LEGEND

Application Boundary Line

Ownership Boundary

HARD LANDSCAPE

SURFACE TREATMENT

Tarmacadam - Existing retained
To Engineer's detail and specification

Tarmacadam - Proposed
To Engineer's detail and specification

Grasscrete - Proposed
To Engineer's detail and specification

Boundaries

Metal Security Fencing (Existing)

Timber Post & Rail Fencing (Existing)

Timber Post & Rail Fencing (Proposed)

20m SINC Buffer Offset Line

SOFT LANDSCAPE

EXISTING TREES & VEGETATION

Existing Trees to be Retained
To be protected in accordance with BS 5837:2012 *'Trees in relation to Design, Demolition and Construction'*
Notes:

Existing Root Protection Area
Note: Refer to Arboricultural survey & reports for details

Existing Mound / Hedge to be Removed
Trees/vegetation in conflict with proposed development, based on current site layout.
Note: Refer to Arboricultural survey & reports for details

Existing Grass

Note: No dig construction to be carried out in any location where construction is within RPA of existing trees. Refer to Arboriculturalist's drawings & reports for further details

PROPOSED PLANTING

Proposed Tree Planting
Size/Spec: Refer to plant schedule for details
Note: Final location of trees to be determined with services alignment.

Proposed Native Hedge Planting
Product: Container or bare root grown plant stock
Size/Spec: Refer to plant schedule for details

Proposed Rough Grassland
Product: Container or bare root grown plant stock
Size/Spec: Refer to plant schedule for details

Proposed Whip Planting
Product: Bare root plant stock
Size/Spec: Refer to plant schedule for details

Proposed SuDs Grass / Wildflowers
Product: SuDS Turf mix Product Code WFT–SUD-37
Size/Spec: Refer to plant schedule for details

PLANTING SCHEDULE

Tree (Sitewide)

Botanical Name	Common Name	Girth	Height	Pot Size	Specification
Acer Campestre	Field maple	14-18cmg	3.0-4.5m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 4x
Carpinus betulus	Hornbeam	14-18cmg	3.0-4.5m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 4x
Fagus sylvatica	European beech	14-20cmg	3.0-5.0m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 5/6 Brks; 5x
Juglans regia	English walnut	14-20cmg	3.0-5.0m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 5x
Prunus padus	Bird cherry	14-20cmg	3.0-5.0m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 5x
Quercus robur	English oak	14-20cmg	3.0-5.0m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 5x
Sorbus torminalis	Wild service tree	14-20cmg	3.0-5.0m	RB	Heavy / Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 5x

Tree (Attenuation Pond)

Botanical Name	Common Name	Girth	Height	Pot Size	Specification
Alnus glutinosa	Black alder	16-18cmg	4.0-4.5m	RB	Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 4x
Populus alba	White poplar	16-18cmg	4.0-4.5m	RB	Extra heavy standard; RB min 1.75m; Clear stem; Bushy; 4/6 Brks; 4x

Whip Planting

Botanical Name	Common Name	Pot Size	Height	Density	Specification
Crataegus monogyna (20%)	Common hawthorn	BR	0.6-0.9m	4/sqm	3/5 Brks; BR; 1x
Corylus avellana (30%)	Hazel	BR	0.6-0.9m	4/sqm	3/5 Brks; BR; 1x
Acer campestre (10%)	Field maple	BR	0.6-0.9m	4/sqm	3/5 Brks; BR; 1x
Ilex aquifolium (15%)	Common holly	5L	0.6-0.9m	4/sqm	3/5 Brks; Containerised; 1x
Prunus spinosa (20%)	Blackthorn	BR	0.6-0.9m	4/sqm	3/5 Brks; BR; 1x
Viburnum opulus (5%)	Geulder rose	BR	0.6-0.9m	4/sqm	3/5 Brks; BR; 1x

Native Hedge / Semi-natural Buffer

Botanical Name	Common Name	Density	Height	Pot Size	Specification
Crataegus monogyna (20%)	Common hawthorn	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug
Corylus avellana (20%)	Hazel	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug
Frangula alnus (15%)	Alder buckthorn	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug
Prunus spinosa (20%)	Blackthorn	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug
Prunus avium (10%)	Wild cherry	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug
Euonymus europaeus (15%)	Spindle	0.5m Ctr double staggered	1.5m	Through	7/8 years; bushy; instant hedge; 4/6 brks; throug

Grass (Attenuation Pond - SuDS Turf mix Product Code WFT–SUD-37)

Botanical Name	Common Name
Festuca ovina	Sheep's Fescue
Cynosurus cristatus	Crested Dogstail
Trisetum flavescenes	Yellow oatgrass
Festuca ruba trichophylla	Slender creeping red fescue
Pao pratensis	Smooth stalked meadow grass
Anthoxanthum odoratum	Sweet vernal grass

Outline Planting Specification

Nursery Stock and Selection

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

Tree Handling

It is recommended that companies that do not have experience with handling large trees or the required equipment to do so seek advice from the landscape architect or tree supplier. Furthermore, specialist hauliers are to be used who will have the correct lifting equipment to deal with unloading large trees.

The landscape contractor must follow the industry guidance method for handling trees. The landscape contractor is to follow standards set out in BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations'. The landscape contractor must follow the industry guidance method for handling trees. Below are recommended industry standards.

Dormant trees sizes of 12-16cmg

These can be lifted and unloaded using a root hook and hoist. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading maintaining the lifting weight on the root hooks.

Dormant trees sizes of 18-20cmg - 25-30cmg

These can be lifted and unloaded using a 3 tonne sling in combination with a chain and root hooks. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading.

Tree Planting

The tree supplier is to be approved by landscape architect prior to any ordering of stock. All trees are to be planted in the first available planting season after construction as root balled stock unless otherwise specified and agreed with the client. All tree pits are to be excavated 24 hours prior to delivery to reduce the time the rootball is out of the ground. All tree pits are to be excavated under favourable weather conditions to avoid deterioration of the soil structure and glazing. All excavations are to be carried out using a toothed bucket ensuring tree pit walls are not glazed, the walls of the tree pit can also be loosened with hand held tools.

Tree pit dimensions are subject to soil conditions, soil report provided by agronomist and rootball size. Tree pits can never be excavated too wide in an unrestricted space (open ground), however they can be too deep.

All trees are to be planted at the correct height which is the same depth as the tree was growing on the nursery. The root collar must remain visible. Tree pit sizes are to be agreed with landscape architect prior to excavations. All tree pits are to be inspected by the landscape architect prior to planting. All tree pits are to have suitable irrigation pipe and end cap and aeration tubes if required (aeration tubes tend to be required for trees planted in a hard landscape environment). They are only required for the first two years after which they are superfluous. All irrigation pipes are to be placed as high as possible not at the base of the rootball. The tree would also benefit from an earth reservoir around the rootball on the surface to aid watering. The reservoir is best backfilled with bark mulch to avoid soil glazing on the surface.

Note: Trees may sink after planting due to soil settlement. With sandy soils generally there will be a settlement of 10% and clay soils 20%, this will need to be considered by the landscape contractor when planting and therefore the tree may need to be planted slightly higher to accommodate soil settlement.

Note: Never excavate deeper than the highest water table to ensure organic matter does not come in contact with groundwater resulting in anaerobic digestion within the soil.

All hessian and wire supports around the rootball are to remain in place when planting (in some case it may be required to loosen the hessian and wire). The hessian will quickly decompose. The wire will oxidize and also disappear in the soil eventually.

Trees planted within hard landscape areas are to have tree grilles and guards where specified. Subterraneal cellular product is to be used to ensure the tree has a minimum of 9m3 growing area. Type and manufacture is to be agreed with the client and landscape architect prior to installation. The landscape architect is to inspect all tree pits prior to planting.

Trees are to be supported either by high anchoring, low anchoring or underground anchoring systems. The type of anchoring system is to be agreed with the landscape architect and detailed within the specification of works. For trees that are <10-12cmg use 1no untreated softwood stake at min 10cm diameter driven into the ground at least 1m depth (30cm of which must be in undisturbed ground), the stake is to be placed on the side of the prevailing wind. Trees >10-12cmg use 2no untreated softwood stakes at min 10cm diameter driven into the ground at least 1m depth with horizontal bracing bar. Trees >25-30cmg use 3no stakes in a triangle around the tree (1.4m above ground level) with horizontal bracing bars, tree bands are to be secured to the posts with galvanised nails.

Underground anchoring systems are to be used for large compact rootballs to BS 4043: 1989' Recommendations for Transplanting Root-Balled Trees'. The type of anchoring system is to be agreed with the landscape architect. Biodegradable anchoring straps are to be used to ensure the straps do not grow into the trunk.

Note: There are benefits to using low level anchoring as field trials have demonstrated that the tree becomes independent in the ground quicker as a result of the wind rocking the tree that encourages root ground. However, this method is not recommended in exposed conditions or coastal locations due to a greater risk of the trunk breaking.

Ties and stakes are to be checked and adjusted every six months or after periods of strong wind and rain.

All topsoil is to conform to BS 3882:2015 or similar approved by an agronomist. The tree pit shall be backfilled with previously prepared topsoil excavated from the pit and additional topsoil as required. All backfilled material is to include an organic slow release fertilizer to ensure there is no adverse affect on soil organisms (Vitax Q4HN) or similar approved. The second application to be made 10-16 weeks after planting depending on soil type and weather conditions.

Tree pit root barrier are to be installed to all trees within 3m of any underground service routes or within 2.0m of kerb lines & hard surfaces & building foundations. Type of root barrier material is to be agreed with the landscape architect. The landscape contractor is to confirm locations of all services prior to implementation of trees. Prior to installation NJUG specification and requirements are to be referred too. All trees to be planted in accordance with BS 8545:2014 'Trees: from nursery to independence in the landscape.'

Guidance for Tree Pit Sizes within Soft Landscape Areas

Final tree pit size will vary dependent on size of rootball, tree stock and soil type.

Below are general guidance sizes only. The landscape contractor is to speak to the grower to obtain exact sizes prior to delivery. Landscape Architect to inspect tree pits prior to planting.

Tree pit size guidelines:

Tree size	Rootball Size	Tree pit size (length, width, depth)
12-14 cmg	50x50cm	80x80x65cm
18-20 cmg	60x60cm	80x80x75cm
20-25 cmg	80x50cm	110x75cmx100cm

Tree aftercare and pruning

When a tree is lifted/harvested it will lose a percentage of it's root system. As a result the roots are unable to supply the crown with the water demand being placed on the root system which can cause stress to the tree. As a result the tree will respond by reducing the amound of foliage, in some cases when the water storage is great the tree will shed wood from the crown. Watering the tree is important in the first two years after transplanting. In very hot conditions the canopy can dry out even when the rootball is moist simply because there is not enough root development yet. Therefore, the only solution is to reduce the canopy volume to reduce the stress.

All pruning is to be done by removing first and second wood only, all pruning works are to be carried out by appropriately trained landscape contractors.

It is recommended that hessian is placed around the tree stems after planting to prevent the overheating of the trunks.

The flow of water within the bark will normally prevent this, however, after planting less water is transplanted and as a result the trunk is at risk of sunburn. The setting sun will cause the most potential damage. Most of the damage will be visible on the western side of the tree. Trees with smooth bark are more vulnerable to sunburn than trees with rough bark.

Note: This is to only be done as a temporary measure as the tree is establishing, after which the hessian is to be removed.

Monitoring of the trees is to be carried out during the rectification period and as part of the long term management. The following points are to be considered and monitored;

- Watering, trees will require watering for the first two years after planting, after which they will generally look after themselves. The number of times will depend on location, weather conditions and growing season. Therefore, as the tree is a growing organisum the required experience and knowledge will determine the number of times the tree is watered to ensure establishment. It is better to give the tree a lot of water once a week rather than water every day as this will encourage root development and prevent the tree becoming "lazy". Over watering will push oxygen away from the root system preventing root development.
- Soil condition, these can be carried out by a specialist to monitor the oxygen levels (that should ideally be 18-21%, 16-18% will be sufficient levels, 12-16% will be poor levels <5% shows acute root mortality). Soil moisture levels both within the rootball and surrounding ground to also be monitored.
- Soil compaction, traffic over planted areas or areas to be planted are to be limited or ideally avoided completely. When soil compaction is higher than 2.5MPa root development will not be possible.
- Canopy, monitor leaf development, size, colour and the amound of foliage that is within the crown. Length of new growth and bud development and size of buds.

Proposed Hedge Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5litre), all stock is to be well rooted into the container. All hedge are to be planted in double staggered rows.
- All shrubs are to be planted with a slow release organic fertilizer (vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Planting Guidelines

- All planting and landscape operations should comply with the requirements specified in BS 3936-4:2007 'Nursery Stock' (Part One) and BS4428:1989 'Code of Practice for General Landscape Operations' (excluding hard surfaces).
- All topsoil and testing to conform to BS 3882: 2015 'Specification for Topsoil and Requirements for Use'.
- All topsoil used for planting to be tested by an approved Topsoil Analyst and any required amelioration or soil improvements to be carried out in line with Analyst's report.
- All fertilizers are to be applied or supervised by qualified staff to avoid the action of plasmolysis.
- Nurseries to provide protocols for ensuring that plant stock is free of invasive species.
- No planting is to be carried out when the site is covered by frost.
- Irrigation of plant material to be carried out during periods of drought will be required to ensure successful establishment of all plant stock.
- If planting is to be carried out outside the growing season, all bareroot / rootballed plant stock is to be substituted with containerised stock. Specification to be agreed with Landscape Architect prior to ordering and implementation.

Maintenance Notes - Overview

- Refer to Landscape Design and Access Statement. Detailed landscape maintenance and management plans for each development phase to be submitted to the LA for approval.
- Planting to be protected from mammal and human damage by stock proof fencing.
- All planted areas to be kept clear of weeds at all times throughout maintenance period.
- Planted areas to be forked through regularly to keep soil loose and aerated.
- All litter and debris to be removed from landscaped areas and carted off site.
- Plants pruned as instructed by the Landscape Contractor to promote healthy growth and to remove dead and diseased wood.
- Watering as required to maintain healthy growth.

Additional Notes

- Final location and tree species selection will be subject to service report and foundation depths to be provided by engineers.
- Levels information for the areas of open space in relation to the built form FFL's and retaining walls is to engineers drawings and details and co-ordinated with the team.
- Slope profiles to the open space areas are to be no steeper that 1:3 and to considering access for all.
- Locations of lighting columns to be confirmed by others.
- Demarcation of traffic routes to be determined following detail and technical design.
- Tracking drawings to be provided by others.
- Contractors to ensure they are working to the latest British Standards as required.
- Nursery stock suppliers are to provide details for biosecurity procedures, protocols, plant passports and Defra Certificates prior to tagging, delivering and planting of stock.

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Revision	Date	Reason	Drawn	Checked
03	14.10.2022	Issue for planning submission	ny	-
02	05.10.2022	Issue for planning submission	ny	lc
01	03.10.2022	Issue for planning submission	ny	lc

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External References:
- D3150 Broadway Farm, Broad Oak\05 CAD\01 Autocad\M2 - Models\D3150 GA.dwg
- D3150 Broadway Farm, Broad Oak\02 Incoming\G - Survey\02 Topography\2022-04-05\21397 - a & os.dwg

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Client: CCW Services
Drawing Title: Landscape Extract Plan, Legend & Plant Schedule

Purpose of Issue	Drawn By	Checked By	Drawn Scale	Date of First Issue
ISSUED FOR PLANNING APPROVAL	ny	lc	N.T.S	Oct \| 2022

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D3150	FAB	00	XX	DR	L	1000	P03