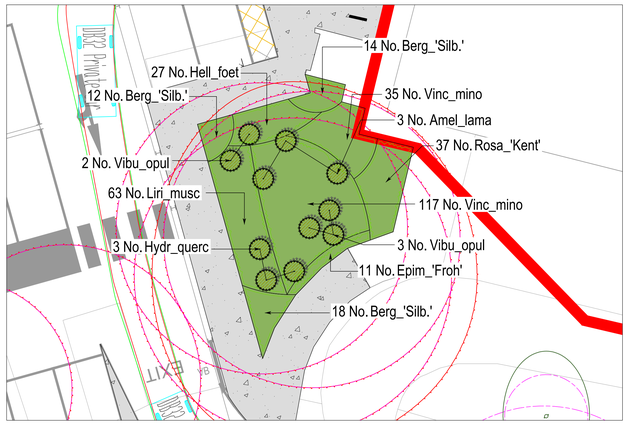
Inset plan B
Scale 1:100

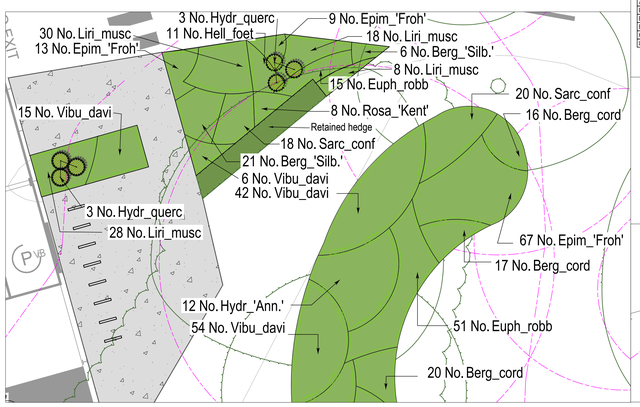


Inset plan C
Scale 1:100

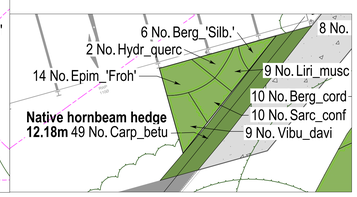
Inset plan A
Scale 1:100

Full site scale is 1:200 @ A0

Main plan
Scale 1:200



Inset plan D
Scale 1:100



Inset plan E
Scale 1:100

Planting Schedule

Native Hedges

Abbreviation	Species	Specification	Density	Qty.
Carp_betu	Carpinus betulus	BS-100cm ht. 1+1: Transplant - seed raised; BR	0.5Ctr Double Staggered at 0.25m offset	239 No.

Shrubs

Abbreviation	Species	Specification	Density	Qty.
Amel_lama	Amelanchier lamarckii	25L; CG	Counted	4 No.
Berg_cord	Bergenia cordifolia	2L; CG	5/m²	222 No.
Hydr_'Ann.'	Hydrangea arborescens 'Annabelle'	10L; CG	1/m²	28 No.
Hydr_querc	Hydrangea quercifolia	10L; CG	Counted	12 No.
Hydr_querc	Hydrangea quercifolia	10L; CG	1/m²	2 No.
Rosa_'Kent'	Rosa 'Kent'	2L; CG	5/m²	45 No.
Rosa_'Kent'	Rosa 'Kent'	2L; CG	3/m²	14 No.
Sarc_conf	Sarrococca confusa	3L; CG	5/m²	67 No.
Sarc_conf	Sarrococca confusa	3L; CG	3/m²	20 No.
Vibu_davi	Viburnum davidii	10L; CG	3/m²	115 No.
Vibu_davi	Viburnum davidii	10L; CG	5/m²	205 No.
Vibu_opul	Viburnum opulus	10L; CG	Counted	5 No.
Vinc_mino	Vinca minor	2L; CG	5/m²	336 No.

Herbaceous

Abbreviation	Species	Specification	Density	Qty.
Berg_'Silb.'	Bergenia 'Silberlicht'	2L; CG	5/m²	89 No.
Epim_'Froh'	Epimedium x perralchicum 'Frohnleiten'	2L; CG	5/m²	186 No.
Euph_robb	Euphorbia amygdaloides robbiae	2L; CG	5/m²	1811 No.
Hell_foet	Helleborus foetidus	2L; CG	5/m²	38 No.
Liri_musc	Liriope muscari	2L; CG	5/m²	198 No.

SPECIFICATION NOTES

1. General.
This plan to be read in conjunction with the following documents:
- Landscape Management Plan by The terra firma Consultancy
- Arboricultural report by Tim Moya Associates

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 or as detailed in Tree Protection Plan.
ii. All landscape works to be undertaken by competent persons, with appropriate training and equipment.
iii. All arisings to be removed from site at contractor's expense unless noted otherwise. (e.g. woodchip, gravel, topsoil).

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

4. Soil Materials Generally.
i. Purity: Soils 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, sharps, and any other foreign matter or material or substance that would render the soil or soil amelioriant 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 items 6-8 and 10 below) shall be analysed by Tim O'Hare Associates, Howbery Park, Wallingford, Oxon OX10 8BA, Tel: 01491 822663, 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)
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 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 Limit
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	%	50	90
Stones (2-50mm)	%DW	--	50
Stones (>50mm)	%DW	--	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

*IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.5

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 Limit
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 (2-50mm)	% 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

*IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.5

8. Topsoil for general landscapes (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 10. 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 Limit
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 (2-20mm)	% dry wt.	0	20
Stones (20-50mm)	% 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

*IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.

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 machine cultivation is impossible ie adjacent to kerbs, manholes and footpath junctions, around retained trees etc. Surplus plant matter, rubbish and surface stones having any dimension greater than 25 mm shall be collected and removed from the site. Topsoil and subsoil is to be stored in heaps, maximum of 2m in height, providing soil is reasonably dry and friable during stripping and handling - using a tracked excavator. To protect from wet weather once final height is achieved, an excavator should regrade the sides and top of stockpile to firm surface by tracking across it to form a smooth gradient.
iii. Final topsoil depth (allowing for settlement) to be 300mm for tree pits and general planting areas and 150mm for grass. Finished soil levels to be 25mm above/below adjoining paving or kerbs: not less than 150mm below dpc of adjoining buildings; shrub areas to be higher than adjoining grass areas by 25 mm. Topsoil to be spread in lightly compacted layers, max. 150mm depth, gently firm each layer before spreading the next.

12. Plant handling and establishment.
Plant handling shall be in accordance with 'Handling and establishing landscape plants', published by the CPSE through the JCLI. (http://www.gohelios.co.uk/cpshandling_establishment.aspx). The contractor shall comply with Part 3: Recommendations for plant handling from delivery to site to ensure successful establishment.

13. 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

Setting out to be in line with plans; contractor to check with Landscape Architect if setting out is be be approved prior to planting. Ensure that plant beds are neatly defined, and rise from adjacent paved areas as specified above.

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, note that for rootball stock the wrapping material is to be left intact and not removed. 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 too deep excess soil or fibrous root growth should be removed before planting. All trees to have "Pickbir" 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. 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. Tree grilles/guards to be installed to manufacturer's recommendations and grilles top-dressed with washed gravel
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. Clipped hedges.
All plants to be planted at density / spacing shown in plant schedule. Depth of planting trench to be min. 500mm so as to accommodate full root spread plus 200mm depth of weathered medium coarse grade sand below. Overall width to be 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. Central post and wire support to be installed between staggered rows with two line wires, and plants tied in. On planting trim hedge to a neat shape - eventual height of 1.2m.

16. Grass.
Turfing and 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 turfing and seeding. Contact herbicide as specified should be applied to all areas of weed growth 4-6 weeks before grassing 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. Turf or 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'. All grass areas to be approved landscape quality turf for general amenity areas or lawn turf for garden areas, or equivalent seed.

17. 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.

18. Mulch.
All planting beds, including beneath new trees and hedges, to be mulched with 75mm depth approved bark mulch after planting.

19. Maintenance.
Establishment maintenance for all planting for 5 years from Practical Completion to include weed control, watering and replacement of failures to original specification in the planting season following failure.
i. All plant material to receive annual pruning and hedges and groundcover to be trained and edged with minimum 2 trims per year.
ii. Check tree stakes and ties annually and after strong winds.
iii. Lawn & amenity grass areas - Mowing is to be carried out using approved machinery to maintain the vegetation length within the limits of 30 mm and 50 mm during April to August inclusive and between 50 mm and 70 mm during the rest of the year.

0m 5m north

- All dimensions in millimetres unless otherwise indicated. All levels in metres relative to Ordnance Datum and are positive (AOD) unless otherwise indicated.
- Figure dimensions only to be taken from this drawing, do not scale. Dimensions to be checked on site.
- For civil and structural matters including existing and proposed services, sub base construction and site structures (including retaining walls over 900mm height) refer to information by others.
- The original version of this drawing was produced in colour - monochrome copies should not be relied upon to accurately reflect all drawing elements.
- This drawing has been prepared for planning purposes only and should not be used for quantification, tender or construction.

Site boundary

Existing tree to be retained and protected in accordance with BS 5837:2012 and Tree Protection Plan by Tim Moya

Existing tree to be removed - refer to Tree Removals Plan by Tim Moya

Shrubs and groundcover

Specimen shrubs

Hornbeam hedge

Macadam pedestrian path

Sheffield style cycle rack

rev.	date	by	chk	notes
07	05.11.20	DP	AG	Amendments to planting following new site layout
06	04.09.20	JA	AG	Amendments to planting beds following new site layout
05	22.07.20	LC	AG	Planting bed added; Schedule updated;
04	10.07.20	DP	AG	Amendments following new site layout
03	01.06.20	DP	AG	Amendments following new site layout
02	20.06.20	DP	AG	Amendments following new site layout
01	20.05.20	DP	AG	First issue

project: Campus West MSCP

title: Landscape proposals plan

status: Planning - for comment | scale @ A0: as shown

dwg no: 2166-TFC-00-00-DR-L-1001

references: 18221_OS Existing; and Welwyn Campus_Master_2020.08.27

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