

Bradley-Hole Schoenaich Landscape Architects

Private client

Project Conway

Landscape specification

Rev A

For planning

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D20

Excavating and filling

Generally/the site

109 Preliminaries

1. This specification to be read with Landscape Specification Preliminaries and with all Preliminaries and specifications from Architects, Engineers and other consultants.
2. This section D20 of the Landscape Specification particularly deals with clauses which are specific to landscape operations. It does not replace section D20 prepared by others and is to be read in conjunction with these.

110 Site investigation

1. **Report:** See Engineers report

145 Variations in ground water level

1. **Give notice:** If levels encountered are significantly different from levels in the site investigation report or previously measured.

150 Existing services, features and structures

1. **Services:** See section A12 for locations.
2. **Site features to be retained:** See section A12 for details.
3. **Structures:** See section A34 for details of protection.

Clearance/excavating

164 Tree roots

1. **Protected area:** Do not cut roots within precautionary protection area of any existing trees and hedges within the site or neighbouring properties. Refer to BS 5837:2012
 - 1.1. **Size of area:** Refer to Arboriculturist tree protection plans
2. **Excavation in protected area**
 - 2.1. **Method:** Any cultivation operations within the crown spread of a retained tree shall be carried out by hand to BS 5837: 2012 taking care not to damage existing roots and so that there is no change to final finished levels.
 - 2.2. **Backfill** as soon as possible or temporarily line with polyethylene sheet to reduce evaporation.
3. **Outside protected area:** Give notice of roots exceeding 25 mm and do not cut without approval.
4. **Cutting**
 - 4.1. Make clean smooth cuts with no ragged edges.
 - 4.2. Pare cut surfaces smooth with a sharp knife.
5. **Backfill:** Approved topsoil to BS 3882:2015

165 No dig zone

1. Refer to Arboriculturist tree protection plans
2. Refer to BS 5837:2012

168 Site clearance

1. **Timing:** Before topsoil stripping, if any.

2. **General:** Clear site of rubbish, debris and vegetation. Do not compact topsoil.
3. **Treatment:** Existing features
 - During clearance operations the contractor shall take all reasonable precautions to prevent damage to existing buildings, roads, streets and pedestrian pathways, whether on-site or off-site, public or private, arising out of or in the course of or by reason of the execution of the clearance works.
 - Any damage to buildings, roads, streets or pedestrian pathways shall be notified immediately to the SM and shall be made good at the cost of the contractor.

Existing services

- Prior to carrying out any clearance operations, the Contractor shall check for above and below ground services in the vicinity.
- During progress of clearance operations, the contractor shall not interfere with any existing services such as gas, water, electricity, telephones, buried cables or sewers, drains, etc. Inform SM if any services may be affected by operations, and obtain instructions before proceeding.
- Any damage to services shall be notified immediately to the SM. Following instructions from the SM, the contractor shall, without delay, make good any damage due to any cause within his control at his own expense or pay any costs and charges in connection therewith.

170 Removing small trees, shrubs, hedges and roots

1. **Identification:** Clearly mark trees to be removed and seek LA approval before felling
2. **Roots:** Grub up and dispose of without undue disturbance of soil and adjacent areas.
3. **Safety:** Comply with Forest Industry Safety Accord safety leaflets.

175 Felling large trees

1. **Definition:** Girth over 600 mm.
2. **Identification:** Clearly mark trees to be removed as per Arboriculturalist plan and seek LA approval before felling
3. **Safety:** Comply with Forest Industry Safety Accord safety leaflets.
4. **Felling:** As close to the ground as possible.
5. **Stumps:** Remove mechanically to a minimum depth of 300 mm below ground level
6. **Work near retained trees:** Take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap and in confined spaces generally.

180 Chipping and shredding

1. **General:** Shall be permitted on site.

190 Excavation operations by others

1. Where excavation operations have been carried out by others, they shall be carried out to the following requirements with respect to subsoil excavation depths and operations near retained trees and shrubs. In the event that the Contractor identifies that any excavation operations carried out by others, which do not meet this specification, they shall inform the CA and LA immediately.

200 Contaminated subsoil removal

1. Refer to Engineers' details and specification. Do not excavate beneath the canopy spread of retained trees.

220 Stripping topsoil

1. **General:** Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, buildings, pavings/ roads and other areas shown on drawings.
2. **Depth**
 - 2.1. Remove to an average depth of 300 mm - refer to Soil Resource Survey by Tim O'Hare Associates LLP. All topsoil should be retained and reused where possible.
 - 2.2. Give notice where the depth of topsoil is difficult to determine.
3. **Handling:** Handle topsoil for reuse or sale in accordance with clause 225.
4. **Around trees:** Do not remove topsoil from below the spread of trees to be retained.
5. **Site storage:** Keep separate from excavated sub-soil

221 Treating topsoil

1. **Treatment:** Apply a suitable translocated nonresidual herbicide.
2. **Timing:** Not less than two weeks before excavating topsoil.

225 Handling topsoil

1. **Standard:** To BS 3882:2015 and refer to Soil Management Plan
2. **Aggressive weeds**
 - 2.1. **Species:** Notify the presence of species included in the Weeds Act, section 2, or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
 - 2.2. **Give notice:** Obtain instructions before moving topsoil.
3. **Contamination:** Do not mix topsoil with:
 - 3.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
 - 3.2. Other soil or material containing aggressive weeds, sharps, plastics and non soil forming materials and notifiable animal or plant diseases.
 - 3.3. Oil, fuel, cement or other substances harmful to plant growth.
 - 3.4. Other classifications of topsoil.
4. **Multiple handling:** Keep to a minimum. Use topsoil immediately after stripping. Follow guidance in Soil Management Plan
5. **Wet conditions::** Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit as defined by BS 3882:2015
6. **NewEarthmoving equipment::** Select and use to minimise disturbance, trafficking and compaction.

310 Unstable ground

1. **Generally:** Ensure that the excavation remains stable at all times.
2. **Give notice:** Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
3. **Take action:** If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

330 Unrecorded features

1. **Give notice:** If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

370 Underground structures in landscape areas

1. **Generally:** Remove walls, roads, foundations, disused services, drains, manholes and the like to minimum depth.
2. **Minimum depth below finished levels**

- 2.1. Grass, ground cover and perennial planting: 500 mm
- 2.2. Shrub planting: 750 mm.
- 2.3. Within 2 m of tree planting: 1000 mm.

Disposal of materials

410 Excavated topsoil storage

1. Storage: Stockpile in temporary storage heaps to be agreed on site .

420 Topsoil storage heaps

1. Location: To be confirmed on site.
2. Standard: To BS 3882.
3. Height (maximum): 1.5m
4. Protection
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. Prevent compaction and contamination.

421 Topsoil storage heap treatment

1. Treatment: Apply a suitable herbicide at appropriate times to prevent seeding of weeds. Agree with soft landscape contractor prior to doing so, to avoid disrupting planting programme

430 Surplus subsoil storage/removal

1. Refer to Soil Management Plan

440 Arisings from site clearance works

1. All arisings from vegetation clearance works to be removed from site.
- 2.
- 3.

441 Surplus subsoil

1. Excavated material: See below
2. Retained material: Subject to testing subsoil should be reused on site for fill. Follow guidance in Soil Management Plan
 - 2.1. Locations: To be agreed on site.
 - 2.2. Protected areas: Do not raise soil level within root spread of trees that are to be retained.
3. Remaining material: Remove from site.

450 Water

1. Generally: Keep all excavations free from water until:
 - 1.1. Formations are covered.
 - 1.2. Below ground constructions are completed.
 - 1.3. Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
2. Drainage: Form surfaces of excavations and fill to provide adequate falls.
3. Removal of water: Provide temporary drains, sumps and pumping as necessary. Do not pollute watercourses with silt laden water.

454 Ground water level, springs or running water

1. **Give notice:** If it is considered that the excavations are below the water table.
2. **Springs/ Running water:** Give notice immediately if encountered.

Filling

500 Proposed fill materials

1. **Details:** Submit full details of proposed fill materials to demonstrate compliance with specification, including:
 - 1.1. Type and source of imported fill.
 - 1.2. Proposals for processing and reuse of material excavated on site.
 - 1.3. Test reports as required elsewhere.
2. **Timing:** Prior to ordering.

510 Hazardous, aggressive or unstable materials

1. **General:** Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
 - 1.1. Frozen or containing ice.
 - 1.2. Organic.
 - 1.3. Contaminated or noxious.
 - 1.4. Susceptible to spontaneous combustion.
 - 1.5. Likely to erode or decay and cause voids.
 - 1.6. With excessive moisture content, slurry, mud or from marshes or bogs.
 - 1.7. Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
 - 1.8. Unacceptable, class U2 as defined in the 'Specification for highway works', clause 601.

525 Testing of suitability of fill materials before start of filling

1. **General::** For filling in area other than soft landscape areas, see specifications by Architects, Engineers and other consultants. Obtain further instructions where required.
2. **Laboratory:** UKAS accredited laboratory
3. **Submit report to:** Civil Engineer (two copies) Structural engineer (two copies)
 - 3.1. **Timing:** 21 days before starting filling
4. **Samples:** Deliver to laboratory as required.
5. **Tests:** As directed

526 Testing of suitability of subsoil before start of filling

1. The following requirements apply to subsoil excavated from site and/or imported subsoil (for topsoil filling, refer to Q28 in this specification).
2. In the event that additional subsoil is to be imported, Imported subsoil material shall be good quality, dry, free draining and free from ashes, hardcore, concrete, contaminated liquids etc. and not containing any heavy clays.

530 Placing fill

1. **Surfaces of excavations and areas to be filled:** Free from loose soil, topsoil, organic material, rubbish and standing water.
2. **Freezing conditions:** Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.

3. **Adjacent structures, membranes and buried services**
 - 3.1. Do not overload, destabilise or damage.
 - 3.2. Submit proposals for temporary support necessary to ensure stability during filling.
 - 3.3. Allow 14 days (minimum) before backfilling against in situ concrete structures.
4. **Layers:** Place so that only one type of material occurs in each layer.
5. **Earthmoving equipment:** Vary route to avoid rutting.

535 Compaction generally

1. **General:** Compact fill not specified to be left loose as soon as possible after placing.
2. **After compaction:** Surface of each layer must be well closed, showing no movement under compaction plant, and without cracks, holes, ridges, loose material and the like.
3. **Defective areas:** Remove and recompact to full thickness of layer using new material.

536 De-compaction of subsoil areas prior to topsoil application Type A

1. **General:** Any compaction of subsoil by site traffic should be sufficiently de-compacted prior to topsoil application.

610 Compacted filling for landscape areas

1. **Fill:** Material capable of compaction by light earthmoving plant.
2. **Filling:** Layers not more than 200 mm thick. Lightly compact each layer to produce a stable soil structure.

611 Imported loamy sand subsoil

1. In the event that existing site subsoil is found to be unsuitable for the proposed planting scheme (because it has been damaged and/or contaminated by construction work or because of excessive clay content and poor draining qualities), additional subsoil is to be imported.
2. Imported subsoil material shall be good quality, dry, free draining and free from ashes, hardcore, concrete, contaminated liquids, etc. and not containing any heavy clays.
3. Any subsoil that does not meet this specification shall be rejected. Submit sample and test certificate for approval.
4. **Screen Size:** 5mm
Organic Matter: 0.5% (LOI)
Sand Content: 93%
Permeability: 66 mm/hr
5. **Supplier:**

BOURNE AMENITY LIMITED
The Wharf Rye Road
Newenden, Kent
TN18 5QG

info@bourneamenity.co.uk
01797 252 299

612 Subsoil placing and protection

1. Where subsoil spreading is required spread in layers of no more than 200mm depth, firming lightly between layers in order to achieve specified topsoil depths and finished levels.
2. Additional decompaction measures may be required if further compaction or damage to subsoil occurs prior to handover to Soft landscape Contractor.
3. On completion of the above operations, protect subsoil areas as necessary from vehicular pedestrian or other traffic to prevent further soil damage and compaction.

618 Type 2 unbound mixture

1. Fill: To 'Specification for highway works', clauses 801 and 804:
 - 1.1. Crushed rock (other than argillaceous rock).
 - 1.2. Coarse crushed concrete aggregate.
 - 1.3. Recycled aggregates.
 - 1.4. Crushed non-expansive slag to clause 801.2.
 - 1.5. Well-burned non-plastic colliery shale.
 - 1.6. Natural gravel.
 - 1.7. Natural sand.
2. Amendments to requirements in the 'Specification for highway works':
3. Filling: To 'Specification for highway works', clause 802.

621 Type 3 unbound mixture

1. Fill: To 'Specification for highway works', clauses 801 and 805:
 - 1.1. Crushed rock (other than argillaceous rock) with well-defined edges.
 - 1.2. Coarse crushed concrete aggregate.
 - 1.3. Crushed non-expansive slag.
2. Amendments to requirements in the 'Specification for highway works': None
3. Filling: To 'Specification for highway works', clause 802.

Bioremediation - Not Used

'specification for highway works: earthworks specification' appendices - Not Used

Ω End of Section

E10

Mixing/casting/curing in situ concrete

Concrete

101 Specification

1. Concrete generally: To BS 8500-2. Refer to Structural Engineers specification
2. Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

105 Designated concrete

1. Description: Foundations for bridges
2. Description: Formation for reflective pool - allow for pipework and drainage (design by others)
3. Description: Concrete walls to moat, reflective pool and rill, concrete floor to reflective pool and rill
4. Description: Foundations for metal edging, drainage channels (design by others)
5. Description: Foundations for fencing and gates
6. Description: Foundations for benches
7. Description: Step foundations (design by others)
8. Specification of concrete: All concrete to Engineers spec

Materials, batching and mixing - Not Used

Project testing/ certification - Not Used

Placing/ compacting/ curing and protecting

660 Inspection of surfaces

1. Notice: Give notice to allow inspections of reinforcement and surfaces before each pour of concrete.
 - 1.1. Period of notice: Obtain instructions.

Ω End of Section

L37

External stair, ramps, handrail and balustrades systems

General - Not Used

System performance - Not Used

Products

310 Textured concrete steps

1. Description: P06 at pedestrian footpath to MUGA
2. Manufacturer: [Marshalls plc](#)
3. Colour:
4. Finish
 - 4.1. Treads: Textured.
 - 4.2. Risers: Textured.
5. NominalSize:
6. Tolerances on plan dimension and thickness (nominal): Length ± 2 mm, width ± 2 mm, thickness ± 3 mm.
7. PhysicalPropertiesWeatheringResistance: ≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m² (freeze thaw durability).
8. PhysicalPropertiesSlipResistance: > 45 .
9. Bending strength: Characteristic bending strength of 4.0 MPa with no individual result less than 3.2 MPa (400 x 150 x 1000 mm).

Fabrication - Not Used

Execution

620 Concrete foundations generally

1. Standard: To BS 8500-2.
2. Concrete: Designated not less than GEN 1 or standard prescribed not less than ST2.
3. Admixtures: Do not use.
4. Foundation holes: Neat vertical sides.
5. Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes. To Engineers spec

650 Installation generally

1. Fasteners: To section Z20.
2. Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. Temporary support: Do not use finished work as temporary support or strutting for other work.
4. Applied finishes: Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as finish manufacturer's recommendation before application.

662 Adverse weather

1. General: Do not use frozen materials and do not lay on frozen surfaces.
2. Working limits: Do not lay blocks/ dressings:

- 2.1. **Cement gauged mortars:** When the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and work is thoroughly protected).
- 2.2. **Hydraulic lime:sand mortars:** When the air temperature is at or below 5°C and falling or below 3°C and rising.
3. **Temperature of the work:** Maintain above freezing until mortar has fully set.
4. **Newly erected work:** Protect from precipitation; Prevent rapid drying in hot conditions.
5. **Remedial work:** Rake out and replace mortar damaged by frost.
 - 5.1. **Damaged work:** Rebuild.

Completion

910 Inspection

1. **Period of notice (minimum):** 3 working days.

Ω End of Section

Q10

Kerbs/ edgings/ channels/ paving accessories

Types of kerbs/edgings and channels

109 Preliminaries

1. This specification to be read with Landscape Specification Preliminaries and with all Preliminaries and specifications from Architects, Engineers and other consultants.
2. This section Q10 of the Landscape Specification particularly deals with clauses which are specific to landscape operations. It does not replace section Q10 prepared by others and is to be read in conjunction with these.

120 E01 Granite coping / cladding

1. **Description:** To moat and reflective pool - refer to drawing PC-BHS-ZZ-XX-DR-L-0101 and detail PC-BHS-ZZ-XX-DR-L-0602
2. **Supplier:** [Hardscape Products Ltd](#)
3. **Contact details**
 - 3.1. **Address:** Eagley House
Deakins Business Park
Egerton
Bolton
Lancashire
United Kingdom
BL7 9RP
 - 3.2. **Telephone:** +44 (0)1204 565500
 - 3.3. **Web:** www.hardscape.co.uk
 - 3.4. **Email:** enq@hardscape.co.uk
4. **Product reference:** Granite coping / cladding
5. **Stone type:** Granite - Fernando Roriz
6. **Size (width x height):** Top coping: 500mm x 50mm x 1200mm

Reflective pool inner side cladding: 550mm x 50mm x 1200mm
7. **Size (width x height):** Radius pieces top coping: 500mm x 50mm x 600mm-1200mm

Radius pieces reflective pool inner side cladding: 550mm x 50mm x 600mm-1200mm
8. **Freeze/ Thaw resistance:**
9. **Special shapes:**
10. **Finish:** Sawn on all sides with bush hammered top and front surface
11. **Arrises:** Chamfer
12. **Bedding:** To Engineers spec
13. **Joints generally:** Refer to water feature consultant's specification
14. **Sealant movement joints:** Refer to water feature consultant's specification

121 W04 Granite rill top coping, wall cladding and floor tiling

1. **Description:** To rill south of main house - refer to drawing PC-BHS-ZZ-XX-DR-L-0101 and detail PC-BHS-ZZ-XX-DR-L-0602
2. **Supplier:** [Hardscape Products Ltd](#)
3. **Contact details**

- 3.1. Address: Eagley House
Deakins Business Park
Egerton
Bolton
Lancashire
United Kingdom
BL7 9RP
- 3.2. Telephone: [+44 \(0\)1204 565500](tel:+441204565500)
- 3.3. Web: www.hardscape.co.uk
- 3.4. Email: enq@hardscape.co.uk
4. Product reference: Granite walls cladding and floor
5. Stone type: Granite - Fernando Roriz
6. Size (width x height): Top coping: 1500mm x 300mm x 75mm

Side walls cladding: 395mm x 20mm x 500mm

Floor: 500mm x 20mm x 500mm
(overall width 2040mm)
7. Freeze/ Thaw resistance:
8. Special shapes:
9. Finish: Sawn on all sides with bush hammered top and front surfaces
10. Arrises: Top coping - chamfer
11. Concrete walls and foundation: To Engineers spec
12. Joints generally: Refer to water feature consultant's specification
13. Sealant movement joints: Refer to water feature consultant's specification
14. Accessories: Allow for pipework, drainage and pump - refer to water feature consultant's specification

122 W04 Granite rill bridge

1. Description: To rill south of main house - refer to drawing PC-BHS-ZZ-XX-DR-L-0101 and detail PC-BHS-ZZ-XX-DR-L-0602
2. Supplier: [Hardscape Products Ltd](#)
3. Contact details
 - 3.1. Address: Eagley House
Deakins Business Park
Egerton
Bolton
Lancashire
United Kingdom
BL7 9RP
 - 3.2. Telephone: [+44 \(0\)1204 565500](tel:+441204565500)
 - 3.3. Web: www.hardscape.co.uk
 - 3.4. Email: enq@hardscape.co.uk
4. Product reference: Granite bridge
5. Stone type: Granite - Fernando Roriz
6. Size (width x height): Top slab: 900mm x 75mm x 1500mm
Overall width 1800mm
7. Freeze/ Thaw resistance:
8. Special shapes:
9. Finish: Sawn on all sides with flamed top surface

10. Concrete walls and foundation: Supporting concrete block to Engineers specification
11. Joints generally: Refer to water feature consultant's specification
12. Sealant movement joints: Refer to water feature consultant's specification

123 E04 Portland stone edging

1. Description: To lawn and gravel area at terrace and garden area south of main house - refer to drawing PC-BHS-ZZ-XX-DR-L-0101 and detail PC-BHS-ZZ-XX-DR-L-0603
2. Supplier: Albion Stone plc

Robert Denholm House,
Bletchingley Road,
Nutfield, Surrey,
RH1 4HW
United Kingdom

Telephone: +44 (0) [01737 771772](tel:01737771772)
Web: <https://www.albionstone.com>
Email: enquiries@albionstone.com

3. Stone type: Silver Grey Granite
4. Size (width x height): 300mm x 150mm x 1200mm
5. Freeze/ Thaw resistance:
6. Special shapes:
7. Finish: Sawn with riven top only
8. Arrises: None
9. Bedding: To Engineers spec
10. Joints generally: Narrow mortar
11. Sealant movement joints:

150 E02 Steel edging

1. Description: to estate management building and around hedge beds, refer to drawings PC-BHS-ZZ-XX-DR-L-0102, PC-BHS-ZZ-XX-DR-L-0402 and PC-BHS-ZZ-XX-DR-L-0403
2. Standard: To BS EN 1338.
3. Manufacturer: Kinley or similar approved
 - 3.1. Product reference: Urban
4. Size: 6mm thickness minimum x 150mm depth
5. Finish: untreated steel
6. Bedding: dowels haunched at 0.6-1m intervals
7. Joints generally: Bolted, corners tack welded

200 Special - E03 Timber sleeper planter walls

1. Description: To raised vegetable beds at estate management building
2. Manufacturer: Submit proposals
 - 2.1. Product reference: Oak sleepers for planter walls
3. Size: 125mm x 250mm x 2400mm
4. Type/ Material: FSC certified British oak
 - 4.1. Finish: Untreated
 - 4.2. Colour: Natural
5. Accessories: Concealed dowels

6. Bedding: As detail on drawing PC-BHS-ZZ-XX-DR-L-0602
7. Joints: Butted up

Roads/paving accessories/ marking/ demarcation - Not Used

Laying

510 Laying kerbs, edgings and channels

1. Cutting: Neat, accurate and without spalling. Form neat junctions.
 - 1.1. Long units (450 mm and over) minimum length after cutting: 300 mm.
 - 1.2. Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
2. Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
3. Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

520 Adverse weather

1. Conditions: Do not construct if the temperature is below 3°C on a falling thermometer or 1°C on a rising thermometer. Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

530 Concrete for foundations, races and haunching

1. Standard: To BS 8500-2.
2. Designated mix: Not less than GEN0 or Standard mix ST1.
3. Workability: Very low.

560 Haunching dowels

1. Dowels: Steel bar to BS 4482.
 - 1.1. Size: 12 mm diameter, 450 mm long.
2. Installation of dowels: Vertically into foundation while concrete is plastic.
 - 2.1. Centres: 450 mm.
3. Haunching: Rectangular cross section, cast against formwork, fully enclosing and protecting dowels.

Ω End of Section

Q22

Asphalt roads/ pavings

Types of paving

110 P06 Asphalt driveway

1. Description: Driveway and maintenance roads, refer to drawing PC-BHS-ZZ-XX-DR-L-0201
2. Standard: To BS EN 13108-1
3. Subgrade improvement layer: Not required
 - 3.1. Compacted thickness: Not applicable
4. Geotextile: Sheet
 - 4.1. Manufacturer: Terram
 - 4.1.1. Product reference: To Engineers Spec
5. Granular sub-base:
 - 5.1. Compacted thickness: To Engineers Spec
6. Base: AC 32 dense base to engineers spec
 - 6.1. Paving grade: 100/150
 - 6.2. Compacted thickness: 100 mm, nominal
7. Binder course: AC 20 dense bin
 - 7.1. Paving grade: 100/150
8. Surface course: AC 10 close surf 40/60 binder course to engineers spec
 - 8.1. Paving grade: 100/150
9. Reclaimed content
 - 9.1. Standard: To BS EN 13108-8.
10. Surface treatment: Coated chippings for main access roads
11. Other requirements: Tar spray and chip surface for main access roads. Aggregate to be approved by LA

Preparatory work/ requirements

220 Bituminous materials generally

1. Suppliers' names: Submit.
 - 1.1. Timing (minimum): Two weeks before starting work.
2. Test certificates: At the time of delivery for each manufacturing batch submit certificate:
 - 2.1. Confirming compliance with this specification and the relevant standard.
 - 2.2. Stating full details of composition of mix.

230 Samples

1. Submit: Beige chip samples for approval

240 Acceptance of surfaces

1. Surface: Sound, clean and suitably close textured.
2. Level tolerances: To BS 594987.
3. Kerbs and edgings: Complete, adequately bedded and haunched and to the required levels.

250 Abutments

1. Vertical edges of manholes, gullies, kerbs and other abutments: Clean and paint with a thin uniform coating of hot applied 40/60 paving grade bitumen.
2. Finishing: Tamp surface around projections.
 - 2.1. Level: Flush or not more than 3 mm above projections.

Laying

310 Laying generally

1. Preparation: Remove all loose material, rubbish and standing water.
2. Adjacent work: Form neat junctions. Do not damage.
3. Channels, kerbs, inspection covers etc: Keep clean.
4. New paving
 - 4.1. Keep traffic free until it has cooled to prevailing atmospheric temperature.
 - 4.2. Do not allow rollers to stand at any time.
 - 4.3. Prevent damage.
 - 4.4. Lines and levels: With regular falls to prevent ponding.
 - 4.5. Overall texture: Smooth, even and free from dragging, tearing or segregation.
 - 4.6. State on completion: Clean.

320 Adverse weather

1. Frozen materials: Do not use.
2. Suspend laying
 - 2.1. During freezing conditions
 - 2.2. If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.
 - 2.3. Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.

330 Levels

1. Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

340 Flatness/ Surface regularity

1. Deviation of surface: Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straightedge placed anywhere on the surface to be not more than:
 - 1.1. Base:

350 Contractor's use of pavements

1. Before use
 - 1.1. Timing: allow newly laid sections to cool before trafficking.
 - 1.2. Open-grained surface: Fill with 0/4 mm size coated grit. Remove surplus.
 - 1.3. Finish: Uncoated chipping and binder surface treatment.
2. Preparation for final surfacing
 - 2.1. Timing: Defer laying until as late as practicable.
 - 2.2. Immediately before laying final surfacing: Clean and make good the base/ binder course. Allow to dry.
 - 2.3. Adhesion:

- 2.3.1. Application rate:
- 2.3.2. Accuracy: Uniform, without puddles.
- 2.4. Finishing: Allow emulsion to break completely before applying surface.

360 Uncoated chippings for surface treatment

- 1. Chippings: Clean aggregate to BS EN 13043 and PD 6682-2, size 2.8/6.3, grading category Gc85/15.
 - 1.1. Type/ Source: Summerleaze 6mm (locally sourced)
To be installed by Hazel and Jefferies
 - 1.2. Colour: Beige
- 2. Binder
 - 2.1. Cutback bitumen to BS EN 12591 or bitumen emulsion to BS 434-1.
 - 2.2. Do not use cut-back bitumen at temperatures below 15°C.
 - 2.3. Do not use modified binders without prior approval.
- 3. Application
 - 3.1. Binder application rate: In accordance with TRL Road Note 39. Adjust rate for modified binders in accordance with manufacturer's instructions.
 - 3.2. Coverage: 100–105% shoulder to shoulder to BS 598-1.
 - 3.3. Compaction: Roll. Do not crush chippings.
- 4. Completion
 - 4.1. Before trafficking, remove excess chippings.
 - 4.2. Carry out further removal of loose chippings disturbed by traffic as necessary.

Completion

390 Documentation

- 1. Standard:
 - 1.1. Declaration of conformity: Submit.
- 2. Number of copies:
- 3. Submission:

Ω End of Section

Q23

Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays

Types of surfacing

160 P05 Loose gravel in 40mm EccoGravel sheets

1. Description: Loose gravel in EccoGravel sheet gravel stabilisation system by CED or similar approved. Used in areas with vehicular access. I.E. arrival courtyard and terraces. Refer to detail drawing PC-BHS-ZZ-XX-DR-L-0603 and plan drawings PC-BHS-ZZ-XX-DR-L-0101 and PC-BHS-ZZ-XX-DR-L-0102
2. Granular sub-base: MOT Type 3
 - 2.1. Compacted thickness: As per Engineers spec - above structure in gym area
3. Blinding to sub-base: Crushed 6-2mm aggregate bedding layer
4. Gravel: Dorset buff chippings 12mm - sample to be approved
 - 4.1. Source: Allgreen
 - 4.2. Thickness: 40mm EccoGravel +10mm loose gravel on top; 50mm overall

170 Twin track for maintenance access

1. Description: 2 lines of 500mm width type 1 MOT laid to the width of a vehicle tyres
2. Base: Compacted ground
 - 2.1. Preparation: Remove soil and compact base
3. Gravel: Loose laid and compacted
 - 3.1. Type: Type 1 MOT or 4/20 clean stone
 - 3.2. Thickness: 150mm to Civil Engineers specification

270 Hard landscaping materials specification

1. Minimum 'BRE Green Guide to Specification' online rating:

Laying

340 Laying generally

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
 - 2.1. Lines and levels: To prevent ponding.
 - 2.2. Overall texture: Even.
 - 2.3. State at completion: Clean.

350 Cold weather working

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings.
3. Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
4. Other dressings or overlays: As manufacturers' recommendations.

360 Drainage falls

1. Sealed surfaces

- 1.1. Falls and cross falls (minimum): refer to plans
- 1.2. Camber (minimum): refer to plans
- 2. Unsealed surfaces (minimum): refer to plans

370 Laying granular surfaces in vehicular areas

- 1. Permissible deviation from required levels, falls and cambers (maximum): ± 20 mm.
- 2. General: Spread and level in 150 mm maximum layers. As soon as possible compact each layer.
- 3. Dry weather: Lightly water layers during compaction.

380 Laying granular surfaces in pedestrian areas and cycle tracks

- 1. Permissible deviation from required levels, falls and cambers (maximum): ± 12 mm.
- 2. General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
- 3. Dry weather: Lightly water layers during compaction.

390 Protection from traffic and plant

- 1. Paved areas: Restrict access to prevent damage.

Completion - Not Used

Ω End of Section

Q25

Slab/ brick/ sett/ cobble pavings

General

140 P02 Natural stone sett paving system - Granite

1. **Description:** To arrival courtyard main house, ramps to basement, paths and entrance area at estate management building, square at gate house. Refer to drawings PC-BHS-ZZ-XX-DR-L-0101, PC-BHS-ZZ-XX-DR-L-0102, PC-BHS-ZZ-XX-DR-L-0103 and detail drawing PC-BHS-ZZ-XX-DR-L-0603

Supplier: Hardscape Products Ltd

Eagley House
Deakins Business Park
Egerton
Bolton
Lancashire
United Kingdom
BL7 9RP

Telephone: +44 (0)1204 565500

Web: www.hardscape.co.uk

Email: enq@hardscape.co.uk

Product reference: Granite setts

Size: 200mm x 200mm x 225mm

Finish: Flamed finish, cropped sides

Stone type - Mix 1: Angola Black, Preta Odiveles, Fernando Roriz

Stone type - Mix 2: Angola Black, Preta Odiveles, Silva Preta Favaco

2. **Granular sub-base:** As per drawing PC-BHS-ZZ-XX-DR-L-0603
3. **Base:** Over basement: Laid to fall, to Engineers' details and specification
4. **Laying course:** 40-50mm crushed aggregate bedding layer
5. **Paving units:** Natural stone granite setts
6. **Jointing:** 6mm joints, charcoal grey jointing aggregate brushed onto the surface of the blocks, to be approved by LA.
- 6.1. **Bond:** Staggered

185 Gravel filled plastics paving system

1. **Description:** P3 to parking bays
2. **Geomembrane:**
 - 2.1. **Manufacturer:** [Geosynthetics Limited](#)
 - 2.1.1. **Contact details**
 - 2.1.1.1. **Address:** Unit 3, Avery Way,
Hinckley Park,
Hinckley
Leicestershire
United Kingdom
LE10 3FF
 - 2.1.1.2. **Telephone:** +44 (0)1455 617139
 - 2.1.1.3. **Web:** www.geosyn.co.uk
 - 2.1.1.4. **Email:** sales@geosyn.co.uk

- 2.1.2. Product reference: [Golpla-Recycled Reinforced Grass & Gravel Grass Paver](#)
- 2.2. Physical properties
 - 2.2.1. Material: Recycled plastics.
 - 2.2.2. Colour:
 - 2.2.3. Profile
 - 2.2.3.1. Paver type: Regular plan form, hexagon.
 - 2.2.3.2. Interlocking features: Required.
 - 2.2.4. Dimensions
 - 2.2.4.1. Plan size: 640 x 330 mm.
 - 2.2.4.2. Thickness (minimum): 38 mm.
- 2.3. Load carrying capacity (minimum): 100 kN/m².
- 2.4. Recycled content (minimum): 100%.
- 2.5. Weight: 5.5 kg/m².
- 2.6. Fixing: Golpla® securing nail.
- 2.7. Integral accessories:
- 2.8. Use:
- 2.9. Accessories:
- 3. Paving units:
 - 3.1. Filling: Angular hard stone aggregate.
Loose laid and raked to uniform thickness.
10mm Golden Flint by CED

System performance - Not Used

Products

306 Proprietary mortar bedding of flags & slabs (BS 7533-12)

1. Material: SteinTec tuffbed 2-pack Type 35 permeable bedding mortar. used with priming mortar.
2. Material: Paving to have open joints
3. Thickness: Target depth to be 60 mm.
4. Standard: Follow manufacturer's instructions for mixing and laying

SteinTec
730 London Road
West Thurrock
Essex
RM20 3NL

Tel: 01708-860-049
Email: info@steintec.co.uk

5. Consistency of tuffbed 2-pack bedding mortar: Add sufficient water to achieve a 150 mm slump.
6. Consistency of tuffbond priming mortar: Mix to a free flowing liquid slurry.
7. Laying:
 - All work must be carried out on the side of the unlaied face, at no time shall operatives stand, work or rest materials on freshly laid paving.
 - The surface of the roadbase or supporting structure must be thoroughly cleaned.
 - The surface of the concrete roadbase or supporting structure is to be coated with "SteinTec tuffbond" priming mortar to a minimum thickness of 1.5 mm immediately prior bedding mortar being laid. Priming mortar may be applied by brushing on.

- Bedding mortar must not be laid in advance of more than 1 row of paving elements.
 - Bedding mortar must be laid to a surcharge height of not less than 6 mm.
 - The underside of paving elements is to be coated with "SteinTec tuffbond" priming mortar to a minimum thickness of 1.5 mm immediately prior to sett being placed on bedding mortar. Priming mortar may be applied by brushing on or by dipping the paving elements into a shallow receptacle containing priming mortar.
 - Priming mortar shall not be applied more than one minute prior to paving elements being laid upon bedding mortar.
 - Paving elements to be positioned firmly to line and level immediately, thereafter not to be disturbed.
8. **Cleaning of paving elements during laying** : All mortar contamination must be removed from the surface of freshly laid paving immediately, using clean water and a sponge.
 9. **Cleaning of areas of freshly laid paving following laying**: Areas of freshly laid paving to be thoroughly rinsed with clean water at the end of a working shift.
 10. **Allow for Stratec G40pp polypropylene geogrid reinforcement mesh**: between bedding and sub-base. (Cut at movement joints)

307 Protection and quarantine for freshly jointed paving

1. Freshly jointed areas must be protected from vehicular traffic until bedding mortar has gained not less than 30 N/mm² compressive strength and jointing mortar has gained not less than 25 N/mm². Mortar cubes for testing shall be cured on site in unprotected conditions.
2. Non-HGV trafficking may be permitted after quarantine of one day following jointing, providing the minimum strength gain requirements for bedding mortar have been passed.
3. Pedestrian trafficking may be permitted on the next day following jointing.
4. Materials storage: Do not overload pavings with stacks of materials until the quarantine period for vehicular trafficking has passed.
5. Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.

Execution

615 Control samples

1. **Sample areas**: Complete as part of the finished work for approval from LA
 - 1.1. **Types of paving**: Granite setts, granite slabs and portland stone paving and step detail
 - 1.2. **Location**: TBC
 - 1.3. **Size (minimum)**: 3.0 x 3.0 m
2. **Approval of appearance and surface**: Obtain before proceeding.

621 Adverse weather

1. **General**
 - 1.1. **Temperature**: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 2°C on a rising thermometer.
 - 1.2. **Frozen roadbase**: Do not lay upon a roadbase surface which has not been protected from temperatures below 2°C for at least 24 hours prior to use.
 - 1.3. **Frozen materials**: Do not use. All materials must have been protected from temperatures below 2°C for at least 24 hours prior to use.
 - 1.4. **Frozen water**: Do not use. All water used for mixing mortars must be at a temperature not less than 2°C.
2. **Paving with mortar joints and/ or bedding**
 - 2.1. Protect from frost damage, rapid drying out and saturation until mortar has hardened.

- 2.2. Do not apply jointing mortars when ambient temperature exceeds 25°C and is rising.
3. Paving laid and jointed in sand/ fine aggregate
 - 3.1. Stockpiled laying course sand/ fine aggregate: Protect from saturation.
 - 3.2. Exposed areas of unbound laying course and uncompacted areas of unbound paving: Protect from heavy rainfall.
 - 3.3. Saturated unbound laying course: Remove and replace, or allow to dry before proceeding.
 - 3.4. Laying dry sand/ fine aggregate jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 Laying pavings – general

1. Appearance: Smooth and even with regular joints and accurate to line, level and profile.
2. Falls: To prevent ponding.
3. Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - 3.1. Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
4. Slopes: Lay paving units upwards from the bottom of slopes.
5. Paving units: Free of mortar and sand stains.
6. Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 Levels of paving

1. Permissible deviation from specified levels
 - 1.1. Generally: ± 3 mm.
2. Height of finished paving above features
 - 2.1. At gullies: +3 mm.
 - 2.2. At drainage channels and kerbs: +3 mm.

635 Regularity of paved surfaces

1. Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface)
 - 1.1. Precast concrete paving blocks and clay pavers for flexible pavements: 5 mm.
 - 1.2. Precast concrete flags or natural stone slabs: 3 mm.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

640 Colour banding

1. General: Unless premixed by manufacturer, select from at least 3-5 separate packs in rotation to avoid colour banding.

645 Protection

1. Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. Materials storage: Do not overload pavings with stacks of materials.
3. Handling: Do not damage paving unit corners, arrises, or previously laid paving.
4. Mortar bedded pavings: Keep free from traffic after laying:
 - 4.1. Pedestrian traffic (minimum): to Manufacturer's recommendation

4.2. Vehicular traffic (minimum): to Manufacturer's recommendation

5. Access: Restrict access to paved areas to prevent damage from site traffic and plant.

650 Cementitious bases and sub-bases

1. General: Protect from moisture loss, if not covered by another pavement course within 2 hours of completion.

655 Condition of sub-bases/ bases before spreading laying course

1. Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
2. Granular surfaces: Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
3. Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
4. Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
5. Levels and falls: Accurate and within the specified tolerances.
6. Drainage outlets: Within 0-10 mm of the required finished level.
7. Features in unbound paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
8. Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

Completion

915 Completion of paving with dry sand or fine aggregate filled joints

1. Sand dressing: Leave a thin layer of dry jointing sand/ fine aggregate over the paving until opened to public access
2. Final compaction of the surface course: In accordance with BS 7533-3.
3. Vacuum cleaning machines: Not allowed.

930 Slip resistance testing

1. Surfaces to be tested: Any new hard surfaces
 - 1.1. Surface condition: Dry and wet
2. Timing: As agreed with contract administrator
3. Period of notice (minimum): 3 working days.
4. Test standard: To BS 1134 To BS 7976-2
 - 4.1. Testing authority: A UKAS accredited laboratory
 - 4.2. Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
 - 4.3. Report: Submit.
 - 4.3.1. Format: As required under BS 1134 As required under BS 7976

Ω End of Section

Q28

Topsoil and soil ameliorants

System outline

100 Sustainable use of soils on the site

1. In implementing the buildings and landscape construction, follow generally the recommendations of the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites published by DEFRA 2009.

A summary of the key messages in this Code of Practice is set out below.

Pre-construction planning:

- Have a soil resource survey carried out on site by a suitably qualified and experienced soil scientist or practitioner at the earliest convenience and prior to any earthworks operations.
- Incorporate the results of the soil resource survey into the site working strategy (e.g. Site Waste Management Plan or Material Management Plan) ensuring liaison between the soil resource survey and other ground investigations.
- Be informed of and follow waste regulations as necessary.
- Consider the use of sustainable drainage systems on site as these can provide more long term protection of soils beyond the construction phase, by facilitating the infiltration and attenuation of surface water.

Soil management during construction

- Prepare a Soil Resource Plan showing the areas and type of topsoil and subsoil to be stripped, haul routes, the methods to be used, and the location, type and management of each soil stockpile.
- When stripping, stockpiling or placing soil, do so in the driest condition possible and use tracked equipment where possible to reduce compaction.
- Confine traffic movement to designated routes.
- Keep soil storage periods as short as possible.
- Clearly define stockpiles of different soil materials. Landscape, habitat or garden creation
- Ensure that the entire soil profile is in a condition to promote sufficient aeration, drainage and root growth.
- Safeguard and utilise on-site soil resources where possible. If importing soils, use a reputable supplier, establish the source of the soil and ensure it is suitable for the intended use.

Also generally follow the recommendations of the following –

British Standard code of practice for general landscape operations (excluding hard surfaces) (BS4428: 1989):

2. The Code of practice for general landscape operations (BS4428: 1989) contains recommendations for the following general landscape operations: preliminary investigations (including soil), land drainage, grading and cultivation, seeding of grass areas, turfing, amenity tree and woodland planting, and planting of shrubs, herbaceous plants and bulbs.

British Standard specification for topsoil and requirements for use (BS3882: 2007):

The British Standard Specification for topsoil (BS3882: 2007) specifies the requirements for topsoils (natural or manufactured) that are moved or traded. It contains one main grade (multipurpose topsoil), which is suitable for the majority of needs, though specific-purpose topsoils have also been identified for specialist applications. The Standard also includes a section on the use and handling of topsoil. It is not intended (or appropriate) for the grading, classification or standardisation of in situ topsoil or subsoil.

British Standard Trees in relation to construction. Recommendations (BS5837: 2005):

The British Standard document, Trees in relation to construction, gives recommendations and guidance on the principles to achieve a satisfactory juxtaposition of trees (including shrubs, hedges and hedgerows) with structures. It provides guidance on how to decide which trees are appropriate for retention, on the means of protecting these trees during development, including demolition and construction work, and on the means of incorporating trees into the developed landscape.

Environment Agency advice:

The Environment Agency advice for construction and building trades including a section on soil and soil stripping and a section on dealing with contaminated land.

The Environment Agency's *A guide for developers* (2006) - advice on making developments better for people and the environment, recognising the need to protect soil for its environmental and financial value.

Good practice guide for handling soils (MAFF, 2000):

Good practice guide for handling soils and providing comprehensive advice on soil handling to operators, soil moving contractors, consultants and planning authorities dealing with soil handling and management. Detailed information on best practice methods for soil stripping, soil stockpiling, excavation from storage mounds, soil replacement, de-compaction and cultivation using different machinery combinations.

104 Preliminaries

1. This specification to be read with Landscape Specification Preliminaries and with all Preliminaries and specifications from Architects, Engineers and other consultants.
2. This section Q28 of the Landscape Specification particularly deals with clauses which are specific to landscape operations. It does not replace section Q28 prepared by others and is to be read in conjunction with these.
3. Refer to Tim O'Hare soil resource survey. All soils to undergo soil analysis by Tim O'Hare Associates LLP before placing.

115 Soil system for lawn

1. **Description:** ROOTZONE FOR S05 FORMAL LAWN AREAS (see drawing PC-BHS-ZZ-XX-DR-L-0401)
2. **Composition**
 - 2.1. **Soil:** Approved imported rootzone from a specified source.

115 A Soil system for grass mounds

1. **Description:** TOPSOIL FOR S08 MOUNDS (see drawing PC-BHS-ZZ-XX-DR-L-0401) Approved site topsoil / imported soil as advised by TOHA soil resource survey.
2. **Grading:** Max. 1:3 gradient. For gradients more than 1/3 at the Amphitheatre on the south facing side, a cellular confinement system to be installed, as per engineers specification.
3. **Composition**
 - 3.1. **Soil:** Site sourced existing topsoil and subsoil.
 - 3.2. **Ameliorants:** Fertiliser to be incorporated into soil/growing media

135 Planting bed soil system

1. **Description:** TOPSOIL FOR S03 HEDGE PLANTING AND S04 SHRUB AND HERBACEOUS PLANTING IN SOLID GROUND (see drawings PC-BHS-ZZ-XX-DR-L-0400, PC-BHS-ZZ-XX-DR-L-0401 and PC-BHS-ZZ-XX-DR-L-0402)

2. Composition

- 2.1. **Topsoil:** 350mm Site Sourced topsoil is preferred, if suitable after testing, is free draining and meets BS3882:2015 standard for topsoil. 350mm Imported topsoil from a specified source such as Bourne Amenity
- 2.2. **Ameliorants:** Organic materials
- 2.3. **Accessories:** Mycorrhizal inoculant

155 Mulching and top dressing system

1. **Description:** MULCH FOR ALL PLANTING BEDS, APART FROM PLANTING AREAS WITHIN GRAVEL
2. **Composition**
 - 2.1. **Material:** Fine grade, dark composted bark with neutral to slightly acidic ph. Submit proposals.

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. **Give notice:** If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.
6. **Disposal:** Dispose of any contaminated soil as instructed by CA.

310 Materials not permitted

1. **Materials:** Peat and Products containing peat

315 Re-use of site topsoil to BS 3882

1. **Description:** Re. excavated topsoil and making good areas with existing site topsoil (if to BS 3882)
2. **Quantity:** 300mm
3. **Standard:** To BS 3882.
4. **Source:** Existing site topsoil (subject to testing by Tim O Hare associates)

330 Imported manufactured topsoil/ growing medium

1. **Description:** FOR S09 RAISED VEGETABLE BEDS
2. **Type:** 300mm depth high quality Organic topsoil.
300-500mm imported subsoil.
Submit proposals

330 Imported manufactured topsoil/ growing medium Type B

1. **Description:** FOR S04 PLANTING BEDS AND S01 / S02 TREE PITS
2. **Type:** Planting medium to match existing site topsoil ph

2.1. Soil textural class: Sandy loam

3. **Manufacturer:** BOURNE AMENITY LIMITED
The Wharf Rye Road
Newenden
Kent
TN18 5QG

info@bourneamenity.co.uk
01797 252 299

3.1. **Product reference:** TS8 Topsoil

330 Imported manufactured tree sand Type C

1. **Description:** TREE PITS AND PLANTING BEDS IN GRAVEL AREAS/ WITH GRAVEL MULCH
2. **Type:** Loadbearing planting medium
3. **Manufacturer:** BOURNE AMENITY LIMITED
The Wharf Rye Road
Newenden
Kent
TN18 5QG

info@bourneamenity.co.uk
01797 252 299

3.1. **Product reference:** Heicom Tree Sand

330 Imported manufactured root zone Type D

1. **Description:** ROOTZONE FOR S05 FORMAL LAWNS (refer to plan PC-BHS-ZZ-XX-DR-L-0401)
2. **Type:** Lawn planting medium
3. **Manufacturer:** BOURNE AMENITY LIMITED
The Wharf Rye Road
Newenden
Kent
TN18 5QG

info@bourneamenity.co.uk
01797 252 299

3.1. **Product reference:** Lawn Topsoil or similar approved root zone

330 Re-instated site topsoil Type E

1. **Description:** Re-instated site topsoil and making good areas where required
2. **Source:** Site - test before re-instating

331 Imported manufactured subsoil Type A

1. **Description:** Sub soil from site to be reused if suitable after testing. Refer to Soil Resource Survey and Soil Management Plan.

355 Organic materials

1. **Description:** FOR TREE PITS
2. **Type:** Compost
3. **Application:** If recommended by soil laboratory, compost shall be worked into top 200mm of topsoil during final cultivation at a rate of 1 m³ of material per 20 m².
4. **Timing:** Apply prior to cultivation.

5. **Source:** BOURNE AMENITY LIMITED
The Wharf Rye Road
Newenden
Kent
TN18 5QG

info@bourneamenity.co.uk
01797 252 299

- 5.1. **Product reference:** 10mm PAS100 Compost

380 Mycorrhizal inoculant

1. **Description:** FOR TREE PITS/SHRUBS
2. **Manufacturer:** Rootgrow
 - 2.1. **Product reference:** Mycorrhiza Rootgrow Professional, 100FE5029-PRO
3. **Dry Granule Application::** Plants up 30L or 12-14 girth:

Sprinkle the granules evenly, at the recommended dosage, directly into the prepared planting hole or pit. Place the plant directly onto the granules so that the rootzone comes into contact with the granules. (if the rootzone is moist it helps to manually apply some of the granules to the rootzone wall)

Large plants over 30L or 12-14 girth:

Apply during backfill. When you have backfilled halfway from the soil surface scrape out roots from around the side of walls of the rootzone and sprinkle granules against the rootzone or as close as possible all the way round.

401 Organic fertilizers

1. **Description:** TO ALL YEW HEDGES
2. **Purpose:** Establishment fertiliser
3. **Type:** Seaweed extract
4. **Availability to plants:** Controlled release

Execution

602 Works by others

1. In the event that subsoil cultivation and spreading shall have been carried out by others in accordance with specification section D20 above, the Landscape Contractor shall inspect all completed subsoil decompaction/ spreading to establish to their own satisfaction that areas are free draining and all materials and standards of operation conform to above specification standards.
2. The Contractor shall notify the CA immediately and in writing if subsoil works or materials fail to comply with Section D20 of this specification or if any areas are not free draining or collect water.
3. The Contractor shall supply proposals for amelioration or replacement as necessary and shall obtain instructions from CA prior to proceeding with soft landscape works.

603 Acceptance of subsoil clearance and decompaction works

1. When the Contractor is satisfied that drainage measures and subsoil preparation are satisfactory he shall accept the works and no claims shall be entertained at any later stage for lack of subsoil drainage or any other failures in groundworks carried out by others.
2. Following acceptance of a prepared area the contractor shall be fully responsible for making-good areas, which puddle or settle, including soil/subsoil treatment and replacement of vegetation unless written notification of the subsoil problem was issued to the CA.

610 Topsoil analysis

1. **Soil to be analysed:** Any stored topsoil from the site with potential to be reused
2. **Soil analyst:** Tim O'Hare Associates
Howbery Park
Wallingford
Oxfordshire
OX10 8BA
UK

E: info@toha.co.uk
T: +44 (0)1491 822653
3. **Samples:** Collect in accordance with BS 3882.
4. **Submit**
 - 4.1. **Declaration of analysis:** In accordance with BS 3882, clause 6 and Table 1.
 - 4.2. **Additional analysis:**
 - pH value and lime requirement
 - electrical conductivity
 - available phosphorus, available potassium, available magnesium and trace elements
 - contaminant harmful to humans and to animals (pets and wildlife in general)
 - contaminant detrimental to healthy plant growth (phytotoxic)
 - soil texture
 - organic matter content and total nitrogen content
 - particle size distribution by mechanical analysis
 - information regarding the source of the soil
 - 4.3. Report detailing soil analyst's recommendations.
 - 4.4. **Soil improvements:** The test shall also include recommendations regarding soil improvements in accordance with BS 3882. Recommendations shall be implemented in full at the cost of the contractor.
5. **Approval:** Submit report to CA and LA and obtain approval for topsoil source prior to placing any orders.

615 Testing of materials

1. **Material to be analysed:** Site top and sub soils Samples from locations TBC
2. **Laboratory:** Tim O'Hare Associates
Howbery Park
Wallingford
Oxfordshire
OX10 8BA
UK

E: info@toha.co.uk
T: +44 (0)1491 822653
3. **Samples:** Collect in accordance with BS 3882
4. **Submit**
 - 4.1. **Declaration of analysis:** As directed
 - 4.2. Report detailing analyst's recommendations.
 - 4.3. **Additional analysis:**
 - pH value and lime requirement
 - electrical conductivity

- available phosphorus, available potassium, available magnesium and trace elements
 - contaminant harmful to humans and to animals (pets and wildlife in general)
 - contaminant detrimental to healthy plant growth (phytotoxic)
 - soil texture
 - organic matter content and total nitrogen content
 - particle size distribution by mechanical analysis
 - information regarding the source of the soil
- 4.4. **Soil improvements::** The test shall also include recommendations regarding soil improvements in accordance with BS 3882. Recommendations shall be implemented in full at the cost of the contractor.
- 4.5. **Approval:** Submit report to CA and LA and obtain approval for topsoil source prior to placing any orders.

630 Documentation for imported topsoil

1. **Description:** FOR ALL 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 and Table 1.
4. **Number of copies:** Two

635 Documentation for compost and composted materials

1. **Description:** FOR IMPORTED SOIL IMPROVERS
2. **Timing:** Submit at handover.
3. **Contents**
 - 3.1. Full description of all compost components.
 - 3.2. Record of source for all compost components.
 - 3.3. Analyst's report for each test carried out.
 - 3.4. **Declaration of compliance:** in accordance with PAS 100 and BSI PD CR 13456.
 - 3.5. **Quality Compost Protocol certification:** Required
4. **Number of copies:** Two

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:** 1 week

655 Mechanical tools

1. **Restrictions:** Do not use within 100 mm of tree and plant stems.

660 Grading subsoil for:

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

665 Subsoil surface preparation for:

1. **Description:** FOR ALL PLANTED AREAS
2. **Standard:** In accordance with BS 3882.
3. **General:** Excavate and/ or place fill to required profiles and levels, as section D20.
4. **Loosening**
 - 4.1. **When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth**
 - 4.1.1. **Light and noncohesive subsoils:** 350mm
 - 4.1.2. **Stiff clay and cohesive subsoils:** 600 mm
 - 4.1.3. **Rock and chalk subgrades:** Lightly scarify to promote free drainage.
 - 4.2. **Wet conditions:** Do not loosen subsoils.
5. **Stones:** Immediately before spreading topsoil, remove stones larger than 75 mm.
6. **Remove from site:** All concrete, brick, plastic, glass, vegetative propagules and other debris from site operations or other sources.
7. **Drainage:** Provide photographic evidence and infiltration test results that prove that all subsoil areas are free draining prior to topsoil application.

668 Weed contamination

1. All subsoil and topsoil stockpiled or spread shall be free of weeds prior to cultivation.
2. Apply Glyphosate at appropriate time to ensure its activity. Re-apply if required.

670 Inspecting formations

1. **Give notice:** Before spreading topsoil for all landscape areas.
2. **Notice period:** 7 days

675 Preparation of undisturbed topsoil

1. **Standard:** In accordance with BS 4428.
 - 1.1. **Grading and cultivation:** To suit cultivation operations specified in Q30 and Q31
2. **Hard ground:** Break up thoroughly.
3. **Clearing:** Remove visible roots and large stones with a diameter greater than 20 mm.
4. **Areas covered with turf or thick sward:** Plough or dig over to full depth of topsoil.
5. **Fallow period (minimum):** Six months
 - 5.1. **Weed control:** At appropriate times treat with a suitable translocated nonresidual herbicide.

680 Surplus topsoil to be retained

1. **Generally:** Spread and level on site - To be agreed on site
 - 1.1. **Locations:** As directed by landscape architect
 - 1.2. **Protected areas:** Do not raise soil level within root spread of trees that are to be retained.

690 Topsoil storage heaps

1. **Location:** Submit proposals. Refer to Soil Management Plan
2. **Height (maximum):** 1.5 m
3. **Width (maximum):** 3.0 m
 - 3.1. **Formation:** Loose tip and shape from the side only, without running machinery on the heap at any time.
4. **Protection**
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. Prevent compaction and contamination, by fencing and covering as appropriate.

700 Grading of topsoil

1. **Topsoil condition:** Reasonably dry and workable.
2. **Contours:** 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.

710 Spreading topsoil on:

1. **Description:** FOR ALL PLANTED AREAS
2. **Standard:** In accordance with BS 3882.
3. **Temporary roads/ surfacing:** Remove before spreading topsoil.
4. **Layers**
 - 4.1. **General:** Prior to starting spreading operations, ensure that excavations and areas to be filled are free from loose soil, rubbish and standing water. Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces.
 - 4.2. **Stones:** Remove stones from surface of sub-grade exceeding 50mm diameter in any dimension for lawn areas and 100mm diameter in any dimension for planting areas.
 - 4.3. **Depth (maximum):** 150 mm.
 - 4.4. Gently firm each layer before spreading the next.
5. **Depth after firming and settlement:** Meadows: 150mm in situ or other approved low nutrient soil
Lawns: 150mm in situ or approved imported topsoil in accordance with Clause 342A above
Re-inforced lawns: special 60:40 (sand:topsoil) Rootzone mix (type and depth: refer to Netpave specification)
Hedges/coppiced shrubs/mixed planting: 300 mm topsoil over 300mm depth of free draining in-situ or approved imported subsoil.
Trees in soft landscape: 300mm approved topsoil over 400mm in situ or approved imported free-draining subsoil

6. **Crumb structure:** Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
7. **Backfill:** Planting pits for trees in open ground shall be 300mm wider and 200mm deeper than width and depth of rootballs or containers. No pit shall be less than 1000mm x 1000mm wide.

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.

716 Protection of topsoil

1. All areas that have been topsoiled shall be protected and kept free from pedestrian and/or vehicular traffic and compaction until Practical Completion handover.
2. Protection measures shall be monitored and kept in good repair throughout.

717 Making good compacted topsoil

1. In the event that compaction of previously topsoiled areas does occur, the Contractor shall inform the CA in writing and identify where other trades may have been responsible.
2. In the event that damage occurs to topsoil after spreading the Contractor shall make good at their own expense unless responsibility lies with other trades and written notification has been supplied to the CA.
3. Prior to planting, any compacted areas shall be thoroughly decompacted to their full topsoil depth.
4. Provide evidence that decompacted areas are fully free draining.
5. In cases of excessive compaction, remedial action may not be sufficient and complete topsoil replacement in affected areas may be necessary.
6. Ensure that no mixing of topsoil and subsoil occur at any point.

718 Final cultivation

1. **Description:** FOR PLANTING BEDS
2. **Compacted topsoil:** Break up to full depth.
3. **Tilth:** Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
4. **Depth:** 150 mm
5. **Particle size (maximum):** 5 mm
6. **Timing:** Within a few days before planting
7. **Weather and ground conditions:** Suitably dry.
8. **Surface:** Leave regular and even.
9. **Undesirable material brought to the surface**
 - 9.1. Remove visible weeds.
 - 9.2. Remove roots and large stones with any dimension exceeding 10 mm.

720 Finished levels of topsoil after settlement

1. **In relation to adjoining paving, kerbs or hard surfaces:** Flush for areas not due to receive mulch, 30mm below for areas to receive mulch layer.
2. **In relation to dpc of adjoining buildings:** Not less than 150 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.

770 Site-made composting facilities

1. Description: Concrete base with Oak sleepers and H beams
2. Material: Submit proposals
3. Dimensions: 4m length x 2m width x 1.4m height
4. Location: See plan 682_007 (against boundary near irrigation pump room)

840 Applying mycorrhizal inoculant

1. Description: To all new trees, shrubs and hedges planting areas
2. Depth: To manufacturer's/ supplier's recommendations

845 Applying loose mulch

1. Description: All planting into 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): 50 mm depth
 - 4.2. Trees: 75 mm depth
5. Finished level of mulch: As per LA drawings

Completion

920 Applying mulch

1. Timing: At end of the maintenance period
2. Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
3. Planting beds: Re-mulch.
 - 3.1. Depth (minimum): 50 mm
4. Trees: Remulch.
 - 4.1. Depth (minimum): 50 mm
5. Container planting: Remulch.
 - 5.1. Depth (minimum): 30 mm

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/turfing.

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.

160 Notice

1. Give notice before
 - 1.1. Setting out.
 - 1.2. Applying herbicide.
 - 1.3. Applying fertilizer.
 - 1.4. Preparing seed bed.
 - 1.5. Seeding or turfing.
 - 1.6. Visiting site during maintenance period.
2. Period of notice: 1 week

170 Setting out

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

Preparation

210 Herbicide

1. **Description:** FOR ALL GRASSED AREAS except S07a CHALK MEADOW, S07b SEMI-IMPROVED CALCAREOUS GRASSLAND and S07c WETLAND MEADOW (PLUGS)
2. **Type:** Suitable for suppressing perennial weeds.
3. **Timing:** Allow fallow period before cultivation.
 - 3.1. **Duration:** As manufacturer's recommendation

212 Seed bed cleaning before sowing

1. **Description:** ALL GRASSED AREAS
2. **Operations:** As seed supplier's recommendations.

213 Cultivation

1. **Description:** ALL GRASSED AREAS except S07a CHALK MEADOW, S07b SEMI-IMPROVED CALCAREOUS GRASSLAND and S07c WETLAND MEADOW (PLUGS)
2. **Compacted topsoil:** Break up to full depth.
3. **Operations:** As seed supplier's recommendations.

290 Preparation for S07a CHALK MEADOW and S07b SEMI-IMPROVED CALCAREOUS GRASSLAND seeding

1. **General:** Seeded on thin poor soils with high limestone or chalk content.
2. **Weeds:** Remove using repeated cultivation.
3. **Grading:** Smooth, flowing levels.
 - 3.1. **Cultivation:** Plough or dig to bury surface vegetation, harrow or rake to produce a medium tilth.
4. **Finished surface:** Roll, or tread, to produce a firm surface.

Seeding

310 Grass seed mixtures

1. **Description:** Refer to plan PC-BHS-ZZ-XX-DR-L-0401. All following seed mixes TBC following soil test results and advice from Tim O' Hare Associates.

311 Grass seed

1. **Description:** FOR S06 PLASTIC REINFORCED GRASS SYSTEM
2. **Supplier:** EMORSGATE SEEDS
Limes Farm
Tilney All Saints
King's Lynn
Norfolk
PE34 4RT

Ring: (01553) 829028
E-mail: enquiries@emorsgateseeds.com
 - 2.1. **Mixture reference:** EG22 Strong Lawn Grass Mixture
3. **Application rate:** 25 g/m²

311 Grass seed Type A

1. **Description:** For all S07a CHALK MEADOW and S07b SEMI-IMPROVED CALCAREOUS GRASSLAND areas - Refer to plan PC-BHS-ZZ-XX-DR-L-0401
2. **Supplier:** EMORSGATE SEEDS
Limes Farm
Tilney All Saints
King's Lynn
Norfolk
PE34 4RT

Ring: (01553) 829028
E-mail: enquiries@emorsgateseeds.com

2.1. Mixture reference: EM6 Meadow Mixture for Chalk and Limestone Soils

3. Alternative supplier: BRITISH WILDFLOWER SEEDS

Hookgate Cottage
South Brewham
Somerset
BA10 0LQ
Phone: 01749 812355

E-mail: info@britishwildflowermeadowseeds.co.uk

3.1. Mixture reference: Berkshire Meadow Seed Mix (Organic)

4. Application rate: As per manufacturers recommendation

315 Wildflower plug plants

1. Description: S07b SEMI-IMPROVED CALCAREOUS GRASSLAND and S07c WETLAND MEADOW (PLUGS) areas - Refer to schedule on PC-BHS-ZZ-XX-DR-L-0101

2. Supplier: Ecohab Wildflowers
Halfway Cottage, Churcham, Longhope GL17 0NZ
Telephone: 07875221409
Email: liz@ecohabwildflowers.co.uk
Website: <https://ecohabwildflowers.co.uk>

or as local as possible Submit proposals

2.1. Mixture reference: Refer to schedule on plan PC-BHS-ZZ-XX-DR-L-0101

3. Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): British Native

4. Application rate: 0.5/m as per PC-BHS-ZZ-XX-DR-L-0101

319 Quality of seed

1. Description: FOR ALL S06 AND S07a/b GRASSED AREAS

2. Freshness: Produced for the current growing season.

3. Certification: Blue label certified varieties.

3.1. Standard: EC purity and germination regulations.

3.2. Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.

4. Samples of mixtures: Submit when requested.

330 Sowing

1. General: Establish good seed contact with the root zone.

2. Method: Manually broadcast, raked and rolled

S07a CHALK MEADOW and S07b SEMI-IMPROVED CALCAREOUS GRASSLAND:

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 two or more 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.

335 Grass sowing season

1. Grass seed generally: Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture in the soil.

352 Edges to seeded areas

1. Description: ADJACENT TO PLANTING BEDS AND TREE PITS
2. Timing: After seeded areas are well established.
3. Edges: Clean straight lines or smooth curves.
 - 3.1. Mulch and soil: Draw back to permit edging.
4. Arisings: Remove.
5. Completion: Respread soil and mulch.

361 S06 Reinforced grass system - plastic cellular pavers

1. Manufacturer: [Geosynthetics Limited](#)
 - 1.1. Contact details
 - 1.1.1. Address: Unit 3, Avery Way,
Hinckley Park,
Hinckley
Leicestershire
United Kingdom
LE10 3FF
 - 1.1.2. Telephone: [+44 \(0\)1455 617139](tel:+441455617139)
 - 1.1.3. Web: www.geosyn.co.uk
 - 1.1.4. Email: sales@geosyn.co.uk
 - 1.2. Product reference: [Golpla-Recycled Reinforced Grass & Gravel Grass Paver](#)
2. Physical properties
 - 2.1. Material: Recycled plastics.
 - 2.2. Colour:
 - 2.3. Profile
 - 2.3.1. Paver type: Regular plan form, hexagon.
 - 2.3.2. Interlocking features: Required.
 - 2.4. Dimensions
 - 2.4.1. Plan size: 640 x 330 mm.
 - 2.4.2. Thickness (minimum): 38 mm.
3. Load carrying capacity (minimum): 100 kN/m².
4. Recycled content (minimum): 100%.
5. Weight: 5.5 kg/m².
6. Fixing: Golpla® securing nail.
7. Integral accessories:
8. Use:
9. Accessories:
10. Topsoil: Good quality clean friable soil
11. Reinforced root zone
 - 11.1. Composition: Geosynthetics Rootzone Bedding
 - 11.2. Thickness: 100mm, as per manufacturer's recommendations
 - 11.3. Consolidation: Level and lightly consolidate with vibrating roller
12. Topping layer: Not required
13. Fertilizer: Organic fertilizer, as section Q28
14. Grass cover: Grass seed for lawns - Emorsgate EG22 Strong Lawn Grass Mixture

Turfing

400 Cultivated turf

1. **Description:** For lawns and formal lawns and 1.5m either side of driveway
2. **Supplier:** Lindum Turf Ltd
West Grange
Thorganby
York
YO19 6DJ

+44 (0) 1904 448675
lindum@turf.co.uk
 - 2.1. **Product reference:** LT7 Festival Plus turf
3. **Properties of soil used for turf production:** Peat-free, well drained sandy loam

420 Delivery and storage

1. **Timing:** Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
2. **Frosty weather or waterlogged ground:** Do not lift turf.
3. **Delivery:** Arrange to avoid need for excessive stacking.
4. **Stacking height (maximum):** 1 m.
5. **Dried out or deteriorated turf:** Do not use.
6. **Certification**
 - 6.1. **Standard:** To BS 3969.
 - 6.2. **Declaration:** Species mix, including percentage of specified species

430 Turfing generally

1. **Time of year:** To be agreed
2. **Timing of laying**
 - 2.1. **Spring and summer:** Within 18 hours of delivery.
 - 2.2. **Autumn and winter:** Within 24 hours of delivery.
3. **Weather conditions:** Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
4. **Working access:** Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
5. **Jointing:** Laid with broken joints, well butted up. Do not stretch turf.
6. **Edges:** Whole turfs, trimmed to a true line.
7. **Adjusting levels:** Remove high spots and fill hollows with fine soil.
8. **Consolidating:** Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
9. **Watering:** Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

Protecting/cutting

510 Protective fencing

1. **Fencing type:** Chestnut pale fencing to BS 1722-4
 - 1.1. **Height:** 1.1 m
2. **Erection:** On completion of seeding/ turfing.

3. **Removal:** After grass is well established. Fencing will remain the property of the Contractor and shall be removed following CA and LA approval.

530 First cut of grassed areas ALL GRASSED AREAS EXCEPT S07a Chalk Meadow, S07b Semi-improved calcareous grassland and S07c Wetland Meadow (Plugs)

1. **Timing:** When grass is reasonably dry.
 - 1.1. **Height of initial growth:** 50 mm
2. **Preparation**
 - 2.1. **Debris and litter:** Remove.
 - 2.2. **Stones and earth clods larger than 25 mm in any dimension:** Remove
3. **Height of first cut:** 25 mm
4. **Mower type:** Contractor's choice
5. **Arisings:** Remove from site

531 First year management S07A CHALK MEADOW and S07B SEMI-IMPROVED CALCAREOUS GRASSLAND

1. **General:** 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.
2. **Timing:** Resist cutting the annual weeds until mid to late summer, especially if the mixture contains Yellow Rattle, or has been sown with a nurse of cornfield annuals.

Early August is a good time for cutting. Then remove and compost. This will reveal the young meadow, which can then be kept short by grazing or mowing through to the end of March of the following year.

Dig out any residual perennial weeds such as docks.

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 date - prevailing weather conditions permitting.

620 Maintaining

1. **Description:** GENERAL GRASSED AREAS
2. **Duration:** Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
3. **Maximum height of growth at any time:** 30 mm

4. **Preparation:** Before each cut remove all litter and debris.
5. **Cutting:** As and when necessary to a height of 20 mm.
 - 5.1. **Arisings:** Remove
6. **Bulb planting areas:** Do not cut until bulb foliage has died down.
7. **Trimming:** All edges.
 - 7.1. **Arisings:** Remove.
8. **Weed control:** Substantially free of broad leaved weeds.
 - 8.1. **Method:** Application of a suitable selective herbicide.
9. **Stones brought to the surface:** Remove regularly.
 - 9.1. **Size:** Exceeding 25 mm in any dimension.
10. **Areas of settlement:** Make good.
11. **Watering:** As required to ensure good establishment and continued healthy development.

630 First year management of a newly seeded lawn

1. Once seedling grasses are established, (typically in good growing conditions about three to four weeks after sowing), lightly roll or tread to firm and level the soil around the grass roots ready for the first cut. (Do not roll if the ground is wet and saturated with water).
2. After a few days, when the grass has picked up again, the lawn will be ready for its first cut. Cut with the mower set on a high setting (50mm +), aiming to trim the sown grass back by about one-third of its height and cut back any weeds.
3. Thereafter mow the new lawn regularly as needed, progressively reducing the mowing height over its first spring/summer to the desired height.
4. A new sown lawn will take a full year or more to reach full strength, complete ground cover and knit together as a turf. It can be walked on during this establishment phase, but avoid heavy use that might cause wear and tear.

640 Fertiliser for lawn areas

1. Carry out the following operations from completion of seeding/ turfing until the end of rectification period.
2. March application: 15:10:10 Spring turf fertiliser at 35 g/m².
3. September application: 5:10:10 Autumn turf fertiliser at 50 g/m².

650 Maintaining grassed areas with perennial wildflowers

1. **Duration:** Carry out the following operations from completion of seeding/ turfing until:
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:**
 - 3.2. **Height of first cut:**
 - 3.3. **Frequency of subsequent cutting (minimum):**
 - 3.4. **Height of growth permitted (maximum):**
4. **Height and frequency of cut in second growing season**
 - 4.1. **Time of cut:**
 - 4.2. **Height of cut:**
5. **Trimming:** All edges.
 - 5.1. **Arisings:** Remove.
6. **Watering:**

651 Maintaining S07A CHALK MEADOW and S07B SEMI-IMPROVED CALCAREOUS GRASSLAND once established

1. Shallow soils: One or two cuts at the end of the summer, or occasional light grazing, may be all that is required to maintain diversity and interest.
2. Deeper soils: Best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing or grazing. Meadow grassland is not cut or grazed from spring through to late July/August to give the sown species an opportunity to flower.
3. Hay cut: After flowering in July or August. Cut back with a scythe, petrol strimmer or tractor mower to c 50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site.
4. Mow or graze re-growth: Through to late autumn/winter to c 50mm and again in spring if needed.

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.
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. **Herbaceous plants (including marginal):** September/ October or March/ April.
4. **Container grown plants:** At any time if ground and weather conditions are favourable.
 - 4.1. **Watering and weed control:** Provide as necessary.
5. **Dried bulbs, corms and tubers:** September/ October.
6. **Colchicum (crocus):** July/ August.
7. **Green bulbs:** After flowering in spring.
8. **Wildflower plugs:** Late August to mid November or March/ April.
9. **Aquatic plants:** May/ June or September/ October.

130 Mechanical tools

1. **Restrictions:** Do not use within 100 mm of tree and plant stems.

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. Delivery of plants/ trees.
 - 1.4. Planting shrubs.
 - 1.5. Planting trees into previously dug pits.
2. Period of notice: 2 weeks

170 Soil requirements

1. Type
 - 1.1. Planted beds: Planting bed soil system, as section Q28
 - 1.2. Tree pits, shrub pits and other backfilling: Plant pit backfilling soil system, as section Q28
 - 1.3. External container planting: Container planting growing media system, as section Q28
 - 1.4. 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.
7. Species: True to name.
8. Definition: Origin and Provenance have the meaning given in the National Plant Specification.

216 Plants/ Trees – specification criteria

1. Name, forms, dimensions and other criteria: To the relevant part of BS 3936.

225 Bulbs/ Corms/ Tubers

1. Condition: Firm, entire, not dried out or shrivelled.
2. Health: Free from pests, diseases and fungus.
3. Handling: Remove from packaging immediately.
4. Storage: Permitted only when necessary.
 - 4.1. Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
 - 4.2. Duration: Minimum period.
 - 4.3. Temperature: 18-21°C.

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.

246 Labelling and information

1. **Standard:** To BS 3936.

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. **Planting:** Upright or well balanced with best side to front.

280 Treatment of tree wounds

1. **Cutting:** Keep wounds as small as possible.
 - 1.1. Cut cleanly back to sound wood using sharp, clean tools.
 - 1.2. Leave branch collars. Do not cut flush with stem or trunk.
 - 1.3. Set cuts so that water will not collect on cut area.
2. **Fungicide/ Sealant:** Do not apply unless instructed.

285 Protection of existing grass

1. **General:** Protect areas affected by planting operations using boards/ tarpaulins.
 - 1.1. **Excavated or imported material:** Do not place directly on grass.
 - 1.2. **Duration:** Minimum period.

Plant containers - Not Used

Preparation of planting beds/ planting materials

395 Mulch matting for fruit trees

1. **Description:** To apple trees on either side of the main house
2. **Manufacturer:** Submit proposals
 - 2.1. **Product reference:** Coir mulch mat 1.0m x 1.0m
3. **Timing:** Lay before planting.
4. **Watering:** Water soil thoroughly before laying.
5. **Laying:** In close contact with soil surface. Lap or butt joints as recommended by manufacturer, with no gaps.
6. **Planting:** Cut neat slits or flaps. Refit closely around plant stems.

Planting shrubs/ herbaceous plants/ bulbs

405 Shrub planting pits

1. **Timing:** Excavate 1 days (maximum) before planting.
2. **Sizes:** 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 10 kg compost.

420 Climbing plants

1. **Planting:** 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
 - 1.1. **Branches:** Lightly secured to supports.
2. **Climber supports:** Stainless steel wire
 - 2.1. **Distance from wall:**
3. **Fixings:** Stainless steel screw eyes
 - 3.1. **Centres:** 2 m

445 Planting bulbs/ Corms/ Tubers

1. **Depth:** Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
2. **Backfilling:** Finely broken soil. Lightly firm to existing ground level.
3. **Naturalized planting in existing grassed areas**
 - 3.1. **Scattering:** Random. Plant bulbs/ corms/ tubers where they fall.
 - 3.2. **Planting:** Neatly remove a plug of turf and replace after planting.

455 Planting wildflower plugs

1. **Handling:** Keep plants watered and in shade until planted. Do not allow to dry out.
2. **Preparation:** Remove brambles, coarse and invasive weeds from planting sites.
3. **Planting in grass:** Close mow to approximately 50 mm. Remove arisings.
4. **Planting sites:** In areas of S07b SEMI-IMPROVED CALCAREOUS GRASSLAND and S07c WETLAND MEADOW (PLUGS)
5. **Planting:** Into a hole to suit plug size and shape. Create a cleft at bottom of hole to improve rooting. Gently firm plant into hole.

457 Planting aquatic/ Marginal plant plugs

1. **Handling:** Keep plants watered and in shade until planted. Do not allow to dry out.
2. **Preparation:** Remove coarse weeds etc. from planting sites.
3. **Planting sites:** In W02 LAKES
4. **Waterproofing membrane below soil:** Do not puncture.
5. **Planting:** Into a hole to suit plug size and shape. Create a cleft at bottom of hole to improve rooting. Gently firm plant into hole to ensure good root hold into substrate.

462 Ballasting aquatic and marginal planting

1. **Requirement:** Where containers/ bags are not preweighted, cover with sufficient ballast to prevent flotation and keep plants secure against likely maximum water flow.
 - 1.1. **Ballast:** Washed gravel, maximum size 10 mm

470 Formal hedges

1. **Shrubs for hedges:** Consistent in species, cultivar and clone to ensure a uniform hedge.

2. **Planting:** In trenches large enough to take full spread of roots. Set out plants evenly.

471 Naturalized hedges

1. **Planting:** In trenches large enough to take full spread of roots. Set out plants evenly.

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:** 50 mm

Planting trees

500 Tree planting

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

505 Tree pits

1. **Sizes:** As detail on drawing PC-BHS-ZZ-XX-DR-L-0400 for all trees S01 and S02
2. **Sloping ground:** Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. **Excavated material:** Separate topsoil and subsoil material and stockpile for backfilling
4. **Pit bottoms:** Excavate with slightly raised centre: Submit proposals.
 - 4.1. **Treatment:** Soil ameliorant worked into pit bottoms
5. **Pit sides:** Scarify.
6. **Backfilling material:** Proprietary tree backfilling material, as section Q28

512 Tree pit irrigation and ventilation accessories

1. **Locations:** To all tree pits to have air pipes
2. **Manufacturer:** GreenBlue Urban Ltd
 - 2.1. **Product reference:** Submit proposals
3. **Type:** Irrigation supplied and installed by
4. **Installation**
 - 4.1. **Pipe:** Lay in loop above root ball with slight fall away from inlet pipe. Trim length to ensure a close fit in the tree pit. Connect both ends of pipe securely into plastics tee junction on inlet.

520 Geocell sheets - Cellular structural soil system

1. **Manufacturer:** [Geosynthetics Limited](#)
 - 1.1. **Contact details**
 - 1.1.1. **Address:** Unit 3, Avery Way,
Hinckley Park,
Hinckley
Leicestershire
United Kingdom
LE10 3FF
 - 1.1.2. **Telephone:** +44 (0)1455 617139
 - 1.1.3. **Web:** www.geosyn.co.uk
 - 1.1.4. **Email:** sales@geosyn.co.uk

- 1.2. Product reference: [Cellweb - Cellular Confinement System \(TRP\) - Geocells \(100 mm Cell Height \)](#)
2. Material: High-density polyethylene (HDPE).
3. Cell dimensions (expanded)
 - 3.1. Cell size (nominal): 259 x 224 mm.
 - 3.2. Cell depth: 100 mm.
4. Properties
 - 4.1. UV resistance: Carbon Black Content (ASTM D 1603), 1.5% (minimum % by weight).
5. Recycled content: None permitted.
6. Accessories: J pins.
7. Underlay: Treetex™ pollution control geotextile.
8. Infill:
9. Colour: Black with green fascia strip.
10. Profile: Rhomboidal (diamond shape) indentations.
11. Panel size: 2560 x 8100 mm.
12. Peel strength: 1420 N.
13. Perforations: 11 ± 2%.

526 Underground guying for:

1. Description: ALL TREES S01 and S02
2. Manufacturer: Greenleaf Ireland
 - 2.1. Product reference: ArborGuy Deadman Anchor
3. Anchoring system: Strapped anchor deadman guying system supplied with 3 slip knot ratchet tensioners
4. Installation: Up to 40cm girth. Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners. Check and know of all underground services in area before installing

Woodland/ matrix/ buffer zone planting

617 Removing trees and hedges

1. Identification: Clearly mark trees and hedges 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

665 Setting out

1. Distance between trees: As per drawing PC-BHS-ZZ-XX-DR-L-0400 - stake locations and seek approval from LA before planting

680 Setting out

1. Planting density: As schedule and planting plans

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: TBC, at least weekly

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.
 - 1.3. Rectification period for trees: To be replaced within 5 years from completion.
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: During the next suitable planting season

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 guys: Re-firm anchor points and adjust as necessary to provide support to the tree.
 - 6.3. Ties: Adjust to accommodate growth and prevent constriction or abrasion.
 - 6.4. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - 6.5. Frequency of checks: Submit proposals
7. Watering: As required for healthy establishment, depending on weather conditions

760 Planting maintenance – pruning - general

1. General: Prune to promote healthy growth and natural shape.
 - 1.1. Dead, dying, diseased wood and suckers: Remove.
 - 1.2. Timing: As appropriate to the species
 - 1.3. Trees: Favour a single central leading shoot.
2. Arisings: Remove.

761 Planting maintenance – pruning - topiary trees

1. Tilia platyphyllos (large leaved Lime)
Box pruned to canopy size of 4500mm height x 3500mm width, 1800 - 2000mm clear stem

Platanus acerifolia (roof pruned)

Roof pruned to canopy size of 1500mm height x 3500mm width, 3000mm clear stem

2. Avoid excessive or improper cutting.

762 Planting maintenance – pollarding - Salix alba

1. Formative pruning: to develop a strong framework for future pollarding. Select and establish a clear main stem to a height of approximately 2.5–3.5m before the first pollard cut. Remove weak, crossing, or poorly attached branches to encourage balanced structure
Frequency: every 2-5 years, depending on growth rate
Pollarding height: to maintain at 3-4m
Timing: late winter (Jan–Feb) before spring growth
2. Avoid excessive or improper cutting.

780 Maintenance instructions

1. General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide details of any special procedures to be carried out.

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):** 50 mm
5. **Trees:** Remulch.
6. **Depth (minimum):** 75 mm

Ω End of Section

Q40 Fencing

Fencing systems

370 Wrought iron - B02 Estate rail fencing

1. **Description:** ESTATE RAIL FENCING by Britannia Estate Fencing. See drawing PC-BHS-ZZ-XX-DR-L-0601
2. **Standard:** Welded, bare metal finish
3. **Sizes:** 1200mm height
4. **Samples:** Submit on request an executed piece of work carried out by the proposed blacksmith.
5. **Materials:** Best quality true wrought iron.
 - 5.1. **Steel or other substitutes:** Not permitted.
 - 5.2. **Consistency:** Tough, ductile and fibrous in character and of even texture.
 - 5.3. **Submit:** Invoices or certificate of authenticity to confirm provenance, on request.
6. **Workmanship**
 - 6.1. **Ornamental work:** Carefully forged, hand wrought and incised where required to produce the design and effect desired.
 - 6.2. **Free ornament:** Forged from substantial iron and forge welded where connected to other ironwork.
 - 6.3. **Accuracy:** Substantially framed together and closely fitted.
 - 6.4. **Cast parts:** Not permitted other than as indicated on the approved design drawings.
7. **Electric welding:** Not permitted.
8. **Joints:** Neatly tenoned and riveted or forge welded.

371 Wrought iron - B01 Deer fencing

1. **Description:** DEER FENCING by Britannia Estate Fencing. See drawing PC-BHS-ZZ-XX-DR-L-0601
2. **Standard:** Welded, bare metal finish
3. **Sizes:** 1800mm height
4. **Samples:** Submit on request an executed piece of work carried out by the proposed blacksmith.
5. **Materials:** Best quality true wrought iron.
 - 5.1. **Steel or other substitutes:** Not permitted.
 - 5.2. **Consistency:** Tough, ductile and fibrous in character and of even texture.
 - 5.3. **Submit:** Invoices or certificate of authenticity to confirm provenance, on request.
6. **Workmanship**
 - 6.1. **Ornamental work:** Carefully forged, hand wrought and incised where required to produce the design and effect desired.
 - 6.2. **Free ornament:** Forged from substantial iron and forge welded where connected to other ironwork.
 - 6.3. **Accuracy:** Substantially framed together and closely fitted.
 - 6.4. **Cast parts:** Not permitted other than as indicated on the approved design drawings.
7. **Electric welding:** Not permitted.
8. **Joints:** Neatly tenoned and riveted or forge welded.

Gates, posts and stiles

520 B05 Estate rail double field gate

1. Manufacturer: Britannia Estate Fencing
 - 1.1. Product reference: 3600mm double field gate
2. Standard: To BS 5709.
3. Sizes: 1200mm h x 3600mm w
4. Materials: wrought iron
5. Fittings: See drawing PC-BHS-ZZ-XX-DR-L-0601
6. Method of setting posts: Concrete foundation, 450 mm square x 750 mm deep or Submit proposals

521 B06 Estate rail single field gate (pedestrian)

1. Manufacturer: Britannia Estate Fencing
 - 1.1. Product reference: 1200mm single field gate
2. Standard: To BS 5709.
3. Sizes: 1200mm h x 1000mm w
4. Materials: wrought iron
5. Fittings: See drawing PC-BHS-ZZ-XX-DR-L-0601
6. Method of setting posts: Concrete foundation, 450 mm square x 750 mm deep or Submit proposals

522 B03 Deer gate double

1. Manufacturer: Britannia Estate Fencing
 - 1.1. Product reference: 5300mm double deer gate
2. Standard: To BS 5709.
3. Sizes: 1800mm h x 5300mm w
4. Materials: wrought iron
5. Fittings: See drawing PC-BHS-ZZ-XX-DR-L-0601
6. Method of setting posts: Concrete foundation, 450 mm square x 750 mm deep or Submit proposals

523 B04 Deer gate single

1. Manufacturer: Britannia Estate Fencing
 - 1.1. Product reference: 1000mm single deer gate
2. Standard: To BS 5709.
3. Sizes: 1800mm h x 1200mm w
4. Materials: wrought iron
5. Fittings: See drawing PC-BHS-ZZ-XX-DR-L-0601
6. Method of setting posts: Concrete foundation, 450 mm square x 750 mm deep or Submit proposals

526 B09 Deer grid

1. Manufacturer: Hopkins Cattle Grids
 - 1.1. Contact: Unit 2a, Lion Works
Pool Road, Newtown, Powys
SY16 3AG

United Kingdom
(01686) 627374
info@hopkinscattlegrids.co.uk

- 1.2. Product reference: 4800mm width deer grid for 80T load capacity
See drawing PC-BHS-ZZ-XX-DR-L-0601
2. Sizes: 4000mm length x 4800mm width; grid depth 355mm
3. Materials: Hot-dip galvanised steel to BS EN ISO 1461:2022

570 B10 Hardwood Timber Double Gate

1. Description: Hardwood Timber Double Gate
See drawing PC-BHS-ZZ-XX-DR-L-0602
2. Manufacturer: Suffolk Gates
 - 2.1. Product reference: BLYTH tongue and grooved, brace, ledged and battered
3. Sizes: 2000mm height x 3600mm opening width between posts
4. Posts: Wood
5. Finish as delivered: Primed and painted 2 coats oil-based paint - matt finish
Colour: Mid-Grey RAL 7035
6. Fittings: Hinges to suit weight, lock and vertical secure bolts
 - 6.1. Finish: Polyester powder-coated, as section Z31, black Hot-dip galvanized to BS EN ISO 1461
7. Method of fixing: Posts set in 450 mm square x 750 mm deep concrete or submit proposals

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.
 - 2.1. NHSS Sector Scheme 2A sub categories: (d)

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.

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

Q50

Site/ street furniture/ equipment

Gates, barriers and parking controls - Not Used

Site and street furniture

220 F01 Stone bench

1. Description: Garden south of main house
2. Supplier: Albion Stone plc
3. Contact details:
 - 3.1. Address:

Robert Denholm House,
Bletchingley Road,
Nutfield, Surrey,
RH1 4HW
United Kingdom
 - 3.2. Telephone: +44 (0) 01737 771772
 - 3.3. Web: <https://www.albionstone.com>
 - 3.4. Email: enquiries@albionstone.com
4. Material: Solid natural Portland Stone, all sides sawn
5. Size: See drawing PC-BHS-ZZ-XX-DR-L-0603
6. Method of fixing: Legs dowelled to seat, concrete base to engineers spec

350 F02 Nesting boxes

1. Description: Barn owl nest box, refer to drawing PC-BHS-ZZ-XX-DR-L-0401
2. Manufacturer: Buttercup Farm
Email: orders@buttercupfarm.co.uk
Telephone: 01293 691 122
 - 2.1. Size: L50 x W59 x H74 cm
3. Material: Plywood
 - 3.1. Finish: As manufactured - non-toxic water based stain and preservative
 - 3.2. Colour: None
4. Method of fixing: Fixing holes in panel extensions

Installation

510 Concrete foundations generally

1. Standard: To BS 8500-2.
2. Concrete: To engineers spec
3. Admixtures: Do not use.
4. Foundation holes: Neat vertical sides.
5. Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 Setting components in concrete

1. Holes: 250 x 250 x minimum 300 mm deep

2. **Components:** Accurately positioned and securely supported.
3. **Concrete fill:** Fully compacted as filling proceeds.
4. **Concrete foundations exposed to view:** Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
5. **Temporary component support:** Maintain undisturbed for minimum 48 hours.

520 Setting in earth

1. **Holes:** As small as practicable.
2. **Components being fixed:** Accurately positioned and securely supported.
3. **Earth refill:** Well rammed as filling proceeds.

Ω End of Section

Q55

External decks, boardwalks and bridges

Tendering

10 Information to be provided with tender

1. General structural requirements in accordance with clause B50/15 (by others).

General

120 P07a Riverside boardwalk, P07b Pontoon and deck

1. Description: Riverside boardwalk and deck
2. Base preparation: Trim grass
3. Structure, other than surfacing: Hardwood (Thermo Iroko), to be approved by PM
 - Fasteners: M8 stainless steel bolts to BS EN ISO 3506, with washers to suit.
 - Hardwood posts to be fixed to stainless steel supports as per detail drawing PC-BHS-ZZ-XX-DR-L-0604
4. Post setting: Posts set in concrete
5. Surfacing: Non-slip deck boards, grooved
 - 5.1. Method of attachment: Exterior grade decking screws
6. Edge protection: As per detail drawing PC-BHS-ZZ-XX-DR-L-0604

System performance - Not Used

Products

305 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
 - 2.1. documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied; or
 - 2.2. evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of Custody Certification scheme: Contractor's choice in accordance with UK Government Timber Procurement Policy (UKTPP), i.e. FSC, GiB or PEFC

340 Structural hardwood (strength class not specified)

1. Description: FOR DECK STRUCTURE GENERALLY
2. Species and origin: Thermo Iroko
3. Grading standard:
4. Surface finish:
5. Treatment: Thermo treated 25 year Warrenty

380 Deck boards

1. **Description:** TO P07a BOARDWALK and P07b PONTOON AND DECK plan drawing PC-BHS-ZZ-XX-DR-L-0104 and detail drawing PC-BHS-ZZ-XX-DR-L-0604
2. **Material:** Hardwood (Iroko)
3. **Treatment:** Thermo-treated
4. **Profile:** Ribbed
5. **Finished size:** P07a: 200mm x 38mm x 1500mm length
 - 5.1. **Length:** Full boardwalk width 1500mm (excluding edge protection)
6. **Finished size:** P07b: 200mm x 38mm x 2500mm length
 - 6.1. **Length:** Pontoon dimensions: 10.0m x 5.0m
Decking dimensions: 10.0m x 11.0m
7. **Features:** Pre-drilled and pelleted fixing holes

Fabrication

510 Fabrication generally

1. **Design:** Complete the detailed design and obtain approval prior to commencing fabrication.
2. **Shop drawings:** Submit.
3. **Structural calculations:** Submit.
4. **Frameworks:** Assemble and brace, including temporary members required for installation.
5. **Contact between dissimilar metals:** Avoid.
6. **Fixings:** Fully bolt together. Tighten bolts.
7. **Temporary support:** Do not subject members to non-design loadings.

Execution

610 Loading

1. **Site activities:** Restrict, to ensure that design loads are not exceeded, or submit proposals for temporary supports.

640 Setting components in earth

1. **Holes:** As small as practicable.
2. **Components:** Accurately positioned and securely supported.
3. **Buried depth (minimum):**
4. **Earth fill:** Well rammed as filling proceeds.

665 Installation generally

1. **Fasteners and methods of fixing:** As section Z20.
2. **Structural members:** Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. **Temporary support:** Do not use stairs, walkways or balustrades as temporary support or strutting for other work.

670 Installation of surfacing

1. **Heading joints:** Kept to a minimum, and formed only as butt joints situated over joists.
2. **Length:** Each board must span not less than two bays between joists with joints in adjacent boards staggered.

3. Gaps between boards:

Completion

950 Documentation

1. Contents
 - 1.1. General product information.
 - 1.2. Installation information.
 - 1.3. Inspection and maintenance reports.
2. Number of copies: TBC
3. Submission: Two weeks after request by contract administrator

Ω End of Section

S15

Fountains and water features

General

110 Fabric

1. **Description:** TO W02 LAKE. Refer to drawing PC_BHS_ZZ_XX_DR_L_0300

2750m2 and 5318m2 size respectively
Depth 3000mm max. from top of water to top of liner
2. **Structure:** Concrete edge detail to engineers spec (hollow block set on concrete strip footing, concrete haunch to maintain liner edge above water level, all concealed with grass planting) - to be developed with hydrology specialist
3. **Substrate:** reinforced In situ concrete, as section E10, to engineers spec
3.1. **Preparation:** Leave concrete with smooth sanded finish, ready to apply seamless GRP
4. **Liner:** 1mm EPDM liner on top of 250gsm non woven geotextile fabric
5. **Finishes:** As drawing PC_BHS_ZZ_XX_DR_L_0300
6. **Accessories:** New grass planting as drawing PC_BHS_ZZ_XX_DR_L_0300

2000mm shelf to lake Nymphaea

110 Fabric Type A

1. **Description:** To small proposed pond near to Pit Clump. Refer to drawing PC_BHS_ZZ_XX_DR_L_0401

2750m2 and 5318m2 size respectively
Depth 3000mm max. from top of water to top of liner
2. **Structure:** Earthworks, as section D20
3. **Liner:** 1mm EPDM liner on top of 250gsm non woven geotextile fabric. No edge detail liner is secured under soil

Performance

200 General design

1. **Design:** W02 Lake with block work edge, lawn to edge of lake, soakaway by lake specialist contractor. Balancing tank by lake specialist contractor 25m away from pond.
Refer to dwg PC_BHS_ZZ_XX_DR_L_0300

Products - Not Used

Execution

700 Installation generally

1. **Performance:** Free from leaks and the audible effects of expansion, vibration and water hammer.
2. **Concealment:**
3. **Fixing of equipment, components and accessories:** Fix securely to the structure of the feature using appropriate purpose made fixings.
4. **Preparation:** Prior to installation, clear all surfaces of debris and projections.
5. **Access:** Allow adequate space for inspection, servicing and maintenance.

6. **Corrosion resistance:** In locations where moisture is present or may occur, provide corrosion-resistant fittings/ fixings and avoid contact between dissimilar metals by including suitable washers, gaskets, etc.

Completion

936 Cleaning

1. **Equipment:** Clean immediately before handover.

940 Documentation

1. **Contents**
 - 1.1. Full technical description of each system installed.
 - 1.2. Manufacturers' operating and maintenance instructions for equipment and controls.
 - 1.3. Manufacturers' guarantees and warranties.
 - 1.4. System operating and maintenance instructions for the system as a whole giving optimum settings for controls and maintenance intervals for all equipment.
 - 1.5. Record drawings showing the location of circuits, fittings, pipes, apparatus and operating controls.

Ω End of Section



Specification created using NBS Chorus