East Claydon battery storage facility
Landscape specification

Morton : Pattison

Commissioned by Future Nature

V.1 06/10/2023

Contents

Introduction

This specification has been prepared by Paul Pattison and Jonny Fawcett of Morton Pattison.

The work has been commissioned by Future Nature to support the Biodiversity Net Gain calculations to support the planning application for a new battery storage facility at East Claydon, Buckinghamshire

Paul is Managing Director of Morton Pattison, a firm specialising in ecological, design & build and landscape services. Paul is a Chartered Member of the Landscape Institute with post-graduate qualification in Countryside Management and 20 years of biodiversity land management, landscape and construction experience both on practical work delivery and professional services delivery.

This specification has been supported by Projects Officer Jonny Fawcett in production of masterplan and planting plan drawings.

Production of this specification follows a site visit by Paul Pattison and Jonny Fawcett on 02/08/2023 and is guided by feedback and instruction from Future Nature.

Other documents that have been used in production of this specification are indicated in the table below.

This specification and accompanying drawings set out the proposed initial landscape measures and subsequent establishment phase.

It is to be read in conjunction with Future Nature ecological and management prescriptions.

Documents

Documents used in production of this specification

Document	By	Date
23-032-01 East Claydon Site Survey	Beacon Land Surveys	June 2023
230519_SL261_L_X_GA_1 East Claydon Master Plan	Statera	February 2023
230712_SL261_East Claydon_Visualisations	Sightline Landscape	July 2023

Documents produced as part of this specification

Document	By	Date
East Claydon battery storage facility Landscape Specification	Morton Pattison	October 2023
Materials schedule East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-1-Rev G Landscape Masterplan East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-2 - Planting Plan East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-3 - Pond Layout NP1 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-4 - Pond layout NP2 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-5 - Pond layout NP3 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-6 - Pond layout NP4 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-7 - Pond layout NP5 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-8 - Pond layout NP6 East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-9 Planting details East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-10 - Landscape details East Claydon battery storage facility	Morton Pattison	October 2023
MP23042-11 – Orchard planting plan East Claydon battery storage facility	Morton Pattison	October 2023
East Claydon battery storage facility CDM Designer Risk Register	Morton Pattison	October 2023

Site information & rationale

The site is located between Granborough and East Claydon, site centroid is SP 75496 25109, What 3 Words slanting.forms.proposes, nearest postcode MK18 2NE.

The area is approximately 25 ha comprised of former arable fields bounded by hedgerows, with the Claydon Brook bounding the eastern edge of the site.

The soil type as recorded by the NSRI Soilscapes for England & Wales (UKSO 20/09/2023) indicates slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils, confirmed by observations onsite.

Plants and seed mixes have been selected that are native or naturalised, appropriate to the area and are suited to the specific site conditions.

It must be noted that fencing, gates and construction layout must be considered to ensure suitable access to all areas of the surrounding landscape to allow management activities.

CDM & Risk Register

Some elements of the specified landscape works fall under the definition of construction as detailed in the Construction Design and Management regulations 2015 and the supporting HSE and industry guidance, and /or will be subject to CDM regulations if delivered concurrently with other construction works. Morton:Pattison have not been appointed to perform any duties under these regulations, however included at the end of this document is a Designer risk register of currently known hazards relating to landscape works for use by duty holders when appointed.

Establishment prescriptions

General specifications

All works shall be in accordance with BS: 4428:1989, code of practice for general landscape operations. The works schedules provide detail on the specific landscape works, supported by drawing series MP23042.

Planting works

General

All plants will conform to BS:3936-1:1992 and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All plants will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE. Planting will not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds. If ground to be planted or seeded is compacted after construction activities it will be worked to a minimum depth of 300mm to create friable soil. All plants that are specified as bare root must be planted while dormant during the winter between November and February. The planting season for any plants specified as potted may be extended into spring and autumn but avoiding the summer May through to August and must be well watered immediately after planting. All seeding should be carried out during the early autumn September to October.

All planting is to be monitored for signs of damage by deer: deer population information is currently unknown and there may be a requirement for additional deer protection fencing if significant damage to plants is recorded. If the area is to be grazed during the first 5 years following planting work, appropriate stock fencing will need to be erected to protect planting from damage. Depending on establishment rates this period may need to be extended to ensure no damage to young plants from livestock.

Once plants are deemed by an appropriately experienced person to be of a sufficient size to no longer be vulnerable to deer browse guards should be removed before UV causes guard disintegration – anticipated to be 5 years after planting, however longer may be required. Guards should be monitored for UV damage and replaced if necessary while plants are establishing.

Gapping up hedgerows, woodland and scrub planting

Ground Preparation

Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect. All litter such as plastic, wood and metal will be removed from site via registered waste carrier and disposed of appropriately. Any large stones and rubble will be relocated to solitary bee habitat features. The ground will be prepared to a depth of 300mm to loosen the soil and allow roots to establish.

Planting

The bare root transplants will be slot-planted by hand using a spade. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is level with the ground surface and roots fully covered. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS: 4428:1989. Each transplant will be protected from rabbit damage by using shelters 600mm high x 100mm diameter (e.g. tubex or similar), secured with stakes and ties as advised by the manufacturer. Plant roots must be protected from drying winds. Plant species to be grouped irregularly with 2-3 individuals of the same species adjacent.

Maintenance during first 5 years

All dead, dying or diseased plants will be replaced with plants of similar size and species the following winter. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA. Any broken stakes or shelters will be replaced and all guards adjusted as required to ensure continued protection from browsing damage. The site is to be visited 3 times during the growing season at 2-month intervals to ensure stakes and guards are in place and functioning. Weeding by hand or using a glyphosate-based herbicide may be required to control competing vegetation until the main stem of new plants is above surrounding vegetation. Plants are to be monitored for signs of water stress and additional visits may be required during long periods of hot, dry weather. The requirement for watering of new planting will generally be dependent on weather conditions. At the last maintenance visit of each year new planting is to have the leading shoot cut back to encourage lateral growth and ‘thickening up’.

Tree planting

Ground Preparation

Tree pits will be at least twice the diameter of the root spread, or a minimum 500mm diameter (whichever is greater) and 500mm deep. Due to the clay soil the bottom and sides must be forked to break up the subsoil and excavated material must be broken up prior to backfilling to aid root establishment.

Planting

All newly planted trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree.

Trees will be staked using single 100mm diameter x 2.1m length UC4 tanalised softwood stakes and attached to the tree at approximately 1.25m above ground level. Stakes will be driven 300mm into undisturbed ground before planting the tree, taking care to avoid underground services and cables. Each tree will be protected from browsing damage by using shelters 1.2m high x 100mm diameter (e.g. tubex or similar), secured as advised by the manufacturer.

Orchard planting will be staked using single 75mm diameter x 2.1m length UC4 tanalised softwood stakes and attached to the tree at approximately 1m – 1.2m above ground level. Stakes will be driven 300mm into undisturbed ground before planting the tree, taking care to avoid underground services and cables. Each tree will be protected from browsing damage by using 50mm x 50mm aperture weldmesh 1.2m high x 300mm diameter around both tree and stake, secured to the outside of the stake using fencing staples..

Tree roots must be protected from drying winds. Trees are to be placed into the pits and firmed in well before watering. Amenity mulch to a depth of 75mm in a 1m diameter circle is to be applied to all new tree planting.

Maintenance during first 5 years

All dead, dying or diseased trees will be replaced with trees of similar size and species the following winter. If the failure of the tree is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA. The site is to be visited 3 times during the growing season at 2 month intervals to be checked and ties adjusted if too loose, too tight or if chafing is occurring and to replace any broken stakes. Trees are to be monitored for signs of water stress and additional visits may be required during long periods of hot, dry weather. The requirement for watering of newly planted trees will generally be dependent on weather conditions.

Once trees have established to the point where they are no longer vulnerable to wind, ties should be removed and posts cut off at ground level – anticipated to be 5-10 years after planting, however longer may be required.

Seeding works

General

Seed will be sown in accordance with BS: 4428:1989 and will be sown in early autumn or early spring during calm weather, not when the ground is frost bound or waterlogged.

Wildflower Grasslands

Ground preparation & seeding

A cut & collect operation will be carried out to cut the sward as short as possible (50mm maximum) and remove existing biomass. Arisings can either be baled for removal from site or placed onto the hibernacula / habitat pile locations. The ground will be vigorously scarified or harrowed to remove thatch and create bare ground for seed germination.

The seed will be sown as an overseeding operation, evenly distributed at a rate of 2 g/m2 for all mixtures. After sowing the contractor will roll to maximise seed-soil contact.

Maintenance during first 5 years

The sward shall be cut to a height of 50mm once per year, this cut being undertaken late in the season once flowering plants have seeded (typically August–September). All arisings will be removed from the cut areas in order to reduce nutrient levels and maximise the establishment of wild flower species. Light grazing can be applied to the areas during autumn but removed during the spring / summer.

Newly excavated / newly formed earth

Ground preparation & seeding

The ground will be cultivated to a fine tilth with smooth contours to a minimum depth of 100mm. Seed will be evenly distributed across the area and sown at a rate of 4g / m2. After sowing the contractor will roll to maximise seed-soil contact.

Maintenance during first 3 years

It is likely that a flush of weeds will appear on the bare ground that will compete with the seeding, in particular dock and thistle. If so, these should be spot sprayed once

per year with a glyphosate-based herbicide in spring when plants are at 'rosette' stage before flowering to reduce injurious weed coverage to less than 5%.

Ponds

Excavation

Areas shall be cleared, grubbed and stripped of topsoil, with soil arisings being formed into adjacent mounds or hedge banks as indicated, excess can be deposited at solitary bee habitat mound locations. All plant material can be transported and deposited at the hibernacula / habitat piles. Waste should be removed from site by licensed waste carrier. Banks should be excavated and graded as indicated in the cross-section drawings to no steeper than 1:1, smoothly contoured and free of objectionable material. Some pond edges in every pond should be gently graded to provide easy access / egress for wildlife (1:2 gradient).

Where ponds are specified as lined

The liner shall be a single piece, 1mm thick EPDM flexible rubber liner, laid to maintain continuity and according to manufacturer's instructions. Minimum 250g/m2 protective geotextile matting will be used as continuous layers above and below the liner. Geotextile and membranes will be trench anchored at the edges, ensuring that the top edge of the liner is installed level. The membranes should be protected by burying with a minimum depth of backfill material of 150mm as soon as possible after installation.

Tree & hedge cutting

Tree works shall be carried out according to BS3990:2010 during the winter November – February. Where pollarding is specified this will be carried out on a 3 year rotation, cutting back to the main stem at 1.5m above the ground, or back to previous pollard cuts if evident.

Where access is required through hedges plants are to be cut flush with the ground before being grubbed out. Cut material and roots to be stacked at deadwood pile locations.

Orchards

All selected varieties proposed in the orchard originate from Buckinghamshire and the south-east of England. It is likely that not all of the varieties will be available at the point of carrying out the work: in this instance it is recommended to substitute

with appropriate alternative local varieties, under the guidance of a suitably experienced grower.

Plant & machinery movements

It is recommended that significant earth and bulk material moving (e.g. associated with pond excavation and solitary bee habitats) is carried out during the summer / early autumn and when the ground is not waterlogged to protect soil structure.

Mowing

All areas required to be mown should be subject to cut & collect operations in the autumn between September to October. The sward should be cut to no higher than 100mm. Arisings can be baled for removal or deposited on the habitat / hibernacula pile locations. It will be necessary to monitor the habitat / hibernacula pile locations in order to ensure sufficient material is being retained onsite to maintain these features.

Biodiverse roofs

Refer to Future Nature specification for design & installation of these habitat features.

Works schedules

Existing Hedgerows

Location	Required works	Item	Quantity
EH1	Allow to grow southwards to merge into new woodland planting. Plant 1 new tree at north west end. Flail 20m section of hedgerow on 3 year rotation in gap between woodland planting.	*Quercus robur* rootballed, standard, 8-10cm girth	1
EH2	Re-pollard existing willow pollard, then at 3 year intervals. Allow hedge to grow southwards to merge with scrub planting.	Pollard existing willow	1
EH3	Allow to grow as screening. Plant 9 new trees.	*Quercus robur* rootballed, standard, 8-10cm girth	3
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
EH4	Cut 10m gap in hedge to create new track access. Material to be placed at deadwood locations D1 and D2. Plant 8 new trees.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
EH5	Allow to grow as screening. Central 20m section where new tree planting is absent to be rough laid on 10-15 year cycle. Plant 11 new trees	Rough lay 20m section	20m
		Quercus robur rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
		Carpinus betulus rootballed, standard, 8-10cm girth	3
EH6		Widen existing gap	10m

	Allow to grow as screening. Plant 6 new trees: common alder *Alnus glutinosa* at western end. Widen existing gap in hedge to 10m to allow track access.	*Quercus robur* rootballed, standard, 8-10cm girth	3
		Alnus glutinosa rootballed, standard, 8-10cm girth	3
EH7	Allow to grow southwards to merge with woodland planting block. Plant 8 new trees: goat willow *Salix caprea* and common alder *Alnus glutinosa* at western end.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Alnus glutinosa rootballed, standard, 8-10cm girth	2
		Prunus avium rootballed, standard, 8-10cm girth	3
		Salix caprea rootballed, standard, 8-10cm girth	1
EH8	Allow to grow as screening. Plant 8 new trees. Gap up 10m section at north east end with double staggered row of hedge stock, 5/linear m.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
		Cretaegus monogyna bare root, age 1+1, height 40-60	15
		Prunus spinosa bare root, age 1+1, height 40-60	10
		Viburnum opulus bare root, age 1+1, height 40-60	5
		Corylus avellana bare root, age 1+1, height 40-60	10
		Euonymus europaeus bare root, age 1+1, height 40-60	5
		Rosa canina bare root, age 1+1, height 40-60	2
		Ligustrum vulgare bare root, age 1+1, height 40-60	3
EH9	Allow hedge to merge with woodland planting in northern section. Plant 8 new trees.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
EH10	Gap up 24m section near eastern end with double staggered row of hedge stock, 5/linear m. Plant 5 new trees.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	2
		Carpinus betulus rootballed, standard, 8-10cm girth	1
		Cretaegus monogyna bare root, age 1+1, height 40-60	36
		Prunus spinosa bare root, age 1+1, height 40-60	24
		Viburnum opulus bare root, age 1+1, height 40-60	12
		Corylus avellana bare root, age 1+1, height 40-60	24
		Euonymus europaeus bare root, age 1+1, height 40-60	12
		Rosa canina bare root, age 1+1, height 40-60	5
		Ligustrum vulgare bare root, age 1+1, height 40-60	7

New hedgerows

Location	Required works	Item	Quantity
NH1	Plant up 37m of new hedge with double staggered row of hedge stock, 5/linear m. Seed 37x2m bund with Emorsgate Hedgerow mix (EH1).	*Cretaegus monogyna* bare root, age 1+1, height 40-60	55
		Prunus spinosa bare root, age 1+1, height 40-60	37
		Viburnum opulus bare root, age 1+1, height 40-60	19
		Corylus avellana bare root, age 1+1, height 40-60	37
		Euonymus europaeus bare root, age 1+1, height 40-60	19
		Rosa canina bare root, age 1+1, height 40-60	7
		Ligustrum vulgare bare root, age 1+1, height 40-60	11
		EH1 Emorsgate Hedgerow mix 4g/m2	296g
NH2	Plant up 19m of new hedge with double staggered row of hedge stock, 5/linear m.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	29
		Prunus spinosa bare root, age 1+1, height 40-60	19
		Viburnum opulus bare root, age 1+1, height 40-60	9
		Corylus avellana bare root, age 1+1, height 40-60	19
		Euonymus europaeus bare root, age 1+1, height 40-60	9
		Rosa canina bare root, age 1+1, height 40-60	4
		Ligustrum vulgare bare root, age 1+1, height 40-60	6
NH3	Plant up 222m of new hedge with double staggered row of hedge stock, 5/linear m. Seed 222x2m bund with Emorsgate Hedgerow mix (EH1). Plant 9 new trees: common alder *Alnus glutinosa* at southern end.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Alnus glutinosa rootballed, standard, 8-10cm girth	4
		Prunus avium bare root, age 1+1, height 40-60	3
		Cretaegus monogyna bare root, age 1+1, height 40-60	333
		Prunus spinosa bare root, age 1+1, height 40-60	222
		Viburnum opulus bare root, age 1+1, height 40-60	111
		Corylus avellana bare root, age 1+1, height 40-60	222
		Euonymus europaeus bare root, age 1+1, height 40-60	111
		Rosa canina bare root, age 1+1, height 40-60	44
		Ligustrum vulgare bare root, age 1+1, height 40-60	67

		EH1 Emorsgate Hedgerow mix 4g/m2	1,776g
NH4	Plant up 320m of new hedge with double staggered row of hedge stock, 5/linear m. Seed 320x2m bund with Emorsgate Hedgerow mix (EH1). Plant 11 new trees.	*Salix caprea rootballed, standard, 8-10cm girth*	4
		Alnus glutinosa rootballed, standard, 8-10cm girth	4
		Carpinus betulus rootballed, standard, 8-10cm girth	3
		Cretaegus monogyna bare root, age 1+1, height 40-60	480
		Prunus spinosa bare root, age 1+1, height 40-60	320
		Viburnum opulus bare root, age 1+1, height 40-60	160
		Corylus avellana bare root, age 1+1, height 40-60	320
		Euonymus europaeus bare root, age 1+1, height 40-60	160
		Rosa canina bare root, age 1+1, height 40-60	64
		Ligustrum vulgare bare root, age 1+1, height 40-60	96
		EH1 Emorsgate Hedgerow mix 4g/m2	2,560g
NH5	Plant up 211m of new hedge with double staggered row of hedge stock, 5/linear m. Seed 211x2m bund with Emorsgate Hedgerow mix (EH1). Plant 7 new trees.	*Quercus robur* rootballed, standard, 8-10cm girth	3
		Alnus glutinosa rootballed, standard, 8-10cm girth	2
		Carpinus betulus rootballed, standard, 8-10cm girth	3
		Cretaegus monogyna bare root, age 1+1, height 40-60	316
		Prunus spinosa bare root, age 1+1, height 40-60	211
		Viburnum opulus bare root, age 1+1, height 40-60	106
		Corylus avellana bare root, age 1+1, height 40-60	211
		Euonymus europaeus bare root, age 1+1, height 40-60	106
		Rosa canina bare root, age 1+1, height 40-60	42
		Ligustrum vulgare bare root, age 1+1, height 40-60	63
		EH1 Emorsgate Hedgerow mix 4g/m2	1,688g

New Ponds

Location	Required works	Item	Quantity
NP1	Excavate pond with an average depth of 1m and estimated surface area of 244m2. Install 1mm EPDM liner (32x17m) and secure edges with surrounding anchor trench. 37m3 of arisings to form bank on which to plant NH1. Remaining 207m3 of arisings to form a south facing beetle bank on Northern edge of pond. Seed pond edge with Emorsgate Pond Edge mix (EP1). Seed beetle bank with Emorsgate tussock mix (EM10).	Emorsgate pond edge mix (EP1)	400g
		Emorsgate tussock mix (EM10)	850g
NP2	Excavate pond with an average depth of 1m and estimated surface area of 60m2. Positioned minimum 2m from base of existing hedgerow, nestled between small woodland copse and Ash trees. Allow hedge to grow up immediately to east of pond. Install 1mm EPDM liner (17x12m) and secure edges with surrounding anchor trench. Arisings to form a south facing beetle bank on Northern edge of pond. Seed pond edge with Emorsgate pond edge mix (EP1). Seed beetle bank with Emorsgate Tussock mix (EM10).	Emorsgate pond edge mix (EP1)	300g
		Emorsgate tussock mix (EM10)	250g
NP3	Unlined, seasonal pond. Design/size to be confirmed by hydrologists. Refer to Future Nature for biodiversity enhancements. Excavate pond with average depth of 500mm and estimated surface area of 4,106m2. 222m3 of arisings used to form bank on which to plant NH3. 211m3 of arisings used to form bank on which to plant NH5. 335m3 of arisings to form 1.5m high beetle bank to the north of NP4. Remaining estimated 748m3 of soil arisings to be formed into 1.5m high beetle bank to the North of NP3. Variety of materials to be used to create a more varied habitat within the beetle bank. Opportunity here to reuse unwanted/excess aggregate construction materials on site. Aggregates to be laid minimum 200mm depth over bank. Beetle bank left unplanted and hand weeded / sprayed as part of maintenance activities. Seed pond with Emorsgate wet meadow mix (EM8).	Emorsgate wet meadow mix (EM8).	15,000g
		Crushed concrete / brick	2t
		Type 1 limestone	2t
		Ballast gravel	2t
		Sand	2t

NP4	Unlined, seasonal pond with average 500mm depth and estimated surface area of 548m2. 192m3 of arisings used to contribute toward 320m3 bank on which to plant NH4. Remaining 81m3 of arisings used to contribute toward 325m3 beetle bank to the north of NP5. Entire pond seeded with Emorsgate wet meadow mix (EM8).	Emorsgate wet meadow mix (EM8).	2000g
NP5	Excavate pond with an average depth of 1m and estimated surface area of 244m2. Install 1mm EPDM liner (32x17m) and secure edges with surrounding anchor trench. Arisings to contribute toward South facing beetle bank on Northern edge of pond. Seed pond edge with Emorsgate Pond Edge mix (EP1). Seed beetle bank with Emorsgate tussock mix (EM10).	Emorsgate pond edge mix (EP1)	500g
		Emorsgate tussock mix (EM10)	1000g
NP6	Excavate 3 separate ephemeral ponds to varying depths, average 300mm. Soil arisings to contribute toward the 320m3 bund on which to plant NH4. Clusters of native scrub to be planted around the periphery, including blackthorn, hawthorn. Refer to WG6 for planting spec/quantities. Pond to be left unseeded to naturally colonise.		

Pond enhancements

Location	Required works
EP1	Remove stock fence and bramble to reconnect with Field 1 to the west. Crown lift and cut back Oak, Elm and White poplar from south and west side to allow more light in. Remove existing scrub to the south, to be used at hibernacula / habitat piles.

Wildflower Grassland

Location	Required works	Item	Quantity
WG1	Seed estimated 13,596m2 area with Emorsgate standard general purpose meadow mixture EM2 including yellow rattle. Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations. Plant 7 new trees in a scattered, heterogeneous formation with approx. 8-10m spacing between trees. Including 2 semi-mature willow to provide an instant source of screening.	*Salix caprea* rootballed, standard Semi mature, 12-14cm girth, 4-5m height.	2
		Quercus robur rootballed, standard, 8-10cm girth	2
		Prunus avium rootballed, standard, 8-10cm girth	3
		Emorsgate Standard general Purpose Meadow Mixture (EM2)	54,384g
WG2	Seed estimated 6,578m2 area with Emorsgate standard general purpose meadow mixture EM2 (will contain yellow rattle). Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations. Plant 10 new trees in a scattered, heterogeneous formation. Tree planting must not obstruct crash strip running SW to NE through the centre of F1.	*Quercus robur* rootballed, standard, 8-10cm girth	2
		Acer campestre rootballed, standard, 8-10cm girth	3
		Prunus avium rootballed, standard, 8-10cm girth	3
		Carpinus betulus rootballed, standard, 8-10cm girth	2
		Emorsgate Standard general purpose meadow mixture (EM2)	26,312g
WG3	Seed estimated 15,179m2 area with Emorsgate Standard general purpose meadow mixture EM2 (will contain yellow rattle). Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations. Plant 9 new trees in a scattered, heterogeneous formation.	*Quercus robur* rootballed, standard, 8-10cm girth	3
		Acer campestre rootballed, standard, 8-10cm girth	3
		Alnus glutinosa rootballed, standard, 8-10cm girth	3
		Emorsgate Standard general purpose meadow mixture (EM2)	60,716g

WG4	Seed estimated 4,545m2 area with Emorsgate Standard general purpose meadow mixture EM2 (will contain yellow rattle). Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations.	Emorsgate Standard general purpose meadow mixture (EM2).	18,180g
WG5	Seed estimated 14,028m2 area with Emorsgate Standard general purpose meadow mixture EM2 (will contain yellow rattle). Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations. Plant 36 new trees in a scattered, heterogeneous formation.	*Quercus robur* rootballed, standard, 8-10cm girth	8
		Acer campestre rootballed, standard, 8-10cm girth	7
		Prunus avium rootballed, standard, 8-10cm girth	7
		Alnus glutinosa rootballed, standard, 8-10cm girth	7
		Carpinus betulus rootballed, standard, 8-10cm girth	7
		Emorsgate Standard general purpose meadow mixture (EM2).	56,112g
WG6	Seed estimated 33,206m2 area with Emorsgate Standard general purpose meadow mixture EM2 (will contain yellow rattle). Sowing rate of 4g/m2. Cut and collect before overseeding, continue annual cut & collect in autumn. Arisings deposited on-site in specified hibernacula / habitat pile locations. Plant 80 scrub plants in heterogeneous clusters of 3-7 plants. 16 scrub stands total to be planted, including 5 stands around the periphery of NP6.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	24
		Prunus spinosa bare root, age 1+1, height 40-60	16
		Viburnum opulus bare root, age 1+1, height 40-60	8
		Corylus avellana bare root, age 1+1, height 40-60	16
		Euonymus europaeus bare root, age 1+1, height 40-60	8
		Rosa canina bare root, age 1+1, height 40-60	3
		Ligustrum vulgare bare root, age 1+1, height 40-60	5
		Emorsgate Standard general purpose meadow mixture (EM2).	132,824g

Retained Grassland

Location	Required works
RG	2m wide marginal grassland parallel with each existing hedge to be retained & enhanced through annual cut & collect operation. Arisings deposited on-site in specified hibernacula / habitat pile locations. Total area of 7,083 m2.

Enhanced Wet Meadow

Location	Required works	Item	Quantity
EWM	Annual cut & collect in autumn to aid in wildflower grassland enhancement. Arisings deposited on-site in specified locations. Plant 9 new trees.	*Populus nigra betulifolia* Semi-mature, 15L pot, 2-3m height.	1
		Salix caprea rootballed, standard, 8-10cm girth	8

Native broadleaved woodland

Location	Required works	Item	Quantity
W1	Plant 397 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 2,479 m2. Planting rate is 0.16 trees/m2. Trees must not be planted within 25m of the substation to the south-east.	*Quercus robur* bare root, age 1+2, height 80-100.	39
		Acer campestre bare root, age 1+2, height 80-100.	39
		Prunus avium bare root, age 1+2, height 80-100.	30
		Alnus glutinosa bare root, age 1+2, height 80-100.	40
		Sorbus torminalis bare root, age 1+2, height 80-100.	30
		Sorbus aucuparia bare root, age 1+2, height 80-100.	30
		Carpinus betulus bare root, age 1+2, height 80-100.	39
		Corylus avellana bare root, age 1+2, height 80-100.	30
		Salix caprea bare root, age 1+2, height 80-100.	40

		Salix fragilis bare root, age 1+2, height 80-100.	40
		Populus tremula bare root, age 1+2, height 80-100.	40
W2	Plant 381 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 2,380 m2. Planting rate is 0.16 trees/m2.	*Quercus robur* bare root, age 1+2, height 80-100.	38
		Acer campestre bare root, age 1+2, height 80-100.	38
		Prunus avium bare root, age 1+2, height 80-100.	29
		Alnus glutinosa bare root, age 1+2, height 80-100.	38
		Sorbus torminalis bare root, age 1+2, height 80-100.	28
		Sorbus aucuparia bare root, age 1+2, height 80-100.	29
		Carpinus betulus bare root, age 1+2, height 80-100.	38
		Corylus avellana bare root, age 1+2, height 80-100.	29
		Salix caprea bare root, age 1+2, height 80-100.	38
		Salix fragilis bare root, age 1+2, height 80-100.	38
		Populus tremula bare root, age 1+2, height 80-100.	38
W3	Plant 185 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 1,157 m2. Planting rate is 0.16 trees/m2. Plant Willow, Aspen and Alder within the flood zone to the west.	*Quercus robur* bare root, age 1+2, height 80-100.	19
		Acer campestre bare root, age 1+2, height 80-100.	19
		Prunus avium bare root, age 1+2, height 80-100.	13
		Alnus glutinosa bare root, age 1+2, height 80-100.	19
		Sorbus torminalis bare root, age 1+2, height 80-100.	13
		Sorbus aucuparia bare root, age 1+2, height 80-100.	13
		Carpinus betulus bare root, age 1+2, height 80-100.	19
		Corylus avellana bare root, age 1+2, height 80-100.	13
		Salix caprea bare root, age 1+2, height 80-100.	19
		Salix fragilis bare root, age 1+2, height 80-100.	19
		Populus tremula bare root, age 1+2, height 80-100.	19
W4	Plant 433 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 2,705 m2. Planting rate is 0.16 trees/m2.	*Quercus robur* bare root, age 1+2, height 80-100.	65
		Acer campestre bare root, age 1+2, height 80-100.	65
		Prunus avium bare root, age 1+2, height 80-100.	43
		Alnus glutinosa bare root, age 1+2, height 80-100.	44
		Sorbus torminalis bare root, age 1+2, height 80-100.	43
		Sorbus aucuparia bare root, age 1+2, height 80-100.	65
		Carpinus betulus bare root, age 1+2, height 80-100.	65

		Corylus avellana bare root, age 1+2, height 80-100.	43
W5	Plant 175 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 1,091 m2. Planting rate is 0.16 trees/m2. Allow at least a 2m margin between tree planting and existing hedgerow (EH1) where grassland is to be retained. Tree planting must not obstruct crash strip running SW to NE through the centre of F1.	*Quercus robur* bare root, age 1+2, height 80-100.	26
		Acer campestre bare root, age 1+2, height 80-100.	26
		Prunus avium bare root, age 1+2, height 80-100.	18
		Alnus glutinosa bare root, age 1+2, height 80-100.	18
		Sorbus torminalis bare root, age 1+2, height 80-100.	17
		Sorbus aucuparia bare root, age 1+2, height 80-100.	26
		Carpinus betulus bare root, age 1+2, height 80-100.	26
		Corylus avellana bare root, age 1+2, height 80-100.	18
W6	Plant 80 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 499 m2. Planting rate is 0.16 trees/m2. Allow at least a 2m margin between tree planting and existing hedgerow (EH1) where grassland is to be retained. Tree planting must not obstruct crash strip running SW to NE through the centre of F1.	*Quercus robur* bare root, age 1+2, height 80-100.	12
		Acer campestre bare root, age 1+2, height 80-100.	12
		Prunus avium bare root, age 1+2, height 80-100.	8
		Alnus glutinosa bare root, age 1+2, height 80-100.	8
		Sorbus torminalis bare root, age 1+2, height 80-100.	8
		Sorbus aucuparia bare root, age 1+2, height 80-100.	12
		Carpinus betulus bare root, age 1+2, height 80-100.	12
		Corylus avellana bare root, age 1+2, height 80-100.	8
W7	Plant 39 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 246 m2. Planting rate is 0.16 trees/m2. Allow at least a 2m margin between tree planting and existing hedgerow (EH2) where grassland is to be retained. Trees must not be planted within 25m of the substation to the south-west.	*Quercus robur* bare root, age 1+2, height 80-100.	6
		Acer campestre bare root, age 1+2, height 80-100.	6
		Prunus avium bare root, age 1+2, height 80-100.	4
		Alnus glutinosa bare root, age 1+2, height 80-100.	4
		Sorbus torminalis bare root, age 1+2, height 80-100.	3
		Sorbus aucuparia bare root, age 1+2, height 80-100.	6
		Carpinus betulus bare root, age 1+2, height 80-100.	6
		Corylus avellana bare root, age 1+2, height 80-100.	4
W8	Plant 255 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 1,591 m2. Planting rate is 0.16 trees/m2. Trees must not be planted within 25m of the battery	*Quercus robur* bare root, age 1+2, height 80-100.	25
		Acer campestre bare root, age 1+2, height 80-100.	25
		Prunus avium bare root, age 1+2, height 80-100.	19
		Alnus glutinosa bare root, age 1+2, height 80-100.	26
		Sorbus torminalis bare root, age 1+2, height 80-100.	19

	containers to the south-east. Plant Willow, Aspen and Alder within the flood zone to the west.	*Sorbus aucuparia* bare root, age 1+2, height 80-100.	19
		Carpinus betulus bare root, age 1+2, height 80-100.	25
		Corylus avellana bare root, age 1+2, height 80-100.	19
		Salix caprea bare root, age 1+2, height 80-100.	26
		Salix fragilis bare root, age 1+2, height 80-100.	26
		Populus tremula bare root, age 1+2, height 80-100.	26
W9	Plant 278 trees with an uneven, average spacing of 2.5m. Total woodland area to comprise approx. 1,735 m2. Planting rate is 0.16 trees/m2. Allow at least a 7m margin between tree planting and existing hedgerow (EH3). Trees must not be planted within 25m of the battery containers to the west. No planting within 20m of existing pond (PE1) to the north-east.	*Quercus robur* bare root, age 1+2, height 80-100.	42
		Acer campestre bare root, age 1+2, height 80-100.	42
		Prunus avium bare root, age 1+2, height 80-100.	28
		Alnus glutinosa bare root, age 1+2, height 80-100.	28
		Sorbus torminalis bare root, age 1+2, height 80-100.	26
		Sorbus aucuparia bare root, age 1+2, height 80-100.	42
		Carpinus betulus bare root, age 1+2, height 80-100.	42
		Corylus avellana bare root, age 1+2, height 80-100.	28

Scrub

Location	Required works	Item	Quantity
S1	Allow scrub to continue self-establishing here. Total area of approx. 229m2.		
S2	Plant 617 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 3,083m2.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	123
		Prunus spinosa bare root, age 1+1, height 40-60	123
		Viburnum opulus bare root, age 1+1, height 40-60	62
		Corylus avellana bare root, age 1+1, height 40-60	62
		Euonymus europaeus bare root, age 1+1, height 40-60	62
		Rosa canina bare root, age 1+1, height 40-60	62
		Acer campestre bare root, age 1+1, height 40-60	62

		Sambucus nigra bare root, age 1+1, height 40-60	61
S3	Plant 317 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 1,586m2.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	63
		Prunus spinosa bare root, age 1+1, height 40-60	63
		Viburnum opulus bare root, age 1+1, height 40-60	32
		Corylus avellana bare root, age 1+1, height 40-60	32
		Euonymus europaeus bare root, age 1+1, height 40-60	32
		Rosa canina bare root, age 1+1, height 40-60	32
		Acer campestre bare root, age 1+1, height 40-60	32
		Sambucus nigra bare root, age 1+1, height 40-60	31
S4	Plant 486 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 2,428m2.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	97
		Prunus spinosa bare root, age 1+1, height 40-60	97
		Viburnum opulus bare root, age 1+1, height 40-60	49
		Corylus avellana bare root, age 1+1, height 40-60	49
		Euonymus europaeus bare root, age 1+1, height 40-60	49
		Rosa canina bare root, age 1+1, height 40-60	49
		Acer campestre bare root, age 1+1, height 40-60	48
		Sambucus nigra bare root, age 1+1, height 40-60	48
S5	Plant 74 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 368m2. Allow at least a 2m margin between tree planting and existing hedgerows (EH4 and EH5) where grassland is to be retained.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	15
		Prunus spinosa bare root, age 1+1, height 40-60	15
		Viburnum opulus bare root, age 1+1, height 40-60	8
		Corylus avellana bare root, age 1+1, height 40-60	8
		Euonymus europaeus bare root, age 1+1, height 40-60	7
		Rosa canina bare root, age 1+1, height 40-60	7
		Acer campestre bare root, age 1+1, height 40-60	7
		Sambucus nigra bare root, age 1+1, height 40-60	7

S6	Plant 62 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Incorporate scalloped edges to increase the amount of edge habitat available. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 310m2. Allow a minimum 2m margin between tree planting and existing hedgerows (EH5 and EH8) where grassland is to be retained.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	12
		Prunus spinosa bare root, age 1+1, height 40-60	12
		Viburnum opulus bare root, age 1+1, height 40-60	7
		Corylus avellana bare root, age 1+1, height 40-60	7
		Euonymus europaeus bare root, age 1+1, height 40-60	6
		Rosa canina bare root, age 1+1, height 40-60	6
		Acer campestre bare root, age 1+1, height 40-60	6
		Sambucus nigra bare root, age 1+1, height 40-60	6
S7	Plant 205 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Incorporate scalloped edges to increase the amount of edge habitat available. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 1,023m2. Planting must not obstruct crash strip running SW to NE through the centre of F1.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	41
		Prunus spinosa bare root, age 1+1, height 40-60	41
		Viburnum opulus bare root, age 1+1, height 40-60	21
		Corylus avellana bare root, age 1+1, height 40-60	21
		Euonymus europaeus bare root, age 1+1, height 40-60	21
		Rosa canina bare root, age 1+1, height 40-60	20
		Acer campestre bare root, age 1+1, height 40-60	20
		Sambucus nigra bare root, age 1+1, height 40-60	20
S8	Plant 106 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 532m2. Planting must not obstruct crash strip running SW to NE through the centre of F1.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	21
		Prunus spinosa bare root, age 1+1, height 40-60	21
		Viburnum opulus bare root, age 1+1, height 40-60	11
		Corylus avellana bare root, age 1+1, height 40-60	11
		Euonymus europaeus bare root, age 1+1, height 40-60	11
		Rosa canina bare root, age 1+1, height 40-60	10
		Acer campestre bare root, age 1+1, height 40-60	11
		Sambucus nigra bare root, age 1+1, height 40-60	10

S9	Plant 236 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Incorporate scalloped edges to increase the amount of edge habitat available. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 1,178m2. Maintain a minimum 3m access strip between planting and substation/ other planting features to the south-west.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	47
		Prunus spinosa bare root, age 1+1, height 40-60	47
		Viburnum opulus bare root, age 1+1, height 40-60	24
		Corylus avellana bare root, age 1+1, height 40-60	24
		Euonymus europaeus bare root, age 1+1, height 40-60	24
		Rosa canina bare root, age 1+1, height 40-60	23
		Acer campestre bare root, age 1+1, height 40-60	24
		Sambucus nigra bare root, age 1+1, height 40-60	23
S10	Plant 471 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 2,354m2. Maintain a minimum 5m access strip between planting and battery storage to the south-east.	*Cretaegus monogyna* bare root, age 1+1, height 40-60	94
		Prunus spinosa bare root, age 1+1, height 40-60	94
		Viburnum opulus bare root, age 1+1, height 40-60	48
		Corylus avellana bare root, age 1+1, height 40-60	47
		Euonymus europaeus bare root, age 1+1, height 40-60	47
		Rosa canina bare root, age 1+1, height 40-60	47
		Acer campestre bare root, age 1+1, height 40-60	47
		Sambucus nigra bare root, age 1+1, height 40-60	47
S11	Plant 384 scrub plants in heterogeneous clusters of 3-7 plants, average 1m spacing between individual plants. One cluster of scrub planted every 25m2. Allow gaps left unplanted to infill naturally. Total scrub area to comprise approx. 1,921m2. Maintain a minimum 3m access strip between planting and battery storage to the north-east. Plant 5no semi-mature Goat willow, 5no semi-mature Crack willow and 5no semi-mature Aspen	*Cretaegus monogyna* bare root, age 1+1, height 40-60	77
		Prunus spinosa bare root, age 1+1, height 40-60	77
		Viburnum opulus bare root, age 1+1, height 40-60	39
		Corylus avellana bare root, age 1+1, height 40-60	39
		Euonymus europaeus bare root, age 1+1, height 40-60	38
		Rosa canina bare root, age 1+1, height 40-60	38
		Acer campestre bare root, age 1+1, height 40-60	38
		Sambucus nigra bare root, age 1+1, height 40-60	38

	within scrub band to provide instant screening of battery storage from the east. Average spacing of approx. 12m between semi-mature trees.	*Salix caprea* rootballed, heavy standard, 12-14cm girth, 4-5m height.	5
		Populus tremula rootballed, heavy standard, 12-14cm girth, 4-5m height.	5
		Salix fragilis rootballed, heavy standard, 12-14cm girth, 4-5m height.	5

Orchard

Location	Required works	Item	Quantity
O1	Plant 208 trees within the 5,188sqm orchard area, with an even spacing of 5m between each tree. All the trees, aside from the Kent cob hazel bushes should be of semi-vigorous rootstock, growing roughly 4-5m in height. Plant the Pear and Cherry trees along the southernmost boundary of the orchard as these grow best in sunnier locations. Plant peach and Gooseberry trees in more sheltered locations	*Malus domestica* '*Arthur turner*', MM106, Maiden, bareroot, age 1 y/o	10
		Malus domestica '*Grenadier*', MM106, Maiden, bareroot, age 1y/o	10
		Malus domestica '*Reverand W. Wilks*', MM106, Maiden, bareroot, age 1y/o	10
		Malus domestica '*Cox's Orange Pippin*'MM106, Maiden, bareroot, age 1y/o	10
		Malus domestica 'Core Blimey', MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Claygate Pearmain' MM106, age 1y/o	5
		Malus domestica 'Charles Ross' MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Blenheim Orange' MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Bladon pippin' MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Warner's King' MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Sunset' MM106, Maiden, bareroot, age 1y/o	5
		Malus domestica 'Bountiful' MM106, Maiden, bareroot, age 1y/o	5
		Prunus insititia '*Aylesbury Prune*' St. Julien A, Maiden, bareroot, age 1y/o	10
		Prunus domestica '*Guinevere*' St. Julien A, Maiden, bareroot, age 1y/o	8

	bordering existing hedge (EH9).	*Prunus insititia 'Farleigh Damson'* St. Julien A, Maiden, bareroot, age 1y/o	8
		Prunus domestica 'Marjorie's Seedling' St. Julien A, Maiden, bareroot, age 1y/o	7
		Prunus 'Malling Elizabeth' St. Julien A, Maiden, bareroot, age 1y/o	7
		Prunus domestica 'Blue Tit' St. Julien A, Maiden, bareroot, age 1y/o	7
		Prunus domestica 'Victoria' St. Julien A, Maiden, bareroot, age 1y/o	7
		Pyrus communis 'Merton Pride' Pyro dwarf, Maiden, bareroot, age 1y/o	6
		Pyrus communis 'Concorde' Quince A, Maiden, bareroot, age 1y/o	6
		Pyrus communis Beth Quince A, Maiden, bareroot, age 1y/o	6
		Pyrus communis 'Onward' Quince A, Maiden, bareroot, age 1y/o	6
		Pyrus communis 'Williams bon Chretien' Quince A, Maiden, bareroot, age 1y/o	6
		Prunus avium 'Merton Glory' Colt, Maiden, bareroot, age 1 y/o	6
		Prunus avium 'Penny' Colt, Maiden, bareroot, age 1 y/o	6
		Prunus avium 'Amber Heart' Colt, Maiden, bareroot, age 1 y/o	6
		Prunus avium 'Knights Early Black' Colt, Maiden, bareroot, age 1 y/o	6
		Prunus avium 'Roundel Heart Colt', Maiden, bareroot, age 1 y/o	6
		Prunus persica 'Gorgeous' St. Julien A, Maiden, bareroot, age 1y/o	6
		Corylus avellana 'Kent Cob' Bush, bareroot, age 2 y/o	8

Skylark plots

Location	Required works
SP1	Create a 5m x 5m bare patch of soil by removing the top layer of soil using an excavator or turf cutter or by scarifying the surface. Leave this 25m2 area unseeded and bare. Repeat activity annually in February – March.
SP2	Create a 5m x 5m bare patch of soil by removing the top layer of soil using an excavator or turf cutter or by scarifying the surface. Leave this 25m2 area unseeded and bare. Repeat activity annually in February – March.

Hibernacula habitat piles

Location	Required works
HHP1	Create hibernacula habitat piles from logs, branches, rocks and other appropriate materials. Opportunity for material to be won elsewhere on site. Approx. 25m2 area (5x5m) available to utilise. Top up HHP with cut and collect arisings. Ensure that a 4m access gap is left between the HHP and the existing hedges (EH3).
HHP2	Create hibernacula habitat piles from logs, branches, rocks and other appropriate materials. Opportunity for material to be won elsewhere on site. Approx. 30sqm (3x10m) area available to utilise. Top up HHP with cut and collect arisings. Allow existing hedge (EH1) to grow out behind HHP.
HHP3	Create hibernacula habitat piles from logs, branches, rocks and other appropriate materials. Opportunity for material to be won elsewhere on site. Approx. 25sqm area (5x5m) available to utilise. Top up HHP with cut and collect arisings. Ensure that a 6m access gap is left between the HHP and the existing hedges (EH6).
HHP4	Create hibernacula habitat piles from logs, branches, rocks and other appropriate materials. Opportunity for material to be won elsewhere on site. Approx. 25sqm area (5x5m) available to utilise. Top up HHP with cut and collect arisings. Ensure that a 6m access gap is left between the HHP and the existing hedges (EH7 & EH8).
HHP5	Create hibernacula habitat piles from logs, branches, rocks and other appropriate materials. Opportunity for material to be won elsewhere on site. Approx. 30sqm area (3x10m) available to utilise. Top up HHP with cut and collect arisings. Allow existing hedge (EH9) to grow out behind HHP.

Solitary bee habitat

Location	Required works	Item	Quantity
SBH1	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 8sqm area (4x2m) available to utilise.	Crushed concrete / brick	6t
SBH2	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Sand	11t
SBH3	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 8sqm area (4x2m) available to utilise.	Ballast	6t

SBH4	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 8sqm area (4x2m) available to utilise.	Type 1	6t
SBH5	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Crushed concrete / brick	11t
SBH6	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Sand	11t
SBH7	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Ballast	11t
SBH8	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Sand	11t
SBH9	Create mounds from a variety of substrates including sand, gravel, rubble and crushed building materials. Approx. 32sqm area (8x4m) available to utilise.	Ballast	11t

Standing/piles of deadwood

Location	Required works
D1	Create deadwood piles and standing deadwood. Approx. 25sqm area (5x5m) available to utilise.
D2	Create deadwood piles and standing deadwood. Approx. 25sqm area (5x5m) available to utilise.
D3	Create deadwood piles and standing deadwood. Approx. 25sqm area (5x5m) available to utilise.
D4	Create deadwood piles and standing deadwood. Approx. 25sqm area (5x5m) available to utilise.
D5	Create deadwood piles and standing deadwood. Approx. 25sqm area (5x5m) available to utilise.

Biodiverse roofs

Refer to Future Nature for biodiverse roof specification.

Timetables

Initial works

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tree, hedge, scrub cutting	x	x								x	x	x
Bare root planting	x	x									x	x
Widening existing hedges	x	x								x	x	x
Potted planting	x	x	x	x					x	x	x	x
Bulk / earth / aggregate material movements					x	x	x	x	x	x		
Skylark plots	x	x	x	x	x	x	x	x	x	x	x	x
Mowing, ground prep & seeding			x	x					x	x		

Annual maintenance works

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Planting maintenance				x		x		x				
Replacing planting failures	x	x									x	x
Spraying visits				x	x							
Skylark plots			x	x								
Ad-hoc watering visits					x	x	x	x	x			
Hedge cutting / laying	x	x								x	x	x
Mowing									x	x		

Drawings

Key

Existing Hedgrow:

New Hedgerow:

Pond:

Beetle bank:

Wildflower grassland:

Enhanced wet meadow:

Retained grassland:

Scrub:

Native broadleaved woodland:

Orchard:

Existing standard trees:

Proposed standard trees:

Hibernacula/habitat piles:

Solitary bee habitat:

Standing/ piles of deadwood:

Biodiverse green roofs:

Skylark Plots:

Site centroid national grid ref:
SP 75520 25119

Rev:	Date:	By:	Description:
A	18.08.23	JF	Initial client feedback.
B	22.08.23	PDP	Addition of scrub EH1, reduce trees F4.
C	22.08.23	PDP	Annotations
D	5.09.23	JF	Various adjustments.
E	10.09.23	JF	Minor changes.
F	18.09.23	JF	Client feedback.
G	9.10.23	JF	Minor tweaks.

Project: East Claydon Battery Storage Facility

Drawing title:
Landscape Masterplan

Drawing no:
MP23042-1

Date:
18/09/2023

By:
JF

Rev:
G

Scale:
1:4000
at A3

Client:
Future Nature

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S1, W1, EH2, S9, W7, SBH2, HHP2, S8, W6, WG4, EH1, W5, S7, SBH1, D1, EP1, WG1, S11, W9, EH3, HHP1, NP1, NH1, NH2, EH10, S2, NH3, EWM, WG3, W2, NP3, EH6, WG5, W8, S10, SBH8, NP4, W3, NP6, RG, S3, WG6, D2, S4, SP1, SP2, D3, NH4, HHP5, D5, O1, D4, EH9, SBH9, W4, HHP4, NP5, NH5, EH8, S5, S6, WG2, EH5, SBH7, HHP3, SBH6, SBH4, SBH5, NP2, EH4, SBH3, F1, F2, F3, F4, SUBSTATION

1 Masterplan
Scale: 1:4000

0 500 1000 M

N

Key

Plants

Qr - Quercus robur
Ac - Acer campestre
Pa - Prunus avium
Cb - Carpinus betulus
Ag - Alnus glutinosa
St - Sorbus torminalis
Sa - Sorbus aucuparia
Ca - Corylus avellana
Sc - Salix caprea
Sf - Salix fragilis
Pt - Populus tremula
Pn - Populus nigra betulifolia
Cm - Cretaegus monogyna
Ps - Prunus spinosa
Vo - Viburnum opulus
Ee - Euonymus europaeus
Rc - Rosa canina
Lv - Ligustrum vulgare
Sn - Sambucus nigra

Seed mix

EP1 - Emorsgate pond edge mix
EH1 - Emorsgate hedgerow mix
EM10 - Emorsgate tussock mix
EM8 - Emorsgate wet meadow mix
EM2 - Emorsgate standard general purpose meadow mix

Site centroid national grid ref:
SP 75520 25119

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility

Drawing title: Planting Plan

Drawing no: MP23042-2		
Date: 09/10/2023	By: JF	
Rev:	Scale: 1:4000 at A3	

Client: Future Nature

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ecological design & build landscape

1 Planting plan
Scale: 1:4000

Refer to drawing MP23042 - 11 for Orchard planting plan

0 500 1000 M

N

Notes

Grid layout indicates 1m x 1m

NP1 to be lined pond

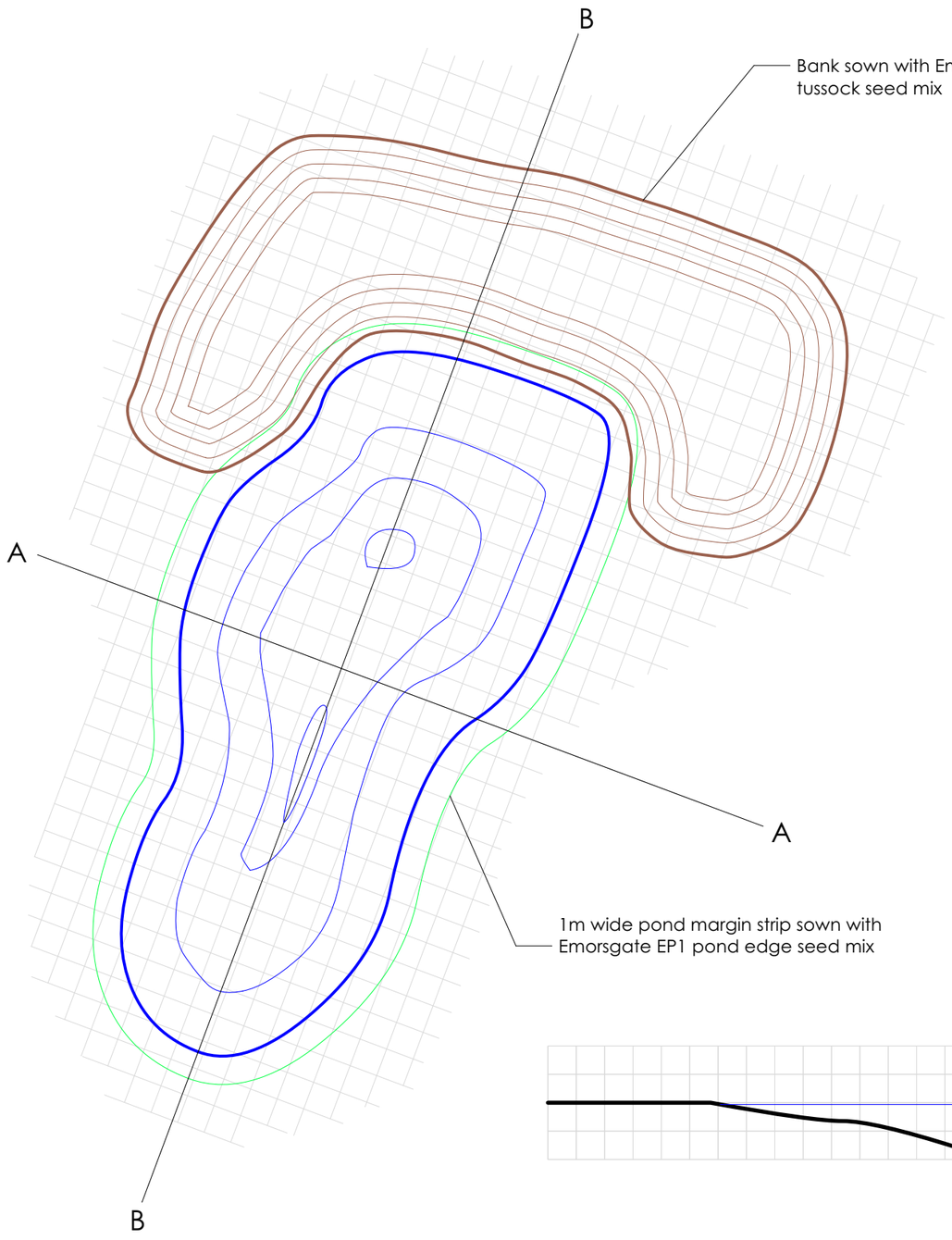
Dims in m

Contour lines at 0.5m intervals

Rev:	Date:	By:	Description:

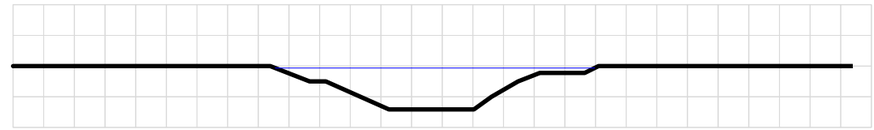
Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP1		
Drawing no: MP23042-3		
Date: 03/10/2023	By: PDP	
Rev:	Scale: 1:200 at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

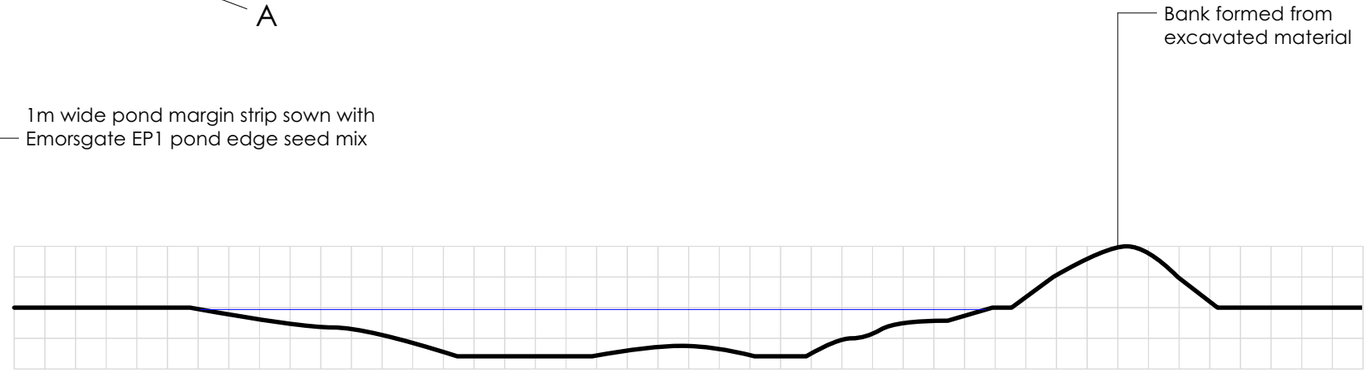


1 NP1 plan
Scale: 1:200

N



3 NP1 - Cross-section A-A
Scale: 1:200



2 NP1 cross-section B-B
Scale: 1:200

Notes

Grid layout indicates 1m x 1m

NP2 to be lined pond

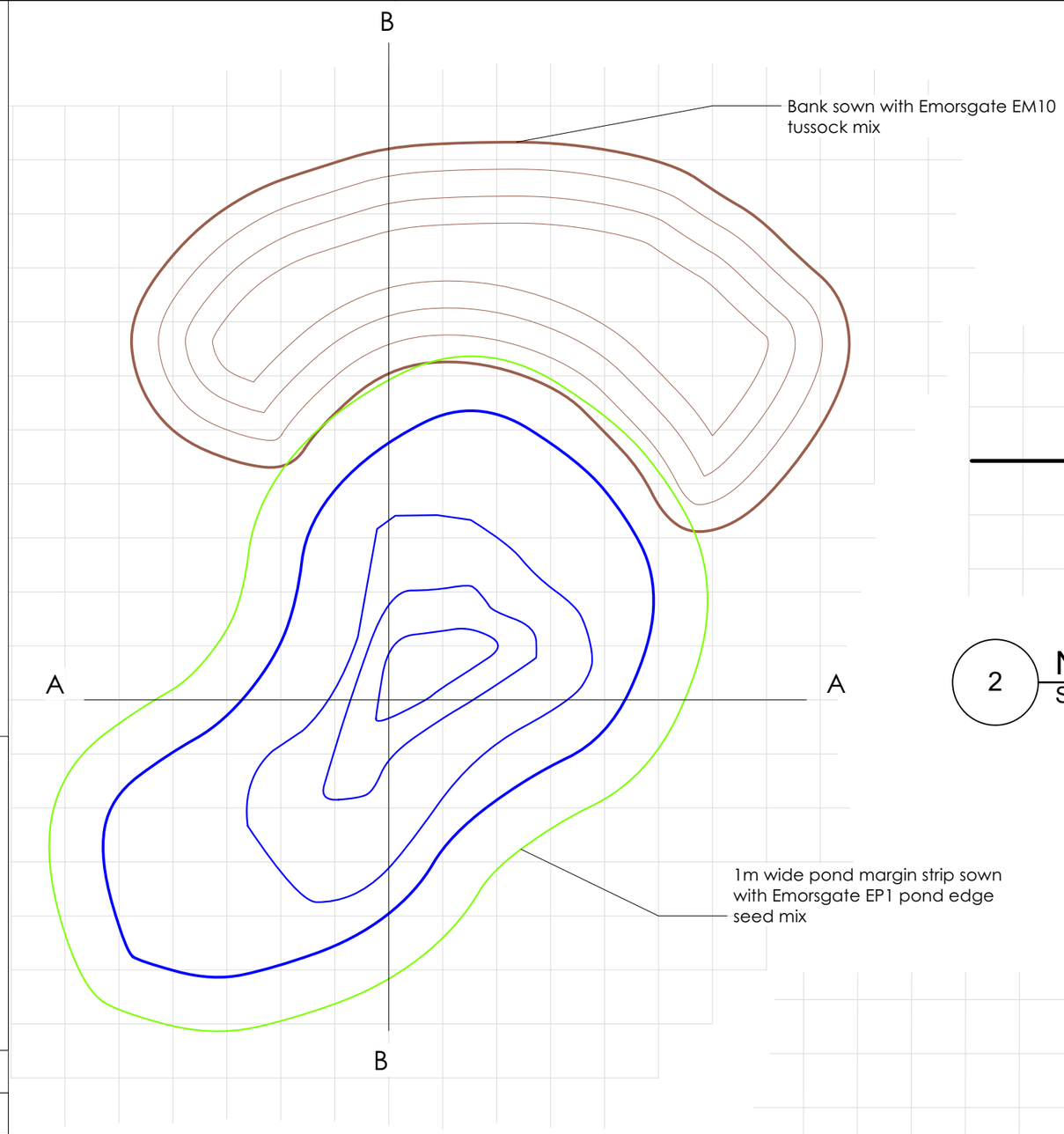
Dims in m

Contour lines at 0.5m intervals

Rev:	Date:	By:	Description:

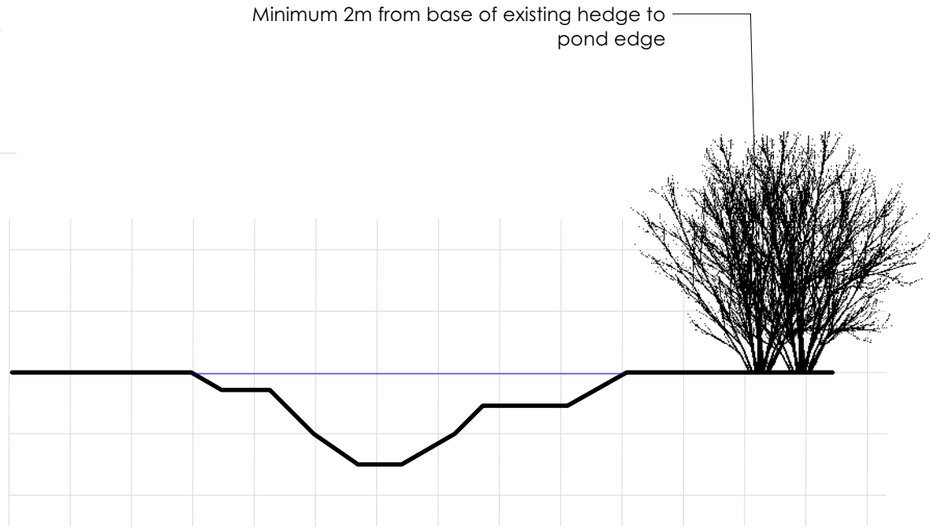
Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP2		
Drawing no: MP23042-4		
Date: 03/10/2023	By: PDP	
Rev:	Scale: 1:100 at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

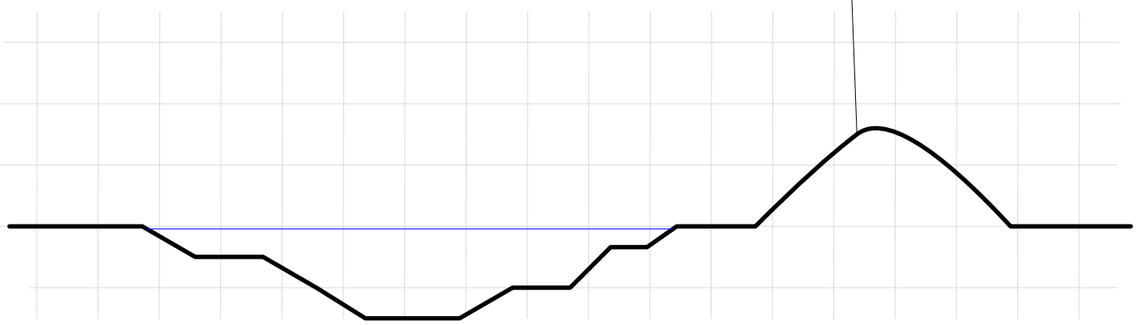


1 NP2 plan
Scale: 1:100

N



2 NP2 Cross-section A-A
Scale: 1:100



3 NP2 Cross-section B-B
Scale: 1:100

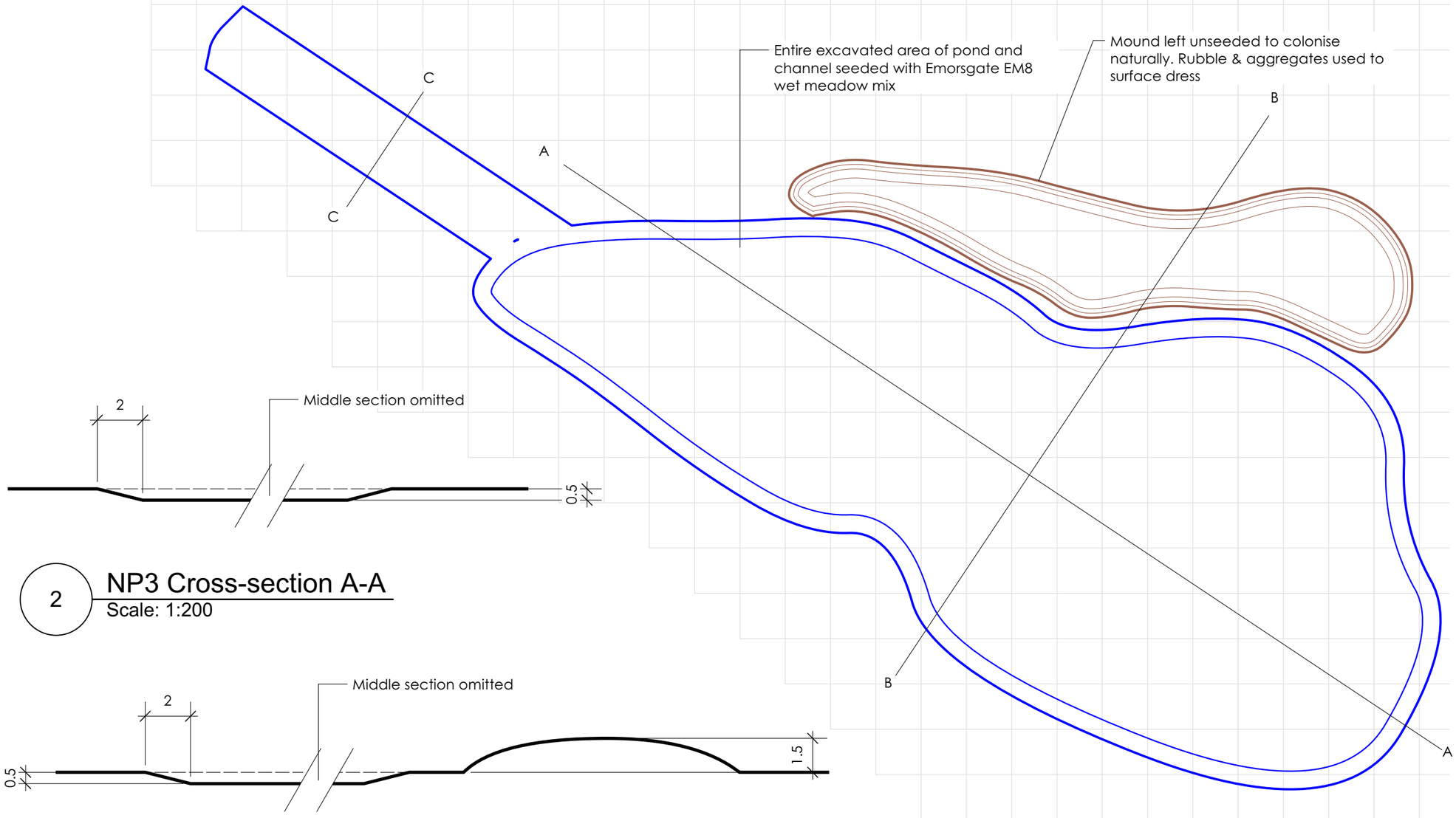
Notes

Grid layout indicates 5m x 5m

NP3 to be unlined ephemeral pond

Dims in m

Contour lines at 0.5m intervals

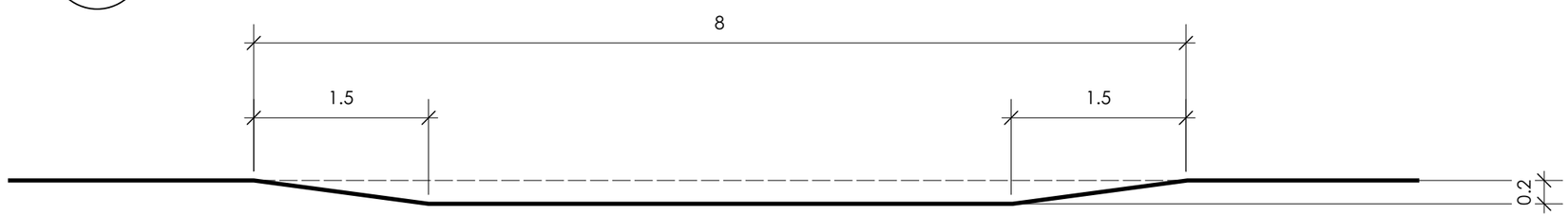


1 NP3 plan
Scale: 1:500

N

2 NP3 Cross-section A-A
Scale: 1:200

3 NP3 Cross-section B-B
Scale: 1:200



4 NP3 channel cross-section C-C
Scale: 1:50

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP3		
Drawing no: MP23042-5		
Date: 04/10/2023	By: PDP	
Rev:	Scale: Varies at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

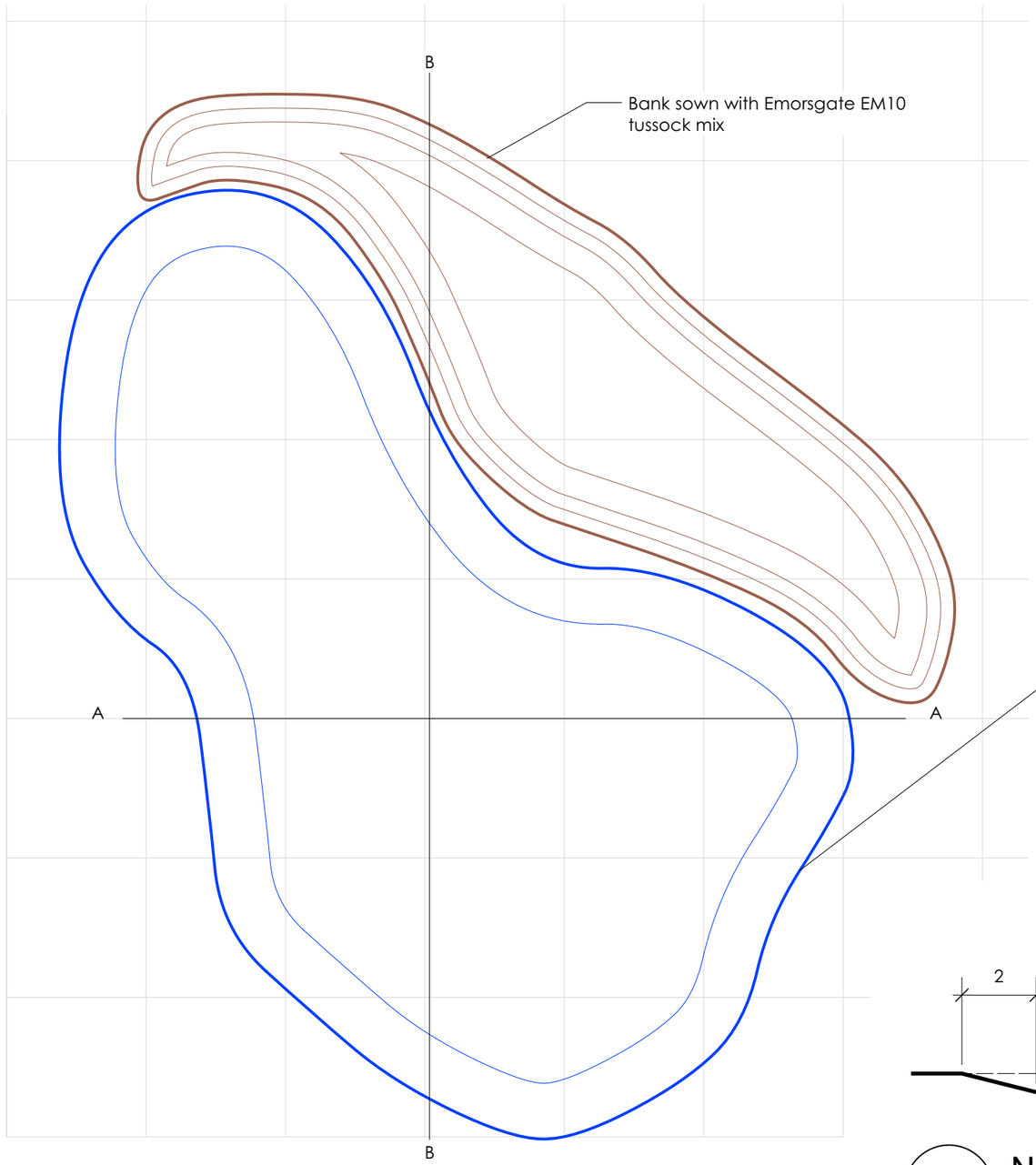
Notes

Grid layout indicates 5m x 5m

NP4 to be unlined ephemeral pond

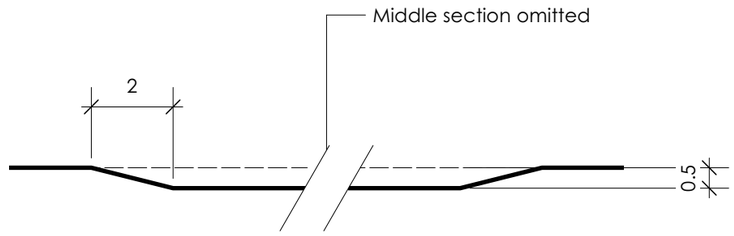
Dims in m

Contour lines at 0.5m intervals

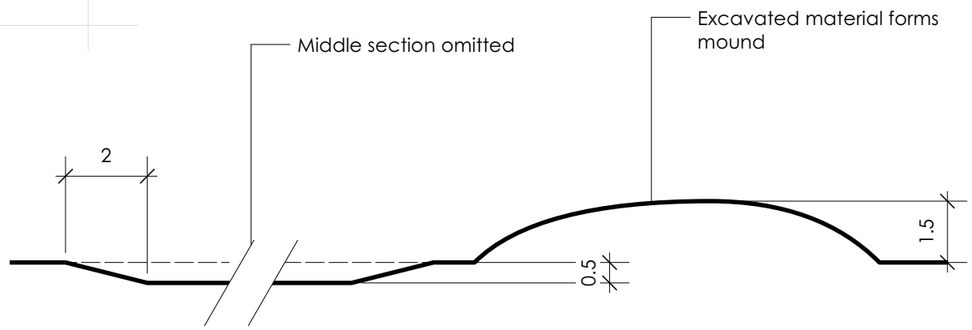


1 NP4 plan
Scale: 1:200

N



2 NP4 cross-section A-A
Scale: 1:150



3 NP4 cross-section B-B
Scale: 1:150

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP4		
Drawing no: MP23042-6		
Date: 04/10/2023	By: PDP	
Rev:	Scale: Varies at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

Notes

Grid layout indicates 1m x 1m

NP5 to be lined pond

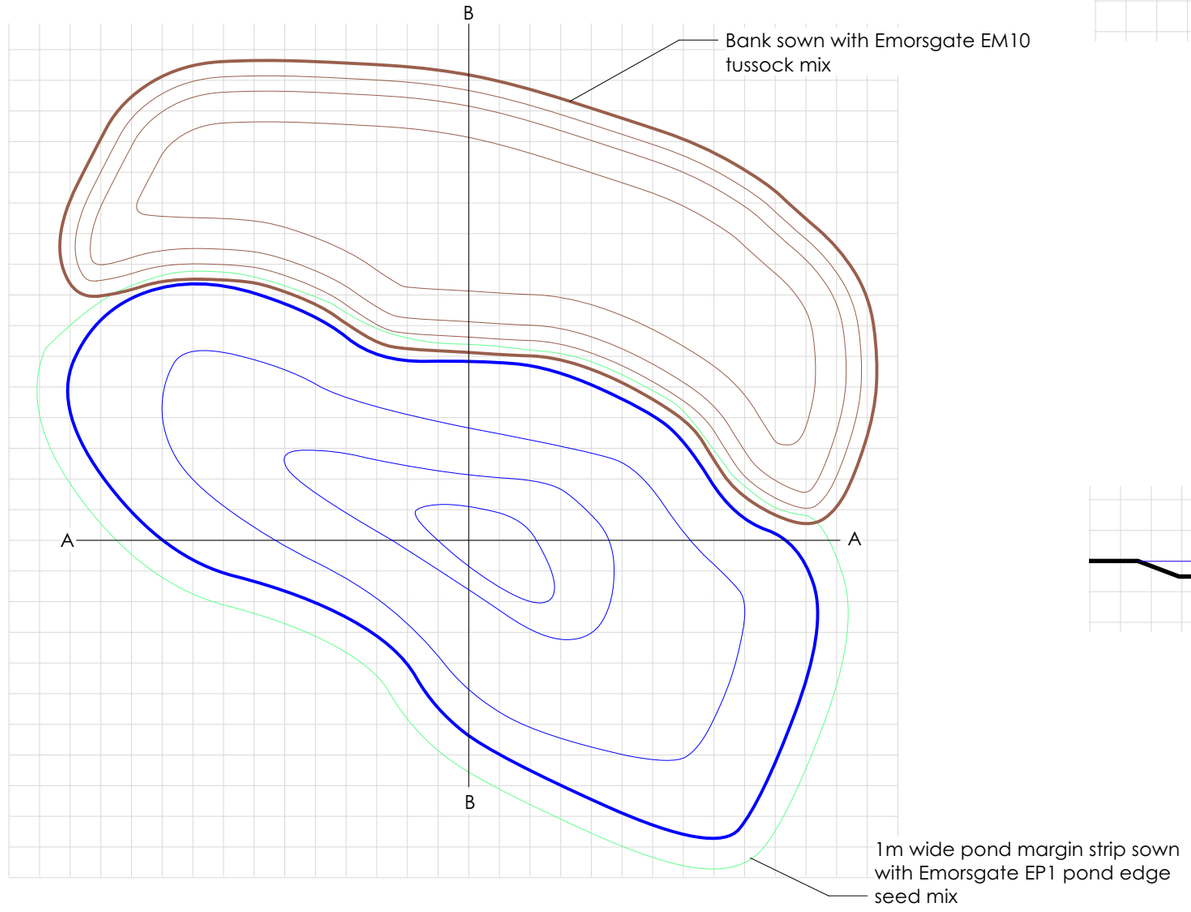
Dims in m

Contour lines at 0.5m intervals

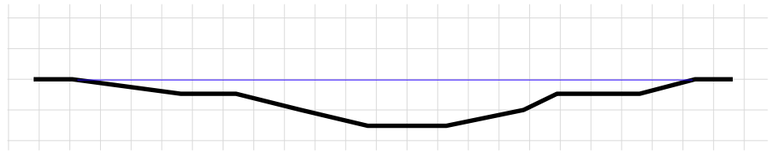
Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP5		
Drawing no: MP23042-7		
Date: 04/10/2023	By: PDP	
Rev:	Scale: 1:200 at A3	
Client: Future Nature		

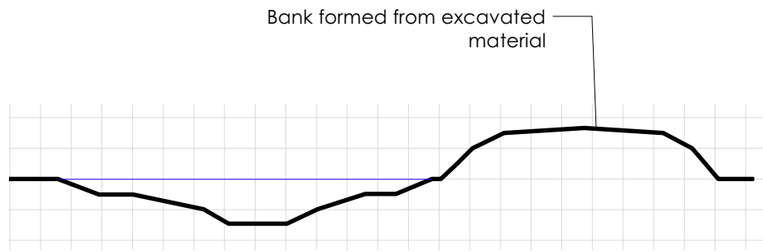
MORTON:PATTISON
ecological design & build landscape



1 NP5 plan
Scale: 1:200



2 NP5 cross-section A-A
Scale: 1:200



3 NP5 cross-section B-B
Scale: 1:200

Notes

Grid layout indicates 5m x 5m

NP6 to be unlined ephemeral pond

Dims in m

Contour lines at 0.5m intervals

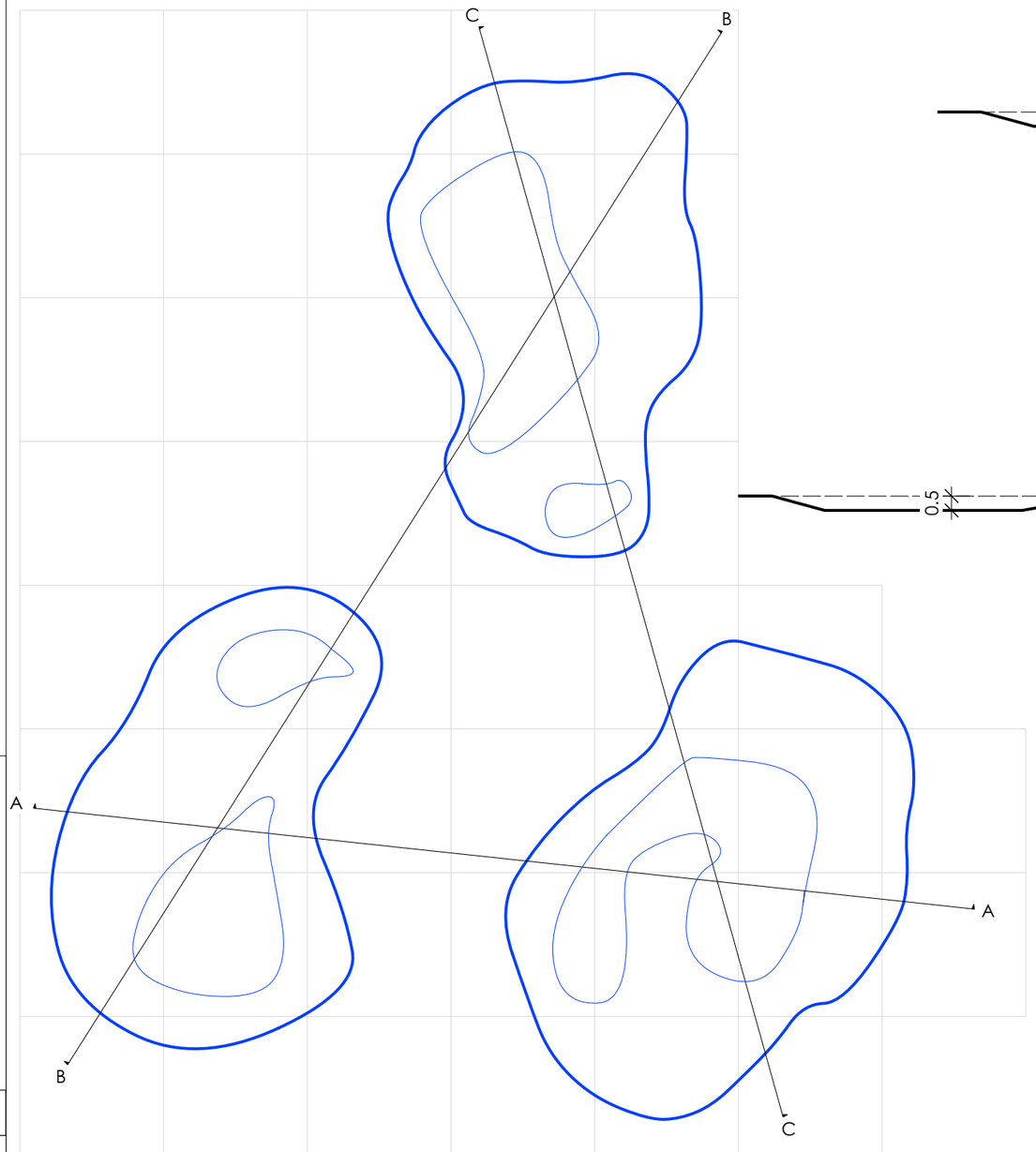
Typical indicative depths shown in cross-sections

Pond excavations to be left unseeded to colonise naturally

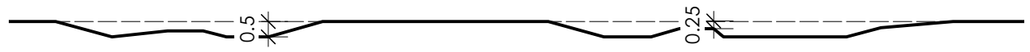
Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Pond layout NP6		
Drawing no: MP23042-8		
Date: 04/10/2023	By: PDP	
Rev:	Scale: 1:200 at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

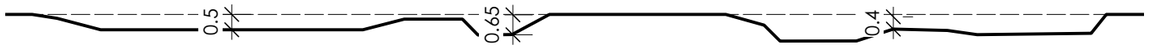


1 NP6 plan
Scale: 1:200



2 NP6 cross-section A-A
Scale: 1:200

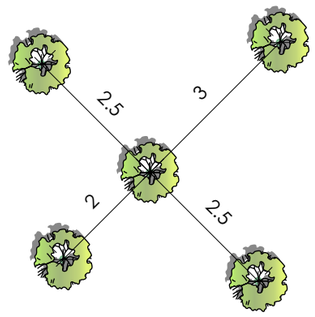
3 NP6 cross-section B-B
Scale: 1:200



4 NP6 cross-section C-C
Scale: 1:200

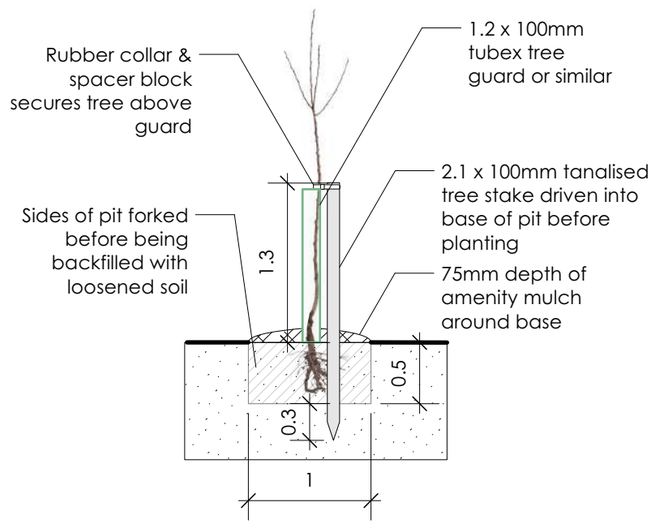
Notes

Dims in m unless specified

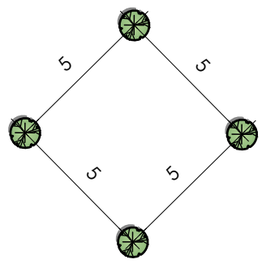


Tree planting irregular, with average 2.5m spacing between tree centres (0.16 trees per m2 / 1,600 per ha)

1 Native broadleaf woodland setting out
Scale: 1:100

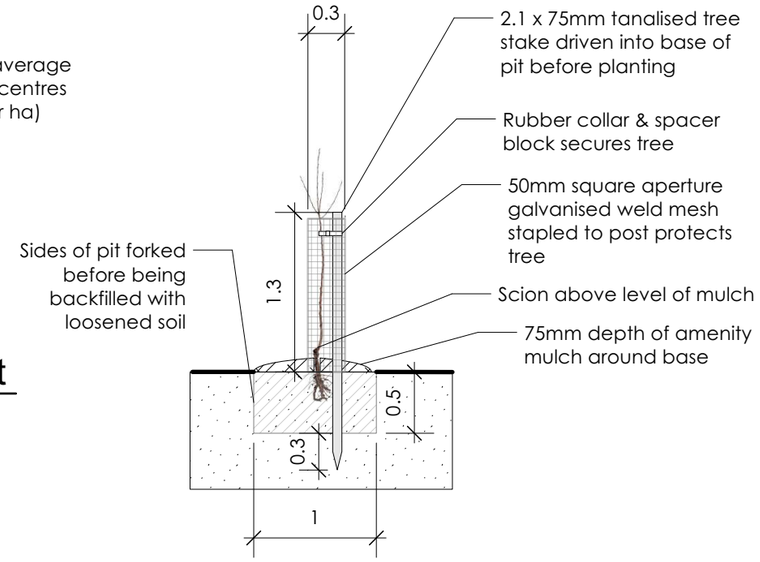


2 Typical tree planting detail
Scale: 1:50

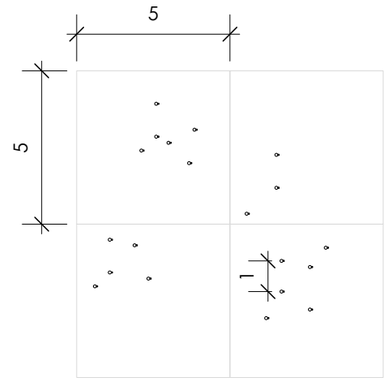


Planting on a regular grid at 5m centres

3 Orchard setting out
Scale: 1:200

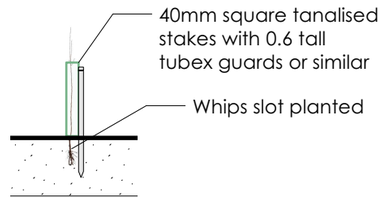


4 Orchard planting detail
Scale: 1:50

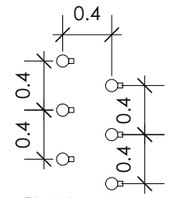


Scrub planting in irregular groups of 3-7 plants, averaging 5 plants per 25m2. Individual plants within clusters spaced at average 1m centres

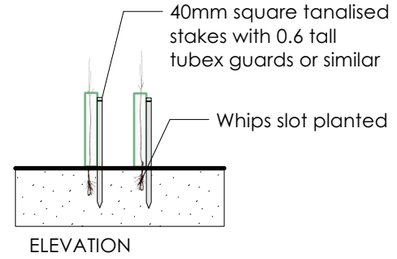
5 Typical scrub setting out
Scale: 1:200



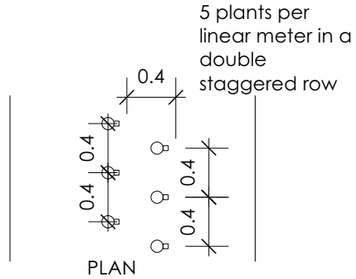
6 Scrub planting detail
Scale: 1:50

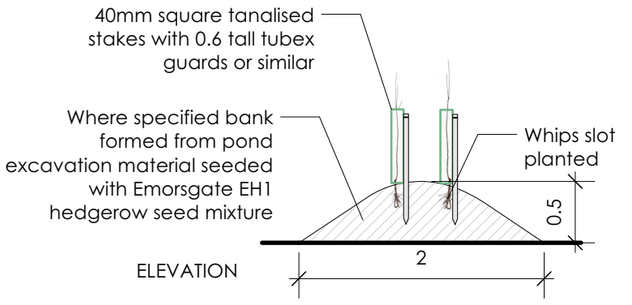


5 plants per linear meter in a double staggered row



7 Hedge gapping up
Scale: 1:50





8 Typical new hedge planting
Scale: 1:50

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Planting details		
Drawing no: MP23042-9		
Date: 05/10/2023	By: PDP	
Rev:	Scale: Varies at A3	
Client: Future Nature		

MORTON:PATTISON
ecological design & build landscape

Notes

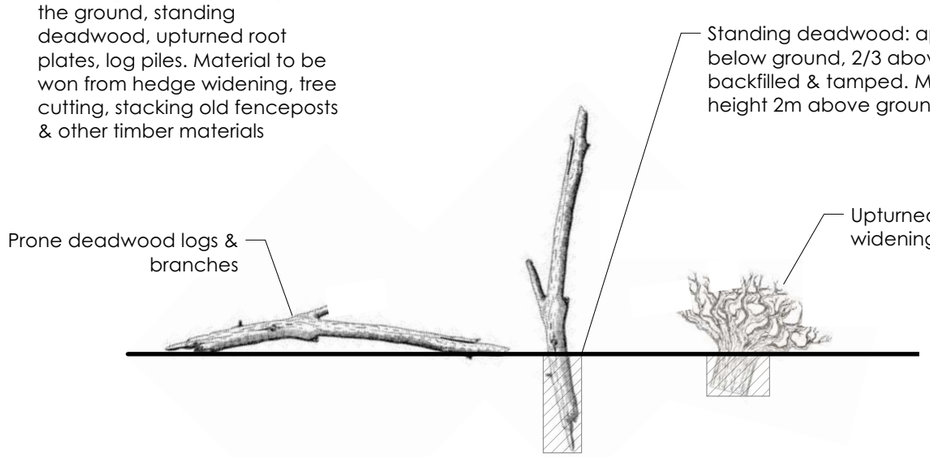
Dims in m unless specified

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility		
Drawing title: Landscape details		
Drawing no: MP23042-10		
Date: 05/10/2023	By: PDP	
Rev:	Scale: Varies at A3	
Client: Future Nature		

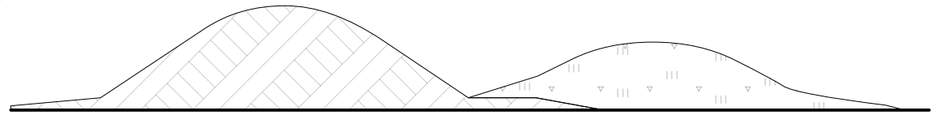
MORTON:PATTISON
ecological design & build landscape

Variety of details to be used, including deadwood lying on the ground, standing deadwood, upturned root plates, log piles. Material to be won from hedge widening, tree cutting, stacking old fenceposts & other timber materials



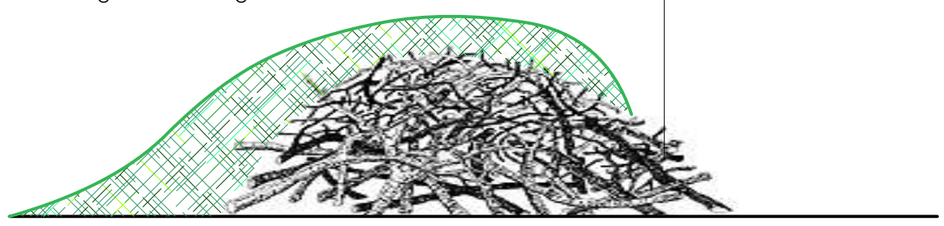
1 Standing / piles of deadwood
Scale: 1:50

Variety of aggregates used to create piles max 1m high using recycled concrete crusher run, bricks, ballast, type 1. Allowed to run out to form ground cover at the edges of the piles

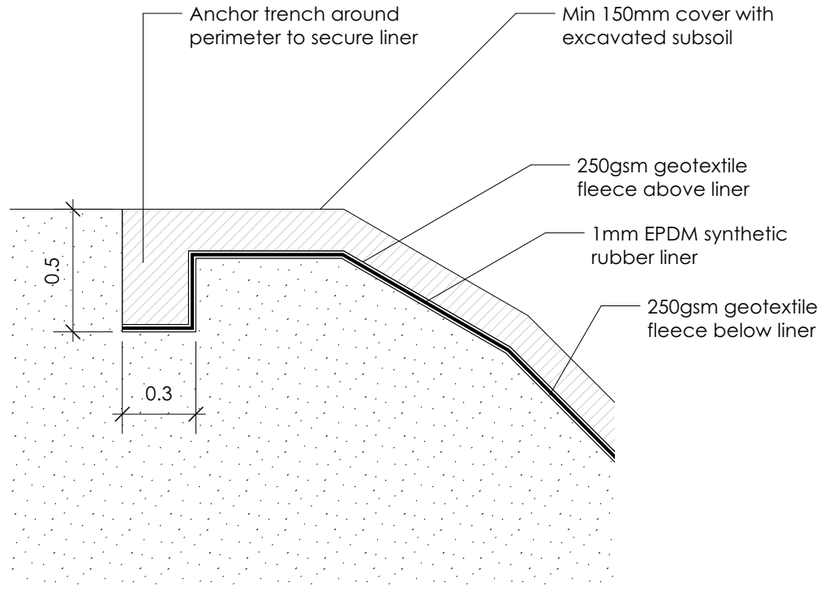


2 Solitary bee habitat piles
Scale: 1:50

Brash from tree, hedge & scrub cuting stacked up to 1m high. Ground plan dimensions vary according to material available. Piles to be added to using arisings from mowing work



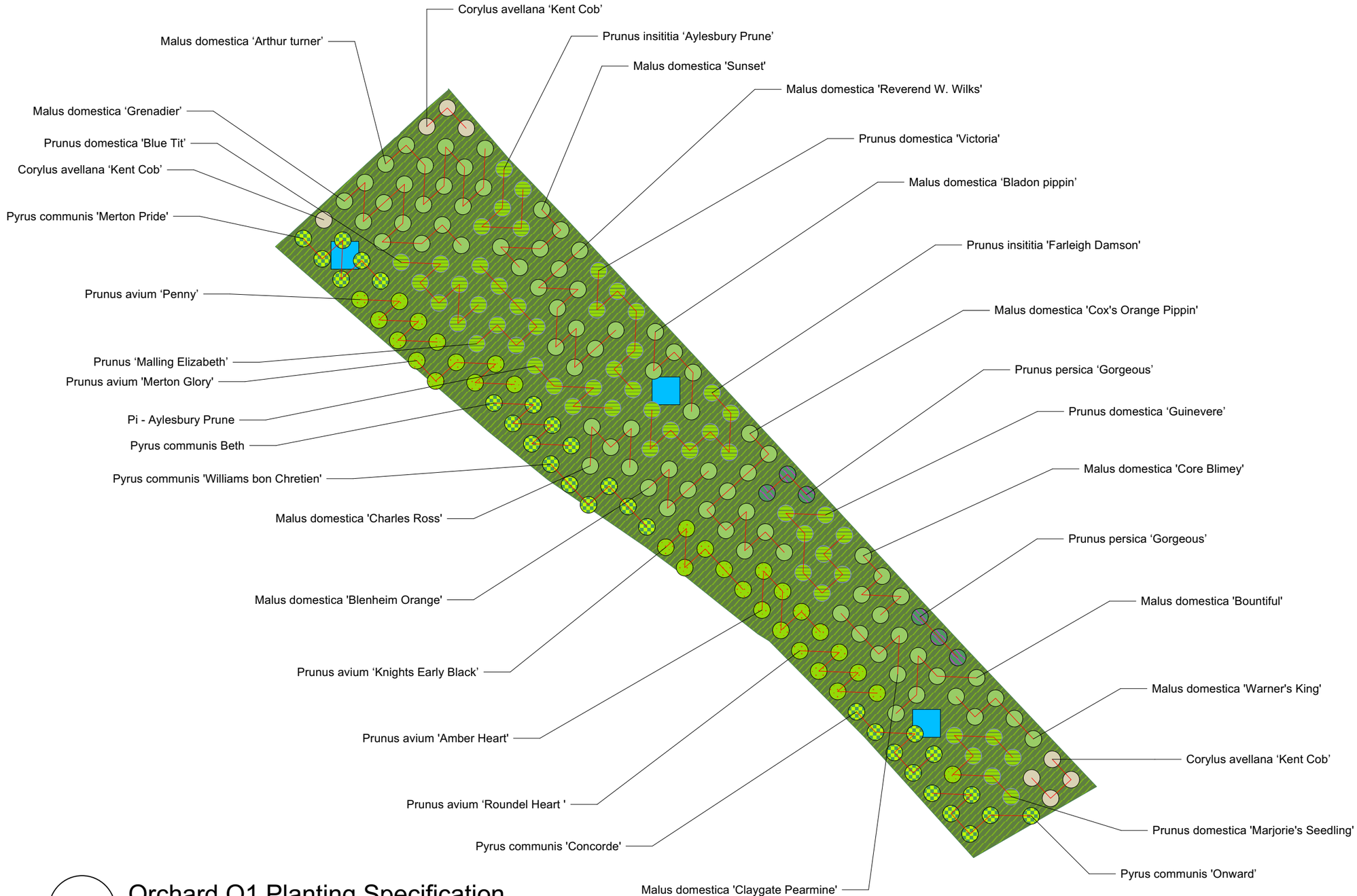
3 Hibernacula / habitat piles
Scale: 1:25



4 Typical pond liner detail
Scale: 1:25

Key

- Apple
- Plum/Damson
- Pear
- Cherry
- Peach
- Hazel
- Standing/piles of deadwood
- Species groups



1 **Orchard O1 Planting Specification**
Scale: 1:750

0 50 150 M

N

Rev:	Date:	By:	Description:

Project: East Claydon Battery Storage Facility

Drawing title: Orchard planting plan

Drawing no: MP23042-11		
Date: 09/10/2023	By: JF	
Rev:	Scale: 1:750 at A3	

Client: Future Nature

MORTON:PATTISON
ecological design & build landscape

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East Claydon battery storage facility
CDM Designer risk register
P Pattison (Morton:Pattison)
V.1 06/10/2023

RISK: S = Severity (High, Medium, Low)
L = Liklihood (High, Medium, Low)
Risk = S:L

Liklihood	L	M	H
H	L:H	M:H	H:H
M	L:M	M:M	H:M
L	L:L	M:L	H:L
	L	M	H
	Severity		

Reference	Activity / Element	Significant hazard / unusual activity	Pre-action risk assessment rating	Design stage action	Post-action risk assessment	Construction / management control measures required	Assumed person / organisation responsible	Comments	Status	Post-construction residual risk
1	Ecology	Potential for works to damage existing ecology of site	M:M	Ecology surveys & ecological management prescriptions by others	L:L	Adhere to ecological management prescriptions	Future Nature	Generally low risk due to agricultural use: Claydon Brook is feature most likely to be impacted by fuel & chemicals, sediment in run-off	Ecology specification to be provided by Future Nature	L:L
2	Excavation, including for planting	existing services below ground	H:M	None: large pond locations specified on Statera masterplan	M:M	Line searches, CAT onsite	Statera & Principal Contractor	Excavation locations can be adjusted to avoid services	TBC	L:L
3	Excavation	potential for uncovering buried hazardous waste	M:L	Identify hazard & record need for control measures	L:L	Operative training to recognise potential hazardous waste & containers	Asset owner as Client	Potential for e.g. asbestos, herbicide, fertilisers etc	TBC	L:L
4	Plant movements / use	Existing services above ground	H:M	Limited landscaping beneath power lines requiring excavator use	H:L	ID services, exclusion zones, HSE guidance notes, consider appropriate sized plant	Principal Contractor	none	TBC	L:L
5	Claydon Brook	Steep sided, deep cut brook with fall into water for personnel & plant	H:M	Identify hazard & record need for control measures	H:L	Fence off during construction phase, suggest 150mm diameter round timber posts installed along edge as visual cue for maintenance activities	Principal Designer & Principal Contractor	none	TBC	M:M
6	Materials specification for handling	Bulky / heavy materials that will require manual handling e.g. rootballed trees	L:M	Manual handling material sizes / weights limited	L:L	Appropriate handling aids & machinery where required	Morton : Pattison	none	Reduced at design stage, needs appropriate control at construction phase	L:L
7	General site work	Hazards associated with site, equipment and tasks	H:M	Identify hazard & record need for control measures	H:M	Construction Phase Plan	Principal Contractor	none	TBC	L:L
8	Electrical plant	Battery storage, substation & electrical plant	H:L	Identify hazard & record need for control measures to protect landscape operatives: design by others	H:L	Construction Phase Plan & design with operational landscape activities in mind	Principal Designer	Need to provide sufficient access for operatives but exclude from hazardous plant e.g. substation	TBC	L:L