment suppresses weeds, reduces maintenance, discourages intrusion and maintains a permeable open soil structure.]

NOTE 2 BS 4428:1989 provides recommendations for the treatment of soft surfaces but excludes hard surfaces.

## **DRAINAGE**

New development can influence the existing drainage pattern and ground water levels of a site, due to level changes, increased areas of hard surface and new drainage installations. The root systems of mature trees do not generally adapt as well as younger specimens to alterations to groundwater. Expert advice on both drainage and trees should be taken where groundwater conditions are liable to change. It is both good practice and, in many cases, a regulatory requirement to maintain existing groundwater conditions within, and reduce run-off from, a development site. This can be achieved, for example, using permeable hard surfaces and techniques associated with sustainable urban drainage systems (SUDS). Such techniques can be designed and implemented to benefit both existing and new trees.

## **TOPSOIL QUALITY AND AMELIORATION**

The quality of topsoil is a critical factor for the establishment and growth of new planting or seeding, and should be assessed by a competent person for depth, structure, texture and content. If there is any doubt regarding the suitability of soil to be used as a growing medium, appropriate samples should be analysed by a specialist soil laboratory for horticultural/landscape use, with particular reference to nutrients, organic content and any potential toxic materials or other contaminants. The report should include an assessment of suitability and any recommendations for appropriate remedial work, including the need for further specialist site investigation if necessary. Imported topsoil to be used in planting or seeding operations should be from a source approved by a competent person, samples should be submitted for analysis, and deliveries should be certified and verified for their consistency with approved samples.

Topsoil depths should be appropriate for, and may vary according to, the type and size of planting or seeding to be undertaken.

## SOIL COMPACTION AND REMEDIATION MEASURES

Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake, and organic content, and will seriously impede or restrict root growth. The risk of soil compaction is greatest in soils with a significant clay content and in wet conditions. It can result from temporary or short-term loadings, such as the passage of a single vehicle, or from longer-term construction activities, including materials storage.

Soil compaction should be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed. Where soil compaction has occurred in the vicinity of existing trees, arboricultural advice should be taken before carrying out any remedial or other works within RPAs to mitigate risk of further damage to roots. Remedial works may include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (but excluding peat), to improve structure. Heavy mechanical cultivation such as ploughing or rotavation should not occur within the RPA. Any cultivation operations should be undertaken carefully by hand in order to minimize damage to the tree, particularly the roots. Decompaction measures include forking, spiking, soil augering and tilled radial trenching. Care should be taken during such operations to minimise the risk of further damage to tree roots.

### USE OF MULCH [Following guidance outlined in BS 3998:2010]

Open soil and shrub planting areas around newly planted trees should be mulched to inhibit weed growth, reduce groundwater evaporation, resist and mitigate soil compaction and reduce maintenance requirements, whilst allowing gas exchange and water penetration to roots. The mulch material should be weed-free, easy to apply, containable within the area of application and readily available. The choice of material will be informed by local availability of materials, site characteristics and aesthetic requirements.

The mulch should be periodically replenished as it decomposes so that it does not become depleted, and ideally when the soil is warm and moist. The materials that may be used for mulching include coarsely divided plant matter, such as well-composted wood chip,

pulverized bark, leaf mould or green waste conforming to PAS 100, and these may be combined with well-rotted animal manure. If the sole intention is to conserve moisture, a layer of gravel or well-secured sheets of material such as permeable geotextile fabric may be used, and may be covered for cosmetic purposes. Any such sheets should be maintained to avoid damage to the tree (e.g. by clogging, weed growth, restriction of air movement or constriction of the stem).

The mulched area should extend over as much of the root system as can be allowed by other site-usage requirements. The depth of an organic mulch should not be so much as to inhibit aeration of the root system (normally no more than 100 mm). The area around the tree should be well-watered prior to the application of mulching material and the mulch should be periodically replenished as it decomposes, so that it does not become depleted. [NOTE Mulches that retain water encourage the development of roots near the soil surface and in the mulch itself. This can become a disadvantage owing to desiccation if the mulch is removed or not replenished].

Mulches should be kept away from direct contact with the bark of the stem, or of major roots, since this might encourage infection by pathogens by maintaining wet conditions. Mulches improve the soil texture and act as a buffer for rainfall - mulches generally help to prevent extremes of soil wetness and dryness.

### **Appendix 1 – Proposed wildflower mix**

Yarrow - *Achillea millefolium*  
Common Bent - *Agrostis capillaris*  
Sweet Vernal-grass - *Anthoxanthum odoratum*  
Betony - *Betonica officinalis*  
Common Knapweed - *Centaurea nigra*  
Greater Knapweed - *Centaurea scabiosa*  
Wild Carrot - *Daucus carota*  
Foxglove - *Digitalis purpurea*  
Red Fescue - *Festuca rubra*  
Lady's Bedstraw - *Galium verum*  
Perforate St John's-wort - *Hypericum perforatum*  
Oxeye Daisy - *Leucanthemum vulgare*  
Common Bird's-foot-trefoil - *Lotus corniculatus*  
Musk-mallow - *Malva moschata*  
Black Medick - *Medicago lupulina*

Field Forget-me-not - *Myosotis arvensis*  
Ribwort Plantain - *Plantago lanceolata*  
Hoary Plantain - *Plantago media*  
Smooth Meadow - grass - *Poa pratensis*  
Tormetil - *Potentilla erecta*  
Salad Burnet - *Poterium sanguisorba* ssp.  
*sanguisorba*  
Cowslip - *Primula veris*  
Selfheal - *Prunella vulgaris*  
Bulbous Buttercup - *Ranunculus bulbosus*  
Common Sorrel - *Rumex acetosa*  
Wild Clary - *Salvia verbenaca*  
Red Campion - *Silene dioica*  
White Campion - *Silene latifolia*  
Night-flowering Catchfly - *Silene noctiflora*  
Devil's-bit Scabious - *Succisa pratensis*  
Goat's-beard - *Tragopogon pratensis*

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