GBR1 CAMBOIS

Enabling Works Phase B & C

Landscape Specification

Document Ref:	GBR1-ENA2-ARC-STE-XX-SP-L-0002
Revision:	V01
Date:	03.07.26

Contacts

Eloise McGregor

Associate Technical Director

M +44 07919963308

E eloise.mcgregor@arcadis.com

Arcadis UK

16th Floor, 103 Colmore Row, Birmingham

B3 3AG

United Kingdom

GBR1 CAMBOIS

Enabling Works Phase B & C

Landscape Specification

Author Gintare Miklusyte

Checker Eloise McGregor

Approver Mark Houlston

Document Ref. GBR1-ENA2-ARC-STE-XX-SP-L-0002

Date 03.07.26

Version Control

Revision	Date	Description	Author	Checker	Approver	Changes
V01	03.07.26	**ENABLING WORKS – RIBASTAGE 4**	GM	EM	MH	First Issue

This report has been prepared for Renaissance Land Limited / QTS in accordance with the terms and conditions of the appointment between QTS and Arcadis for the purpose specified in the appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

CONTENTS

Q28 Topsoil and soil ameliorants **1**
Q30 Seeding/ turfing **6**
Q31 External planting **10**
Q40 Fencing **18**

Arcadis Consulting (UK) Limited is a private limited company registered in England & Wales (registered number 02212959). Registered Office at Arcadis House, 34 York Way, London, N1 9AB, UK. Part of the Arcadis Group of Companies along with other entities in the UK.
Copyright © 2021 Arcadis. All rights reserved. arcadis.com

Q28
Topsoil and soil ameliorants

System outline

115 Topsoil Assumptions

1. Description: FOR ALL NEW PLANTING AREAS (excluding wildflower/ wet wildflower areas)
2. Composition
   - 2.1. Topsoil: Priority shall be given to the re-use of existing soils on site following Soil Survey Resources Report and Recommendations.
     Topsoil sampling shall be undertaken in accordance with Soil Survey Resources Report or as a minimum BS 3882:2015 i.e. one composite sample (formed from multiple incremental samples) shall represent a maximum of 5,000 m³ of topsoil.
     Where existing soil is not suitable for re-use, or in the event of suitable soil shortage, imported topsoil can be used, subject to compliance with BS 3882 or soil specialists' recommendation.

     Where additional topsoil is imported- testing reports to be supplied to the Client.

     Due to site constraints and in accordance with the Site Contamination Remediation Strategy, it is anticipated that some topsoil for new planting will need to be imported.
   - 2.2. Planting topsoil depth (min): Woodland: 600mm
     Individual Trees: 1000x1000x600mm
     Shrubs: 300mm
     Wildflower grassland: refer to clause Q28.115A below.

115 A Topsoil system for grassland with wildflowers

1. Description: FOR GRASSLAND AREAS WITH WILDFLOWERS
2. Composition
   - 2.1. Topsoil: 100-150mm Low fertility topsoil. Topsoil preparation for seeding to follow seed manufacturer's recommendations (i.e. Emorsgate Seeds).
     150-200mm topsoil or subsoil below top layer. Clean material in accordance with the geoenvironmental consultant's requirements. This may consist of any grade clean topsoil or sub-soil, preferable re-used from site to soil specialist's recommendations.

135 Planting bed topsoil system

1. Description: FOR TREE AND SHRUB PLANTING
2. Composition
   - 2.1. Topsoil: 70% Topsoil meeting BS 3882 requirements or as recommended in Soil Resources Survey Report
   - 2.2. Ameliorants: 30% Sanitized and stabilized composted materials certified to PAS 100
   - 2.3. Accessories: Mycorrhizal inoculant to bare root plants

155 Mulching and top dressing system

1. Description: 75mm deep, 10-40mm grade bark mulch to proposed individual tree and shrub planting areas. To be refilled to full depth once reduced to 50mm.
2. Composition
   - 2.1. Material: Sanitized and stabilized composted materials certified to PAS 100

Products

300 Preparation materials generally

1. Purity: Free of pests and disease.
2. Foreign matter: On visual inspection, 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.
3. Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
   - 3.1. Corrosive, explosive or flammable.
   - 3.2. Hazardous to human or animal life.
   - 3.3. Detrimental to healthy plant growth.
4. Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. Objectionable odour: None.
6. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

310 Materials not permitted

1. Materials: Products containing peat

315 Imported topsoil to BS 3882

1. Description: For all new planting areas (except wildflower / wet wildflower areas)
2. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
3. Standard: To BS 3882.
4. Classification: Multipurpose
   - 4.1. Soil textural class to BS 3882, Figure 1: Sandy clay loam
5. Source: Local
   - 5.1. Product reference: Contractor's choice

360 A Sanitized and stabilized composted materials certified to PAS 100 MULCHING

1. Description: FOR TOP DRESSING/ MULCHING
2. Standard: In accordance with PAS 100
3. Source: Local, within a 50 mile radius
   - 3.1. Product reference: Contractor's choice
4. Horticultural parameters
   - 4.1. pH (1:5 water extract): 6.0-9.0
   - 4.2. Electrical conductivity (maximum, 1:5 water extract): 250 mS/m
   - 4.3. Moisture content (m/m of fresh weight): 35-55%.
   - 4.4. Organic matter content (minimum): 30%
   - 4.5. Grading (air dried samples): 99% passing 75 mm and >25% passing 10 mm screen mesh apertures
   - 4.6. Carbon:Nitrogen ratio (maximum): 20:1.
5. Texture: Friable.
6. Objectionable odour: Not permitted.
7. Compost Certification Scheme certification: Required

8. Declaration of analysis: Submit.
9. Additional analyses: Phytotoxic elements
10. Samples: Submit details of recent chemical and physical analysis before ordering

380 Mycorrhizal inoculant BARE ROOT DIP

1. Description: Soluble
2. Manufacturer: Contractor's choice

405 Inorganic fertilizers instead of or in addition to COMPOSTED MATERIAL MULCH (360 A) for continued maintenance

1. Description: FOR PLANTING BEDS and FOR TREE PITS
2. Manufacturer/ source: Green-tech or acceptable equivalent
   2.1. Product reference: Slow/ controlled release fertilizer i.e. ICL Sierrablen Flora 8 to 9 Month CRF Fertilizer 11-22-9+6%Mg
3. Standard: In accordance with The EC Fertilisers (England and Wales) Regulations 2006
4. Purpose: General purpose fertilizer
5. Availability to plants: Slow-release

Execution

610 Soil analysis

1. Soil to be analysed: Follow Soil Survey Resources Report and soil scientist recommendations
2. Samples: Topsoil sampling shall be undertaken in accordance with Soil Survey Resources Report or as a minimum BS 3882:2015 i.e. one composite sample (formed from multiple incremental samples) shall represent a maximum of 5,000 m³ of topsoil.
3. Submit
   3.1. Declaration of analysis: In accordance with BS 3882, clause 6 and Table 1.
   3.2. Report detailing soil analyst's recommendations.

620 Importing topsoil

1. Give notice: Before stripping topsoil for transfer to site.
   1.1. Notice period: 5 days

630 Documentation for imported topsoil

1. Description: FOR ALL NEW PLANTING AREAS
2. Timing: Submit at handover.
3. Contents
   3.1. Full description of all soil components.
   3.2. Record of source for all soil components.
   3.3. Record drawings showing the location and depth of all soils by type and grade.
   3.4. Declaration of analysis: in accordance with BS 3882, clause 6

640 Documentation for preparation materials

1. Timing: Submit at handover.
2. Contents
   2.1. Full description of all components.
   2.2. Record of source for all components.
   2.3. Analyst's report for each test carried out.

2.4. Supplier's declaration of compliance with BSI PD CR 13456.

650 Notice

1. Give notice before
   1.1. Setting out.
   1.2. Spreading topsoil.
   1.3. Applying herbicide.
   1.4. Applying fertilizer.
   1.5. Visiting site during maintenance period.
2. Period of notice: 2 working days

655 Mechanical tools

1. Restrictions: Do not use within 100 mm of tree and plant stems. Do not damage adjacent planting.

660 Grading subsoil for:

1. Description: ALL NEW PLANTING AREAS
2. Standard: In accordance with BS 8601.
3. General: Grade to smooth flowing contours to achieve specified finished levels of topsoil. Refer to earthworks proposals.
4. Areas of thicker topsoil: Excavate locally.
5. Avoid compaction.
6. Excess subsoil: Remove.

685 Surplus materials to be removed

1. Topsoil removal from site: Soils identified as contaminated are not suitable for reuse within new planting areas and must be treated as waste. Refer to Cundall's geotechnical and geoenvironmental design work package for soil contamination and remediation requirements
2. Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove off site to Contractor's tip.

690 Topsoil storage heaps

1. Location: Contractor to submit proposals.

   Height and Width: in accordance with 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites', by DEFRA.
2. Protection
   2.1. Do not place any other material on top of storage heaps.
   2.2. Do not allow construction plant to pass over storage heaps.
   2.3. Prevent compaction and contamination, by fencing and covering as appropriate.

700 Grading of soil

1. Topsoil condition: Reasonably dry and workable.
2. Contours: Grade to accurate configurations as shown on earthworks proposals. Otherwise smooth and flowing, with falls for adequate drainage.
   2.1. Hollows and ridges: Not permitted.
3. Give notice: If required levels cannot be achieved by movement of existing soil.

705 Handling topsoil

1. Standard: In accordance with BS 3882.
2. Aggressive weeds: Give notice and obtain instructions before moving topsoil.
3. Plant: Select and use plant to minimize disturbance, trafficking and compaction.
4. Contamination: Do not mix topsoil with:
   4.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
   4.2. Other grades of topsoil.
5. Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
6. Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall, or when the moisture content is greater than the plastic limit.

715 Loose tipping of topsoil

1. Standard: In accordance with BS 3882.
2. 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.

720 Finished levels of topsoil after settlement

1. In relation to adjoining paving, kerbs or hard surfaces: 25 mm below (including mulch where applicable)
2. In relation to adjacent grass areas: 25 mm below
3. Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
4. Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
5. Adjoining soil areas: Marry in.
6. Thickness of turf or mulch: Included.

840 Applying mycorrhizal inoculant

1. Description: TREE and SHRUB PITS
2. Depth: To maintain contact with root system

845 Applying loose mulch

1. Description: FOR INDIVIDUAL TREE PITS and SHRUB PLANTING BEDS
2. Timing: Immediately after planting
3. Preparation: Clear all weeds, Ensure that soil is thoroughly moistened, applying water where necessary
4. Coverage of mulch (minimum)
   4.1. Planting beds (depth): 75mm deep, 10-40mm grade bark mulch to for all proposed individual tree and shrub planting areas. To be refilled to full depth once reduced to 50mm.
5. Finished level of mulch: 25 mm below adjacent grassed or paved areas

Completion - Not Used

Ω End of Section

Q30
Seeding/ turfing

General information/requirements

115 Seeded and turfed areas

1. Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
2. Appearance: A closely knit, continuous ground cover of even density, height and colour.

120 Climatic conditions

1. General: Carry out the work while soil and weather conditions are suitable.

145 Watering

1. Quantity: Wet full depth of topsoil.
2. Application: Even and without displacing seed, seedlings or soil.
3. Frequency: As necessary to ensure the establishment and continued thriving of all seeding.

150 Water restrictions

1. Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out seeding/turfing until instructed. If seeding/turfing has been carried out, obtain instructions on watering.

170 Setting out

1. Boundaries: Mark clearly.
2. Delineation: In straight lines or smoothly flowing curves as shown on drawings.

Preparation

212 Seed bed cleaning before sowing

1. Description: WILDFLOWER GRASSLANDS
2. Operations: As seed supplier's recommendations.

250 Soil requirements

1. Type
   1.1. Seeded areas: Refer to Cundall's geotechnical and geoenvironmental design work package for soil contamination and remediation requirements. Refer to the Soil Resources Survey Report for reuse of existing clean topsoil or subsoil. Refer to section Q28 for topsoil and subsoil requirements for each proposed planting typology.

Seeding

310 Grass seed

1. Description: WILDFLOWER / WET WILDFLOWER GRASSLAND AREAS
2. Mixture: Refer to Enabling Works Landscape Design Package:
   Planting layouts
   GBR1-ENA2-ARC-S01-XX-DR-L-1030 (S01, S02, S03, S04, S07, S08, S12, S16);

   Planting schedule
   GBR1-ENA2-ARC-STE-XX-SH-L-0003;

Landscape Details
GBR1-ENA2-ARC-STE-XX-DD-L-5001.

3. Application rate: Refer to Planting Schedule and seed suppliers recommendation

322 Quality of wildflower seed

1. Description: FOR WILDFLOWER / WET WILDFLOWER AREAS
2. Standard: In accordance with Flora Locale's 'Code of practice for collectors, growers and suppliers of native flora'.
3. Germination testing: Submit germination test results (to ISTA International rules for seed testing)
4. Freshness of seed: Produced for the current growing season
5. Samples: Submit when requested.

330 Sowing

1. General: Establish good seed contact with the root zone.
2. Method: To suit soil type, proposed usage, location and weather conditions during and after sowing
   2.1. Distribution: 2 equal sowings at right angles to each other and diagonally to main axis

336 Wildflower sowing season

1. Wildflower seed generally: March to May or August to October

337 Wildflower sowing operation

1. Ground Preparation: Soil should be not highly fertile and should not have a problem with perennial weeds. Good preparation is essential to success so aim to control weeds and produce a good quality seed bed before sowing.
   To prepare a seed bed first remove weeds using repeated cultivation. Then plough or dig to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll, or tread, to produce a firm surface.
2. Sowing: Sowings on ground prone to winter flooding are safest either in the early autumn or in spring once the land has drained. Most plants need time to grow mature enough to withstand flooding.
   The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out, divide the seed into several parts and sow in overlapping sections. Do not incorporate or cover the seed but firm in with a roll, or by treading, to give good soil/seed contact.

Turfing - Not Used

Protecting/cutting

510 Protective fencing

1. Fencing type: As section Q40
   1.1. Height: 1.2 m
2. Erection: On completion of seeding.
3. Removal: Once all construction is complete and planting well established. TBC by client before removal.

590 Cleanliness

1. Soil and arisings: Remove from hard surfaces.
2. General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

Maintenance

610 Failures of seeding/ turfing

1. Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
2. Defective materials or workmanship: Areas that have failed to thrive.
   2.1. Exclusions: Theft or malicious damage.
3. Method of making good: Recultivation and reseeding/ returfing.
4. Timing of making good: The next suitable planting season

650 Maintaining grassed areas with perennial wildflowers

1. Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion OR the end of the rectification period.
2. Preparation: Before each cut remove all litter and debris.
3. Height and frequency of cut in first growing season
   3.1. Time of first cut: March/ April.
   Most of the sown meadow species are perennial and are slow to establish. Soon after sowing there will be a flush of annual weeds, arising from the soil seed bank. These weeds can look unsightly, but they will offer shelter to the sown seedlings, are great for bugs, and they will die before the year is out. So resist cutting the annual weeds until mid to late summer. Then cut and remove cuttings. This will reveal the young meadow, which can then be kept short by mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks.
   3.2. Height of first cut: 50-75 mm
   3.3. Frequency of subsequent cutting (minimum): Every 6-8 weeks until autumn (late summer onwards)
4. Height and frequency of cut in second growing season
   4.1. Time of cut: Single cut in October.
   In the second and subsequent years wildflowers can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. Traditional meadow management is based around a main summer hay cut in combination with autumn and possibly spring mowing.
   Meadow grassland should not be cut from spring through to July/August to give the sown species an opportunity to flower. After flowering in July or August take a ‘hay cut’ : cut back with a scythe, strimmer or tractor mower to c 50mm. Leave the ‘hay’ to dry and shed seed for 1-7 days then remove from site. Mow the re-growth through to late autumn/winter to c 50mm and again in spring if needed.
   Localized soil condition differences may require a targeted approach.
   4.2. Height of cut: 50 mm
5. Trimming: All edges.
   5.1. Arisings: Remove after seed sheding
6. Watering: To ensure healthy growth

651 Mown Grass Edge to Maintenance Access Routes

1. Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
2. Preparation: Before each cut remove all litter and debris.
3. Height and frequency of cut in first growing season
   3.1. Time of first cut: Follow clause 650

3.2. Frequency of subsequent cutting (minimum): Once grass is established, i.e. late summer, cut every 1-2 weeks until autumn to maintain short edge maintenance access function (3m wide).

3.3. Height of growth permitted (maximum): 125 mm

4. Trimming: All edges.

4.1. Arisings: Short arising may be left if cut every week. Taller arising to be removed for composting.

5. Watering: To ensure healthy growth

Ω End of Section

Q31
External planting

General information/ requirements

112 Site clearance generally

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Stones: Remove those with any dimension exceeding 50 mm.
3. Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

118 Soil conditions

1. Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
2. Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

120 Climatic conditions

1. General: Carry out the work while soil and weather conditions are suitable.
    1.1. Strong winds: Do not plant.

125 Times of year for planting

1. Deciduous trees and shrubs: Late October to late March.
2. Conifers and evergreens: September/ October or April/ May.
3. Container grown plants: At any time if ground and weather conditions are favourable.
    3.1. Watering and weed control: Provide as necessary.
4. Dried bulbs, corms and tubers: September/ October.
5. Green bulbs: After flowering in spring.

145 Watering

1. Quantity: Wet full depth of topsoil.
2. Application: Even and without damaging or displacing plants or soil.
3. Frequency: As necessary to ensure establishment and continued thriving of planting.

150 Water restrictions

1. General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.

160 Notice

1. Give notice before
    1.1. Setting out.
    1.2. Applying herbicide.
    1.3. Applying fertilizer.
    1.4. Delivery of plants/ trees.
    1.5. Planting shrubs.
    1.6. Planting trees into previously dug pits.
    1.7. Watering.

1.8. Visiting site during maintenance period.

2. Period of notice: Two weeks One week

170 Soil requirements

1. Type
   1.1. Tree pits, shrub pits and other backfilling: Plant pit backfilling soil system, as section Q28
   1.2. Mulch applied after planting: Mulching and top dressing system, as section Q28

200 Plants/ Trees – general

1. Condition: Materially undamaged, sturdy, healthy and vigorous.
2. Appearance: Of good shape and without elongated shoots.
3. Hardiness: Grown in a suitable environment and hardened off.
4. Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
5. Budded or grafted plants: Bottom worked.
6. Root system and condition: Balanced with branch system.
   6.1. Standard: The relevant parts of BS 3936
7. Species: True to name.
8. Origin/ Provenance: Local provenance where possible
9. Definition: Origin and Provenance have the meaning given in the National Plant Specification.

215 Plants/ Trees – specification criteria

1. Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification (available on CS Design Software Limited's website).

235 Container grown plants/ Trees

1. Growing medium: With adequate nutrients for plants to thrive until permanently planted.
2. Plants: Centred in containers, firmed and well watered.
3. Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
4. Hardiness: Grown in the open for at least two months before being supplied.
5. Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

245 Labelling and information

1. 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:
   1.1. Full botanical name.
   1.2. Total number.
   1.3. Number of bundles.
   1.4. Part bundles.
   1.5. Supplier's name.
   1.6. Employer's name and project reference.
   1.7. Plant specification, in accordance with scheduled National Plant Specification categories.
2. Additional information: Submit on request: Country of origin.

260 Plant/ Tree substitution

1. Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:

1.1. Price.

1.2. Difference from specified plants/ trees.

2. Approval: Obtain before making any substitution.

265 Plant handling, storage transport and planting

1. Standard: To CPSE 'Handling and establishing landscape plants'.
2. Frost: Protect plants from frost.
3. Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
4. Plant packaging: Coextruded polyethylene bags with black interior and white exterior
5. Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped
6. Planting: Upright or well balanced with best side to front.

290 Surplus material

1. Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove off site.

Plant containers - Not Used

Preparation of planting beds/ planting materials

305 Weed control

1. Description: FOR INVASIVE NON-NATIVE WEEDS
2. Locations: As determined in Geo-environmental surveys and Detailed Remediation Strategy. Principal Contractor to appoint specialist sub-contractor and ensure compliance with Invasive Species Management Plan

385 CONTAMINATED SOIL SEPARATION GEO-TEXTILE to be approved by Geo-environmental consultant

1. Description: PERMEABLE GEO-TEXTILE MEMBRANE TO IDENTIFY POTENTIAL CONTAMINATION
2. Manufacturer: Terram or acceptable equivalent

2.1. Product reference: Hi-Vis Geotextile

3. Type: Permeable, non-woven
4. Laying: To visibly separate clean and contaminated soils.

Planting shrubs/ herbaceous plants/ bulbs

405 Shrub planting pits

1. Timing: Excavate 2 days (maximum) before planting.
2. Sizes: Refer to Landscape Details. Wide enough to accommodate roots when fully spread and 75 mm deeper than root system
3. Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.

415 Antidesiccant for conifers/ Evergreens

1. Manufacturer: Contractor's choice
2. Application: Dip before delivering to site. Spray soon after planting.

2.1. Do not apply in wet or frosty weather.

2.2. Ensure full coverage of underside of foliage.

480 After planting

1. Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
3. Top dressing: Mulching and top dressing system, as section Q28
   3.1. Depth: 75 mm

486 Shrub protection (in shrub planting and woodland planting mixes)

1. Manufacturer: Tubex Shrub Shelter | Green-tech or acceptable equivalent.
   1.1. Product reference: Tubex shrub shelter including stake and ties
2. Type: Round
3. Material: UV-stabilised polypropylene. Compatible with the Tubex Collection and Recycling Programme, supporting responsible disposal and reuse. Contractor to arrange collection of tubes for recycling following establishment of most new plants.
4. Size: 900mm high, 160mm diameter or as needed to suit plant requirements
5. Colour: Green
6. Support: 1500mm long, min 32mm square, treated, single timber stake to suit tube size; stake to be securely fixed i.e. min 1/3 in the ground.
7. General: Ensure that protection methods do not impede natural movement of plants or restrict growth.

487 Tree protection

1. Manufacturer: Tubex Standard Tree Shelter | Green-tech or acceptable equivalent
   1.1. Product reference: Tubex standard tree shelter
2. Type: Round
3. Material: UV-stabilised polypropylene. Compatible with the Tubex Collection and Recycling Programme, supporting responsible disposal and reuse. Contractor to arrange collection of tubes for recycling following establishment of most new plants.
4. Size: 110mm diameter, 1800mm high, (or as needed to suit plant requirements)
5. Colour: Green
6. Support: 1800mm 75mm diameter double timber stakes with cross bar
7. General: Ensure that protection methods do not impede natural movement of plants or restrict growth.

Planting trees

500 Tree planting

1. Standard: Prepare trees and transplant in accordance with BS 8545

502 Antidesiccant for conifers/ Evergreens

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Application: Dip or thoroughly spray before delivering to site. Spray again soon after planting.
   2.1. Do not apply in wet or frosty weather.
   2.2. Ensure full coverage of underside of foliage.

505 Tree pits

1. Sizes: Refer to Landscape Typical Details Sheet for information.
2. Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. Excavated material: Remove arisings
4. Pit bottoms: Excavate with slightly raised centre: Break up base to a depth of 200 mm.
   4.1. Treatment: Add hi-vis separation membrane in compliance with site remediation strategy
5. Pit sides: Scarify.
6. Backfilling material: As section Q28

510 Tree root barriers

1. Locations: Where needed to protect shallow underground utilities from tree root damage (up to 1m depth)
2. Manufacturer: Contractor's choice
   2.1. Product reference: Rollrib by Green-Tech or acceptable equivalent
3. Barrier depth: Barrier should extend vertically at least 250mm deeper than the specific item to be protected- exact depth to be confirmed by project engineer in each situation
4. Top of root barrier in relation to finished topsoil level: 50 mm below surface level i.e. beow mulch
5. Installation: With sides vertical. Remove all sharp objects adjacent to barrier.

535 Tree stakes

1. Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
   1.1. Preservative treatment: Contractor's choice To provide a 20 year service life
2. Stake size (minimum): 75 mm diameter
3. Stake length (minimum): 1800 mm

550 Double staking (Individual Trees and Tree species in Woodland Planting Mix)

1. Description: TREES WITH ROOT-BALL
2. Staking
   2.1. Position: Either side of tree position and perpendicular to wind direction.
   2.2. Driving: Vertically at least 300 mm into bottom of pit before planting.
   2.3. Backfilling: Consolidate material around stake.
   2.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
3. Height of stakes: 1.8m length 75mm diameter round stakes, may be cut off just below lowest branch of tree
4. Horizontal bracing: Timber cross bar, 75 mm x 38 mm x 900 mm
   4.1. Fixing: Firmly fix using nails on windward side of tree and as close as possible to the stem without making contact with the bark. Position cross bar horizontally and 25 mm from top of stakes
5. Ties: Adjustable, Submit proposals
6. Tying: Secure tree firmly but not rigidly to cross bar. Prevent tree from touching cross bar using spacer blocks or cushions
7. Nails for fixing ties, belts and webbing: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
8. Nails for fixing cross bars: Contractor's choice

570 Tree spats/ Mulch mats for all Woodland Planting)

1. Manufacturer: Green-Rech or acceptable equivalent
   1.1. Product reference: Ecomatt Bio Wed Control Mulch Mat
   1.2. Material: jute fibres and hessian backing
   1.3. Size: 1x1m
2. Watering: Water soil thoroughly before laying.
3. Laying: In close contact with the soil surface.
   3.1. Fitting: Neatly and closely around tree stem, where necessary cutting a slit or flap.
   3.2. Fixing: 5no pegs per mat. Installation to manufacturer's recommendation

Woodland/ matrix/ buffer zone planting

605 Existing vegetation/ Weed clearance

1. Surface vegetation clearance: in all proposed planting areas
2. Arisings: Remove.

617 Removing trees and scrub

1. Identification: Clearly mark trees and scrub to be removed.
2. Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
3. Arisings: Remove.
4. Tree stumps: Remove mechanically to a minimum depth of 300 mm below ground level

635 Notch planting

1. Notching: Make a vertical ‘I’, ‘L’, ‘T’ or ‘H’ notch.
   1.1. Depth: To accommodate full depth of roots.
2. Planting: Close notch with root collar at ground level and firm the soil.

680 Setting out

1. Planting density: As Planting Schedule
2. Layout: Random groups of no less than 3 or more than 7 of the same species, ensuring that no three plants are aligned in any one direction.

Protecting/ maintaining/ making good defects

710 Maintenance

1. Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
2. Frequency of maintenance visits: Upon completion of planting operations, submit a detailed Landscape Maintenance Schedule for Client/Contract Administrator review and approval. The Schedule shall define maintenance operations, methods and frequencies required to ensure successful establishment and sustained, healthy growth of all installed planting. Maintenance shall be carried out in accordance with the approved Schedule from completion of planting until Practical Completion and throughout the Rectification Period.

720 Failures of planting

1. Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
   1.1. Exclusions: Theft or malicious damage after completion.

1.2. Rectification: Replace with equivalent plants/ trees/ shrubs.

2. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. Timing of making good: In accordance with an agreed defects rectification programme

730 Protective fencing

1. Fencing type: General pattern wire mesh fencing, as section Q40
2. Erection: On completion of planting.
3. Removal: Contractor to confirm fence removal dates with the Client prior to Practical Completion.

740 Cleanliness

1. Soil and arisings: Remove from hard surfaces and grassed areas.
2. General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

750 Planting maintenance generally

1. Weed control: Maintain weed free area around each tree and shrub.
   1.1. Diameter (minimum): The larger of 1 m or the surface of original planting pit.
   1.2. Keep planting beds clear of weeds: By maintaining full thickness of mulch
2. Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
3. Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
5. Trees: Spray crown when in leaf during warm weather.
   5.1. Timing: After dusk.
6. Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
   6.1. Broken or missing items: Replace.
   6.2. Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.
   6.3. Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.
   6.4. Ties: Adjust to accommodate growth and prevent constriction or abrasion.
   6.5. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
   6.6. Frequency of checks: At each scheduled maintenance visit
7. Watering: As required for healthy establishment, depending on weather conditions

760 Planting maintenance – pruning

1. General: Prune to promote healthy growth and natural shape.
   1.1. Dead, dying, diseased wood and suckers: Remove.
   1.2. Timing: In accordance with the agreed Maintenance Schedule Q31.710
   1.3. Trees: Favour a single central leading shoot.
2. Arisings: Remove.

770 Woodland planting maintenance

1. Watering: Only as necessary to prevent plants wilting.
2. Loose plants: Refirm surrounding soil, without compacting.
3. Weed control: Cut down and remove weeds prior to setting seed in a 1 m diameter area around each tree.

4. Vegetation except trees and coppice shoots to be retained: Cut within the plantation area.
   4.1. Height (maximum): 75 mm
   4.2. Arisings: Leave between rows.
5. Mechanical, chemical or mulching methods of vegetation control: Submit proposals.
6. Ditches and drains: Keep clear.
7. Watering: When instructed and to ensure successful establishment of proposed planting/ seeding.

790 Final mulching

1. Timing: At end of the maintenance period.
2. Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
3. Planting beds: Remulch.
4. Depth (minimum): 75 mm
5. Trees: Remulch.
6. Depth (minimum): 75 mm

Ω End of Section

Q40
Fencing

Fencing systems

150 General pattern strained wire fencing, 1.2m high

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Standard: To BS 1722-2, type submit proposal.
3. Wire: High tensile steel wire, 3.15 mm diameter
4. Posts and struts: End and corner posts: 150mm round timber, 1.2m above the ground
   4.1. Treatment: Submit proposals. To provide a 20-year service life
5. Maximum centres of posts
   5.1. Straining posts: 150m straight runs and at all ends, corners, changes of direction and acute variations in level.
   100mm diameter intermediate posts
   5.2. Intermediate posts: 3m.
6. Method of setting posts and struts
   6.1. Straining posts: 450 mm square or 300 mm diameter holes, 600 mm deep filled to two thirds depth with concrete
   6.2. Struts: 300 x 450 mm holes, 450 mm deep filled to not less than half the depth with concrete
   6.3. Intermediate posts: Driven to a minimum depth of 600 mm
7. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-2.

Gates, posts and stiles - Not Used

Accessories - Not Used

Execution

710 Installation generally

1. Set out and erect
   1.1. Alignment: Straight lines or smoothly flowing curves.
   1.2. Tops of posts: Following profile of the ground.
   1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
   1.4. Fixings: All components securely fixed.

715 Competence

1. Operatives: Contractors must employ competent operatives.
2. Qualifications: Submit certification of training.

720 Setting posts in concrete

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.

4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

730 Exposed concrete foundations

1. Filling: Compact until air bubbles cease to appear on the upper surface.
2. Finishing: Weathered to shed water and trowelled smooth.

740 Setting posts in earth

1. Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
2. Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

750 Driven posts

1. Damage to heads: Minimize.
    1.1. Repair: Neatly finish post tops after installation.

770 Site cutting of wood

1. General: Kept to a minimum.
2. Below or near ground level: Cutting prohibited.
3. Treatment of surfaces exposed by minor cutting and drilling: Two flood coats of solution recommended by the post supplier

790 Site painting/ treatment

1. Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

Completion

910 Cleaning

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.

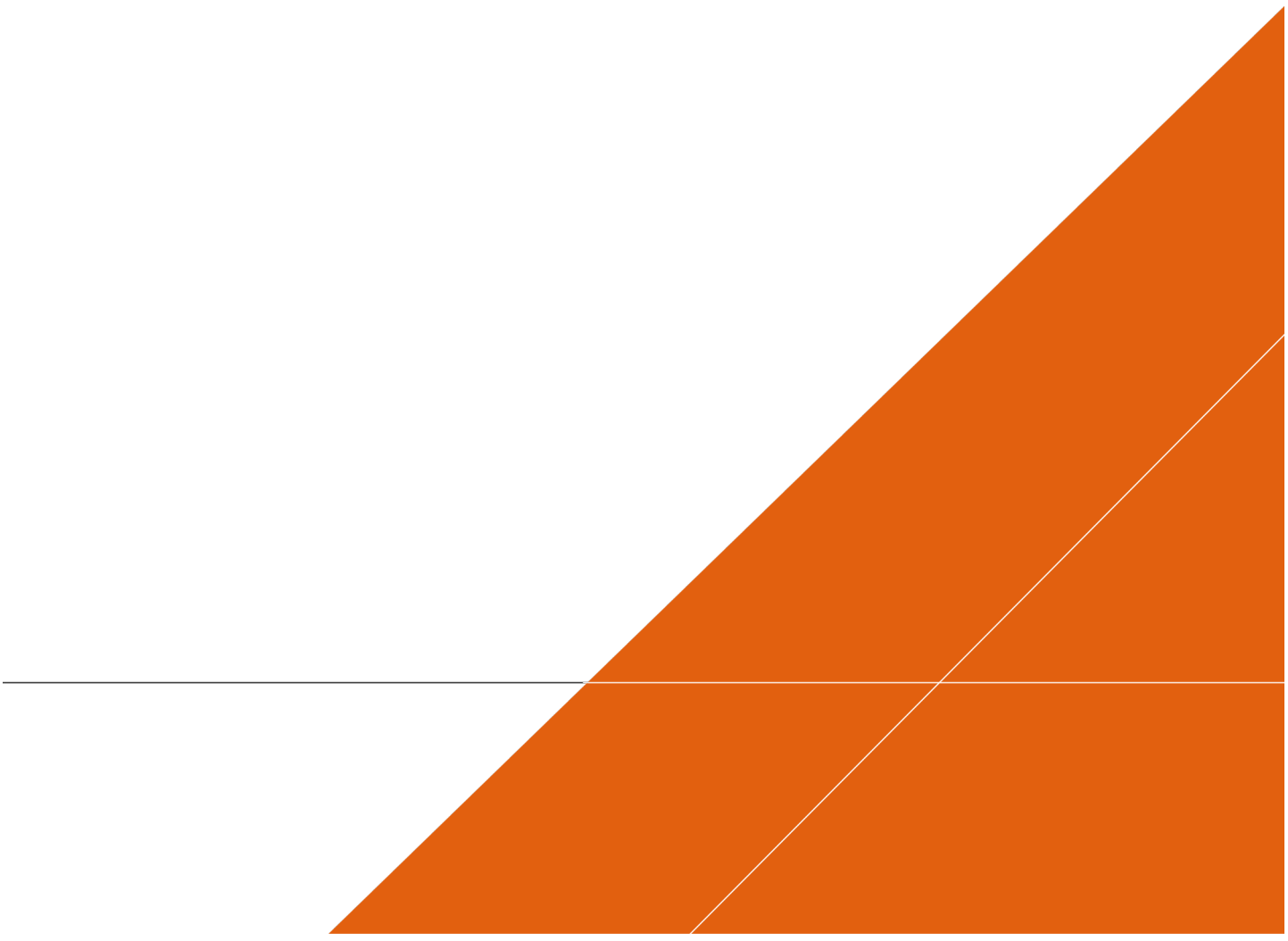
920 Fixings

1. All components: Tighten.
    1.1. Timing: Before handover.

Ω End of Section

ARCADIS

Design & Consultancy
for natural and
built assets



Arcadis UK

80 Fenchurch Street

EC3M 4BY

London,

T: +44 (0) 20 7812 2000

arcadis.com