

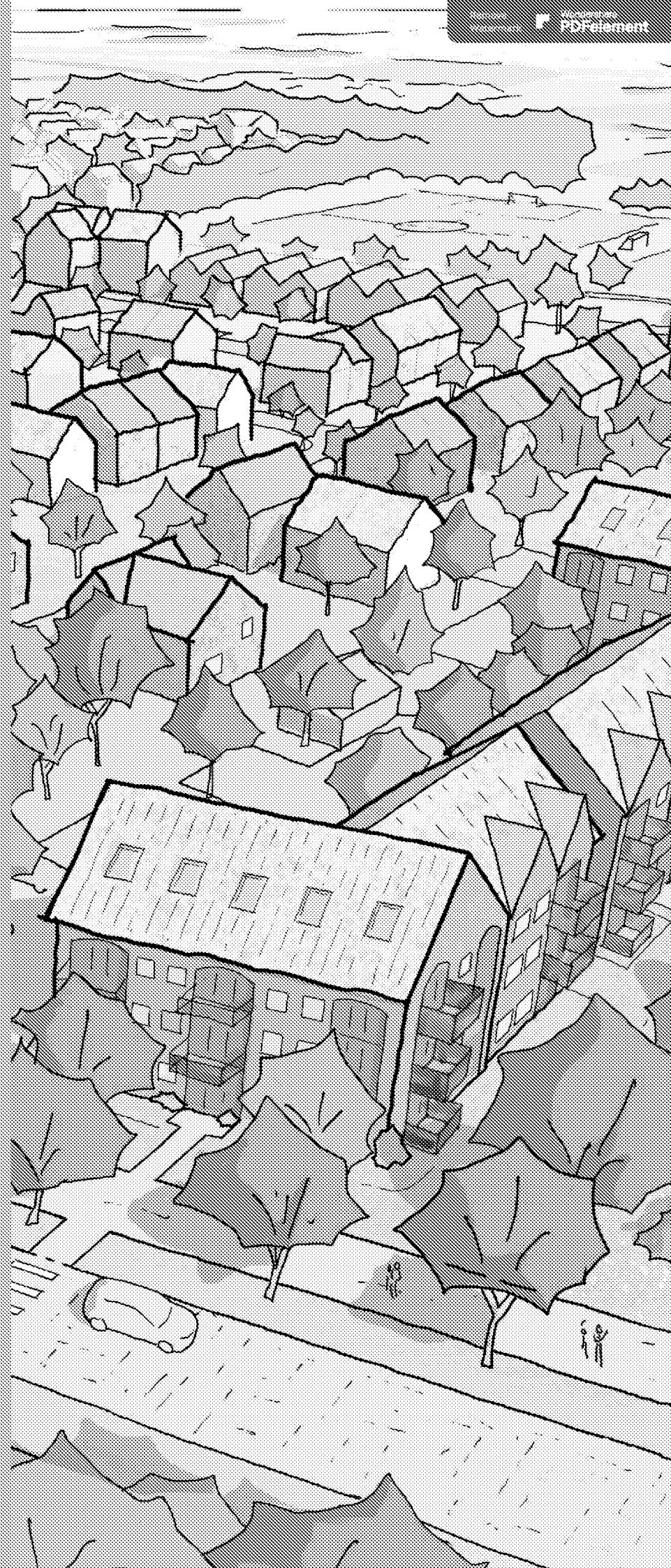
The Landings, Ford Airfield

Infrastructure RM (IRM)

Ecological Protection and
Enhancement Plan

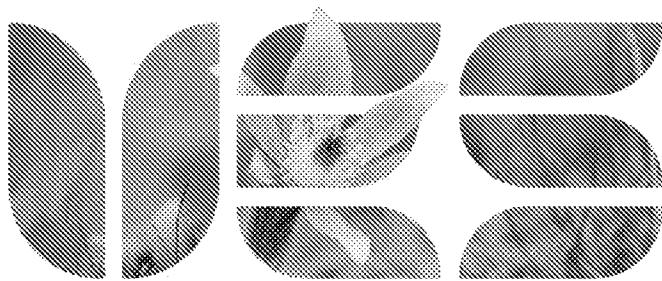
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December 2024



Vistry Group

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ECOLOGICAL PROTECTION AND ENHANCEMENT PLAN – INFRASTRUCTURE RESERVED MATTERS

At

**Land at Ford Airfield
Ford
Arundel
BN17 5QZ**

NGR: SU 99164 03571

Prepared for: Vistry Homes Ltd
Written by: Ysobella Cox, UES Ecologist
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1 INTRODUCTION

1.1 Author and qualifications

This report is compiled and written by Ysobella Cox BSc MBiol, Ecologist for United Environmental Services Ltd (UES).

It has been verified by Kathryn James BSc MRes MCIEEM, UES Senior Project Manager.

1.2 Proposed development

Outline planning permission was granted by Arun District Council (F/4/20/OUT) on 14th July 2023 for:

'Outline planning application (with all matters reserved except for access) for the development of up to 1,500 dwellings (Use Class C3), 60-bed care home (Use Class C2), up to 9,000 sqm of employment floorspace (Use Classes B1), local centre of up to 2,350 sqm including up to 900 sqm retail / commercial (Use Classes A1 – A5) and 1,450 sqm community / leisure floorspace (Use Classes D1-D2), land for a two-form entry primary school (Use Class D1), public open space, allotments, new sports pitches and associated facilities, drainage, parking and associated access, infrastructure, landscape, ancillary and site preparation works, including demolition of existing building and part removal of existing runway hardstanding. This application affects a Public Right of Way. This application is the subject of an Environmental Statement. This application may affect the setting of a Listed Building. This application falls within CIL Zone 1 – Zero Rated.'

This report has been prepared to support the following application due to be submitted to Arun District Council in August 2024:

'Approval of reserved matters (layout, scale, appearance and landscaping) following outline consent F/4/20/OUT for Infrastructure RM, for the provision of a primary spine road and associated secondary road junctions, pavement, footpaths, cycle infrastructure and bus stops; site wide drainage infrastructure, including foul pumping stations, foul sewer infrastructure, SUDS basins, SUDS swales, surface water infrastructure; acoustic fencing; public open space, including landscape details, play areas, footpaths & associated works.'

1.3 Objectives and scope

UES was commissioned by Vistry Homes Ltd to produce an ecological protection and enhancement plan (EPEP) to partially discharge condition 18 of planning permission F/4/20/OUT in relation to IRM:

'Details for the delivery of the approved measures through the Ecological Protection and Enhancement Plan (Condition 17) shall accompany each reserved matters application for each phase as identified within the Phasing Strategy under Condition 5. This shall include details of how and where the measures approved through Condition 17 are to be delivered as part of each phase.'

Reason: To ensure the retention, protection and enhancement of biodiversity in accordance with Policies ENV SP1, ENV DM1 and ENV DM5 of the Arun Local Plan 2011-2031. It is considered necessary for this to be a pre-commencement condition to prevent harm to

potentially vulnerable species. The approved plan shall be implemented in full in accordance with the agreed timings and details on a phase by phase basis as defined by the Phasing Strategy under Condition 5, where relevant.'

1.4 Structure of the report

This EPEP presents a scheme for protecting and enhancing the biodiversity and opportunities for wildlife onsite. It details the habitat creation and enhancement measures which will promote protected or otherwise notable species and enhance the overall biodiversity and ecology of the site.

This report should be read in conjunction with Appendix 1.

2 LANDSCAPING AND HABITAT ENHANCEMENT

A detailed landscape design has been produced by Tor & Co for IRM (see Appendix 1 – Landscape design and biodiversity enhancements).

2.1 Parkland

Four areas of parkland will be incorporated into the wider development, three of which are located within IRM: Landings Green to the northeast, Arun Way to the west and Ryebank Park to the southwest.

Landings Green is located in the northeastern section of the proposed development site and will primarily consist of country parkland. Although the park will mainly be utilised as an area of public open space for residents and visitors from the surrounding area, the landscape design will aim to enhance biodiversity and opportunities for wildlife, through the retention of the existing woodland along the western boundary of the park and the creation of a woodland buffer, orchard, sustainable urban drainage systems (SuDS), wildflower meadows, grassland and scrub planting. The creation of these habitats and species to be planted are explained in detail within the corresponding sections of this report.

Arun Way will directly connect to Landings Green providing a green corridor across site, comprising retained trees, and native scrub / tree planting and rough grassland.

Ryebank Park will contain numerous SuDS basins associated with drainage. However, these additional semi-aquatic habitats will also enhance biodiversity by providing a semi-aquatic habitat for local wildlife. Additional habitats within Ryebank Park include tree planting, wildflower meadows, scrub and grassland. Ryebank Park connects with Runway Park along the southern site boundary; these two parks form a significant green corridor around the southern land parcel which will provide foraging and commuting opportunities for wildlife.

2.2 Tree and hedgerow planting

To compensate for the loss of trees onsite the planting scheme includes areas of tree and hedgerow planting throughout the proposed development site to enhance biodiversity and provide connectivity. In addition, lines of trees and hedgerows which are set to be retained as part of the development will be enhanced by filling in gaps through native species planting. Native species to be planted include:

- Beech *Fagus sylvatica*
- Bird cherry *Prunus padus*
- Black poplar *Populus nigra*
- Crab apple *Malus sylvestris*
- Downy birch *Betula pubescens*
- Field maple *Acer campestre*
- Hawthorn *Crataegus monogyna*
- Hazel *Corylus avellana*
- Hornbeam *Carpinus betulus*
- Horse chestnut *Aesculus hippocastanum*
- Midland hawthorn *Crataegus laevigata*
- Pedunculate oak *Quercus robur*
- Rowan *Sorbus aucuparia*
- Scots pine *Pinus sylvestris*
- Small-leaved lime *Tilia cordata*
- Whitebeam *Sorbus aria*
- Wild cherry *Prunus avium*

Native shrub species to be planted within new hedgerows and existing hedgerows to fill in gaps, will include:

- Blackthorn *Prunus spinosa*
- Common beech
- Common dogwood *Cornus sanguinea*
- Field maple
- Guelder rose *Viburnum opulus*
- Hawthorn
- Hazel
- Wild cherry

The provision of tree and hedgerow planting will provide foraging opportunities for invertebrates including larval stages, adult herbivorous species and pollinators. Providing a range of planted species will support a greater diversity of invertebrate species, which will in turn benefit other faunal species that will predate these invertebrates, such as bats and birds. In addition, the trees and hedgerows will provide increased nesting opportunities for birds and sheltered commuting opportunities for amphibians and mammals.

Once planted and established, the proposed trees should not require any management in the long-term, unless addressing issues with disease or damaged limbs that cause health and safety concerns. If any intensive pruning, or ongoing management, of trees and hedgerows is to be undertaken, it should be avoided during the nesting bird season (avoid during March to August inclusive), or alternatively a check for nesting birds can be undertaken immediately prior to the works.

2.3 Woodland

Where feasible, areas of woodland have been retained, which form part of the green infrastructure on site. Additional areas of woodland structure planting have been incorporated into the landscape design strategy to enhance biodiversity by providing connectivity between different habitats onsite and through green corridors.

The new areas of woodland will be created through planting native tree and shrub species as detailed within the landscaping plan, including:

- Blackthorn
- Common dogwood
- Common holly *Ilex aquifolium*
- Field maple
- Guelder rose
- Hawthorn
- Hazel
- Hornbeam
- Horse chestnut
- Small-leaved lime
- Wild cherry

The additional woodland creation will provide nesting habitat for birds, and once fully mature, the trees may develop potential roosting features for bats such as cavities and crevices. The woodland will also provide foraging opportunities for invertebrates. Providing a range of

planted species will support a greater diversity of invertebrate species, which will in turn benefit other faunal species that will predate these invertebrates, such as bats and birds.

Any tree felling or arboricultural works that are required will only be undertaken outside of the breeding bird season and these works will be avoided between March and August inclusive. If this isn't possible and works need to take place during this period, a nesting bird check will be undertaken immediately prior to the works by a suitability qualified ecologist and an ecological clerk of works will be appointed to oversee the works if considered necessary. If any specialist works are required, then an arboriculturalist should be appointed.

2.4 Wildflower grassland

Areas of wildflower grassland will be incorporated into areas of public open space (POS), as detailed at Appendix 1. The margins of the wildflower meadows will be mown to provide a minimum 1m buffer to footpaths, roads and infrastructure. The wildflower grasslands will be created by sowing the Emorsgate EM3 special general purpose meadow mixture. The composition of the Emorsgate EM3 mixture is detailed below:

Wildflowers

- Agrimony *Agrimonia eupatoria*
- Black medick *Medicago lupulina*
- Bladder campion *Silene vulgaris*
- Bulbous buttercup *Ranunculus bulbosus*
- Common knapweed *Centaurea nigra*
- Common vetch *Vicia sativa* ssp. *Segetalis*
- Cowslip *Primula veris*
- Crosswort *Cruciata laevipes*
- Field scabious *Knautia arvensis*
- Great burnet *Sanguisorba officinalis*
- Greater knapweed *Centaurea scabiosa*
- Hedge bedstraw *Galium album*
- Hoary plantain *Plantago media*
- Kidney vetch *Anthyllis vulneraria*
- Lady's bedstraw *Galium verum*
- Meadow cranesbill *Geranium pratense*
- Meadow vetchling *Lathyrus pratensis*
- Musk mallow *Malva moschata*
- Oxeye daisy *Leucanthemum vulgare*
- Red campion *Silene dioica*
- Ribwort plantain *Plantago lanceolata*
- Rough chervil *Chaerophyllum temulum*
- Sainfoin *Onobrychis viciifolia*
- Salad burnet *Poterium sanguisorba* ssp. *sanguisorba*
- Selfheal *Prunella vulgaris*
- Tufted vetch *Vicia cracca*
- Viper's-bugloss *Echium vulgare*
- Wild carrot *Daucus carota*
- Wild marjoram *Origanum vulgare*

Grasses

- Common bent *Agrostis capillaris*
- Crested dog's-tail *Cynosurus cristatus*
- Red fescue *Festuca rubra*
- Smaller cat's-tail *Phleum bertolonii*
- Smooth-stalked meadow-grass *Poa pratensis*

Alternative wildflower grassland mixtures could be used; however, these will be agreed with the project ecologist to ensure they contain similar and appropriate native species.

The provision of wildflower grassland will provide immediate benefits for wildlife in the form of foraging, breeding and sheltering opportunities. In the longer term, the grassland will also be colonised naturally by additional native plant species.

2.5 Scrub planting

Areas of native scrub planting are proposed within the parks and green corridors throughout site. Native scrub species will be incorporated into the landscape design including:

- Blackthorn
- Common dogwood
- Hawthorn
- Hazel
- Holly

The areas of shrub planting will also be sown with Emorsgate EG1 general purpose meadow grass mixture to create the ground flora of the shrub habitat.

The provision of shrub planting will ensure that foraging opportunities (for both larval stages and adult pollinators) are available for a greater diversity of invertebrate species, which will in turn benefit other faunal species that will predate these invertebrates, such as bats and birds. In addition, the shrubs will provide increased nesting opportunities for birds and sheltered commuting opportunities for amphibians and mammals.

2.6 Orchard

The proposed orchard at Landings Green will contain fruit and nut bearing species of local provenance including:

- Apple 'Coronation' *Malus domestica 'Coronation'*
- Apple 'Saltcote Pippin' *Malus domestica 'Saltcote Pippin'*
- Apple 'Ergemont Russet' *Malus domestica 'Ergemont Russet'*
- Plum 'Victoria' *Prunus domestica 'Victoria'*
- Pear 'Conference' *Pyrus communis 'Conference'*
- Pear 'Concorde' *Pyrus communis 'Concorde'*

The orchard will provide foraging opportunities for a great diversity of invertebrate species which will in turn benefit other faunal species that will predate these invertebrates, such as bats and birds. The provision of fruit and nut-bearing species will also provide direct foraging opportunities for birds, whilst trees within the orchard will provide increased nesting opportunities for birds.

2.7 Sustainable drainage system

Sustainable drainage system basins will be created as part of the proposed development and landscape design. Although the primary function of SuDS is drainage, they also provide the opportunity to enhance biodiversity onsite by providing ecologically valuable features for local wildlife including birds, amphibians, small mammals and invertebrates.

Aquatic and marginal plants will naturally colonise the basins, but in order to prevent dominance by competitive grasses and undesirable ruderal species, the features will be sown with seed mixtures that contain a combination of native grasses and forb species suitable for damp soils, such as the Emorsgate EM8 meadow mixture for wetlands along the banks of the basin, and Emorsgate EP1 pond edge mixture for the base. Additional marginal planting will include:

- Brooklime *Veronica beccabunga*
- Common fleabane *Pulicaria dysenterica*
- Flowering rush *Butomus umbellatus*
- Great willowherb *Epilobium hirsutum*
- Greater pond sedge *Carex riparia*
- Greater spearwort *Ranunculus lingua*
- Hemp agrimony *Eupatorium cannabinum*
- Meadowsweet *Filipendula ulmaria*
- Purple loosestrife *Lythrum salicaria*
- Ragged robin *Lynchnis flos-cuculi*
- Reed sweet-grass *Glyceria maxima*
- Slender-tufted sedge *Carex acuta*
- Water forget-me-not *Myosotis scorpioides*
- Water mint *Mentha aquatica*
- Water plantain *Alisma plantago-aquatica*
- Water speedwell *Veronica anagallis-aquatica*
- Yellow iris *Iris pseudacorus*

The SuDS feature will increase botanical and invertebrate diversity by providing a marshy and semi-aquatic habitat, which will in turn benefit other faunal species such as bats, birds, reptiles and amphibians.

2.8 Amenity grassland and ornamental planting

As the proposed development is a housing scheme, numerous areas of amenity grassland will be created onsite for recreational use. In addition, there will be areas of ornamental planting throughout the proposed development site. Ornamental structural and accent planting will occur around POS and mainly comprise either evergreen or flowering species.

2.9 Japanese knotweed

Three individual stands of Japanese knotweed *Fallopia japonica* were identified during an ecological walkover conducted by UES in 2023 (see report reference UES04099/01). No other invasive species have been identified on site, and these three stands will not be impacted by this phase of the development, although they are situated approximately 80m from the phase boundary at their closest point. The three stands are located on the edge of an area of grassland / scrub at SU 99580 03417, SU 99595 03315, and SU 99637 03228. These areas will not be impacted by the current phase of the application, although the relatively close proximity of the stands increases the risk of disturbance and dispersal. As such, it is recommended that these three stands are treated during the commencement IRM phase (expected to occur between January 2025 and January 2027 inclusive).

Japanese knotweed, is listed under Schedule 9 of the Wildlife and Countryside Act 1981. As such, it is an offence to plant or otherwise cause this species to grow in the wild. Without mitigation, site clearance and setting out could result in the disturbance and dispersal of Japanese knotweed on and off site. This could result in a breach of legislation. Japanese knotweed is also highly invasive and can result in damage to foundations, structures and roads.

Preventing spread

1. In order to avoid contamination around the site, all site operatives with the potential to work within the vicinity of the invasive species should receive training in Japanese knotweed identification and best practice procedures for avoidance of spreading any species throughout the site.

2. Good site hygiene should be maintained:
 - All stands of the invasive species should be recorded, isolated and left undisturbed until the completion of treatment and eradication works.
 - Stockpiles of contaminated soil and vegetative material should be clearly marked and isolated.
 - Avoid the use of vehicles within the contaminated areas where possible, if not, vehicles should be washed at a designated area to remove any plant fragments and soil, taking care that contaminated wastewater does not spread off site.
3. Avoid any new contamination to the site by minimising the risk of fly-tipping waste onto the development, not importing infested topsoil for use on site, and inspecting new vehicles entering the site, particularly any caterpillar tracks.
4. Reusing treated soils onsite is possible without the need for a waste management licence. However, to minimise the potential problems there could be if the soil was not treated adequately, you should only use soil again where there is little risk of spreading such as away from watercourses, amenity lawns and gardens, away from boundaries with other properties and in an area, what is not disturbed heavily by people or livestock.

Treatment

Works to control invasive species should be undertaken by suitably trained and qualified operatives holding the appropriate certification and licences where applicable. Herbicide application works must be undertaken by an operative certified to use and apply herbicides (i.e. NPTC PA1 and PA6).

As there is the possibility that these species could be disturbed by contractors throughout the construction period, any invasive species should be removed prior to works within the affected areas on site. The following procedures should be followed regardless of the chosen method of treatment:

1. Identify all existing and emerging stands within the site area and mark all clumps with a single stake (for small clumps), 2 or 3 stakes (for bigger clumps). Each stake shall be driven until firm by hand. All stakes shall be 75mm diameter x 2.5m long peeled, tanalised softwood with the top painted for ease of identification. Stake on the edge of all identified clumps. Mark all areas on a site plan and take a photographic record.
2. A 7m exclusion zone around each clump will be marked out on site.
3. This process should occur immediately prior to the treatment methods implemented and should involve a site walkover survey by an appropriately trained operative able to identify the invasive species on site.
4. Access to all infected areas shall be on foot at all times. No plant or vehicles shall pass within 7m of the identified stands or staked areas.
5. No excavation or tipping of any material shall be allowed within 10m of any identified stands or staked areas.

6. All site staff shall be briefed upon the identification of invasive species and the need to avoid contact or cross contamination within the site, including points 2, 3 and 4 above. The following steps then need to be followed according to each invasive species.

Whilst chemical treatment of Japanese knotweed is a viable treatment option, it is recommended that in this case the stands of knotweed are excavated and buried, or removed from site as contaminated waste. If burying the Japanese knotweed is the chosen method of treatment, the Environment Agency are required to be notified at least one month before treatment. This method involves excavating the Japanese knotweed zone to a depth of at least 5 metres if not using a geotextile membrane, or 2m if using a geotextile membrane. Any geotextile membrane that is utilised for burying Japanese knotweed must be undamaged, UV resistant, will remain intact for 50 years, and sealed securely. The exact depth of excavation and geotextile membrane will be confirmed by the chosen competent contractor. If excavation and removal is the chosen method of treatment, then the excavated material must be treated as controlled waste and disposed of accordingly via a licenced handler or at a licensed facility.

Future contamination, monitoring, and responsibility

Japanese knotweed can redevelop on site after treatment through subsequent growth of dormant seeds, stolons and rhizomes or through future contamination of the site. If all plants are controlled prior disturbance of these areas, then contamination within the site will be prevented. Disposal of all plant material and associated soil via an appropriately licensed waste handler and / or waste facility will ensure that contamination off-site is prevented.

It is important that regular monitoring be undertaken to assess any regrowth and prevent the spread of any invasive species. This should occur annually for at least two consecutive years following treatment.

The responsibility of the initial treatment and future monitoring rests solely with the development company and any appointed contractors. If the site is sold, or if a management company is used following the development of the site, then the responsibility for future monitoring and treatment of invasive species will also be passed on to the new site owners or the management company appointed to maintain the site. The effectiveness of monitoring will be increased through onsite training given to the site operatives. Any regrowth will be further assessed, and an appropriate method of treatment carried out.

3 PROTECTED SPECIES

3.1 Bats

The hedgerows, treelines, grassland and dense scrub habitats will provide commuting and foraging opportunities for bats, whilst the buildings and trees onsite may provide roosting opportunities. In addition, the connectivity between the different habitats onsite through hedgerows and treelines further improves the quality for bats.

A suite of bat surveys has been undertaken onsite by Ecological Survey and Assessment (ECOSA) between 2017 and 2018, including bat scoping surveys of the buildings onsite, a ground-level tree assessment, emergence / re-entry surveys, bat transect surveys and bat automated detector surveys. The results of which are detailed within the associated ECOSA report - Environmental Statement – Technical Appendix 9.3 – Ecological Baseline (Report Reference 2921-9.3.F0).

Due to the number of years since the original bat surveys were undertaken and the potential for bats to roost within previously unidentified features or those which have developed overtime, UES were commissioned to undertake updated bat ground-level and aerial tree assessments to determine the suitability of the trees onsite to support roosting bats. UES were also commissioned to undertake updated bat scoping and bat presence / absence surveys where necessary.

UES carried out an updated bat scoping survey in June 2024, with a follow up scoping survey in September 2024 of Building 6, which could not be internally accessed in June. Two buildings, Buildings 1 and 5, were subject to bat presence / absence surveys after being found to present low and moderate suitability to support roosting bats, respectively. No bats were identified within either building during the presence / absence survey. All other buildings to be impacted by the development have been assessed as providing negligible suitability to support roosting bats (see report reference UES04099/03 for full details).

An updated ground-level tree assessment was undertaken by UES in July 2024 which assessed all trees for their suitability to support roosting bats that may be impacted by arboricultural works, including felling or pruning works. A subsequent aerial tree assessment was conducted of trees that are to be removed which contain PRF-M or FAR features between August and September 2024. No bats were identified within any trees during these aerial tree assessments (see report reference UES04099/05 for full details).

3.1.1 Mitigation measures

Bats in buildings

No bats were found to be using Building 1 and Building 5 on site to roost, and the remaining buildings covered during the inspections were assessed as having negligible suitability to support roosting bats. Therefore, no further survey work or compensation measures are required for the development to proceed, with regards to bats.

Bats in trees

In accordance with BCT guidelines, no further survey work is required for the trees that have been assessed as having only PRF-I features. However, soft felling techniques should still be used to minimise any incidental risk of harm to bats as a precautionary measure. The trees

must be removed in sections, which will be lowered to the ground and left for a period of 24 hours before removing them from the site. Alternatively, the features associated with these trees could also be inspected by a suitably experienced and licensed ecologist immediately prior to the felling of the tree to confirm that no roosting bats are present.

No evidence of bat roosting activity was associated with trees with PRF-M features despite a full suite of surveys being conducted. Therefore, no further survey work is required for the proposed works to these trees, although soft-felling techniques should still be used to minimise any incidental risk of harm to bats as a precautionary measure as described above/

Trees assessed as having “none” may be felled without restrictions relating to bats.

3.1.2 Compensation and enhancement measures

Bat boxes will be provided onsite to provide an enhancement in the availability of roosting opportunities. Bat boxes will be installed on a south facing aspect in close proximity to good quality habitat for bats such as hedgerows, tree lines, woodland, wildflower grassland and waterbodies. At present, a total of 10 bat boxes will be installed as part of this phase of the development. See Appendix 1 for mapped locations.

The proposed make and model of bat box has been chosen to target species likely to be present on site or within the local area. If the proposed model of bat box is not available due to stock shortages, an alternative model can be used instead. All proposed changes must be discussed and agreed with the project ecologist to ensure that they provide similar roosting opportunities. The use of woodcrete or woodstone boxes will be prioritised due to their durability and longevity. The following bat boxes will be installed onsite:

- Schwegler 2F and 2FN bat boxes – fitted to semi-mature / mature trees which are due to be retained within the proposed development site. The boxes will be placed at a height of 4-6m and on a south-facing aspect.

It should be noted that once inhabited by a bat, boxes may only be inspected or disturbed by a licenced bat ecologist. Once installed, the bat boxes should not require any management in the long-term.

Bat boxes can be installed any time of year. Artificial lighting will be designed and directed to avoid overspill on all bat boxes, in order to minimise disturbance and increase the likelihood of occupancy. Where necessary, this may require the use of cowling or the relocation of light sources or bat boxes if necessary. A sensitive lighting strategy will be developed in accordance with the Bat Conservation Trust’s (BCT) bats and artificial lighting at night guidance note (08/23), as per condition 15 of F/4/20/OUT.

3.2 Birds

ECOSA’s Environmental Statement – Technical Appendix 9.3 – Ecological Baseline (Report Reference 2921-9.3.F0), indicates that wintering bird surveys were undertaken by Artemis between November 2015 and February 2016. UES have not been provided with a copy of the wintering bird survey report produced by Artemis at this stage, but the ECOSA Environmental Statement indicates that 56 bird species were recorded within the proposed development site during the wintering bird surveys; no species associated with the Arun Valley Special Protection Area (SPA) were found to be associated with the proposed development site.

ECOSA also undertook breeding bird surveys of the proposed development site between May and June 2017, which recorded species on both the red and amber lists breeding onsite including skylark *Alauda arvensis*, song thrush *Turdus philomelos*, dunnock *Prunella modularis*, and stock dove *Columba oenas*. Additional red and amber listed species were also recorded using the site during the wintering bird surveys undertaken by ECOSA between December and February 2019. These surveys also determined that the habitats onsite may be suitable for species associated with the designation of Arun Valley SPA but recognised that regular disturbance across the site may reduce the suitability and conditions for these species.

There are a number of habitats onsite which are suitable to support nesting birds including woodland, hedgerows, trees, dense scrub, scattered scrub, tall ruderal, arable fields and buildings. Bird's nests were identified within some of the buildings during the updated bat scoping survey undertaken by UES in June 2024, and the other buildings have potential to support nesting birds.

3.2.1 Mitigation measures

General

Building demolition, tree felling, arboricultural works and vegetation removal could result in the direct loss of nests, any individuals within the nests and of available nesting territories if conducted during the breeding season. As such, building demolition, site clearance, tree felling, arboricultural works and vegetation removal (including enabling works) are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible and works need to take place between this period, a targeted breeding bird nest scoping survey should be conducted by a suitably qualified ecologist immediately prior to the works, or an ecological clerk of works appointed to oversee the works. This is in accordance with condition 24 of F/4/20/OUT.

Bewick's swan

A Shadow Habitats Regulations Assessment (sHRA) was produced for the proposed development site by ECOSA in October 2019 (see report reference: 4406.F0). Section 5.2 of the report details how increased footfall of humans and dogs along the proposed public footpaths, and how this may lead to increased disturbance for Bewick's swan *Cygnus columbianus bewickii*. It also details the required mitigation and compensation measures to be implemented to protect Bewick's swans and their habitat.

As the fields to the north and east of the site are suitable for Bewick's swan, screening will be implemented along the public rights of way (PRoW) in the form of stockproof fencing and low-lying hedgerows, to minimise potential disturbance by humans and dogs. A Bewick's swan mitigation strategy has been prepared which details the location and type of screening to be implemented (see report reference UES04099/24 for full details). Outline screening measures are detailed on Map 3 in ECOSA's sHRA, which are largely still valid, although natural development of vegetation in some areas has reduced the need to screen certain areas. The chosen method of screening the PRoW is to plant species-rich native hedgerows. Native hedgerow planting has been chosen as the preferred screening measure as they are considered to provide a more complete visual screen to the PRoWs and simultaneously enhance biodiversity.

3.2.2 Compensation and enhancement measures

Bird boxes will be provided onsite to provide an enhancement in the availability of nesting opportunities. Bird boxes will be installed on a north facing aspect in close proximity to good quality habitat for birds such as hedgerows, tree lines, woodland, parkland and waterbodies. At present, a total of 9 bird boxes will be installed as part of this phase of the development. See Appendix 1 for mapped locations.

The proposed make and model of bird box has been chosen to target species likely to be present on site or within the local area. If the proposed model of bird box is not available due to stock shortages, an alternative model can be used instead. All proposed changes must be discussed and agreed with the project ecologist to ensure that they provide similar nesting opportunities. The use of woodcrete or woodstone boxes will be prioritised due to their durability and longevity. The following bird boxes will be installed onsite:

- Schwegler 1B bird nest box (26mm, 32mm and oval entrances) – affixed to semi-mature / mature trees which are due to be retained within the proposed development site, at a height of 3-6m, and should be positioned on the northern or eastern aspect of the selected trees, thus avoiding the strongest sunlight and wettest winds.

Once installed, the bird boxes should not require any management in the long-term.

3.3 Amphibians

GCN impact assessments and environmental DNA (eDNA) analysis were carried out of ponds that were accessible within 500m of the site by ECOSA in 2017 (see corresponding report reference: 2921-9.3.F0). Of the ten ponds located within 500m of the site during the previous surveys, four (Ponds 6 – 9) were subject to eDNA analysis which returned negative results, indicating the absence of GCNs.

Whilst there are no waterbodies onsite, the terrestrial habitats have some suitability to be used by GCNs including woodland, hedgerows and tall ruderal habitats. In addition, there are several ponds and ditches within 500m of the proposed development site.

Given the lack of access to some of the offsite ponds in 2017 and the amount of time that has passed since the previous surveys, UES carried out updated GCN HSI and eDNA surveys in June 2024 (see report reference UES04099/11 for further details). Access was provided to Pond 1 and Ditches 1, 2, 5, 6, 7 and 8. Pond 1 and Ditches 5 and 8 were subject to eDNA analysis which returned negative results, indicating the absence of GCNs; Ditches 1, 2 6 and 7 were dry at the time of survey and therefore could not be subject to eDNA analysis.

Given the results of the surveys undertaken to date, GCN are considered as likely absent from the proposed development site. However, due to the potential presence of common amphibian species, the following reasonable avoidance measures (RAMs) will be implemented during the construction phase of the development to protect amphibians on the chance they are present onsite during the works:

- No excavations are to be left open overnight. If this is not feasible a plank should be left within the excavation at a 45 degree angle to allow amphibians to escape. Any open excavations should be checked for amphibians in the morning prior to start of works on site.
- Materials will be stored on pallets off the ground in order to reduce the risk of amphibians sheltering underneath them.

- UES will remain on-call throughout the development and if any newts are encountered, work on site is to stop immediately and ecological advice is to be sought.

The provision of native tree, hedgerow and scrub planting along with the wildflower grassland will provide commuting and foraging opportunities for amphibians. In addition, a total of four hibernacula (see specifications below) and dozens of log / brash piles will be installed within IRM which will provide sheltering opportunities. The number of log and brash piles will be determined by the extent of vegetation removal, with a preference to utilise cut wood on site as opposed to chipping or removing from site. See Appendix 1 for mapped locations.

Each hibernacula will be created by excavating pits in the ground (500mm depth, 2000mm length, and 1000m width). Ideally, these pits will then be filled using materials already present on site, including hay, brash, cut timber / logs and brick / rock hard-core, or the materials can be sourced from elsewhere if necessary. The pits will be piled up to a height of approximately 1000mm above ground level. Hibernacula will then be loosely capped with topsoil and turfed over, ensuring that access is still available through to the lower layers at the margins. This will provide GCNs with a sheltered place to rest and suitable conditions for overwintering amphibians. The hibernacula will also provide sheltering and hibernating opportunities for reptiles, other common amphibians, small mammals and invertebrates.

The following diagram provides a visual representation of the hibernacula, with the only additional requirement to the diagram being that a pit is first excavated.

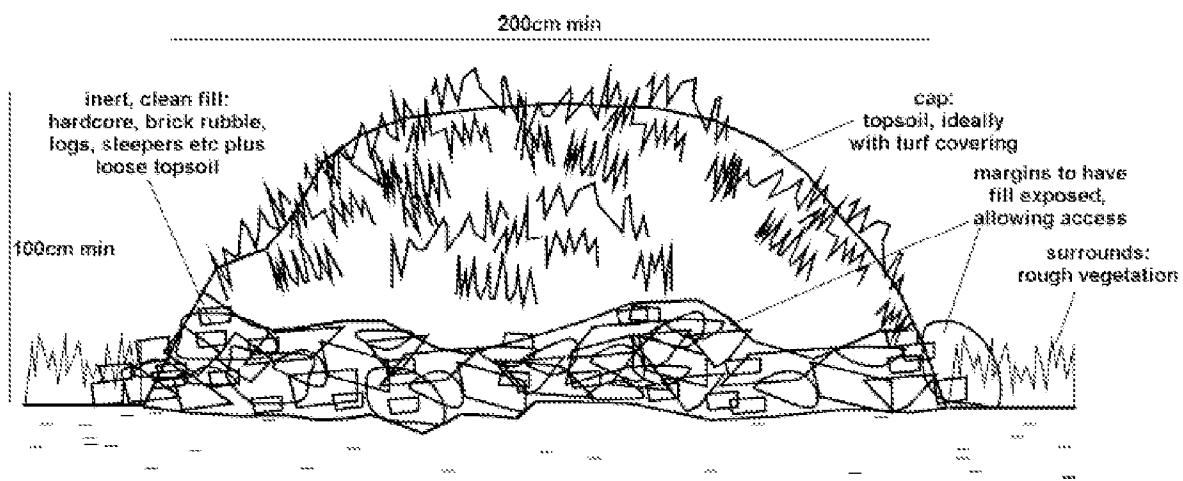


Figure 1 ... Hibernacula design.

3.4 Reptiles

Artemis Ecological Consulting Limited carried out a Phase 1 Habitat Survey in July and August 2015, and August 2016, which identified a single, adult common lizard *Zootoca vivipara* within a grassland in the eastern section of the proposed development site.

A full suite of reptile surveys were undertaken by ECOSA in 2017 (see report reference: 2921-9.3.F0). A single adult common lizard was identified in July 2017 within the northern section of the northern land parcel. In addition, two slow-worms *Anguis fragilis* were identified offsite but directly adjacent to the eastern boundary of the proposed development site during the GCN impact assessment and eDNA survey undertaken by UES in June 2024.

Habitats onsite which are suitable for common reptile species, such as grassland, dense scrub and woodland edges, will be lost in areas to facilitate the proposed development. The provision of native tree, hedgerow and scrub planting along with the wildflower grassland will provide commuting and foraging opportunities for reptiles present in the local area. In addition, a number of hibernacula and log / brash piles will be installed within IRM which will provide sheltering opportunities. See Appendix 1 for mapped locations.

Due to the known presence of reptiles within the surrounding area, the following RAMs will be implemented during the construction phase of the development to protect reptiles on the chance they are present onsite during the works.

- The unmanaged arable fields, tall ruderal and any areas of grassland within the proposed working area are to be mown to have a sward length below 10cm. This mowing is to take place at least 24 hours prior to the start of development works. This is to give any reptiles present time to move off site of their own accord. The mown / cleared areas will then be maintained with a short sward until the works on site have been completed.
- No excavations are to be left open overnight. If this is not feasible a plank should be left within the excavation at a 45-degree angle to allow trapped wildlife to escape. Any open excavations should be checked for trapped wildlife in the morning prior to start of works on site.
- Where possible, materials will be stored on pallets off the ground in order to reduce the risk of reptiles sheltering underneath them.

3.5 Badgers

Artemis Ecological Consulting Limited undertook a Phase 1 Habitat Survey of the proposed development site in July and August 2015, and August 2016. No evidence of badger *Meles meles* activity was identified onsite during the survey but suitable habitats for badger were identified. ECOSA Ltd conducted updated protected species surveys in 2019, which also found no evidence of badger activity on site. However, given the time that has lapsed between the most recent surveys, UES conducted a suite of updated surveys of the development site between 2023 and 2024. Incidental observations of potential badger activity were recorded during this time, with a specific badger scoping survey taking place on 18th October when vegetation levels have reduced to enable a more thorough assessment of the site. This badger scoping survey included a walkover of the entire site, including any prior incidental observations of potential badger activity (see report reference UES04099/28 for further details).

Mammal paths, mammal holes, and some incidental foraging signs were identified during the surveys conducted by UES, although no confirmed evidence of badger activity has been found. The site is frequently used by dog walkers and so mammal paths may be artificial or utilised by foxes *Vulpes vulpes* or rabbits *Oryctolagus cuniculus*. All mammal holes identified on site are considered to support rabbit warrens or fox dens due to their small size. Incidental foraging signs are restricted to maize cobs that have been foraged. However, these may have been stripped by rats, mice or other small mammals.

As no setts, confirmed foraging signs or other evidence of badger activity were identified on or adjacent to the application site, the proposed development is not considered to pose a direct

risk to badgers. Nevertheless, the site covers a large area and provides broadly suitable badger habitat. Therefore, mitigation measures, including the following RAMs will be implemented during the construction phase of the development to protect badgers on the chance they are present onsite during the works.

- Regular site checks must be undertaken during the construction phase of the development to ensure that no new setts have been created. If there is any doubt whether an excavation may support badgers, UES will be contactable on 01565 757 788 throughout the duration of the works.
- No trenches or excavations will be left open overnight. They will be backfilled or covered with board, or alternatively fitted with a means of escape for any badger (or other animal) which may become trapped within, such as a plank or slope leading out of the bottom of the excavation at an angle of 45°.
- Excavations will be checked before they are backfilled to ensure that no animals have become trapped.
- Any chemicals or harmful materials will be stored so that they cannot be accessed by badgers or other animals.

3.6 Hedgehogs

To allow continued use of the site by hedgehogs *Erinaceus europaeus* and to ensure commuting routes are not blocked, any fences installed onsite will be designed to allow passage of hedgehogs. This can either be through the choice of material e.g. choosing a fence style that naturally contains suitable sized holes at the base or through the inclusion of hedgehog highways. Hedgehog highways are small 13cm x 13cm holes at the base of fences. Hedgehog highways will be incorporated at a distance of every 15m in all installed fences.

Brash / deadwood piles will also be created across the site, including within the woodlands, to provide sheltering and hibernating opportunities for a variety of wildlife onsite including small mammals, invertebrates and amphibians. The brash / deadwood piles will be created using arisings from any vegetation clearance works undertaken onsite. The arisings will be cut into different shapes and sizes and will be stacked in loose and randomly created piles, measuring approximately 0.5m x 0.5m x 0.5m to 1m x 1m x 1m in dimension. The brash and deadwood piles will be created as and when material becomes available during the vegetation clearance works. See Appendix 1 for mapped locations.

In addition, hedgehog nest boxes will be provided onsite to provide sheltering opportunities for hedgehogs. See Appendix 1 for mapped locations.

3.7 Hazel dormice

ECOSA carried out hazel dormouse *Muscardinus avellanarius* surveys in June-September 2017 (see report reference: 2921-9.3.F0). No evidence of hazel dormice was identified during these surveys and as such, they were considered likely absent from the site.

There are limited areas of suitable habitat within the surrounding landscape and the majority of the proposed development site is unsuitable to support hazel dormice. The relatively small areas of woodland and hedgerows onsite provide somewhat suitable habitat for hazel dormice;

however, they are isolated from the wider landscape and the site is unlikely to be colonised by hazel dormice in the future. Despite this, the works should be completed under RAMs to reduce the risk to the lowest practicable level and to adhere to good practice guidelines. The below RAMs will be implemented during the construction phase of the development, including a pre-commencement check, to protect hazel dormice on the chance they are present onsite during the works.

- No woodland, scrub or hedgerow clearance will take place between June and September inclusive when females would have dependent young, or between December and March inclusive when dormice would be hibernating.
- Phased vegetation clearance of any existing hedgerows, woodland or scrub that will be impacted by the works. These habitats should be removed in a way that directs individuals in the direction of remaining suitable habitat such as retained hedgerows at the site boundaries.

3.8 Invertebrates

Insect boxes will be provided onsite to provide an enhancement in the availability of breeding and sheltering opportunities. Insect boxes will be installed on a south facing aspect in close proximity to good quality habitat for insects such as hedgerows, tree lines, woodland, parkland, wildflower grassland, as well as ornamental planting. See Appendix 1 for mapped locations.

The proposed make and model of insect box has been chosen to target species likely to be present on site or within the local area. If the proposed model of insect box is not available due to stock shortages, an alternative model can be used instead. All proposed changes must be discussed and agreed with the project ecologist to ensure that they provide similar nesting opportunities. The use of woodcrete or woodstone boxes will be prioritised due to their durability and longevity. The following insect boxes will be installed onsite:

- Schwegler insect nesting aid – fitted to semi-mature / mature trees which are due to be retained within the proposed development site. The boxes will be placed at a height of 4-6m and on a south-facing aspect.

The insect boxes installed will provide breeding and sheltering opportunities for solitary Hymenopterans species that are known to be present onsite or are likely to be present within the local area.

Once installed, the insect boxes should not require any management in the long-term.

4 LANDSCAPING AND HABITAT MANAGEMENT

The responsibility for ensuring that the initial habitat creation and enhancement measures are implemented lies with the developer and any contractors appointed to carry out those works at the time of the development. They will be responsible for ensuring that the habitat creation works are carried out to in accordance with this EPEP.

A compliance visit will be undertaken by a suitability qualified ecologist prior to 80% occupation of the dwellings for this phase to confirm that the biodiversity enhancements onsite have been implemented as per this EPEP. The delivery of the biodiversity enhancements stipulated within this report will depend on a variety of factors that are not possible to forecast with certainty. However, all habitat creation for this phase will be in place prior to 80% occupation of new dwellings. Whilst the habitats will take time to mature to reach their target conditions – particularly those that are defined by the presence of trees such as parkland, woodland, and orchards – this is expected to be deliverable by 2028 inclusive.

Subsequent management of the habitats on site will be the responsibility of the appointed management company. A habitat management and maintenance plan (HMMP) for the POS and green infrastructure will be prepared for IRM prior to occupation, in accordance with condition 23 of F/4/20/OUT. The management company will ensure that the ongoing measures detailed within this HMMP are implemented. They will also be responsible for monitoring the establishment of habitats as well as monitoring them for any changes affecting their quality or function. An annual meeting will be held to discuss these issues and whether any remedial works are necessary to restore the habitats to a satisfactory standard.

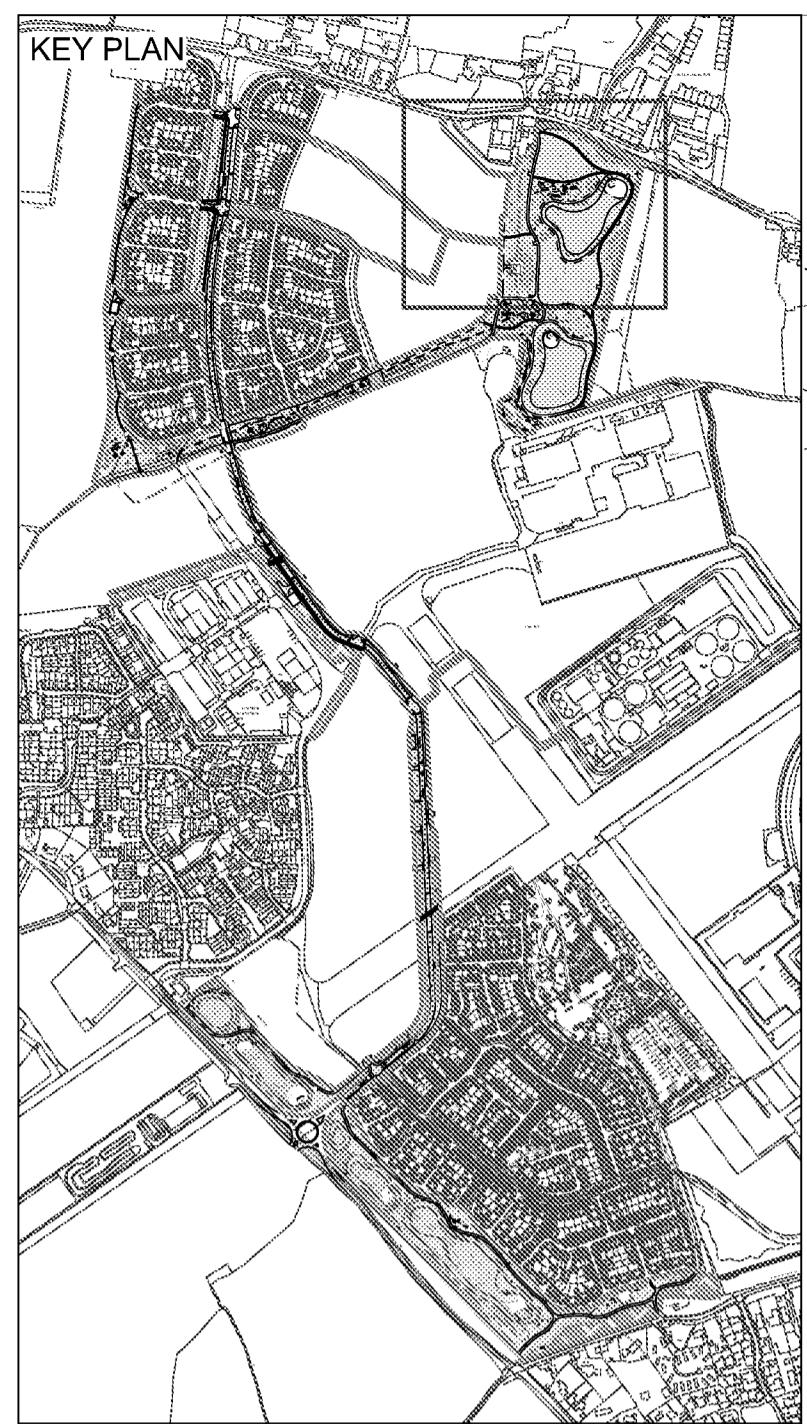
5 CONCLUSION

The mosaic of native species-rich hedgerow, native tree planting, native dense scrub, woodland structure planting, long grass margins, wildflower grassland and SuDS will provide a biologically diverse landscape and deliver a net benefit for biodiversity. The green infrastructure along the site boundaries and through the centre of site will provide a green corridor which will promote the natural distribution of species, ensuring that ecological resilience is maintained within the wider landscape.

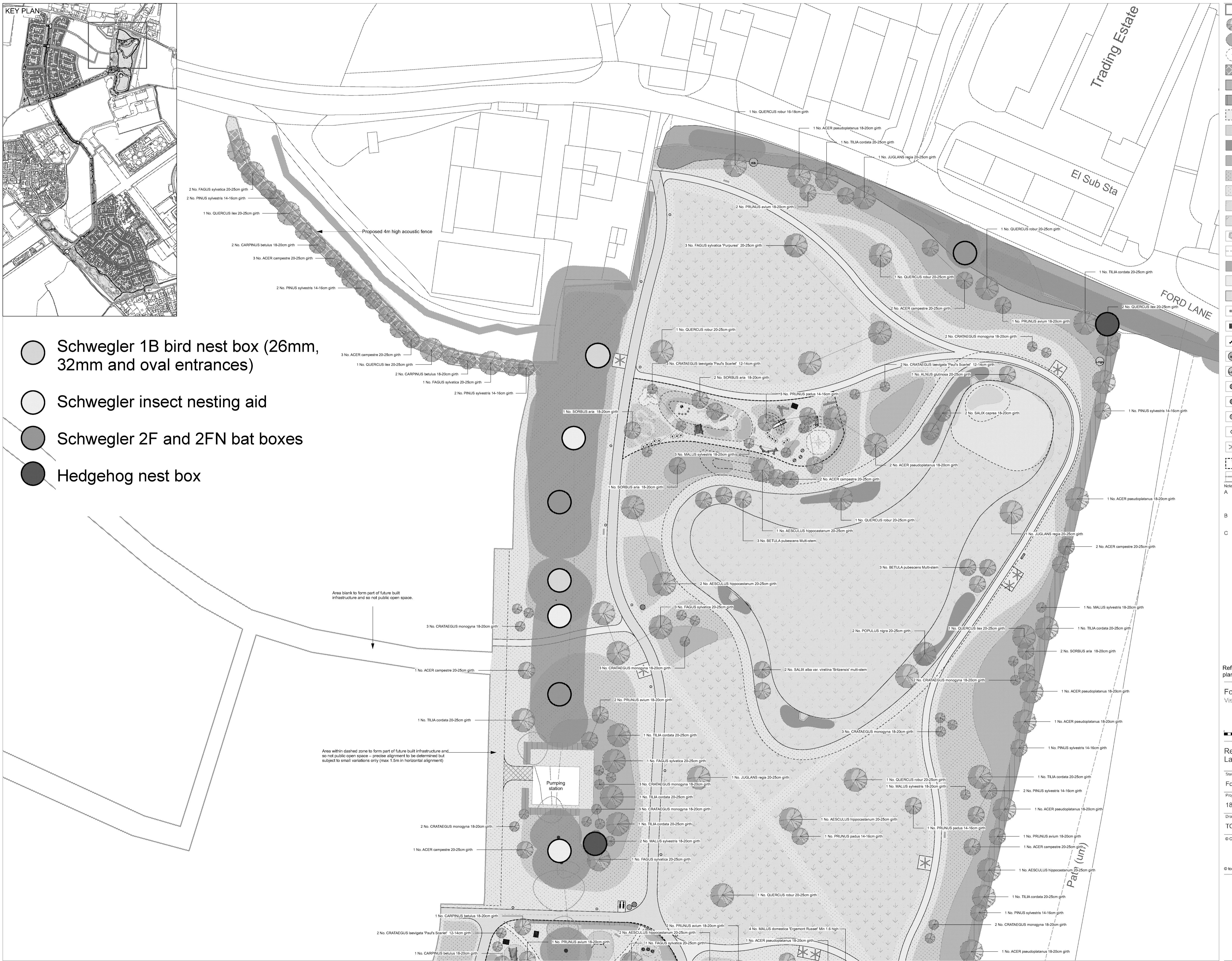
Provided the measures within this report are followed, it is considered that the proposed development will be compliant with all relevant legislation and planning policy and will result in a positive outcome for biodiversity.

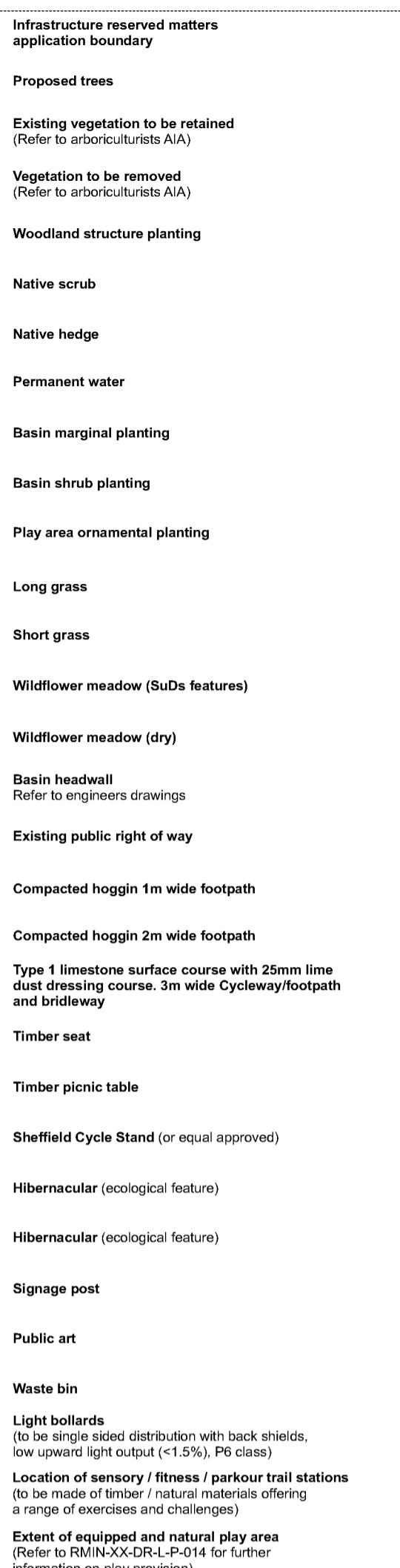
APPENDICES

Appendix 1 – Landscape design and biodiversity enhancements



- Schwegler 1B bird nest box (26mm, 32mm and oval entrances)
- Schwegler insect nesting aid
- Schwegler 2F and 2FN bat boxes
- Hedgehog nest box





Refer to drawing RMN-XX-DR-L-P-010 for associated plant schedules

Ford Airfield Visits



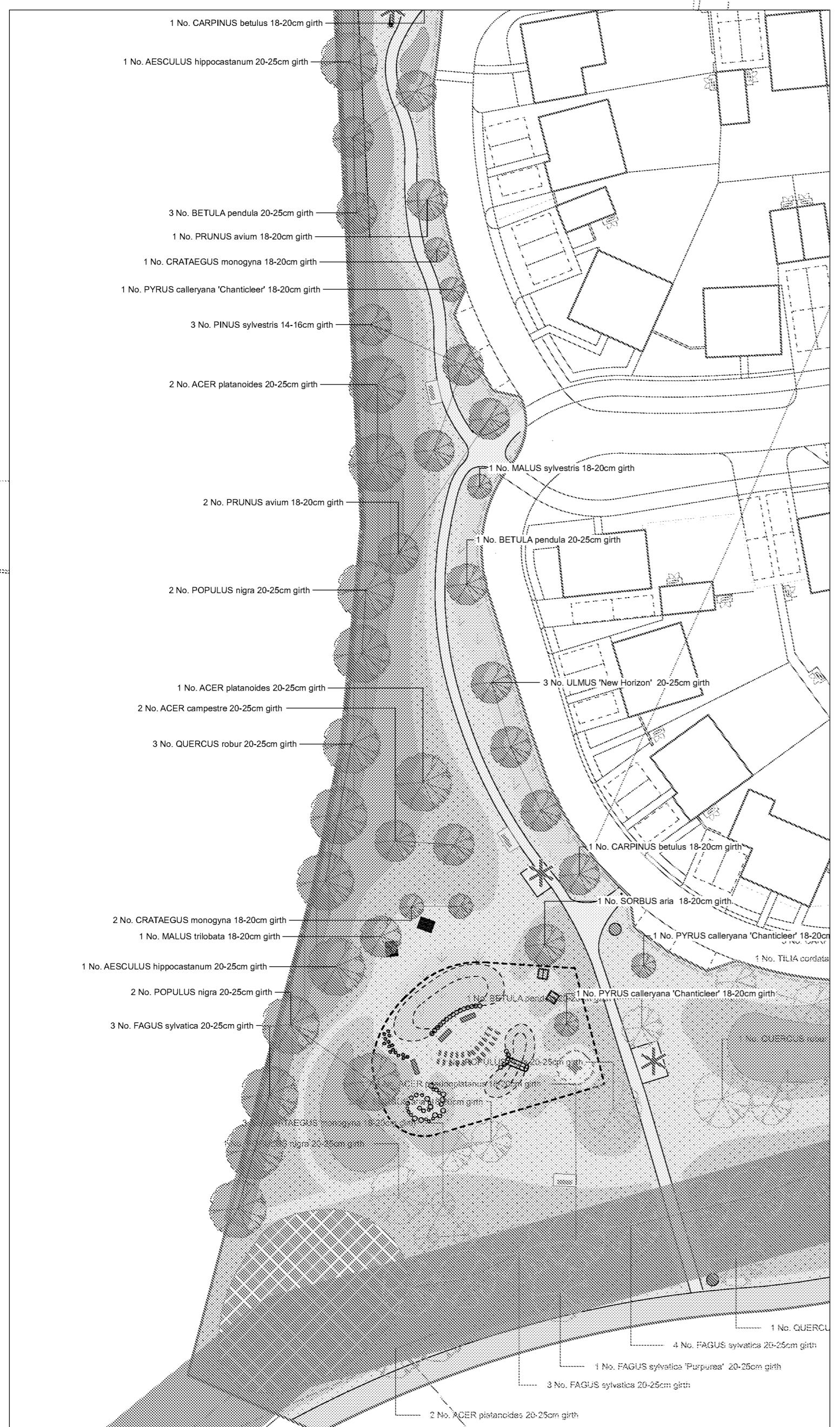
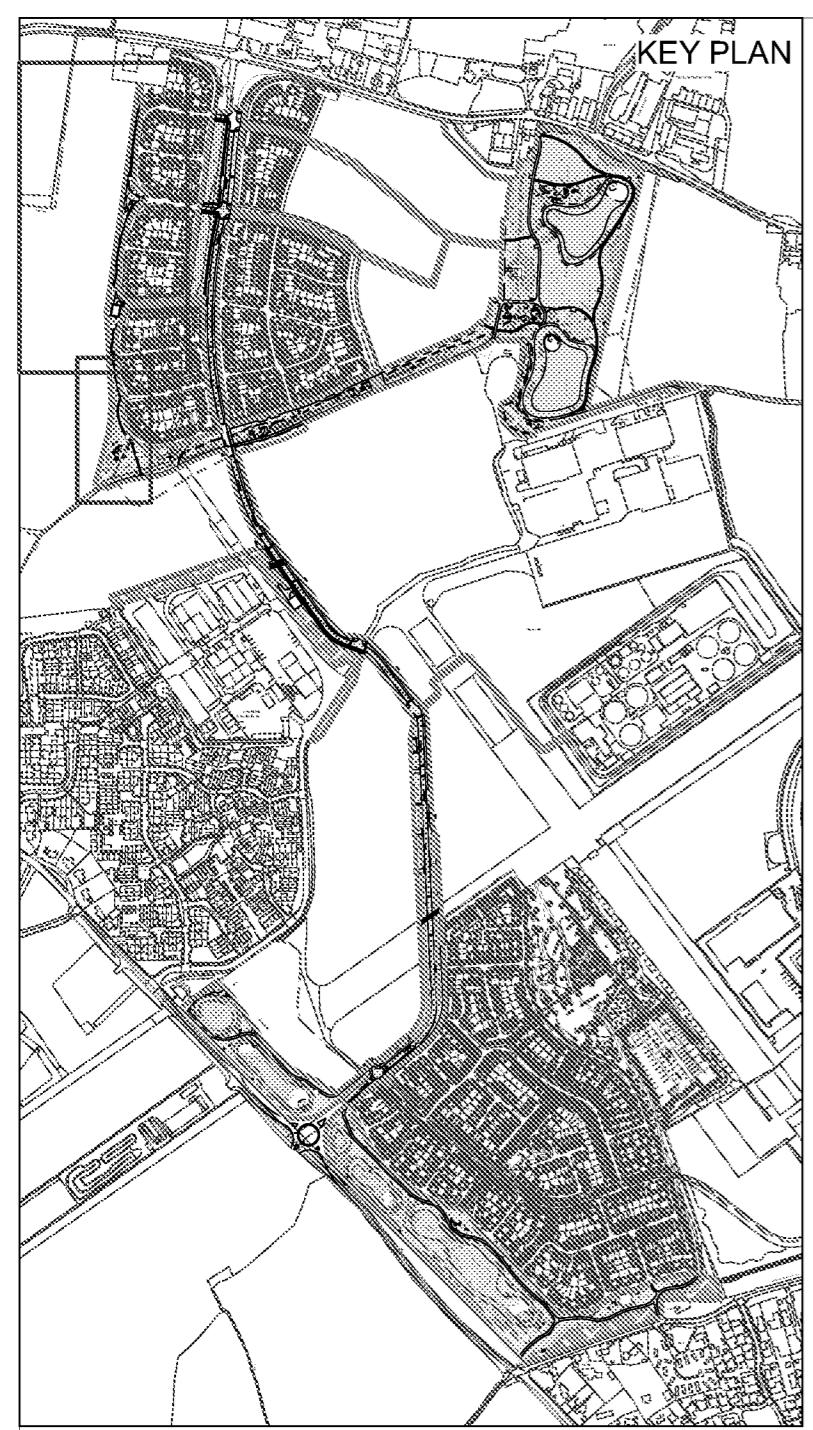
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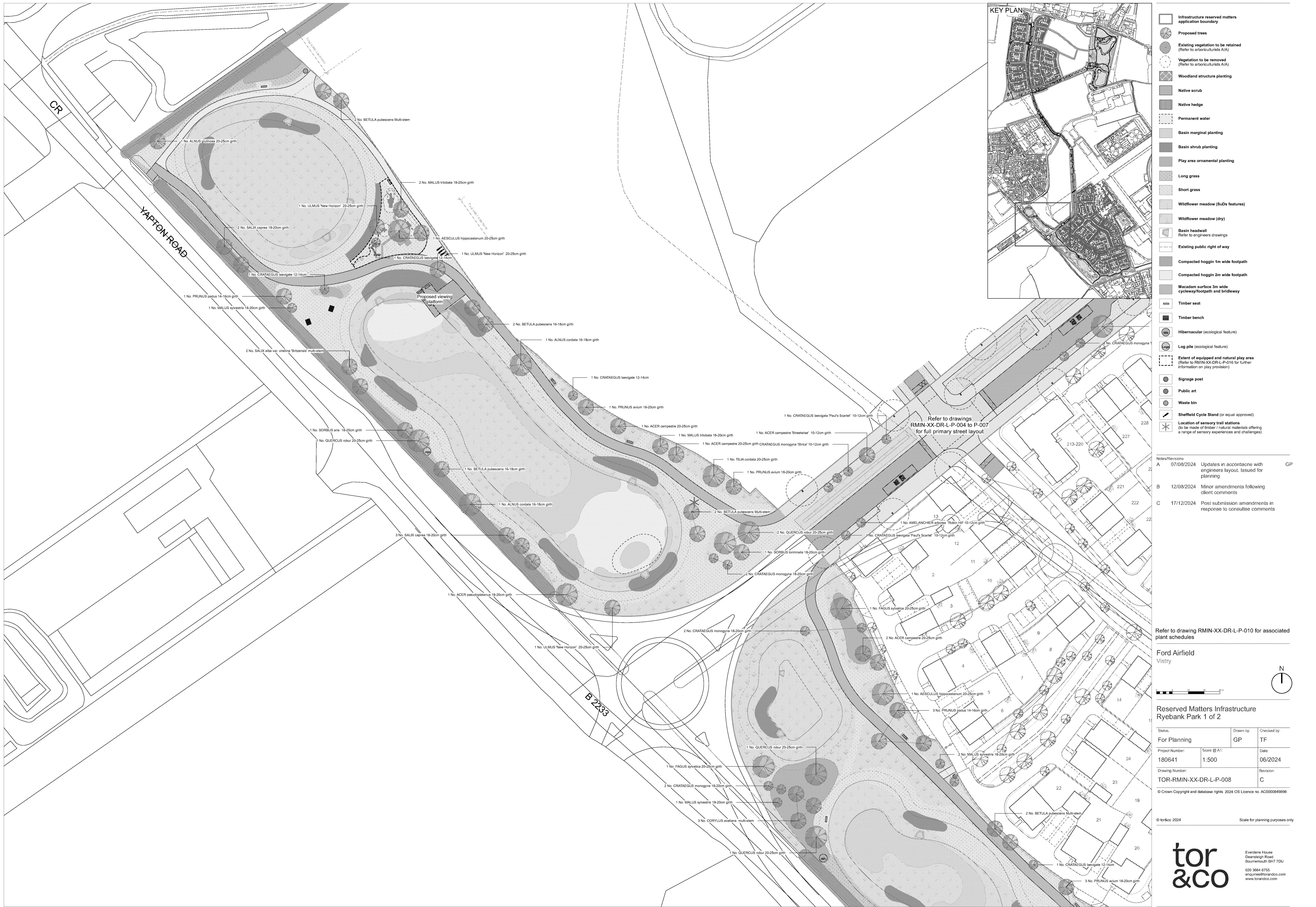
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For Planning	GP	TF
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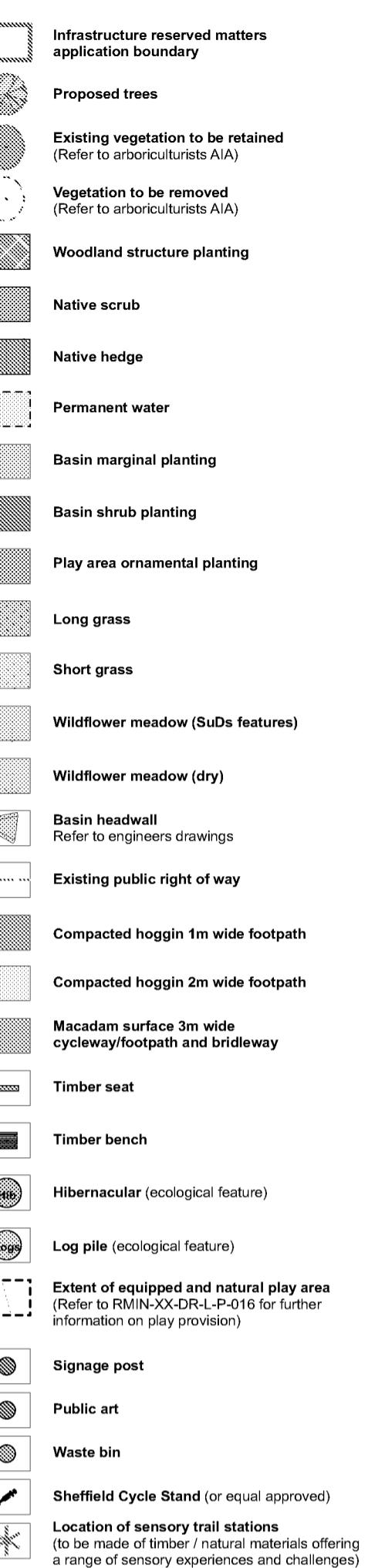
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Notes/Revisions

- A 07/08/2024 Updates in accordance with engineers layout. Issued for planning GP
- B 12/08/2024 Minor amendments following client comments
- C 17/12/2024 Post submission amendments in response to consultee comments

Refer to drawing RMIN-XX-DR-L-P-010 for associated plant schedules

Ford Airfield Visits



Reserved Matters Infrastructure Ryebank Park 2 of 2

Status	Drawn by:	Checked by:
For Planning	GP	TF

Project Number: 180641 Scale @ A1: 1:500 Date: 06/2024

Drawing Number: TOR-RMIN-XX-DR-L-P-009 Revision: C

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