OUTLINE SPECIFICATION (FOR PLANNING)

STANDARD OF OPERATIONS
All works shall be carried out in accordance with good professional horticultural practice by qualified and experienced staff. Works shall comply with all relevant and current British Standards and codes of practices including:
Topsoil: BS 3882: 2015 Multipurpose Grade
Nursery Stock: BS 3936 1-9
Turf, BS 3969: 1998 +A1: 2013
Tree work, BS 3998: 2010
Transplanting root balled trees, BS 4043: 1989
Trees from nursery to independence, BS8545: 2014
Code of Practice for general landscape operations, BS 4428: 1989
Trees in relation to design, demolition and construction – Recommendations BS 5837: 2012
Grounds maintenance, BS 7370: 1998
Joint Council for Landscape Industries (JCLI) Committee for Plant Supply and Establishment 'Guidance on Handling and Establishing Landscape Plants' see Appendix 1, HTA National Plant Specification.

SITE PREPARATION

General Requirements for Site Clearance, Preparation and Cultivation
Old foundations, slabs and the like in areas to be planted/ seeded: break out in locations and to the extents stated by engineer.
Foreign matter: On visual inspection, areas to be planted or seeded to be free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
- Corrosive, explosive or flammable.
- Hazardous to human or animal life.
- Detrimental to healthy plant growth.
Purity: Free of pests and disease.
Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
Objectionable odour: None.
Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

Grading Subsoil for Soft Landscaped Areas
Standard: In accordance with BS 8601.
General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
Areas of thicker topsoil: Excavate locally.
Avoid compaction.
Excess subsoil: Remove.

Subsoil Surface Preparation
Standard: In accordance with BS 3882.
General: Excavate and/ or place fill to required profiles and levels.
Loosening:
- When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth:
  Light and non-cohesive subsoils: 150mm
  Stiff clay and cohesive subsoils: 300mm
  Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Wet conditions: Do not loosen subsoils.

Stones: Immediately before spreading topsoil, remove stones larger than 75mm.
Remove from site: all coarse rubble or artefacts greater than 75mm in diameter, remove to a licenced facility.

TOPSOIL

Preparation of Undisturbed Topsoil:
Standard: In accordance with BS 4428.
- Grading and cultivation: to suit cultivation operations suited to specified seeding/ planting.

Hard ground: Break up thoroughly.
Clearing: Clear of rubbish, debris, remove visible roots and large stones with a diameter greater than 75mm.
Do not compact topsoil.
Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
Fallow period (minimum): One month.
- Weed control: At appropriate times treat with a suitable translocated non-residual herbicide.

Grading of Topsoil:
Topsoil condition: Reasonably dry and workable.
Contours: Smooth and flowing, with falls for adequate drainage.
- Hollows and ridges: Not permitted.

Give notice: If required levels cannot be achieved by movement of existing soil.

Handling Topsoil:
Standard: In accordance with BS 3882.
Aggressive weeds: Give notice and obtain instructions before moving topsoil.
Plant: Select and use plant to minimize disturbance, trafficking and compaction.
Contamination: Do not mix topsoil with:
- Subsoil, stone, hardcore, rubbish or material from demolition work.
- Other grades of topsoil.

Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall.

Imported Topsoil to BS3882: Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
Standard: To BS 3882.
Classification: Multipurpose Grade
- Soil textural class to BS 3882, Figure 1: Sandy loam

Spreading Topsoil
Standard: In accordance with BS 3882.
Temporary roads/ surfacing: Remove before spreading topsoil.
Layers:
- Depth (maximum): 150 mm.
- Gently firm each layer before spreading the next.

Depth after firming and settlement: Grass – 150mm, Planting/ shrubs – 450mm, Trees 750mm (or to dimensions shown on any tree pit detail).
Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

Loose Tipping Of Topsoil:
Standard: In accordance with BS 3882.
General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

Final Cultivation of Areas to be Planted/ Seeded
Compacted topsoil: Break up to full depth.
Tilth: Loosen, aerate and break up topsoil to a fine tilth depth of 150mm suitable for blade grading.
Particle size (maximum): 10mm.
Timing: Prior to seeding and planting. Weather and ground conditions: Suitably dry.
Surface: Leave regular and even.
Undesirable material brought to the surface:
- Remove visible weeds.
- Remove roots and large stones with any dimension exceeding 25mm in turfed areas, 50mm planted areas.

Finished Levels of Topsoil after Settlement
In relation to adjoining paving, kerbs or hard surfaces: 25mm above (including bark mulch).
In relation to dpc of adjoining buildings: minimum 150mm below.
In relation to adjacent grass areas: 25mm above.
Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
Any works within the root zone of existing trees to be done by hand and to be overseen by a suitably qualified Arboriculture consultant in accordance with an approved method statement.
Adjoining soil areas: Marry in.
Thickness of turf or mulch: Included.

Weed Treatment
All areas to be planted are to be treated with Roundup a minimum of 10 days prior to planting. Planted areas are to be kept weed free with the use of herbicides. Following the use of herbicides remove dead vegetation.

PLANTING

Planting General
All plant material to be supplied in accordance with HTA National Plant Specification.
All planting to be local provenance wherever possible and from local supplier.

General Planting Notes
All plants to be healthy, hardened-off and with good fibrous root systems and to comply with the requirements of BS3936 Specification for Nursery Stock. All planting to be undertaken in accordance with BS4428 Code of Practice for General Landscape Operations.
All plants to be protected from wind exposure at all times. All plants to be soaked in water for several hours prior to planting and to be well watered in.
No planting to be carried out during poor weather conditions, i.e. when ground is frozen, waterlogged, or during droughts, hot sunshine or persistent dry or cold winds. All plant material to receive enough water to ensure healthy establishment.

Labelling and Information:
General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
- Full botanical name.
- Total number.
- Number of bundles.
- Part bundles.
- Supplier's name.
- Employer's name and project reference.
- Plant specification, in accordance with scheduled National Plant Specification categories.

Additional information: Submit on request: Country of Origin.

Times of year for planting/ seeding:
Deciduous trees and shrubs: Late November to late March.
Container grown stock - Any time of year as providing adequately watered, autumn planting desirable.
Conifers and evergreens: September/ October or April/ May.
Herbaceous plants: September/ October or March/ April.
Container grown plants: At any time if ground and weather conditions are favourable.
- Watering and weed control: Provide as necessary.

Dried bulbs, corms and tubers: September/ October.
Turfing: All year round providing adequately watered, avoid hot sunny conditions.
Grass seeding: March - September (best in Spring or Autumn)
Wildflower seeding: Spring or autumn

Soil Conditioner/ Ameliorant
As part of good horticultural practice, use peat-free composts, mulches and soil conditioners.
Soil analysis shall be completed by a reputable laboratory to determine any nutritional requirements, and any pH and organic matter adjustments necessary. Once determined, the soil shall be appropriately amended to a range suitable for the species to be established.

Locations: All new trees, plant beds and new turf and seeded areas.
• Type: Peat free sanitized and stabilzed compost or spent mushroom compost and to conform to the Numerical Product Specification for Landscape Compost.
• Reference/Description/Grading: Compost shall be produced from biodegradable materials and shall fall within the recommended ranges for the horticultural parameters outlined in the specification table, as well as fall within the limits for contaminant parameters in PAS 100.
• Coverage: Plant beds -Uniformly apply a (25mm-50mm) layer over the area to be treated, trees - incorporate into backfill 1:3 mixture of compost and topsoil, grass seeding / turf cover the entire treatment area at an average depth of 25 to 50 mm, then incorporate it to a minimum depth of 150 mm using a rotovator or other appropriate equipment
• Timing: Apply prior to cultivation.

Compost: typical specification.
Horticultural Parameters Reported as (units of measure) Recommended Range
pH pH units (1:5 water extract) 7.0 – 8.7
Electrical Conductivity µS/cm or mS/m (1:5 water extract) 2000 µS/cm or 200 mS/m max
Moisture Content % m/m of fresh weight 35 – 55
Organic Matter Content % dry weight basis >25
Particle Sizing % m/m of air-dried sample passing 99% pass through 25mm screen the selected mesh aperture size 90% pass through 10mm screen
C:N Ratio 20:1 maximum
Contaminant Parameters Various Meet BSI PAS 100* Criteria

Cultivation
Cultivate the soil of all areas prior to seeding and planting. This should include loosening, aerating and breaking up soil into particles 2-8mm to depth of 150mm.
Remove any undesirable material brought to surface to a depth of 100mm including visible weeds, roots and large stones or clay balls with any dimension exceeding 30mm.
Final Cultivation prior to seeding topsoil shall be brought to a fine tilth by approved mechanical means or by hand raking, and if necessary regrading of the surface will be carried out to conform to the prescribed finished levels.

TREES

Tree Planting
Trees to be pit planted with root access to a minimum 7m3 volume of topsoil or as otherwise indiated on the drawings. Minimum pit size to be 300mm greater than rootball in all directions. Excavate tree pits with slightly raised centre. Retain topsoil for reuse.
Dig a hole which is substantially bigger than the volume of roots to be accommodated. Break up and loosen the base and sides of the pit and shape base to falls towards the edge of pit to aid drainage. All tree pits should be constructed to be free draining - in areas of impeded drainage, additional measures may be required such as adding 150mm depth clean pea gravel to base of pit. The trees will be planted to the same depth as they were in the nursery. Back fill the pit in stages, whilst firming up the soil around the roots until the original ground level is restored.
Tree pits to be filled with 1:3 mixture of compost and topsoil. Topsoil to contain peat free organic matter and Growtab fertiliser to be incorporated into each pit.

Tree Support
All trees to be secured using short double stakes as BS8545:2014 with an adjustable rubber tie from each stake, and no spacer pad. Stake to be driven into the ground either side of the tree pit. Height of stakes: cut to no higher than approximately one third of the tree height above ground level, and at least 300mm into the ground.

Stakes to be first grade pressure impregnated round timber with chamfered tops.
Backfilling: consolidate material around stake. Tying: secure tree firmly but not rigidly to stake with ties within 25mm of top of stake.

Tree Accessories
Rootbarrier: The need for root barriers to be confirmed by engineer. Trees adjacent to hard surfacing and/or services to have growing area defined by GreenBlue Urban 'Reroot 2000' high density root barrier, or similar approved, in accordance with manufacturer's and Engineer's guidance.
Irrigation:

Trees in soft landscape (EHS and Standard trees) - All trees to receive a GreenBlue Urban Rootrain Metro irrigation pipe, or similar and approved.

SHRUBS

Semi-native mixes
To be pit planted in staggered rows, 1000mm between rows and 1000mm between plants, with rabbit protection to aid establishment. Planted in single species groups, as indicated in the Plant Schedule.

Native Hedgerow Planting
All transplants to be planted with rabbit protection (tree/ shrub shelters) and stake support. Trench to be excavated 800mm wide x 450mm deep then backfilled with topsoil mixed with compost in a 3:1 ratio.

Hedge plants to be planted in a double staggered row 450mm apart at 450mm centres (5 per linear metre). All hedgerow planting to be covered with bark mulch to 50mm depth.

Ornamental Shrub Planting
Soil analysis shall be completed by a reputable laboratory to determine any nutritional requirements necessary. Once determined, the soil shall be appropriately amended to a range suitable for the species to be established. If required, apply an organic based fertiliser to manufacturer's recommended rates.
To be pit-planted, with sufficiently large pit to accommodate root system without bending roots (minimum size of 150mm wider than roots when fully spread and 200mm deep).

Climbing Plants Used as Ground Cover:
Planting:
- Canes or other supports: Remove.
- Arrangement: Spread stems.

Fixing: Pinned to ground to ensure good contact.

MULCH

Bark Mulch Materials

General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life, all to be Forestry Stewardship Council (FSC) Certified and have fire resistant characteristics, being certified in accordance with BS4790: 1987.

Submit certification of source, analysis, suitability for purpose and absence of harmful substances.

Certified materials: Composted bark mulch, 2 years minimum service life.

Purity: Free of pests, disease, fungus and weeds. Preparation: Clear all weeds. Water soil thoroughly.

Mulch: ornamental fine grade mulch (5-35mm nominal particle size) to all shrub/ herbaceous beds and ornamental trees in grass (Melcourt Ornamental Bark Mulch or similar), coarse grade bark mulch (15-65mm nominal grade) to structure planting / woodland mix / hedgerow (Melcourt Bark Nuggets or similar approved).

Coverage: planted areas and ornamental trees to 75 mm settled depth.
Trees in grass: 500mm radius from trunk.

Finished level of mulch: 30 mm below adjacent grassed or paved area.

Mulch under existing tree (Root Protection Area)
As shown on plans and in accordance with the principles within BS 5837:2012 and "Arboriculture report 'Huddersfield Bus Station – BS 5837:2012 Arboricultural Report, Impact Assessment and Method Statement' produced by Ecus Ltd.

To compensate for root damage and stress caused by construction activities, mulch within retained tree Root Protection Area.

Materials: The materials that may be used for mulching include coarsely divided plant matter, such as wood chip, pulverized bark, or leaf mould, any of which may be combined with well-rotted animal manure.

Area: The mulched area should extend over as much of the root system as can be allowed by other site-usage requirements.

Depth: The depth of an organic mulch should not be so much as to inhibit aeration of the root system or to cause overheating of uncomposted material (50 mm to 100 mm).

Replacement: The mulch should be periodically replenished as it decomposes, so that it does not become depleted.

MAINTENANCE SCHEDULE (for Planning purposes only)

Replacements (general)
Any plants that fails to establish within a period of 5 years from the completion are to be replaced in the next planting season with others of similar size and species unless written consent is provided by the Local Authority to vary the approved details.
Any seeding that fails to establish within a period of 5 years from completion or occupation is to be re-seeded the following seeding season.

Restrictions
Thinning or tree removal should be undertaken outside nesting bird season which is March to August inclusive unless checked by a suitably experienced ecologist.

COMPONENT	MANAGEMENT OBJECTIVES	CODE	OPERATION(S)	TIME OF YEAR	FREQUENCY (PER YEAR)	YEARS 1-5	YEAR 6-30
GENERAL							
1. General maintenance requirements to all planted areas, unless otherwise stated in the detailed schedule below.	To maintain high standard planting scheme across site and ensure healthy establishment of plants.	A	Inspection	March-September	Annually.	Y1-5	✓
		B	Inspect tree stakes, ties and shelters and replace where necessary. Remove in Year 5.	February and after strong winds	Annually. In Year 5- Remove.	Y1-5	
		C	Watering - during establishment and to ensure continued thriving	As necessary during dry spells, or indicated in the detailed schedule below.	As required- daily in dry spells mainly April- September.	Y1-5	✓
		D	Refirm new tree / shrub planting	February and after strong winds	Annually and as required following inspection.	Y1-5	
		E	Removal of debris and litter	Throughout.	Each maintenance visit.	Y1-5	✓
		F	Plant replacements and reinstatement to Year 5 when instructed	November to March	Annually next following planting season.	Y1-5	
		G	Fertiliser	March	Annually.	Y1-5	
		H	Top up mulch to 60mm or 75mm depth (bark or gravel - refer to specification)	November	Annually.	Y1-5	✓
EXISTING							
2. Existing Trees	To ensure continued healthy growth of trees and safety of the site.	A	Inspect to record pests and diseases, deadwood, impaired physiological and strucural condition	Late spring/summer and following severe weather (heavy snow, strong wind)	Annually.	Y1-5	✓
		B	Tree management operations or removal as required (observing Tree Preservation Orders and Conservation Areas as well as wildlife legislation)	As necessary in winter or immediately following receipt of inspection report if urgent action is required	As required.		✓
		C	Removal of ivy on sterns as required	As required	As required	✓	✓
3. Existing Vegetation/Planting	To ensure continued healthy growth of planting.	A	Pruning to maximum height of 1m and to encourage best display of given species, taking into account of natural habit and form:				
			a) Winter flowering	Prune Spring	Annually	Y1-5	✓
			b) Shrubs flowering between March and July	Prune immediately after flowering	Annually	Y1-5	✓
			c) Shrubs flowering between July and October	Prune back to old wood in winter	Annually	Y1-5	✓
		B	Thinning	As necessary following inspection	Annually if required	Y1-5	✓
		C	Weed Control	March- September	As required	Y1-5	✓
		D	Soil aeration	April	When required	Y1-5	✓
		E	Soil level readjustment/ edging	Spring	Annually.	Y1-5	✓
TREES AND HEDGES							
4. New tree planting	To ensure that trees establish and remain in a healthy condition.	A	Establishment maintenance (weed control, fertiliser, tree guy stakes, refirming, formative pruning)	As necessary following inspection	As required.	Y1-5	✓
		B	Maintain 1m diameter weed free area, adjust soil and maintain depth of mulch	As necessary following inspection	As required.	Y1-5	✓
5. Native Foliage Hedge	To ensure the healthy establishment of new hedges. To retain attractive beech foliage during winter months. To maintain to a maximum height of 1.5m, to aid future maintenance and to permit views into	A	Establishment pruning- lightly trim	December- February	Annually in Year 1 and Year 2.	Y1-5	
		B	Trimming established hedge	August (carefully check for nesting birds prior to trimming)	Twice from Year 3.	Y1-5	✓
		C	Remove temporary hedge support fence when established	November	When no longer required.	Y1-5	
SHRUBS							
6.Ornamental planting - shrubs and herbaceous material	To provide attractive and healthy landscape year-round. To create healthy attractive plant mixes To control weed growth.	A	Pruning to encourage best display of given species, taking into account of natural habit and form:				
			a) Winter flowering	Prune Spring	Annually	Y1-5	✓
			b) Shrubs flowering between March and July	Prune immediately after flowering	Annually	Y1-5	✓
			c) Shrubs flowering between July and October	Prune back to old wood in winter	Annually	Y1-5	✓
		B	Thinning	As necessary following inspection	Annually if required	Y1-5	✓
		C	Weed Control	March- September	As required	Y1-5	✓
		D	Soil aeration	April	When required	Y1-5	✓
		E	Soil level readjustment/ edging	Spring	Annually	Y1-5	✓
		F	All herbaceous perennials and ornamental grasses that die back in winter to soil level can be cut back in autumn and winter, using the following guidance: •Using a knife, shears or secateurs, cut stems close to the 'crown' or dormant base of the plant If there is any young growth, cut to just above it •Take the opportunity to remove weeds, digging out those with thick or fleshy roots •Cut back perennials that produce leaves and flower stems from below the soil level, to soil level •Less severely cut back perennials showing new basal shoot growth (e.g. Sedum) •Any attractive dead stems or flower heads can be left until early spring to provide structral interest throughout the winter. •Separate and dispose of diseased material (showing signs of leaf-spots, mildew and rusts, for example).	Autumn / Winter	Annually	Y1-5	✓
		G	Evergreen perennials are not to be cut back, but should be tidied during spring and summer by removing dead foliage.	Spring and Summer	Annually	Y1-5	✓
		H	Thinning herbaceous perennials	Spring	As required	Y1-5	✓
		I	Maintain climber growth and train along wires where necessary.	Mach - September	As required.	Y1-5	✓
		J	Replacement of over rrature plants as required	Anticipated lifespan varies per species from 15-100 years. Replace on a like for like basis unless written permission given by client and local planning authority. Consider more resilient alternatives if species failing due to conditions/climate change.	As required		✓

Note: Key routine operations are listed in this table as required during both the defects and long term maintenance indicating when they should be undertaken throughout the year. Note that the table should be used as a guide only. It does not include every specific operation but all checking and intermittent maintenance actions should occur during the routine maintenance visits. The contractor is responsible for the appearance and condition of the landscape areas and should be prepared to undertake specific maintenance tasks outside the above periods throughout the year to satisfy management or safety objectives.

GENERAL NOTES

- Drawing for Planning purposes only
- Ecus drawing/ document references:
HBS-ECS-Z0-SL-DR-L-00001 General Arrangement
HBS-ECS-Z0-SL-DR-L-00002 Planting Plan sheet
HBS-ECS-Z0-SL-DR-L-00003 Outline Soft Specification & Maintenance Schedule
- Refer to Arboriculture Report "XXXX" for details of existing vegetation to be retained and protection measures. All works within the vicinity of the existing trees to be overseen by an appointed qualified Arboricultural consultant acting as ECoW in accordance with the Arboricultural Method Statement.
- Site Layout provided by BGH Ltd on drawing no:
HBS-BGH-Z0-XX-DR-C-0021 P01
- Building foundations to be confirmed by Engineer with reference to planting proposals and NHBC guidance (or alternative where applicable). Tree locations to be fully co-ordinated once building foundation depth are confirmed. Requirements for root barriers to be confirmed by an engineer.
- Refer to Engineer's details for level and drainage information
-Levels to be confirmed following coordination with the design team.
-Levels to be verified by the contractor with any variations to be reported to the drainage engineer
- For lighting proposals, see "HBS-KCE-XX-XX-D-E-6310" produced by Kaizen Consulting Engineers
- Setting out on site to be agreed with Landscape Architect
- Check all dimensions on site.
- Do not scale from this drawing
- Report any discrepancies and omissions to Ecus Ltd
- This drawing is Copyright
- All levels indicative only. Extrapolated from site levels. All require to be checked.
- All details subject to approval by the local authority for the discharge of relevant planning conditions.

3RD-PARTY INFORMATION
NB This drawing includes information provided by independent surveyors and / or consultants, to whom all queries shall be made. Ecus Ltd can accept no liability for its context or accuracy.

DESIGN
Unless stated otherwise, the designs shown are subject to detailed site survey, investigations, and legal definition, the CDM regulations and the comments and / or approval of the various relevant Local Authority Officers, Statutory Undertakers, Fire Officers, Engineers and the like. They are copyright, project specific and confidential. No part is to be used or copied in anyway without the express prior consent of Ecus ltd.

TREE NOTES:
Note that all tree and shrub locations are subject to coordination with services, to be undertaken by others. **The requirement for root barriers is to be confirmed by an engineer.**
Note that it is best practice that root barriers are required to extend 2m beyond the mature canopy spread of new trees to protect all structures and hard landscape elements, such as highways, services and buildings. In addition, root barriers are required for all new trees within 5m of highways - e.g. GreenBlue Urban 'Reroot 2000' or similar. Depth of tree root barrier to be confirmed by an engineer once services design has been produced at construction detail. Install to manufacturer's and engineer's guidance.

CDM - Risks / Hazards
1. Proposed locations of landscape elements shown are subject to the presence of below ground services. A detailed survey is to be undertaken and necessary method statements prepared and approved prior to undertaking any excavations / work within this area.
2. Care to be taken when working in proximity to the surrounding existing roads.
3. Care to be taken when clearing the existing site due to the potential presence of needles, litter etc.

REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT
P01	10.04.24	JS	Ecus	Preliminary

DRAWING STATUS: Preliminary

ecus
Brook Holt
Blackburn Road
Sheffield S61 2DW
Tel. (0114) 2669292
www.ecusltd.co.uk

Job
HUDDERSFIELD BUS STATION, UPPERHEAD ROW, HUDDERSFIELD

Title
Landscape Proposals - Outline Soft Specification & Maintenance Schedule

Drawn by	Date	Scale
JS	Mar 24	NTS at A1

Drg. no.	Revision
HBS-ECS-Z0-SL-DR-L-00003	P01