GENERAL SPECIFICATION NOTES

For Proposed Tree, Hedge, and Shrub/herbaceous perennial Planting - implementation and maintenance.

Site preparation: Imported Topsoil Imported topsoil shall be to BS 3882: 2007: Specification for topsoil and requirements for use, and be of medium texture with a high proportion of loamy material. It shall be free from subsoil, rubbish, roots of perennial weeds and other injurious to plant growth. All topsoil shall be stacked in heaps, not exceeding 2m high. During storage, topsoil heaps shall be kept free from contamination, compaction and weeds. Imported topsoil shall be from an approved source and a sample submitted and analyzed/tested at an independent approved laboratory. Soil Handling: Soil handling shall only take place during the driest parts of the year to prevent compaction of the insitu soils. Preparation for Topsoil Re-spread Topsoil shall be spread following completion of all hard landscape building works, following a thorough clearance and removal of building debris. The formation levels shall be as follows: Tree pits: 2m x 2m x 1m deep; bottom of pit broken up to a depth of 150- 200mm and scarify sides. Shrub & Hedge trenches and Shrub areas: minimum 0.45m deep.

Meadow Areas: Meadow sections of swale to have 150mm deep of free draining topsoil mix (75% topsoil / 25% coarse compost). 600mm below planted and meadow sections to be broken up to aid infiltration.

Root Protection: Area beneath Existing Trees: Cultivation to a depth of 400-450mm for shrub planting to be undertaken by hand using hand tools only to minimize root damage. If significant roots are encountered, these will be left undamaged and dug around; Where new topsoil is required, existing soil shall be removed by hand and backfilled with new topsoil by hand to existing levels.

Backfilling with Topsoil: Tree pits and Shrub beds shall be backfilled, in layers, with topsoil thoroughly mixed with planting organic compost and slow release fertilizer shall be used to plant all shrubs and hedges. All finished levels shall be 25mm above adjacent paving. The shrubs shall be shaken during backfilling to avoid air pockets and the soil must be firmed as the hole is filled.

Cultivation: Topsoil shall be cultivated to a minimum of 450mm deep on planting areas to a medium tilth, removing all rubbish, vegetation, perennial weeds, roots, stones over 50mm in any one dimension and raked to even levels.

PLANTING

Plant Stock and Timing: Plant material shall conform to BS 3936 Part 1: 1992, Part 2: 1990; Part 9: 1998; Part 10: 1990 and BS4043: 1989 and shall be protected at all times in transit to the site. The planting season shall be from 1st October to the 31st March. Planting shall not be carried out during periods of frost, drought, cold drying winds, or when the soil is waterlogged.
The planting shall be carried out in the first planting season following practical completion of the building and hard landscaping. Planting outside the planting season will require adequate watering to ensure establishment.

Planting: All trees, hedges & shrub planting shall be planted upright at the same depth as the nursery soil level and evenly spaced, leaving room for growth. Allow at least 300mm clearance between the rootball and the edge of the pit to facilitate staking/anchoring and to allow adequate amount of backfill around the root ball.

Trees in soft landscape (open public space) shall be staked and braced with a cross member. Immediately following planting, all plants shall be watered-in to field capacity. Irrigation pipes: shall be included at the base of each individual tree and shall be 80mm flexible plastic perforated pipe of a suitable length to wrap around the full circumference of the rootball with a 'T' piece allowing sufficient pipe to extend just above the finished ground level with a plastic cap.

Mulching: Prior to the application of mulch, the planting areas shall be completely weed free and watered sufficiently to achieve field capacity. The surface of the planting areas shall be mulched with a layer of Organic Compost Mulch or Fine Composted Bark Mulch composted for 2-4 weeks with a particle size of 0-8mm, to a depth of 50mm, ensuring that the low branches of shrubs and herbaceous plants are not smothered. The mulch shall be topped-up to maintain, after settlement, a depth of not less than 50mm.

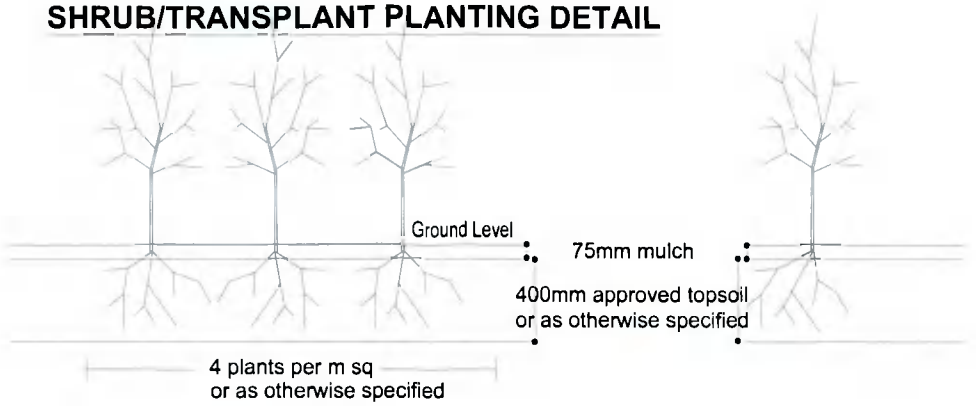
IMPLEMENTATION

All tree, shrub planting areas shall be carried out in the first planting season after all the building works and the hard landscaping areas have been set out and completed.
-Deciduous trees and shrubs - Late October to late March
-Herbaceous plants: September/October and March/April
-Container grown plants: At any time if conditions are favorable
-All construction works to be carried out to manufactures recommendations regarding climatic conditions and controls.

AFTER CARE PERIOD

Maintenance: The Aftercare Period shall extend for an 18 month period. During the Aftercare Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants in weed free areas. Maintenance operations shall include: watering, firming-up, pest and disease control, grass cutting, general pruning, weed control, top up mulch and autumn tidying. Replacement Planting. All plants, which have died, are missing or have failed to thrive, shall be noted and replaced with the same size and species as originally planted, in the following planting season.

SHRUB/TRANSPLANT PLANTING DETAIL

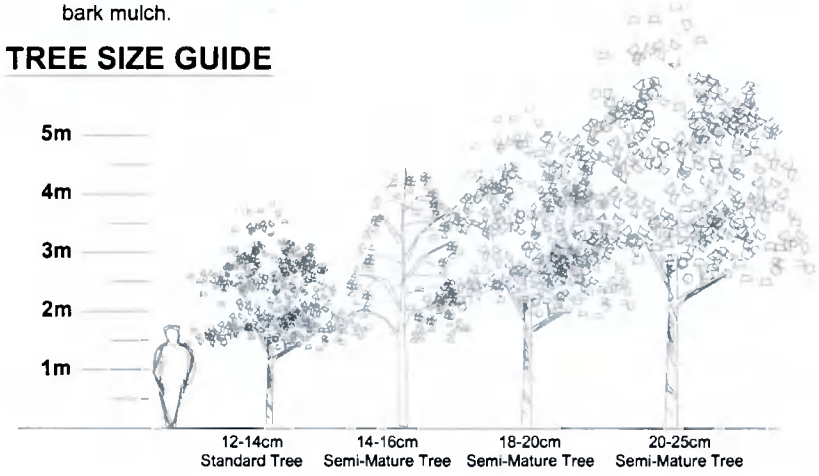


ELEVATION/SECTION **SECTION**

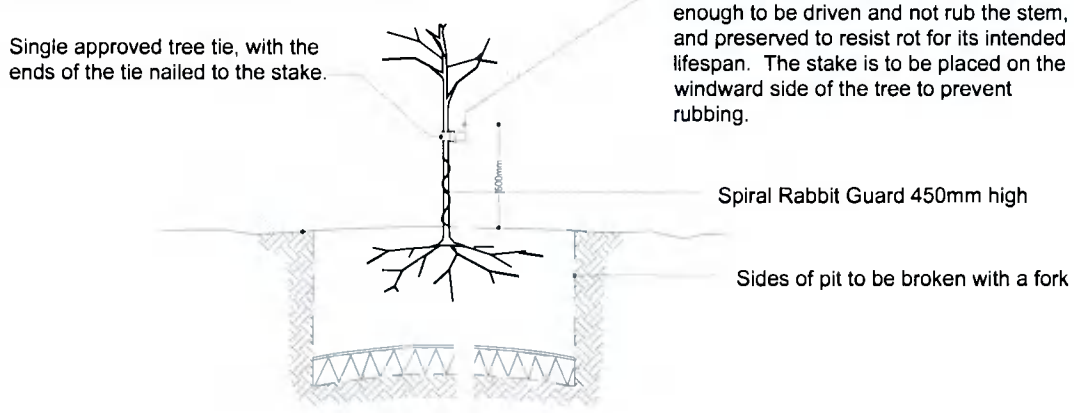
NOTES

1. All shrub planting beds to min. 300mm depth of quality approved topsoil to BS:3882 or as otherwise specified.
2. Break up the soil in the base of each pit.
3. Mix the dug soil with a slow release fertiliser and a specified soil ameliorant.
4. Planting is to be carried out to densities specified.
5. Once planted, back-fill with the remaining soil and firm as before.
6. Top dress the planting area with a 75mm depth of approved medium-grade bark mulch.

TREE SIZE GUIDE

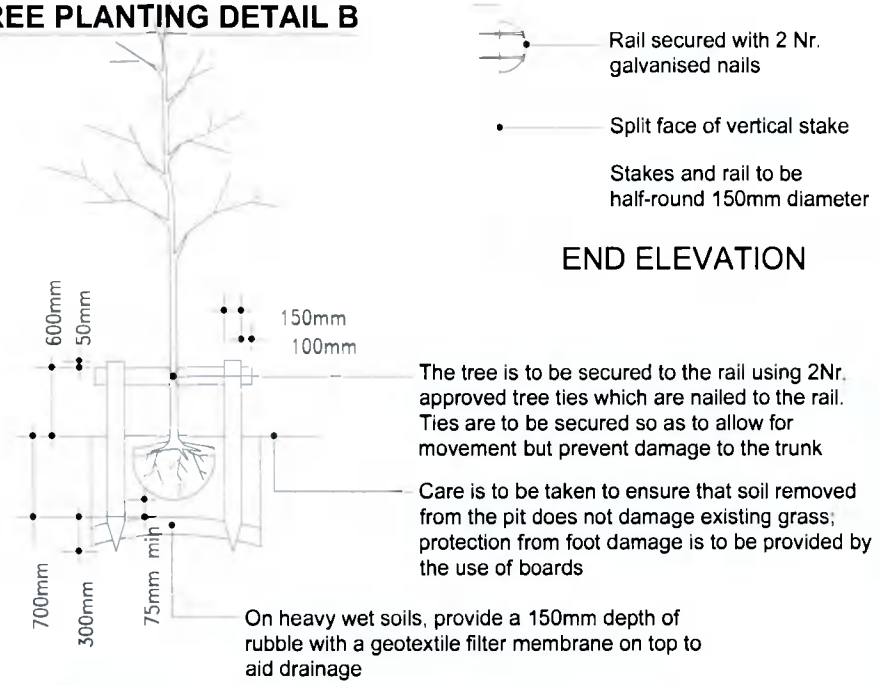


TREE PLANTING DETAIL A



1. The tree pit should be excavated to allow adequate clearance between the root ends (when fully spread) and the side of the pit. The depth of the pit should be a minimum of 700mm, and at least 75mm greater than the depth of the root system.
2. Fork the bottom and sides of the pit to break up the subsoil. Back-fill as shown to the level of the roots. Mix the dug soil with a slow release fertiliser and an approved soil ameliorant.
3. Prior to planting, prune back all damaged roots to healthy growth; soak the trees in water whilst waiting to be planted; dip all bare-rooted trees in an approved root dip. Drive in the stake so that it is a minimum of 300mm below the bottom of the pit, and 600mm above the ground level.
4. Plant the tree ensuring that the original depth is maintained and that the roots are spread to their fullest extent.
5. Carefully work the prepared backfill soil between the roots while shaking the tree slightly.
6. Backfill in layers up to the existing ground level, firming by treading, taking care not to damage the roots.
7. Fix the tree to the stake. Spread 75-100mm depth of medium-grade bark mulch over a minimum area of 1m diameter around the tree, and maintain until the spring following the first growing season.

TREE PLANTING DETAIL B



NOTES

1. The tree pit should be excavated to allow adequate clearance between the perimeter of the root-ball and the side of the pit.
2. The depth of the pit should be a minimum of 700mm and at least 100mm greater than the depth of the root-ball.
3. Fork the bottom and sides of the pit to break up the subsoil.
4. Mix the dug soil with a slow release fertiliser and an approved soil ameliorant.
5. Drive in the stakes so that they are a minimum of 300mm below the bottom of the pit and 650mm above ground level. The stakes and rail are to be sweet chestnut or peeled larch poles, pointed at one end, preserved to resist rot for their intended lifespan, and strong enough to take nails without splitting.
6. Plant the tree, ensuring that the original depth is maintained and the soil is carefully firmed back up to the existing ground level.
7. Secure the rail to the stakes with 2 No. galvanised nails per stake.
8. Secure the tree to the rail as described in the notes above.
9. Spread 75mm depth of medium-grade mulch over an area of 1m diameter around the tree, and maintain it until the spring following the first growing season.
10. Protect the tree base from damage by using a tree guard.
11. The stakes and rail are to be removed as soon as the tree is anchored securely by its own roots (at the start of the third growing season after planting).

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PROJECT	PROPOSED DWELLING AT CRUAGH, CO. DUBLIN
CLIENT	SARAH JANE KEARNEY
PROJECT DESIGNER	DXB ARCHITECTS
JOB NO.	21_199
PLANNING PERMISSION REF	NEW PERMISSION
DRAWING	GENERAL SPECIFICATION NOTES + PLANTING DETAILS
DRAWING NO	21_199-PD-03
FIRST ISSUED	09.11.2021
DRAWN BY	J. COUGHLAN
CHECKED	COLM KENNY
DATE ISSUED	2022-05-09
STATUS:	PLANNING
SCALE	NTS @ A3
REVISION	-

NOTES
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LANDSCAPE MATERIALS KEY

Detailing of site entrance, vehicular sightlines, drainage, dwelling, site levels and grading, paving bedding and sub-bases, geotextiles etc. all to architect's and consulting engineer's design detail and specification

EXISTING LANDSCAPE FINISH TO BE RETAINED
Existing vegetation stands surrounding the site which provide local and long-range screening to views

EXISTING VEGETATION (HEDGEROW) RETAINED

EXISTING TREE RETAINED AND PROTECTED
Existing *Castanea sativa* (Sweet Chestnut) tree to be protected with appropriate fencing during the course of the works, in compliance with BS 5837:2010 *'Trees in relation to design, demolition and construction. Recommendations'*

EXISTING TREES + VEGETATION FELLED
Because of proximity to vehicular sightlines or condition, works to be conducted in compliance with BS 3998:2010 'Tree Work Recommendations'

H1 - 'FORMAL/CLIPPED' BR TRANSPLANT HEDGE
Irish-grown native species Hawthorn, Hazel, Holly, etc. transplants/whips planted in groups of varieties that repeat themselves along the hedge, to mature as a 'natural' hedgerow. Plant in staggered rows, 4 hedging transplants per m², 1 no. climbing plant per 0.5m length (e.g. Honeysuckle, Ivy, Dog Rose). Bark mulch at base with protective chestnut pale fencing.

H2 - 'NATURAL' WILDLIFE BR TRANSPLANT HEDGE
Species such as Hawthorn, Hazel, Elder, Bird Cherry, Buckthorn, Crab Apple, Wayfarer Tree, Holly: transplants/whips planted in groups of varieties that repeat themselves along the hedge, to mature as a 'natural' hedgerow. Naturalised Lilac *Syringe vulgaris* and Field Maple *Acer campestre* added for wildlife benefits. Plant in staggered rows, 4 hedging transplants per m², 1 no. climbing plant per 0.5m length (e.g. Honeysuckle, Ivy, Dog Rose). Bark mulch at base with protective chestnut pale fencing.

W1 NATIVE TRANSPLANTS - WOODLAND COPSE
Native transplant mixes suitable for good water up-take and to provide distinctive habitat and food resources for wildlife, as well as to mature to provide visual screening to the development. Provide 75mm depth, medium-grade bark mulch topping to reduce weed growth and help transplants establish easily. 1 per m² density

'ROUGH GRASS' WILDFLOWER MEADOW SEEDING
new winter-green grass/wildflower meadow with a custom conservation seed mix appropriate for an upland meadow, ideal for ecosystem restoration projects, such as the 'SAC01 Range' with minimum 70% of seed volume collected from donor sites on Special Areas of Conservation Meadows, 30% produced from a national wildflower collection of nursery-grown species, with annual, biennial and perennial plants with a height ranges of 0.30-1.50m

AMENITY GRASS LAWN
areas to be leveled and topsoil spread to provide a multi-purpose lawn suitable for amenity play by children, or planting as a vegetable garden or orchard
200mm depth multi-purpose grade topsoil to lawns. amenity grass lawns seeded with a hard-wearing amenity non-rye grass seed mix by Coburns and mown regularly

TREE TRUNKS + LOG PILES
Dead wood piles to mimic fallen trees and provide shelter and habitat for over-wintering and hibernating small mammals such as frogs, toads and insects and invertebrates.

PERMEABLE PAVING - GRASSCRETE
'Redes' by Escofet vibro-moulded reinforced concrete cast stone grid paving or EQA in 100mm depth 600x600mm format, with 60% of surface area 'hard' and 40% formed by openings filled with a modified topsoil mix. Lay on 40-60mm depth bed of compacted sand on levelled P.M 95% compacted soil (UNE 103-501-94) on permeable sub-base, and seed or turf with amenity grass seed mix

PERENNIAL PLANTING TYPES: P1 P2 P3
P1 + P2 primarily 'rain-garden' type planting suitable for bio-retention in a mix of ferns, bulbs, corms, ornamental grasses and flowering perennials as per the planting schedule. P3 is an evergreen upright Rosemary clipped hedgerow maintained at 500mm ht.

DRIFTS OF BULB PLANTING
plug-planted with top size 5/6 bulbs *Crocus* vars., *Galanthus nivalis*, *Allium ursinum*, *Anemone nemorosa*, *Hyacinthoides non-scripta* etc., variety and species depending on soil type and landscape conditions

PAVING - PERMEABLE GRAVEL ACCESS ROAD + PARKING
Locally sourced permeable surfacing of 'Ballylusk' golden gravel 10mm down to dust, edged with natural stone setts to act as drainage channel and kerbing. Gravel aggregates to be laid on 'Nicogravel 130' or equivalent approved gravel stabilisation grid for paths, driveways and car parks.

PAVING - PERMEABLE NATURAL STONE SETTS
Flexibly laid 50x50x50mm natural stone cube setts on permeable bedding and sub-base to engineer's design detail and specification

PAVING - NATURAL STONE SETTS
Locally sourced golden natural stone or reclaimed golden natural stone sett paving (min. 80mm depth) to entrance area min. 6m distance from public carriageway, and to edge the new access road as a drainage channel

TREE PLANTING GENERALLY

All tree pits to be approved by Landscape Architect prior to planting. All trees to have a 2.00m ht clear stem unless otherwise specified as multi-stemmed or feathered trees, to ensure clear visibility for pedestrians. Trees triple-staked or double-staked & supplied with planting accessories as per Planting Details as per BS5837:2012 + LA's Planting Details. Root barriers to be provided to all trees within 2.00m of underground services, foundations or walls. Trees planted in excavated tree pits, desired pit area approx 4.00m². 1.00m depth. No services routes to be planned through tree-pits. Appropriate Plant Passports to be provided for trees. Trees to be 'hardened off' in a nursery in Ireland for min. two years before planting, preferably grown in Ireland for bio-security reasons.

SEMI-MATURE TREES (NATIVE SPP)
- ***Ps*** *Pinus sylvestris*, 4xtr/wrb/ 25-30cmg/ 5.5-6.0m ht.
- ***Qp*** *Quercus petraea*, 4xtr/wrb/ 25-30cmg/ 5.5-6.0m ht.
- ***Ah*** *Aesculus hippocastanum*, 4xtr/wrb/ 25-30cmg/ 5.5-6.0m ht.

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- ***LtF*** *Liriodendron tulipifera* 'Fastigiata' 3xtr/ wrb/18-20cmg/4.5-5.0m ht

HEAVY STANDARD TREES (NATIVE SPP)
- ***Bpe*** *Betula pendula*, 3xtr/wrb/16-18cmg/4.0-4.5m ht
- ***Bps*** *Betula pubescens*, 3xtr/wrb/16-18cmg/4.0-4.5m ht

MULTI-STEMMED TREES, LARGE SHRUBS
- ***Al*** *Amelanchier lamarckii*, 2xtr/wrb/2.5-3.0m ht.
- ***Au*** *Arbutus unedo*, 2xtr/wrb/2.0-2.5m ht.
- ***Sv*** *Syringa vulgaris*, 2xtr/wrb/1.5-2.0m ht.
- ***Ap*** *Acer palmatum* 'Kanzan', 2xtr/wrb/1.5-2.0m ht.
- ***HiJ*** *Hamamelis intermedia* x 'Jelena' 2xtr/wrb/2.0-2.5m ht.

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landscape design services

LANDSCAPE ARCHITECTS & CONSULTANTS

Boden Park, Ballyboden, Dublin 16, Ireland t: 01 9164287 e info@landscapedesign.ie

PROJECT PROPOSED DWELLING AT CRUAGH, CO. DUBLIN	
CLIENT SARAH JANE KEARNEY	**PROJECT DESIGNER** DXB ARCHITECTS
JOB NO. 21_199	**PLANNING PERMISSION REF** NEW PERMISSION
DRAWING SITE LANDSCAPE PLAN WITH OUTLINE HARD AND SOFT LANDSCAPE MATERIALS SPECIFICATION KEY	
DRAWING NO. 21_199-PD-01	**FIRST ISSUED** 09.11.2021
DRAWN BY J COUGHLAN	**CHECKED** COLM KENNY
STATUS: PLANNING	**SCALE** 1:500 @ A3
	DATE ISSUED 2022-05-09
	REVISION D

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SITE LANDSCAPE + PLANTING PLAN 1:250 @ A3

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LtF — *Liriodendron tulipifera* 'Fastigiata' 3xtr/ wrb/18-20cmg/4.5-5.0m ht

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PROJECT: PROPOSED DWELLING AT CRUAGH, CO. DUBLIN		
CLIENT: SARAH JANE KEARNEY		PROJECT DESIGNER: DXB ARCHITECTS
JOB NO.: 21_199		PLANNING PERMISSION REF: NEW PERMISSION
DRAWING: SITE LANDSCAPE + PLANTING PLAN		
DRAWING NO: 21_199-PD-02		FIRST ISSUED: 09.11.2021
DRAWN BY: J COUGHLAN	CHECKED: COLM KENNY	DATE ISSUED: 2022-05-09
STATUS: PLANNING	SCALE: 1:250 @ A3	REVISION: B

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LANDSCAPE ASSESSMENT AND DESIGN RATIONALE May 2022

This document has been prepared by **Landscape Design Services** landscape architects as supplementary information to accompany an application for planning permission by Seosamh O'Muircheartaigh MRIAI MRIBA of **dxb** for a proposed new dwelling at lands at in the townland of Cruagh at Cruagh Lane, Rathfarnham, Dublin 16. This report accompanies the landscape plan and planting plan prepared by **Landscape Design Services** landscape architects for the proposed development.

This document outlines the landscape planning context of the subject site and its receiving environment, the site in its current condition, and describes the landscape design approach taken and the design proposals. This planning application is to construct a new contemporary vernacular family home with a new vehicular entrance onto Cruagh Lane, with associated landscaping and ancillary works. The new home has been designed by the architects to provide a family home of high quality, with landscape design to settle it into the receiving environment.

Figure 1. Aerial View of the subject site and locality, © Maxar Technologies, 2021 (Google Maps). Approximate site location is indicated by symbol.

DEVELOPMENT DESCRIPTION

The development will consist / consists of:

The construction of a new four-bedroom dwelling house of approximately 187 square-meters on two levels - ground floor & dormer attic; A roof terrace; Sheltered External Areas; A new boundary wall; A new site entrance, gate, driveway with associated car parking spaces and turning area; Two new wastewater treatments plants and associated percolation areas - one of which is to serve the existing adjacent dwelling; and all associated landscape and ancillary site works. The applicant's name is Sarah-Jane Kearney, and the site area within the Red Line Boundary is 1226.8m²/0.12268 hectares.

LANDSCAPE

Landscape Policy is governed by Character Assessments in both current and draft[1] Development Plans. In both plans the subject site location (above the 150.00m contour used as a mark of upland region in Appendix 9 of the draft development plan) is in a 'Rural Uplands Neighbourhood' character area, generally known as the 'Dublin Mountains', extending from Rockbrook in the east, adjacent to the M50, to Badgerhill in the west. This rural upland area features places of scenic and natural

[1] Appendix 9 to the Draft South Dublin County Development Plan 2022-2028, 'Draft Landscape Character Assessment (LCA)', (SDCC/Minogue Associates, May 2021)

beauty alongside popular amenity areas, with small cluster settlements such as Glenasmole and Redgap. Policy seeks to manage, enhance, and improve the landscape character and quality.

Landscape Character Areas are defined in the Development Plan as follows: '*units of the landscape that are geographically specific and have their own character and sense of place. Each LCA has its own distinctive character, based on patters of geology, landform, landuse, cultural, historic, and ecological features. Commonly, a landscape character area may be composed of a number of landscape character types- for example, the Dodder and Glenasmole comprise three LCTs, - river valley, hills and uplands. However the settlement patterns, historical and cultural associations of this area contribute to the distinctive character area of this LCA.*'[2]

The Wicklow Mountains SAC is an extensive upland site which stretches into the boundaries of South Dublin County in Cruagh townland. The Rural Uplands boasts European Designations in Glenasmole Valley SAC for its Orchid-rich Calcareous Grassland, Molinia Meadows and Petrifying Springs and Wicklow Mountain SPA which is an important breeding and foraging ground for Merlin and Peregrine. The 'Dublin Mountains' area is also partially designated as a Special Area of Conservation (SAC), Special Protection Area (SPA) and proposed Natural Heritage Area pNHA.

The subject site is located with the Landscape Character Assessment Area 4 'River Dodder and Glenasmole Valley'[3], the key characteristics of which are a highly scenic and distinctive glacial valley with natural heritage designations, enjoying extensive views over the greater Dublin area. The 'River Dodder and Glenasmole' LCA contains field patterns and agricultural use contrasting with open blanket bog areas. It has been described in the LCA assessment as having a discontinuous urban fabric and is subject to forces of change from recreational uses, rural housing, coniferous plantations, changing agricultural practices, climate change, traffic, and tourism. The Glenasmole Valley Special Area of Conservation contains three habitats listed on Annex 1 of the EU Habitats Directive (petrifying springs with tufa formation, semi-natural dry grassland, and scrubland facies on calcareous substrate; and *Molinia caerulea* meadows on calcareous, peaty, or clayey-silt-laden soils).

The Landscape Character Sensitivity of the LCA can be described as 'High', with the Visual Sensitivity measured as 'High'. This leads to a measurement of High Visual Sensitivity at the subject site; however, this is tempered by the limited views available in/out of the site because of local topography and existing vegetation stands. There is a long history of human activity and settlement in the valleys of the LCA, with continuing agricultural practices in the valley floor, characterised by strong medium-sized field patterns enclosed by stone walls or hedgerows.

Dispersed settlement is evident along the Dodder Valley floor and strung out along the narrow roads that run parallel to the Dodder Valley. This housing is characterised as a distinctive housing style built in a strong vernacular (generally single-storey houses of plaster and stone, built into the slopes); set in narrow curved lands enclosed with sod walls, stone walls, trees, and riparian vegetation. This LCA has also seen the appropriation of the wilderness landscape into a contrived version of wilderness in line with the naturalistic fashions of demesne landscape design in the eighteenth and nineteenth centuries (Killakee, Massy and Cobbe demesnes).

Consequently, key characteristics of the LCA are highly vulnerable to development, and it is generally considered that development would result in a significant change in the landscape character and should be avoided where possible. Where development occurs, it should be mitigated with careful and informed mitigation measures, such as mounding and planting appropriate to the receiving environment. Such mitigation measures should include a network of green and blue corridors to supplement the existing and support landscape functions, contributing to green infrastructure and enhancing the overall landscape character of the site setting.

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[2] Pg 55, Appendix 9 to the Draft South Dublin County Development Plan 2022-2028, 'Draft Landscape Character Assessment (LCA)', (SDCC/Minogue Associates, May 2021)

[3] The River Dodder and Glenasmole Valley is designated as a Landscape Character Area within the Landscape Character Assessment of South Dublin County (SDCC/Minogue Associates, May 2015)

VISUAL

Several views and prospects are illustrated for preservation and protection in both current and draft development plans around the subject site. These represent:

- Views from urban or peri-urban areas towards the mountains
- The prospect or landscape composition presented by the mountains looking towards the urban area
- Scenic routes and drives within the upland area

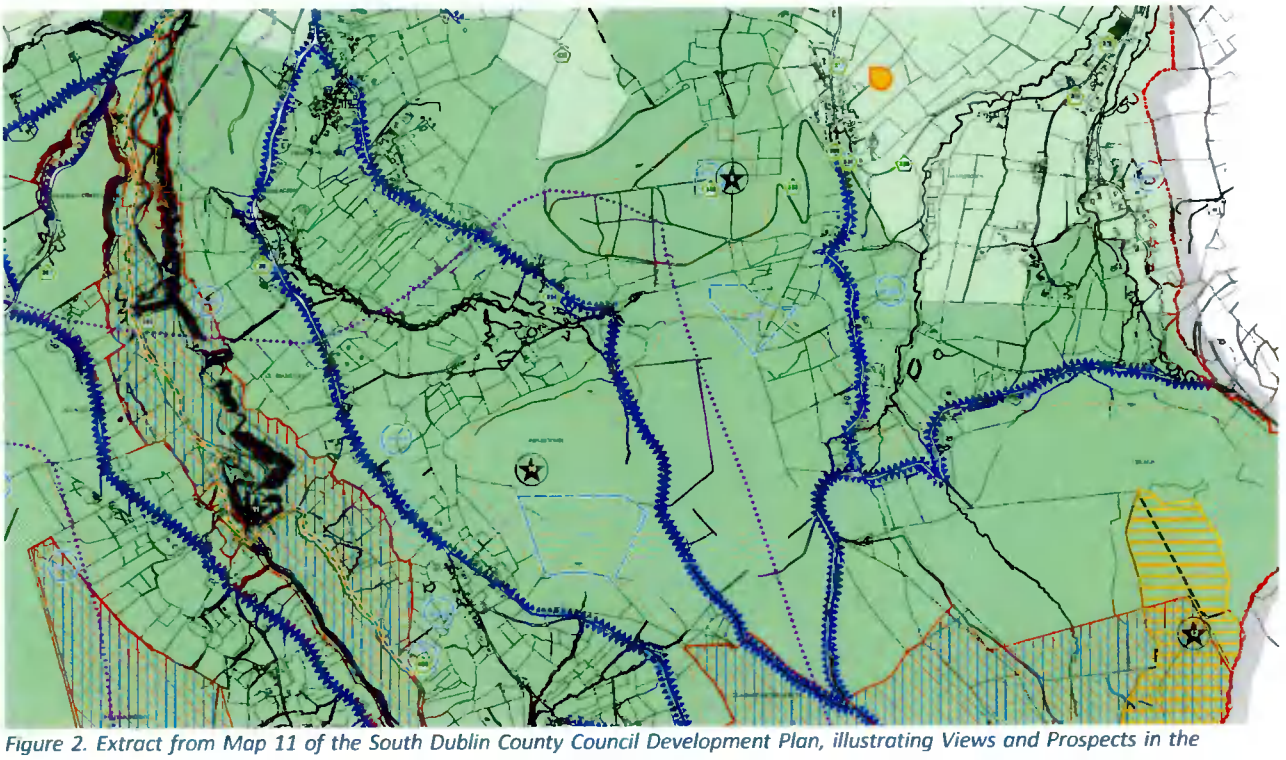

Figure 2. Extract from Map 11 of the South Dublin County Council Development Plan, illustrating Views and Prospects in the locality of the subject site. Approximate site location is indicated by symbol.

Prospects relate to prominent landscapes or areas of special amenity value or special interest that are widely visible from surrounding areas. Designated Prospects illustrated on the Development Plan Map 11 in the locality are as follows:

- Prospect 6 Montpelier Hill, located 1.90km to the west of the subject site at the Hell Fire Club on Montpelier Hill; and[4]
- Prospect 10 Piperstown Hill, located at Annmount Spink, Piperstown 2.50km to the south-west of the subject site in the Featherbed Forest; and
- Prospect 11 Glenasmole Valley, located approx. 5.0km to the south-west of the subject site
- Prospect 12 Cruagh Mountain, located on Cruagh Mountain 5.0km to the south of the subject site[5]

Significant Views designated for protection and preservation illustrated on Map no. 11 (extract above) of the Development Plan in the locality look east and west from the R115 (Old Military Road/Killakee Road) over the landscape, running from Massey's Estate to where the designation meets the junction with Cruagh Road (4.65km from the subject site). The Significant View designation continues along the R116 Cruagh Road running eastwards towards Cruagh Woods/Tibradden Wood, looking both north and south.

RURAL HOUSING DESIGN PLANNING CONTEXT

An objective of the South Dublin County Development Plan (2016-2022) in relation to rural house and extension design is that houses 'are designed and sited to minimise visual impact on the

[4] Map 11 and 11A, South Dublin County Council Development Plan 2016-2022

[5] Table 9.2 'Prospects to be Preserved and Protected', Pg. 159, 'Heritage, Conservation and Landscapes' chapter, South County Dublin Development Plan 2016-2022

character and visual setting of the landscape'[6]. Furthermore, all new rural housing within areas designated with Zoning Objective 'RU' (to protect and improve Rural Amenity and to provide for the development of Agriculture)[7], must be designed with consideration to the following issues:

- Design and site to minimise impact on the landscape including views and prospects of natural beauty or interest or on the amenities of places and features of natural beauty or interest including natural and built heritage features; and
- Will not have a negative impact on the environment including flora, fauna, soil, water (including ground water) and human beings); and
- Is designed and sited to minimise impact on the site's natural contours and natural drainage features; and
- Retains and reinstates traditional roadside and field boundaries; and
- Is designed and sited to circumvent the need for intrusive engineered solutions such as cut and filled platforms, embankments or retaining walls; and
- Would comply with the Code of Practice Wastewater Treatment Systems Serving Single Houses, EPA (2009) or other superseding standards; and
- Would not create or exacerbate ribbon or haphazard forms of development

Given the site's sensitive location in the uplands of south-western rural Co. Dublin, relatively close to the border with the Co. Wicklow border, we have considered the landscape principles outlined in the 'Wicklow County Council Single Rural Houses - Design Guidelines for New Homes in Rural Wicklow' and Appendix 2 of the Wicklow County Development Plan 2016-2022 'Design Guidelines for New Homes in Rural Wicklow' as supplementary design guidance to help settle this rural house into the local receiving environment.

We have also considered the principles outlined in the above document in relation to our landscape design, and those of the 'Biodiversity Action Plan for South Dublin County', 2020-2026.

OWENDOHER STREAM + ASSOCIATED WOODLANDS

The subject site is in the vicinity of the Owendoher Stream which has been deemed to be of 'considerable ecological importance' by Inland Fisheries Ireland (Greta Hannigan, IFI). The Owendoher is reckoned as the most important nursery and recruitment channel for salmonoids in the Dodder system. It is one of five constituent watercourses of the Dodder River catchment, renowned for its rapid response and potential for flash flooding, particularly in the suburbanised lower reaches. The principal reasons contributing to this relate to the granitic geology and relative narrowness of much of the upper Dodder catchment area's 5 constituent watercourses channelling rainfall events off mountainous areas.

The fast-flowing Owendoher (name meaning the 'river of gold') features several waterfalls and has been used intensively historically as a productive watercourse, with many old mill workings and remnants located along the watercourse. The IFI guidelines recommend that a minimum 10.00m width undisturbed buffer zone (a 'Streamside Zone') be provided between development and the banks of such watercourses generally. There are municipal proposals for a car-free trail, the 'Owendoher greenway', to link Massey's Wood to the city through the townland of Cruagh.

[6] Section 2.5.0: Rural Housing Policy, Policy H27 Rural House & Extension Design

[7] Residential development is 'open to consideration' in 'RU' zoned lands, subject to its being in accordance with the relevant Council policies for residential development in rural areas (sections 2.5.8, including Policy H27, and section 11.3.4 'Rural Housing' and 11.3.4 (ii) Rural Housing Design').

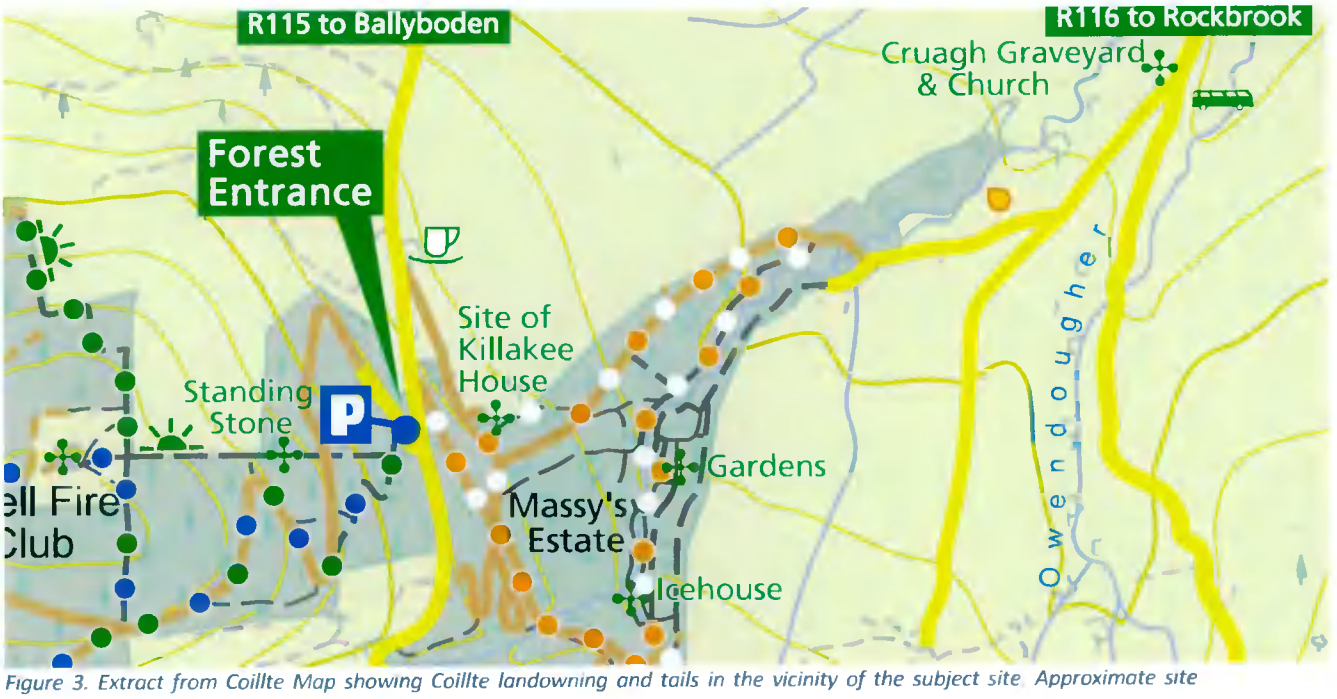

Figure 3. Extract from Coillte Map showing Coillte landowning and tails in the vicinity of the subject site. Approximate site location is indicated by symbol

The vegetation lining the watercourse to the north-west of the subject site is observed as primarily coniferous on the slopes falling towards the river down from the subject site, and the woodland appears to be in public ownership (see Coillte map extract reproduced above). On the historic six-inch maps (extracts illustrated below) the sloping topography are shown covered in what was presumably a typical riparian woodland. This dense coniferous plantation provides excellent wind-break shelter and evergreen year-round screening to views into the subject site, also limiting views over the landscape to the north. Along the north-west boundary of the subject site a primarily native species ruderal broadleaf stand of vegetation has developed, creating a buffer canopy of shrubs between the subject site and the coniferous woodland.

Figure 4. Extract from the historic 25 inch (1888-1913) Ordnance Survey Ireland Map illustrating the site context, overlaid on aerial photography. Copyright OSI. Approximate site location is indicated by symbol

Such woodland landscape features and sloping topography create local enclosure to views, allowing only a limited field of view. Views into and out of the woodlands are generally screened, blocked and limited by the vegetation stands.

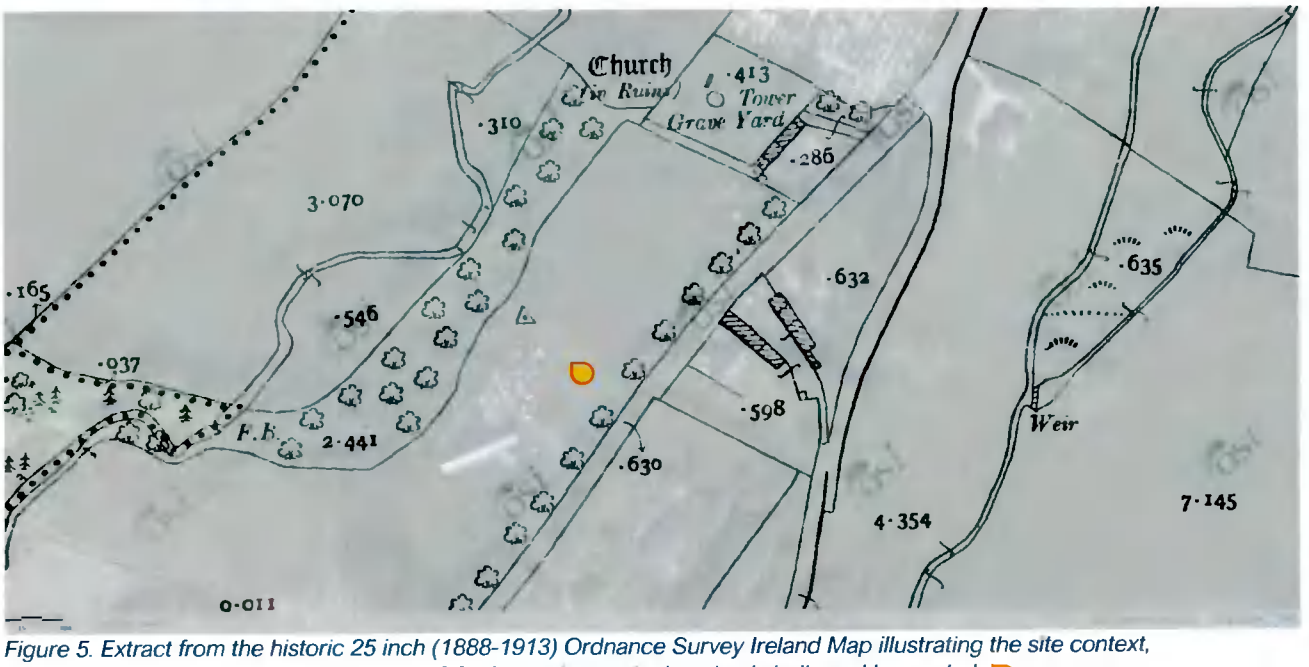

Figure 5. Extract from the historic 25 inch (1888-1913) Ordnance Survey Ireland Map illustrating the site context, overlaid on aerial photography. Copyright OSI. Approximate site location is indicated by symbol

The architect's site plan indicates distances from the subject site to the location of local watercourses, reproduced below for information purposes, with a watercourse located 34.64m north of the northwest corner and 128.83m south-east of the subject site.

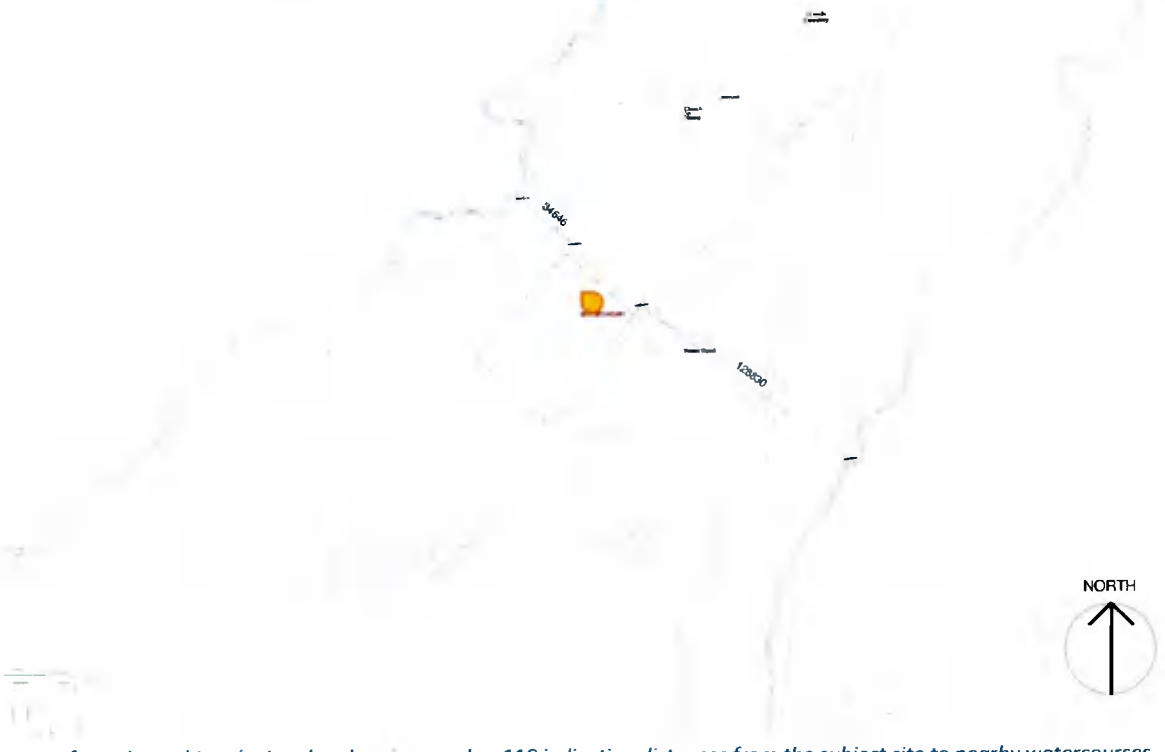

Figure 6. Extract from the architect's site plan drawing number 110 indicating distances from the subject site to nearby watercourses. Approximate site location is indicated by symbol

GREEN INFRASTRUCTURE LOCAL OBJECTIVES

The subject site is located along the L15 'Owendoher River/Glendoo Brook Link', a mosaic of green spaces linking Cruagh Wood, Massey's Woods, Mount Venus Cemetery, Kilmashogue Cemetery and Rathfarnham Golf Club. This link is identified in the Draft South Dublin County Development Plan 2022-2028 as a case study connection between the core area of the Dublin Mountains and the M50, which incorporates green spaces along the courses of the R116 and the Owendoher Stream.

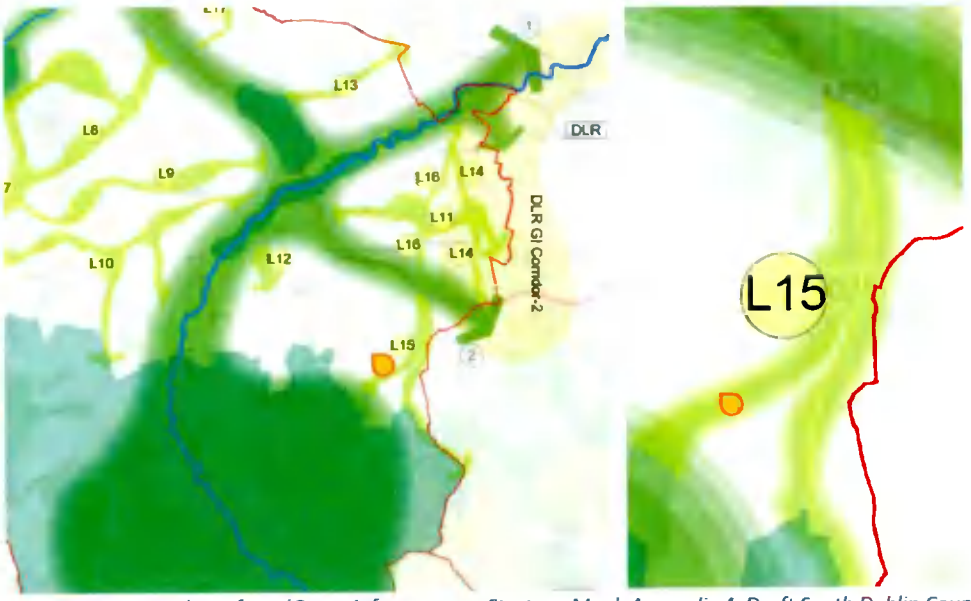

Figure 7. Extracts above from 'Green Infrastructure Strategy Map', Appendix 4, Draft South Dublin County Council Development Plan 2022-2028. Approximate site location is indicated by symbol

An objective of Appendix 4 to the draft development plan, 'Green Infrastructure: Local Objectives and Case Studies'[8], is to provide bio-diversity friendly landscaping and appropriate management of the green infrastructure of the area, as well as to ensure the water quality of the watercourse. Appendix 4 notes that any new hedgerow or tree planting must be consistent with South Dublin's 'Tree Management Policy'[9], and that site-specific GI measures such as green roofs, green walls and SuDS represent an opportunity to support GI and enhance local ecosystem services. It also notes that where development occurs adjacent to watercourses measures shall be incorporated to increase their biodiversity value, water quality, and facilitate surface water management.

SITE LOCATION

The subject site is located on the northern side of a rural road, locally named 'Cruagh Lane', c.2.5km south of the M50 motorway. Cruagh Lane is a narrow road heading south-west towards Massey's Woods from a junction on the R116 'Cruagh Road' at Cruagh Cemetery, between Ordnance Survey contour lines 170.00 and 180.00 in elevation. The area is rural in character. The 2016-2022 County Development Plan Map no. 11 illustrates two protected structures on Cruagh Lane itself: No. 376 Cruagh Cemetery north-east of the subject site, and No. 378 Cruagh Lodge Stud south-west of the subject site.

The applicant's site on Cruagh Lane is located within the South Dublin County Council Local Authority area and is located near Cruagh Cemetery; the site is within a 30kph zone on a cul-de-sac off the R116 regional road which runs in a northeast-southwest direction from the junction with the R115 at Ballyboden.

The subject site itself is located approximately 145.00m south-west of the junction with the R116 'Cruagh Road' at Cruagh Cemetery, in the rural townland of Cruagh, c. 5.0km south-west of Rathfarnham (in the South Dublin County Council local authority municipal area). Long-range views over the landscape from the R116 are locally enclosed by the rolling and sloping topography of the

[8] 'Appendix 4: Green Infrastructure: Local Objectives and Case Studies', Draft South Dublin County Development Plan 2022-2028, July 2021.
[9] 'Living With Trees: South Dublin County Council's Tree Management Policy 2015-2020', and 'Amendments to Tree Management Policy 2015-2020 Following Interim Review', February 2019.

foothills surrounding the site, and the broadleaf hedgerows and coniferous woodlands which regularly limit open views.

The subject site is picturesque and sylvan in setting, nestled off a quiet lane on the lower slopes of the Dublin mountains, south of the lane's junction with R116 the Cruagh Road at Cruagh Cemetery to the north-east. The applicant's site is roughly rectangular and slopes in a westerly direction towards an adjacent watercourse and a mature coniferous riparian vegetation shelterbelt planted along the banks of that watercourse. Cruagh Lane itself defines the south-eastern site boundary.

The subject site measures 0.12268 hectares (0.303 acres) in area, and is roughly rectangular in shape with existing boundaries described as follows:

- South-eastern site boundary with road: approximately 30.60m length frontage onto Cruagh Lane, comprising a 'bolted' hedgerow growing on a stone and earth sod wall.
- South-east site boundary: approximately 47.60m length boundary to the north-east.
- North-western site boundary: measuring 15.20m, with the site sloping towards the north-west to a towards a riparian primarily coniferous woodland belt established along the banks of the Owendoher Stream watercourse.
- South-western site boundary: approximately 50.00m 'as the crow flies' boundary with an adjacent dwelling to the south-west

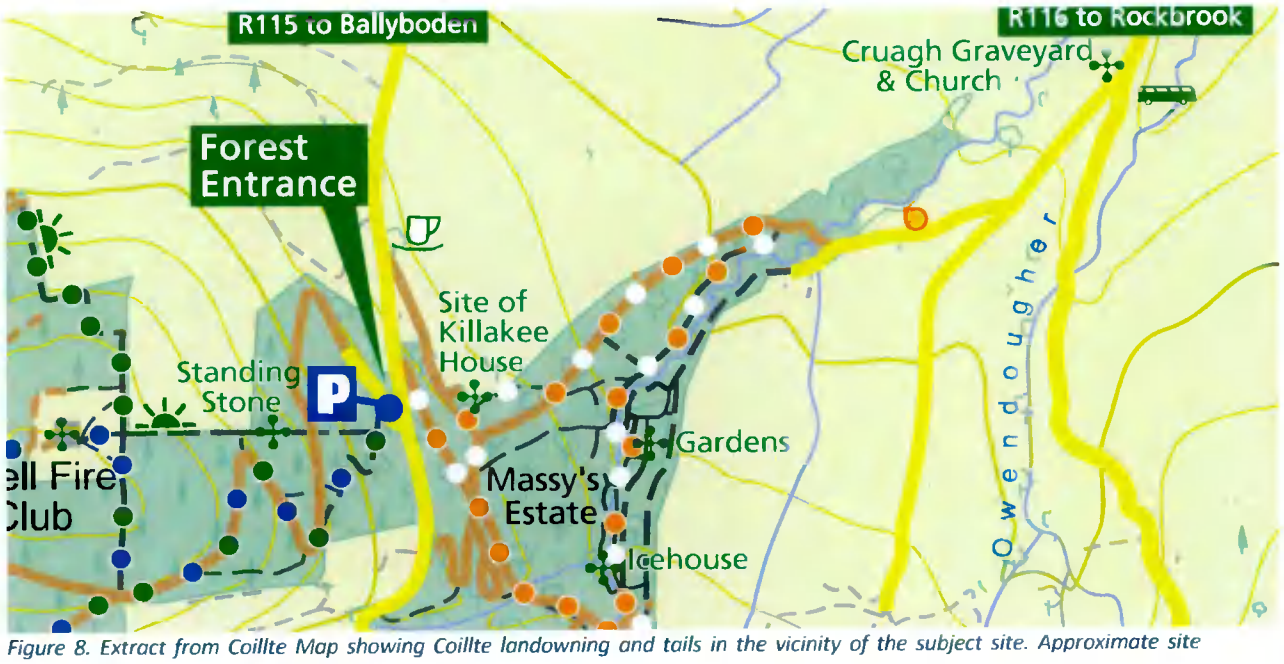

Figure 8. Extract from Coillte Map showing Coillte landowning and tails in the vicinity of the subject site. Approximate site location is indicated by symbol

LOCAL CONTEXT

The subject site is located on a rural road leading south-west towards Massey's Woods from a junction on the R116 at Cruagh Cemetery. The subject site is located approximately 145.00m south-west of the junction with the R116 at Cruagh Cemetery, in the rural townland of Cruagh, c. 5.0km south-west of Rathfarnham (in the South Dublin County Council local authority municipal area).

The applicant site is proposed to be accessed by a new vehicular entrance to the architect's design and detail off Cruagh Lane. The site boundary along the public road currently presents as an over-mature or 'bolted' broadleaf hedgerow of varying quality (observed species in the hedgerow include Ivy, Holly, Rowan, Lilac, Thorn, Bramble, and Sycamore; most of which have 'bolted') on a stone/earthen embankment approx. 0.90m in height. Occasional large trees (Sycamore, Beech etc.) have established along the lane, presenting a dense screen of vegetation to either side of the road.

Certain properties along Cruagh Lane have planted dense stands of Leyland Cypress, an evergreen, which screens views and acts as a shelterbelt. The hedgerow vegetation stands lining either side of the lane locally enclose views and limits long-range views over the landscape to glimpses between gaps formed by several site entrances along the lane.

Figure 9. Detailed aerial view of the subject site and immediate locality, ©Maxar Technologies, 2021 (Google Maps). Approximate site location is indicated by symbol

The site falls in a north-westerly direction from a high point at the proposed site entrance off Cruagh Lane on the eastern boundary, down to a low point in the local topography along the western site boundary. The primarily coniferous forest which lines the western boundary of the site, in public ownership (part of Massey's Woods) screens and limits open views over the landscape to the west. The existing site is currently laid out as an amenity grass lawn serving an adjacent dwelling to the south, which is in the ownership of the applicant's parents. Currently laid out as improved grassland, much of the applicant's site has limited ecological value.

LANDSCAPE DESIGN RATIONALE

The landscape plan and rationale are simple, responding to the orthogonality of the proposed new vernacular contemporary style dwelling to settle it into the sylvan and rural local receiving environment. The landscape design is treated at the scale of domestic housing and the palette of surrounding landscape materials (hard and soft), and in a gentle modern contemporary and naturalistic style.

We propose screening the site from all sides by supplementing existing planting with native specimen and standard and exotic semi-mature trees, an understory of whip planting which will mature in the short-term (5 years), mixed native species transplant hedgerows and planter beds planted with primarily native species perennials. We have taken the approach to limit future garden maintenance and specify plants which will establish easily and improve the biodiversity potential of the existing site.

On the specialist advice of the project bat consultant, a primarily native species planting palette suitable to the upland landscape character of the site has been chosen. The planting palette of native trees, whips and hedging and ornamental shrubs, grasses, and perennials within the site generally, especially along the site boundaries, has been carefully considered and selected to ensure that invasive species have been avoided, and that native species appropriate to the site context have been prioritised. Native tree, understory whips and transplants, hedgerow plantings and ornamental perennials (plants such as groundcovers, bulbs, corms, ferns, grasses, and forbs) are all biodiversity enhancements which will enhance the site, as it is currently mostly 'improved grassland' and is of limited low ecological value.

The specification of Dogwoods, Cherry Laurel, Snowberry and Cotoneaster have been specifically avoided due to the ecologist's advice that such plants have invasive tendencies in woodlands, hedgerows, etc. The specification of plant species that tend to seed abundantly and spread such as

Crocosmia spp, and groundcover plants such as Periwinkle (*Vinca minor, major*) have also been avoided due to their potentially invasive properties in woodland.

LANDSCAPE PROPOSALS

The proposed dwelling has been sited by the Project Designer in such a way that allows it to blend into the contours of the site, so that it does not form a visible or strident feature on the landscape, in compliance with the relevant guidance. Tree and transplant planting has been localised close to the house to help absorb the development into the local landscape. The landscape plan and planting plan which form part of our submission identifies the location, species type and the number of species to be planted on the subject site. We have specified only native or naturalised species which will establish easily at the site and require little maintenance to survive, while providing benefit for ecology and wildlife.

In consultation with the project consulting ecologist, the palette of specimen non-native trees and ornamental shrubs and perennials within the applicant garden have been carefully selected to ensure that invasive species have been avoided.

To settle the new dwelling into the site, the main landscape proposals are described as follows:

- Retain as much of the existing boundary hedgerow vegetation and low sod/stone wall treatment along Cruagh Lane as possible, while achieving required vehicular sightlines to the architect's design detail and specification
- Pave the site entrance area and splay in locally sourced golden granite setts to match the vernacular treatment
- Ensure that replacement planting to this area where existing vegetation must be removed to accommodate the new site entrance and vehicular sightlines is of native Irish-grown species only plants such as groundcovers, hedgerow and woodland transplants and trees
- Pave the new driveway serving the dwelling in permeable, locally sourced golden gravel aggregates, with a channel edging of locally sourced granite setts. Overflow surface water draining from this surface can drain directly into the adjacent planter beds
- Supplement the existing planting along the road to the rear or dwelling-side with a new clipped Hawthorn hedgerow transplant planting, protective sweet chestnut fence to aid establishment, and a native species tree planting at 8.00m centres to create a 'formal' appearance and character to the new landscape to the rear of this existing stand of vegetation (shown below)

Figure 10. Photograph (above left) of the existing vegetation on the subject site to be retained where possible; (above right) of the existing Sweet Chestnut (Castanea sativa) to be protected and retained on site as a key design feature.

- Retain the existing mature Sweet Chestnut *Castanea sativa* (photograph above) within the site's red line boundary, close to the south-western elevation of the dwelling. The dwelling design is stepped in plan by the project architects to protect the Root Protection Area of this particularly attractive tree and to ensure its retention as a focal element of the architecture
- Provide a green-roofed bin dock to house litterbins, provided with stainless steel cables to grow climbing plants on, green roof substrate and planting to welcome pollinators and larch posts drilled for solitary bee nesting

- Provide a 'play lawn' to the south-west corner of the new dwelling, screened from the public road by a new woodland transplant planting and enclosed with a sweet chestnut fence
- Adding drifts of naturalised bulbs into this area and the planting beds surrounding the house will enliven the landscaping year-round, and welcome pollinators
- Provide gently sloped planter beds to surround and enclose the house to the west, south and east to blend it immediately with topography in the landscape to accommodate the house, and to filter the house from views from Cruagh Lane, the public road to the south-east of the site.
- Provide a new amenity lawn to the immediate north-west of the dwelling, seeded with a hard-wearing non-ryegrass amenity grass seed mix, and suitable for use as a children's' play area, an orchard or a vegetable garden, enclosed with a clipped Hawthorn hedge to the rear of the lawn.
- Provide a stepping-stone path connection set in permeable gravel to provide a pedestrian connection between the gardens of the applicant and the garden of her parents' family home to the south-west
- Provide a new winter-green grass/wildflower meadow over the proposed percolation area in the north-western part of the site with a custom conservation seed mix appropriate for an upland meadow, ideal for ecosystem restoration projects, such as the 'SAC01 Range' with minimum 70% of seed volume collected from donor sites on Special Areas of Conservation Meadows; 30% produced from a national wildflower collection of nursery-grown species, with annual, biennial and perennial plants with a height range of 0.30-1.50m
- Provide a more 'natural' in character mixed species transplant hedgerow to the site boundaries, with Irish-grown native whip or transplant species such as Hawthorn, Elder, Hazel, Guelder Rose, Crab Apple, Wayfarer Tree, Holly. Adding naturalised transplants such as Lilac into hedgerow mixes can have a positive effect on biodiversity according to ecologists; and we have specified the planting of plants such as Dog Rose, Honeysuckle, and Ivy every 500mm in the boundary hedgerows
- Provide new native Irish-grown micro-wooded copses to shelter and screen the new dwelling, particularly to the west

BOUNDARY TREATMENTS

New Vehicular Entrance and South-eastern Site boundary along Cruagh Lane:

The proposals include a new vehicular entrance and visibility splays from the public road forming the south-eastern site boundary, Cruagh Lane. This road is a cul-de-sac and is located within a 30kph zone. Proposed work to the existing entrance comprises the following, to ensure vision splays in the north-easterly and the south-westerly directions and to allow for clear visibility for vehicles exiting onto the lane:

- Remove stone/earthen sod wall and existing degraded or 'bolted' hedgerow for approx. 10.90m length to accommodate the new entrance splay, to architect's design detail and specification
- Provide new contemporary vernacular style piers and gate to the entrance
- Pave the entrance splay with locally sourced granite setts to prevent gravel migration from the driveway onto the public road, to architect's design detail and specification
- extend inwards a new earthen sod wall to be finished with grass, and plant a new native deciduous Hawthorn hedge to the rear of the retained existing vegetation and as mitigation or replacement planting
- remove existing poor-quality hedgerow where required, and to reduce to visibility splay design guidelines the height of the existing stone/earthen sod wall.

It is considered that the removal of the existing hedgerow, (which is generally 'bolted' and of mixed quality) and re-planting of a new native species hedgerow appropriate to the site location, will not result in a significant deterioration of the visual amenity of the surrounding landscape. The planting of a simple Hawthorn hedgerow along the road frontage where required will provide a neat and structured vernacular-type boundary treatment, sitting well in the local rural receiving environment.

South-eastern Site Boundary treatment (boundary with public road):

The existing boundary treatment along the access lane is of mixed quality, much of it having 'bolted', but provides good screening to views into the site and to medium and long-range views across the landscape. A new mixed native Holly and Hawthorn species hedge is proposed along in this area on the site-side of the existing vegetation at a density of 3 hedge plants per m^2. This will mature quickly to create a formal clipped edging to the play lawn at the corner of the house and provide dense

supplementary screening to limit local views from the public road into the new dwelling. To supplement this hedge and provide it with structure while it establishes, a new wooden fence is proposed to new planting to help it establish.

To supplement the 'formal' boundary treatment with immediate screening and mitigation measures, we propose to plant a micro shelter-belt woodland copse of native transplants and trees (Silver Birch, Scot's Pine, Common Oak) in the south-western corner of the site with an understory of native whips (Hawthorn, Wild Cherry, Blackthorn, Holly, Honeysuckle). This planting will mature to provide screening to views across the landscape from the public road, reduce crosswinds, create a hospitable micro-climate, improve biodiversity, and mitigate the development proposals. This micro-copse of transplants will mature over 15 years to settle the new house into the existing site and reduce the local visual impacts of the development. Careful species selection has been applied to consider the environmental impacts of all proposed planting.

North-western Site Boundary treatment (boundary with coniferous woodland):
We propose to landscape the area over the proposed percolation area in the north-west of the site with a wildflower meadow, designating it a 'grassy wildflower meadow strip to provide woodland edge habitat'. After the proposed works are complete, and the dwelling is in occupation we will apply a maintenance cutting management regime to this area to encourage a wildflower meadow verge to develop nicely on the free-draining slope, providing an approx. 1.00-2.00m wide 'soft woodland edge habitat' to the existing boundary trees which is of benefit to wildlife (birds, bees, butterflies, etc.). This maintenance regime would involve strimming the grassy strip annually and removing the cuttings to a composting area on site. During this annual maintenance it is proposed to remove the cuttings to a composting area on site, which will prevent the build-up of nutrients in the soil and promote the growth of more native wildflowers naturally.

Figure 11. (Above and above right) Photograph illustrating typical boundary vegetation along the north-western site boundary with the coniferous woodland on the slopes below the site. Views over the landscape are restricted by the existing vegetation stands.

We propose to plant a new native species hedgerow along this site boundary to mature 'naturally' and supplement the existing buffer with a substantial primarily broadleaf woodland canopy edge to the mature coniferous belt. This will be supplemented by the planting of some larger trees such as Scot's Pine, Sessile Oak and Horse Chestnut in this part of the site, more remote from the dwelling where they can mature to their full dimensions. Evergreens where planted will be native species Scot's Pine, Strawberry Tree and Holly. Horse Chestnut has been included in the planting palette on the advice of ecologists for its wildlife value. The wildflower meadow, new trees and new 'natural' hedgerow in form will mature to provide a vegetative buffer for surface water run-off, preventing soil being washed into the watercourse.

Northern and Southern Site Boundary treatments:
Both 'side' long boundaries to the subject site have been proposed to be planted with new native species hedgerows; clipped in character close to the house where a formal landscape appearance is desired; and more 'natural' or 'loose' in form further away, with primacy given to supporting wildlife, providing visual screening, and allowing the hedge planting to mature to a greater dimension than a formal hedge would. New native species Irish-grown trees suitable for the site are planted at 4.00 or 8.00m centres as appropriate in the hedgerows, to provide immediate screening to views. New hedgerows will be protected during establishment by sweet chestnut fencing rolls,

erected on posts with 4 no. galvanized wires for additional strength. Such fencing rolls can cope with changes in topography and fits well in the sensitive heritage landscape.

A new percolation area is being constructed to serve the existing dwelling south-west of the applicant's site (the family home of her parents) to the south-west of the dwelling. This will area be screened from the proposed dwelling by new transplant hedgerow planting to enclose the new boundary of the applicant's garden, a wooded micro-copse, and some native species tree planting to provide immediate enclosure and screen views. The same wildflower meadow seed mix will be applied to this area as specified to the wildflower meadow specified to the applicant's percolation area.

DWELLING CONTEXT

MATERIALITY

The selection of hard landscape materials has been refined to create a distinct hierarchy of approach and legibility in appearance, as well as specifying quality materials which will require minimal maintenance. The approach lanes to the dwelling are paved with a porous locally sourced 'Ballylusk'-type golden-coloured gravel material, retained by a golden granite sett edging and channel drain, to allow overflow stormwater to drain to the adjacent planted areas. Permeably laid stone setts form the patios and paths around the dwelling.

PLANTING PLAN + PLANTING SCHEDULE

The planting design intent is to settle the development into the landscape and create a planting design which is site appropriate and provides year-round visual interest. Of primary importance to us is the provision of a responsive planting scheme which provides food for pollinators and fauna, as well as providing a site-appropriate and aesthetically pleasing planting plan.

We have prepared a detailed Planting Plan and Planting Schedule which indicate species, varieties, quantities, sizes, root-ball presentation of trees, and plant spacings. The planting hierarchy and planting palette uses both native planting and non-native plants to create a resilient planting palette which will establish easily, requiring reduced maintenance and management; absorbs rainwater run-off; is visually appealing; stimulates the senses; enhances biodiversity, and is pollinator friendly.

The planting plan and schedule has been designed to respond to the architectural composition and layout. The Planting Schedule states quantities, species, sizes and rootball presentation. Spacings of plants are addressed in the planting details drawing which forms part of this submission. New native and exotic tree and hedgerow transplant planting has been incorporated to increase the site's biodiversity, providing autumn colour and berries for birds, as well as appropriate screening for site boundaries in an urban context.

We have proposed mixes of native and non-invasive exotic evergreen and deciduous perennial plants and shrubs, groundcovers, ferns, bulbs, and ornamental grasses to create a sensitive modern palette of plants which will require minimal maintenance but have an immediate strong visual aesthetic. Such a palette helps to settle the new dwelling into its rural receiving environment. A range of sizes of native cultivars and exotic species have been specified to support invertebrate and bird habitat, improving biodiversity in the site.

We have specified container-grown plants to the amenity planter beds with a diverse mix of ornamental grasses, bulbs, corms, ferns, ground-cover plants, sedums and flowering perennials of both native cultivars and exotic species to ensure a pollinator-friendly planting mix in line with the 'National Pollinator Plan' and the local authority's 'Pollinator Action Plan'. These plants should establish quickly requiring minimised maintenance.

TREES

The presence of the existing mature Sweet Chestnut *Castanea sativa* has informed the architectural detail design of the dwelling itself, which steps in plan to ensure that the Root Protection Area of the tree is protected from ingression, so that this beautiful mature tree can be retained as a feature in the site.

We have specified a 'resilient' tree planting palette which responds to a hierarchy of open space within the development and contains a mix of native and non-native trees to respond to climate change:

- Feature trees such as native Scot's Pine are found near the site and such trees create instant impact and provide year-round greening and habitat for wildlife. Pines provide suitable locations for bird boxes to be affixed.
- semi-mature trees such as *Liquidambar styraciflua* 'Fastigiata' or 'Worplesdon' are planted as columnar decorative trees closer to the dwelling.
- in the general planting beds and open spaces of the landscape, we have specified smaller multi-stemmed ornamental trees such as Strawberry Tree, Serviceberry Tree, Magnolia, Japanese Maple etc to provide a 'privacy buffer' to the dwelling windows. Such trees have light, open canopies, providing the perfect conditions for grasses, mosses, wood anemones, bluebells, and violets to grow. They also come into flower at different times of the year for pollinators.

The planting and specification of new trees has been selected with considerations for sustainability over the long-term; suitability for the context and suitability as 'replacement planting'; and in detail with the architect in relation to aesthetics and screening purposes, especially along the site boundaries, and the appearance of the tree planting in the new shelter belts. All tree planting will be in accordance with 'BS8545 Trees from nursery to independence in the landscape'.

The principle of the new tree planting design is to provide differing species of larger semi-mature trees as feature and replacement trees throughout the site which are suitable for the context long-term; particularly long-lived native evergreen Scot's Pine (*Pinus sylvestris*) and Common and Sessile Oak (*Quercus robur* and *Quercus petraea*) to the shelter belts and site boundaries. More decorative 'exotic' smaller or more 'fastigiate' in habit trees such as *Betula nigra* and *Liquidambar styraciflua* 'Worplesdon' are placed in the boundaries around the dwelling, which have distinctive autumn colours (these trees are predicted to adapt particularly well to the expected increase in climate temperatures over the next 50 years). Smaller decorative multi-stemmed trees surround the dwelling itself such as the native *Arbutus unedo, Magnolia stellata, Acer palmatum* and *Amelanchier lamarckii.*