



Planting schedule					
Trees					
Abbreviation	Species	Specification	Qty.		
Alnu. glut	Alnus glutinosa	12-14cm girth; 4.0-5.0m ht; RB	6 No.		
Amel. lama	Amelanchier lamarckii	2.5m ht, multistem; RB	2 No.		
Liqu. styr	Liquidambar styraciflua	16-18cm girth; 5m+ ht; RB	2 No.		
Prun. avi P	Prunus avium 'Plena'	16-18cm girth; 5m+ ht; RB	5 No.		
Prun. yedo	Prunus yedoensis	14-16cm girth; 4m+ ht; RB	4 No.		
Quer. robu	Quercus robur	12-14cm girth; 4m+ ht; RB	2 No.		
Sorbus. hup	Sorbus huphensis	16-18cm girth; 5m+ ht; RB	4 No.		
Ulm. laev	Ulmus laevis	16-18cm girth; 5m+ ht; RB	3 No.		
Clipped Hedges					
Abbreviation	Species	Specification	Density	Qty	
Carp. betu	Carpinus betulus	80-100cm ht. whips	0.5Cr Double Staggered at 0.25m offset	139 No.	
Native hedge					
Abbreviation	Species	Specification	Density	Percentage Contribution	Number
Acer. camp	Acer campestre	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	5%	50 No.
Cornus. sang	Cornus sanguinea	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	10%	99 No.
Crat. mono	Crataegus monogyna	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	40%	391 No.
Eun. euro	Euonymus europaeus	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	10%	99 No.
Liqu. vulg	Ligustrum vulgare	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	6%	50 No.
Prun. spin	Prunus spinosa	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	10%	99 No.
Vibu. lant	Viburnum lantana	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	10%	99 No.
Vibu. opul	Viburnum opulus	BR: 1+1; Transplant	0.5Cr Double Staggered at 0.25m offset	10%	99 No.
Total 996 No.					

SPECIFICATION NOTES

1. General.
This plan is to be read in conjunction with the following documents:
• Landscape works specification and other drawings by terra firma

2. General landscaping.
i. Existing levels to be preserved around retained existing trees and vegetation. Existing trees and vegetation to be retained are to be protected in accordance with BS5837: 2012 during construction.
ii. All landscape works to be undertaken by competent persons, with appropriate training and equipment.
iii. All arising to be removed from site at contractor's expense unless noted otherwise. (e.g. woodchip, gravel, topsoil, timber sleepers).

3. Services.
The contractor must ascertain for himself/herself the exact location of underground services before commencing work.

4. Soil Materials Generally.
i. Purity: Soil shall be free from roots, stolons, rhizomes, propagules of perennial or invasive weeds couch grass, bindweed, docks, Japanese knotweed, giant hogweed and horsetail/marestail (Equisetum avense).
ii. Foreign matter: On visual inspection, free from non-soil material, brick and other building materials and wastes, shrap, and any other foreign matter or material or substance that would render the soil or soil ameliorant unsuitable for use.
iii. Contamination: Do not use topsoil, subsoil, sand or compost contaminated with rubbish or other materials that are:
• Corrosive, explosive or flammable;
• Hazardous to human or animal life;
• Detrimental to healthy plant growth.
iv. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil, subsoil, sand or compost or other planting media to be used.

5. Soil testing
Each soil source (imported and site-won subsoil and topsoil - see below) shall be analysed by Tim O'Hara Associates, Howbery Park, Watlington, Oxon OX10 8BA. Tel: 01491 822653. Email: info@toha.co.uk, www.toha.co.uk (or equivalent approved).

6. Subsoil for general planting areas (sample of site-won and/or imported subsoil to be sent for testing to check compliance with parameters below)
Subsoil (from approved source) will be acceptable (within parameters given below). Subsoil to be tested to determine suitability for proposed use for planting; test report to be submitted for approval and to enable amelioration recommendations. Subsoil should be free from commonly tested contaminants, including asbestos. Subsoil parameters to be within the following:

Parameter	Unit	Lower Limit	Upper
Clay (<0.002mm)	%	5	35
Silt (0.002-0.05mm)	%	0	35
Sand (0.05-2.0mm) of which at least 40% shall fall into fine to medium sand range	%	60	90
Stones (>50mm)	% dry wt.	--	50
Stones (>50mm)	% dry wt.	--	0
pH Value	Unit	5.5	8.5
Electrical Conductivity (1:2.5 water extract)	µS/cm	--	1500
Electrical Conductivity (CaSO4 extract)	µS/cm	--	2800
Exchangeable Sodium Percentage	%	--	15
Organic Matter	%	--	1.5

7. Subsoil for tree pits (sample of site-won and/or imported subsoil to be sent for testing to check compliance with parameters below)
Provide subsoil as necessary to make up deficiency on site. Natural or manufactured subsoil (from approved source) will be acceptable (within parameters given below). Subsoil to be tested to determine suitability for proposed use; test report to be submitted for approval and to enable amelioration recommendations. Subsoil should be free from commonly tested contaminants, including asbestos. Subsoil parameters to be within the following:

Parameter	Unit	Lower Limit	Upper
Clay (<0.002mm)	%	5	18
Silt (0.002-0.05mm)	%	0	25
Sand (0.05-2.0mm) of which at least 40% shall fall into fine to medium sand range	%	60	90
Stones (>50mm)	% dry wt.	--	50
Stones (>50mm)	% dry wt.	--	0
pH Value	Unit	5.5	8.5
Electrical Conductivity (1:2.5 water extract)	µS/cm	--	1500
Electrical Conductivity (CaSO4 extract)	µS/cm	--	2800
Exchangeable Sodium Percentage	%	--	15
Organic Matter	%	--	1.5

8. Topsoil for general landscaping (sample of site-won and/or imported topsoil to be sent for testing to check compliance with parameters below and to inform any necessary amelioration - see below)
Existing topsoil to be stripped and re-used, provided soil is within parameters given below when analysed. Imported topsoil to be good quality sandy loam or manufactured topsoil (from approved source, meeting parameters given below). Topsoil (site-won or imported) is to be tested to determine suitability for proposed use and should be free from commonly tested contaminants, including asbestos; test report to be submitted to Landscape Architect for approval and to enable amelioration recommendations to be made:

Parameter	Unit	Lower Limit	Upper
Clay (<0.002mm)	%	5	18
Silt (0.002-0.05mm)	%	0	35
Sand (0.05-2.0mm) of which at least 40% shall fall into fine to medium sand range	%	50	85
Stones (>20mm)	% dry wt.	0	20
Stones (>50mm)	% dry wt.	0	15
Stones (>50mm)	% dry wt.	--	0
pH Value	Unit	5.5	8.5
Electrical Conductivity (1:2.5 water extract)	µS/cm	--	1500
Electrical Conductivity (CaSO4 extract)	µS/cm	--	2800
Exchangeable Sodium Percentage	%	--	15
Organic Matter	%	4.0	8.0
Total Nitrogen	%	0.15	--
Carbon: Nitrogen Ratio	--	--	20:1
Extractable Phosphorus	mg/l	26	100
Extractable Potassium	mg/l	240	1200
Extractable Magnesium	mg/l	50	600

9. Ameliorant: fertilizer and compost (contractor is responsible for submitting a sample of imported or site-won topsoil to inform requirements).
Topsoil amelioration to be determined by analysis. Once amelioration requirements ascertained as required, approved (peat free) composts to PAS100 and/or fertilizers to be incorporated during cultivation at required rate to full depth of growing medium.

10. Soil handling and depths.
Management of soils to be in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites
i. Topsoil and subsoil to be handled (i.e. excavated and/or imported, stored, spread, cultivated) in accordance with method agreed in writing by Landscape Architect prior to work commencing. All topsoil and subsoil areas shall be thoroughly cultivated by hand or suitable machinery to the full depth of the topsoil layer, incorporating ameliorants as required. If compaction is suspected in sub-grade, subsoil or topsoil surfaces, these should be ripped as necessary to decompact and ensure adequate drainage.
ii. Hand cultivations shall be carried out to achieve the required finish on areas where

11. Plant handling and establishment.
Plant handling shall be in accordance with 'Handling and establishing landscape plants', published by the CPSE through the JCLi (<https://www.csdhub.com/wp-content/uploads/2014/12/The-National-Plant-Specification-Handling-and-Establishment.pdf>). The contractor shall comply with Part 3: Recommendations for plant handling from delivery to site to ensure successful establishment.

12. General planting notes.
Details for tree, hedge and general planting to be finalised once final site conditions are known (i.e. compaction and permeability of ground). General plant stock to conform to BS 3936, advanced nursery stock to BS 8545, and planting to BS 4428. Plants shall be first class examples of their species or variety, free from all pests and diseases, with good fibrous root systems and materially undamaged. All planting operations to be in general compliance with BS4428: 'Code of Practice for general landscape operations'. Only carry out all planting while soil and weather conditions are suitable:
• Do not plant during periods of frost or strong winds. Plant only during the following periods:
• Deciduous and conifer trees: Late October to late March (rootball and bare root)
• Container grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering is provided
• Bulbs: September/October
Setting out of planting beds to be approved by Landscape Architect before work commences. Ensure that plant beds are neatly defined, and rise from adjacent paved areas as specified above. All tree pits, tree circles in lawn and planting beds are to be mulched with approved bark mulch to 75mm depth after planting.

13. Plant biosecurity
Plant procurement should follow the latest recommendations from DEFRA and landscape contractors should verify the status of all specified species prior to procuring. Plant material should be sourced from UK growers with a sound Biosecurity Policy and management systems that can demonstrate the traceability of their stock with plant health certificates / plant passports or other documentation (commensurate with the HTA Plant Health Assurance Scheme (still in development phase)).
Selected plants, including trees should be propagated and grown on a UK nursery, or containerised and grown-on in the UK for a minimum of 5 years (trees) or 2 years (shrubs). Any Xylella host plants specified must come from a UK nursery and must not be imported from Europe or anywhere else in the world, directly to site. There must be full traceability on the Xylella host plants (ideally back to its origin). The contractor is responsible for checking compliance of growers and to submit their own Biosecurity Plan with their tender.

14. Tree planting
Any proposed substitutions of species shown on plan to be approved by landscape architect prior to planting. Details for tree planting to comply with BS8545. As a guide all trees to be planted in square pits with base undisturbed unless drainage / compaction problems known. Plant at a depth where the root flare is clearly visible at the soil surface. Where trees have been supplied with the root flare to deep across soil or fibrous root growth should be removed before planting. All trees to have 'Pitdier' tree irrigation/aeration system installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Water-in heavily after planting and mulch surface, ensuring mulch is not in contact with trunk of tree. Tree support to comply with BS 8545. Bare root trees to have a single upright stake. Trees to be underground guyed shall have suitable guying systems installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Any necessary remedial tree works are to be carried out by an approved tree surgeon to BS 3998. Trees planted within grass areas to be set in mulched earth circles, 1m diameter around tree trunk, with turf trimmed neatly to form circle.
i. Trees up to 20cm girth.
Depth of tree pits to be the same as the rootball and with overall width to be 150mm wider than the diameter of the rootball (75mm min. from rootball edge to tree pit side). Pits to be backfilled with 300mm depth of specified topsoil over subsoil as per spec.

15. Native tree and shrub mix (woodland planting/native buffer).
All plants to be planted in cultivated planting beds with species randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Plants to be notch or pit-planted. Plant on grid at spacing given in schedule. Provide and install each plant with an appropriate sized recyclable staked green tree or shrub shelter (available from Tubes Ltd phone 01621 874201 or similar approved). Position shelter stake on windward side of plant, drive vertically into bottom of pit before planting, to a min. depth of 300mm and consolidate backfill material around stake, attach shelter to stake with a minimum of two ties.

16. Clipped hedges.
Depth of planting trench to be same as rootball, overall width 150mm wider than rootball (75mm min. from rootball edge to sides of trench). Trench to be backfilled with 300mm depth of specified topsoil over subsoil as per spec. Fertiliser to be incorporated as required to ensure establishment and continued thriving of plants - type and application rate to be determined by analysis. Central post and wire supporting to be provided with two line wires and plants to be tied in using horticultural plastic ties. On planting, hedges to be trimmed to 800mm ht. and sides trimmed to neat shape where necessary.

17. Native hedges.
Species to be randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Depth of planting trench to be same as root system, overall width space 150mm wider than root system (75mm min. from root system edge to sides of trench). Trench to be backfilled with 300mm depth of specified topsoil over subsoil as per spec. Provide and install each plant with an appropriate sized recyclable staked green shrub shelter (available from Tubes Ltd, phone 01621 874201 or similar approved). Position shelter stake on windward side of plant, drive vertically into bottom of pit before planting, to a min. depth of 300mm and consolidate backfill material around stake, attach shelter to stake with a minimum of two ties.

18. Shrub and Ground Cover Planting.
All plants to be planted into cultivated planting beds (with 300mm depth specified topsoil) at densities shown in plant schedule, backfilled with same topsoil. Fertiliser to be incorporated as required to ensure establishment and continued thriving of plants - type and application rate to be determined by analysis.

19. Grass.
Seeding shall be carried out only during appropriate seasons and while soil and weather conditions are suitable for the relevant operations. Only machinery and tools suitable for the site conditions and the work to be carried out shall be used. Hand tools shall be used around trees, plants and in confined spaces where it is impractical to use machinery. The soil shall be weed free prior to sowing and seeding. Contact herbicide as specified should be applied to all areas of weed growth 4-6 weeks before sowing and repeated if necessary to maintain a weed free bed. Where deep rooted weeds are present (docks, thistles etc) approved Glyphosate-based herbicide should be applied as a spot treatment. Seed shall be laid on prepared, levelled soil (minimum 150mm depth) in the areas indicated on the drawings in accordance with BS 4428:1989 'Code of practice for general landscape operations'.

20. Species-rich meadow grass.
Establish seed mix & soil requirements from supplier.

21. Root barrier.
Root barrier system to be used in locations as indicated on plan. To be supplied by GreenBlue Urban 01424 717797 or other approved supplier. Thickness, size and depth of installation of root barrier to be to manufacturer's recommendations for particular circumstances.

INDICATIVE SPECIES LIST

Amenity grass
Design intent: To have a close mown border along roadways and paths.
• Amenities areas: DUL Seeds Ltd. PMBS DOT for road verges, DOT official mix or similar approved.

Specimen trees
Design intent: To create sense of place, enhance biodiversity, provide shade, visual amenity and connection to the surrounding infrastructure, reduce urban heat island and visually break up extent of built form.

Native buffer planting
Design intent: To create significant areas of vegetation for the benefit of wildlife and to enhance green infrastructure and integrate (over time) the built form in the landscape.

Trees (light standards) @ 3m centres within grid
• Acer campestre
• Alnus glutinosa
• Malus sylvestris
• Prunus avium
• Quercus robur

Shrubs (80-80cm) @ 1.5m centres.
• Cornus sanguinea
• Viburnum davidii
• Viburnum opulus

• Crataegus monogyna
• Ilex aquifolium
• Prunus spinosa
• Viburnum opulus

Ornamental planting
Design intent: To create gardenesque year-round interest, soften built form and contribute to green infrastructure.
Shrubs (2-10L CG) @ 1-1.5m:
• Cornus stolonifera 'Flaviramea'
• Cornus sanguinea 'Midwinter Fire'
• Cornus kousa chinensis
• Cornus alba 'Sibirica'
• Elaeagnus x ebbingei
• Hypericum 'Hidcot'
• Lonicera nitida 'Magnum'
• Mahonia aquifolium 'Apollo'
• Photinia x fraseri 'Red Robin'
• Physocarpus opulifolius 'Diablo'
• Prunus laurocerasus 'Zabaiena'
• Pyracantha coccinea 'Red Cushion'
• Pyracantha 'Mohave'
• Rosa 'Red Carpet'
• Rosa 'Bonica'
• Rosa 'Hugoboss'
• Rosmarinus officinalis 'Prostratus'
• Symphoricarpos x chenaultii 'Hancock'
• Viburnum davidii
• Viburnum opulus

Herbaceous (2-3L CG) @ 3-6m:
• 'Bergenia 'Sunningdale'
• Epimedium x versicolor 'Sulphureum'
• Heuchera cylindrica 'Greenfinch'
• Heuchera micrantha 'Palace Purple'
• Sedum spectabile 'Autumn Joy'
• Waldsteinia ternata

Herbaceous (2-3L CG) @ 3-6m:
• 'Calamagrostis x acutiflora 'Karl Foerster'
• Hakonechloa macra 'Aureole'
• Liriope muscari
• Liriodendron grandiflorum
• Ophiopogon planiscapus 'Nigrescens'

Clipped hedges
Design intent: To enhance biodiversity through shelter and connectivity and contribute to green infrastructure.
Whips (80-100cm). Double staggered row, 500mm centres, rows 250mm apart either side post & wire fence.

Native hedgerow mix to create new hedgerows
Design intent: To enhance biodiversity through provision of food, shelter and connectivity and contribute to green infrastructure.
Whips (80-100cm). Double staggered row, 500mm centres, rows 250mm apart either side post & wire fence.

0m 5m 10m

Planning boundary

Site boundary

Existing tree to be retained and protected in accordance with BS 5837:2012

Asphalt road/pavement

Parking bays

Permeable concrete blocks

Resin bound gravel to match existing, adjacent

Concrete service yard

Mixed shrub and herbaceous planting

Mown amenity grass

Native tree and shrub mix

Specimen standard trees

Specimen multi-stem trees

Mixed native hedge

Clipped hedge

Metal louvered fencing to match MIRA

Training Centre

Timber fence with steel frame

Steel protective bollards

Notes:

- All materials to be as detailed or accepted equivalent.
- Refer also to architectural and engineering drawings as applicable.

P05	03.07.24	AS	LF	Minor change to surfaces following comments
P04	03.07.24	AS	LF	Planting schedule
P03	02.07.24	AS	AS	Amended in line with P05 revision from Architect
P02	24.06.24	MS	AS	Amended in line with P04 revision from Architect
P01	18.06.24	AS	AS	WIP issue
rev.	date	by	chk	notes
project	Horiba MIRA	Plot 44		
title	Landscape Proposals			
status	Planning			scale @ A1 1:250
dwg no	1238-TFC-44-XX-DR-L-1001			
references	21-092-03-SGP-22-ZZ-DR-A-131010-P02 - SGP			
	32912 - MK Survey			

terrafirma

LANDSCAPE ARCHITECTS

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