

Western Gateway, Wrexham - Landscape Specification

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17 December 2015

This document includes:

Code	Section	Revision	Dated
D20	Excavating and filling		
F10	Brick/ block walling	A	17 Dec 2015
F21	Natural stone/ashlar walling/dressings	A	22 Sep 2015
Q05	Biodiversity and environmental conservation		
Q10	Kerbs/ edgings/ channels/ paving accessories	A	22 Sep 2015
Q23	Gravel/ Hoggins/ Woodchip/ Resin bound roads/ paving/ overlays		
Q25	Slab/brick/sett/cobble pavings	A	22 Sep 2015
Q28	Topsoil and soil ameliorants		
Q30	Seeding/turfing	A	17 Dec 2015
Q31	External planting		
Q35	Landscape maintenance	A	17 Dec 2015
Q40	Fencing		
Q50	Site/street furniture/equipment	A	17 Dec 2015
Q55	External decks, boardwalks and bridges	A	17 Dec 2015

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D

Groundwork

D20

Excavating and filling

D20 Excavating and filling

GENERALLY/THE SITE

109 DRAWINGS

1406-02 Landscape Masterplan
1406-04 Tree Protection Plan
1406-05 Strategic Planting Plan
1406-10 Topsoil and Subsoil Strategy - Stripping
1406-11 Topsoil and Subsoil Strategy - Reinstatement.

111 OVERVIEW

- Topsoil is to be stripped from the building and car park area to allow for lime stabilisation to the subsoil. If subsoil is stripped too, to achieve required levels, this must be stockpiled separately.
Topsoil is also to be stripped from the wetland and detention basin, all areas of mounding and the location of the ground source heat pumps. Topsoil must also be stripped from areas to be used for stockpiling soil and all haul routes.
- Topsoil to be stored in heaps as Clause 417. Contractor to cost for two topsoil storage options:
 - 1. Store soil heaps on site and work around them.
 - 2. Store soil heaps offsite, adjacent to the temporary access road. WBC have given permission for this.
- Contractor to produce a Soil Resource Plan, in line with the DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Plan to include haul routes, methods to be used, location and management of soil stockpiles, and soil testing to Q28.611.
- Topsoil to be reinstated to all planting and meadow areas as shown on drawing 1406-11.

CLEARANCE/EXCAVATING

185 STRIPPING TOPSOIL

- 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 (as Clause 111).
- Topsoil and subsoil to be stripped separately and stored in separate, non-overlapping stockpiles.
- Depth:
 - To areas to receive lime stabilisation - depth as required to achieve finished levels.
 - To all other areas - depth to be agreed on site with Landscape Architect to remove thickness of topsoil.
 - Give notice where the depth of topsoil is difficult to determine.
- Handling: Handle topsoil for reuse or sale in accordance with clause 225.
- Around trees: Do not remove topsoil from below the spread of trees to be retained.
- Site storage: Keep separate from excavated sub-soil.

221 TREATING TOPSOIL

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

225 HANDLING TOPSOIL

- Standard: To BS 3882.
- Aggressive weeds:
 - Species: Included in the Weeds Act, section 2 or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
 - Give notice: Obtain instructions before moving topsoil.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other soil or material containing aggressive weeds, sharps, plastics and non soil forming materials and notifiable animal or plant diseases.
 - Oil, fuel, cement or other substances harmful to plant growth.
 - Other classifications of topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.

310 UNSTABLE GROUND

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

330 UNRECORDED FEATURES

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

DISPOSAL OF MATERIALS

411 EXCAVATED TOPSOIL AND SUBSOIL STORAGE

- Storage: Stockpile in temporary storage heaps as Clauses 417 and 442 .
- Handling: Multiple handling increases the risk of damage to soil structure so should be minimised.
- Haulage: Haul routes should be no wider than necessary to accommodate two passing vehicles and should be stripped of topsoil down to a firm base.
- Replacement: Soils should be replaced in dry weather using the minimum amount of compaction. Refer to Q28 Topsoil.
- Additional information: The consequence of over-compacted soil is poor establishment or failure of planting, increased surface runoff and surface ponding which can contribute to localised flooding.

417 TOPSOIL STORAGE HEAPS

- Location: To Contractor's Proposals (refer to Clause 111).
- Standard: To BS 3882 and to the DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites..
- Height (maximum): 2m.
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination.
 - Stockpile areas should be fenced off to prevent disturbance or contamination.
- Additional requirements:
 - Soils should not be stored in any areas which are poorly drained or prone to water-logging.
 - To help shed rainwater and prevent ponding, sides should be graded to form a smooth gradient.
 - Stockpiles to be located where they will not require handling or disturbance until required for reinstating.

422 TOPSOIL STORAGE HEAP TREATMENT

- Treatment: Apply a suitable herbicide at appropriate times to prevent seeding of weeds .
- Other requirements:
 - If soil is to be stockpiled for over 6 months, heaps should be seeded with a grass/clover mix to minimise soil erosion and help reduce nuisance weeds.

441 SURPLUS SUBSOIL

- Excavated material: Stockpile in temporary storage heaps.
- Retained material: Spread and level surplus subsoil on site.
 - Locations: To Contractor's Proposals (refer to Clause 111) .
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.
- Remaining material: Remove from site.

442 SUBSOIL STORAGE HEAPS

- Location: To Contractor's Proposals (refer to Clause 111).
- Standard: To BS 3882 and to the DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites..
- Height (maximum): 3m.
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination.
 - Stockpile areas should be fenced off to prevent disturbance or contamination.
- Additional requirements:
 - Soils should not be stored in any areas which are poorly drained or prone to water-logging.
 - To help shed rainwater and prevent ponding, sides should be graded to form a smooth gradient.
 - Stockpiles to be located where they will not require handling or disturbance until required for reinstating.
- Subsoil storage heap treatment: As Clause 422.

450 WATER

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

454 GROUND WATER LEVEL, SPRING OR RUNNING WATER

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

FILLING

500 PROPOSED FILL MATERIALS

- Details: Submit full details of proposed fill materials to demonstrate compliance with specification, including:
 - Type and source of imported fill.
 - Proposals for processing and reuse of material excavated on site.
 - Test reports as required elsewhere.
- Timing: At least 21 days before starting filling.

510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

- 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:
 - Frozen or containing ice.
 - Organic.
 - Contaminated or noxious.
 - Susceptible to spontaneous combustion.
 - Likely to erode or decay and cause voids.
 - With excessive moisture content, slurry, mud or from marshes or bogs.
 - Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
 - Unacceptable, class U2 as defined in the Highways Agency 'Specification for highway works', clause 601.

610 COMPACTED FILLING FOR LANDSCAPE AREAS

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

615 LOOSE TIP FILLING FOR LANDSCAPE AREAS

- Filling: Do not firm, consolidate or compact when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

F

Masonry

F10
Brick/ block walling

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

F10 Brick/ block walling

TYPES OF WALLING

356 ENTRANCE WALLS To Site entrance

- Description: Rendered blockwork wall either side of entrance drive. Drawings: 1406-DD-02 and 1406-DD-36
- Dimensions: As shown
- Blocks: To BS EN 771-3.
 - Manufacturer: Contractor's choice.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: Bond: Contractor's choice.
- Render: To match building.
 - Additional requirements: Stainless steel external render bellcast beading fixed to blockwork face.
 - Render to stop 150mm above ground level, below which to be painted dark grey RAL 7016.
- Copings: To match the building, RAL 7016.
Signage: Seperate design package

WORKMANSHIP GENERALLY

440 CONDITIONING OF CONCRETE BRICKS/ BLOCKS

- Autoclaved concrete bricks/ blocks delivered warm from manufacturing process: Do not use.
- Age of nonautoclaved concrete bricks/ blocks: Do not use until at least four weeks old.
- Avoidance of suction in concrete bricks/ blocks: Do not wet.
 - Use of water retaining mortar admixture: Submit details.

500 LAYING GENERALLY

- Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
- Clay block joints:
 - Thin layer mortar: Lay blocks on a full bed.
 - Interlocking perpend: Butted.
- Bond where not specified: Half lap stretcher.
- Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

645 ACCESSIBLE JOINTS NOT EXPOSED TO VIEW

- Jointing: Struck flush as work proceeds.

690 ADVERSE WEATHER

- General: Do not use frozen materials or lay on frozen surfaces.
- Air temperature requirements: Do not lay bricks/ blocks:
 - In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
 - In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising.
 - In thin joint mortar glue when outside the limits set by the mortar manufacturer.
- Temperature of walling during curing: Above freezing until hardened.
- Newly erected walling: Protect at all times from:
 - Rain and snow.
 - Drying out too rapidly in hot conditions and in drying winds.

F21

Natural stone/ashlar walling/dressings

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

F21 Natural stone/ashlar walling/dressings

- 115 EXTERNAL ARTSCAPE SEATING To Frontage.
- Drawings: 1406-DD-32, and sketches 1406_SK-31 and 32.
 - Number of seats: 2
 - Stone: To BS EN 771-6.
 - Name (traditional): Granite.
 - Colour: Kobra.
 - Finish: Honed with sandblasted artwork.
 - Supplier: Hardscape Products Ltd, Ashworth House, Deakins Business Park, Egerton, Bolton, BL7 9RP. Contact Anthony Collins - 0845 260 1748. Or equal and approved..
 - Size: Overall size of bench is 2300 long, 600mm wide, 470mm high.
 - Additional requirements: Seat to be manufactured as one piece of stone.
 - Artwork: Multilayered sandblasting, with one layer of the artwork to be sandblasted at 100% and the other at 75%.
 - Font is Swissa Piccola Regular, all lower case.
 - Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
 - Other requirements: Supplier to submit photographs of previous and similar stone artscape work. Supplier to be a member of ETI (Ethical Trading Initiative).
 - Material Samples: Samples and photographs of the artwork finish to be submitted for approval before beginning final illustration.
- 116 EXTERNAL STONE SEATING To Stone Circle.
- Drawings: 1406-DD-33
 - Number of seats: 6
 - Stone: To BS EN 771-6.
 - Name (traditional): Granite.
 - Colour: Kobra.
 - Finish: Smooth top and base with cropped sides. Refer to Drawing 1406-33.
 - Supplier: Hardscape Products Ltd, Ashworth House, Deakins Business Park, Egerton, Bolton, BL7 9RP. Contact Anthony Collins - 0845 260 1748. Or equal and approved..
 - Size: Sizes range from 550mm - 800mm depth and width, and 500mm - 750mm height. Refer to Drawing for detail.
 - Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
 - Other requirements: Supplier to submit photographs of previous and similar stone artscape work. Supplier to be a member of ETI (Ethical Trading Initiative).
 - Material Samples: Samples representative of the cropped finish to be submitted for approval before placing orders.

GENERAL/ PRODUCTION

- 240 STONE SAMPLES
- Timing: Before placing orders.
 - Submit: Labelled samples of stone as per Clauses 115 and 116.
- 270 INSPECTION OF STONE UNITS
- Give notice: Before despatch to site, at appropriate stages of production. Supplier to send photographs for the artwork in production for inspection by Landscape Architect.

316 ADVERSE WEATHER

- General: Do not use frozen materials or lay on frozen surfaces.

326 LAYING GENERALLY

- Stone selection: Do not use units with damaged faces or arrises.
- Accuracy:
 - Courses: Level and true to line.
 - Faces, angles and features: Plumb.
 - Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
- Absorbent stones: Dampen in warm weather to reduce suction. Do not soak.
- Cleanliness: Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains not permitted.

327 INSTALLATION

- General:
 - Construction shall be in accordance with BS 5628: Part 3.
 - Dressing of stone on site shall be kept to a minimum.
- Protection:
 - Damage to stonework, particularly arrises and projecting features shall be prevented.
 - Staining and other disfigurement of stonework during construction, and by other trades shall be prevented.

328 STORAGE OF NEW STONE

- Stone to be cut and dressed:
 - Before delivery to Site, including finishes and all sinkings for fixings and lifting devices.
 - With minimal deviation from specified dimensions.

329 DAMAGED STONE UNITS

- Damaged stone shall not be repaired without acceptance from the Landscape Architect. Where stones are badly damaged, or where the proposed repair shall impair appearance or performance, acceptance shall not be given.

Q

Paving/Planting/Fencing/Site furniture

Q05

Biodiversity and environmental conservation

Q05 Biodiversity and environmental conservation

TO BE READ WITH DRAWINGS

- 109 DRAWINGS
1406-02 Landscape Masterplan
1406-04 Tree Protection Plan
1406-05 Planting Plan

- 111 PROPOSALS
The landscape proposals to enhance the ecology and biodiversity of the site include:

Wetland

Creation of a wetland which will extend the existing small pond on site, and will create an enhanced habitat for native and migratory wildlife. The ecologists, TEP, have confirmed that some vegetation from the existing pond can be translocated into the new wetland.

Meadow

Species rich native seed mixes offer a variety of habitats for invertebrates and other species, including mixes for dry meadow, wet meadow, woodland meadow and pond edge.

Hedgerow

The north west section of the existing hedgerow will be retained as it is. The central section will be thinned to open up views across the site and to open up space around the 400–500 year old oak tree. Some of the central section will be removed to allow the creation of the extended wetland, and the eastern section, after the natural break in the hedgerow, will be removed. TEP have confirmed that this removal can be mitigated by additional tree planting to provide a linkage to the hedgerow which will become part of the commuting route for bats. Woodland planting along the boundary of the site will also link the hedgerow to the central woodland and river corridor.

Tree Planting

New native and wildlife friendly non-native tree planting will offer habitat for local wildlife. Oak saplings from the site will be relocated into the meadow areas.

Ornamental Planting around Building

Bee and butterfly loving ornamental grasses and perennials will be planted to the entrance forecourt.

- 115 BREEAM
In order to achieve maximum BREEAM credits for ecology we are aiming to maximise the change in value of the site in the following ways:
- Planting 38 different species which are native or of known wildlife value, which differ to those to be retained on site.
 - Ensuring that at least 70% of species are native or of known wildlife value.
 - Including features which provide both shelter and foraging opportunities.
 - Planting a large number of native trees and trees of known wildlife value.
 - Providing 6 bat boxes and 6 bird boxes on existing mature trees.
 - Pesticide use to be kept to a minimum.
 - Good horticultural practice to be implemented, including using peat-free composts.

- 931 REPORTS

932 REPTILE SURVEY

- July 2014 by TEP
- Interpretation: No reptiles were recorded during the course of the survey, despite some suitable habitat being present on site. A small number of common frogs and adult and juvenile toads were recorded.
- Mitigation:
 - The existing pond should be retained or replaced for the amphibians identified on site.
 - Prior to works commencing the grassland should be strimmed to a minimum height of 150mm.
 - Any potentially suitable hibernacula on site should be demolished by hand between March and October, to ensure no disturbance to hibernating toads.
 - In the unlikely event that reptiles are encountered during site clearance works, advice should be sought from a suitably qualified ecologist.

933 BADGER SURVEY

- August 2014 by TEP
- Interpretation: No badger activity was found on site. Three unknown mammal holes were identified and a badger hair, all outside our site boundary.
- Mitigation:
 - It is the Contractor's responsibility that, prior to works commencing, the vegetation on site must be strimmed to a height of 150mm under the supervision of a suitably qualified ecologist to ensure no badger signs were hidden or inaccessible during the original survey. If any evidence of badger is identified works must cease immediately and the ecologist on site will provide detailed instructions on how work can proceed. If badger are identified on site it is possible a license will be required from Natural England.

934 OTTER METHOD STATEMENT

- August 2014 by TEP
- Interpretation: During the survey a single spraint and a number of footprints were identified, both outside our site boundary.
- Mitigation:
 - The contractor must agree a method statement with a suitably qualified ecologist prior to works commencing.
 - External construction work must be restricted to daylight hours.
 - Logs to be piled as potential habitat from any trees felled on site, location to be agreed with Landscape Architect.
 - A permanent otter proof fence must be constructed along the eastern boundary of the site, to Q40.431, location shown on suitably qualified Landscape Masterplan.

935 BAT ACTIVITY RECORD

- July - August 2014 by TEP
- Interpretation: The site is used by a number of bat species for foraging and commuting, and the hedgerow within the site is used as a commuting line as part of a greater route. The field in the northern section, which is within our site, supports the lowest species assemblage of bats.
- Mitigation:
 - Sensitive lighting schemes should be adopted near the existing hedgerow to avoid unnecessary light spill and the displacement of insect abundance which can negatively affect bat foraging habitat.
 - TEP have confirmed that we are not proposing to take out any tree with potential to support roosting bats, so no further assessment of the trees is required.
 - Provide bat boxes in existing trees.
 - TEP have confirmed that the removal of part of the existing hedgerow is mitigated by additional tree planting to provide a linkage to the hedgerow. Any removal of existing hedgerow must be done before the end of February.

938 ARBORICULTURAL IMPACT ASSESSMENT

- September 2014 by TEP
- Interpretation: One tree group (3 small sycamores) and a part of a further three tree groups (central hedgerow) are to be removed. They are low value with some trees within the groups dying or suppressed.

Mitigation:

- Temporary tree protection fencing must be put in place prior to the commencement of any development work. Refer to drawing 1406-04 Tree Protection Plan for location of fencing, and to the Arboricultural Impact Assessment for full Specification and Diagrams.
- Type of fencing: Standard Heras fencing panels.

941 PREVIOUS SURVEYS BY MARCHES ECOLOGY, 2012

Additional mitigation:

- In accordance with the general mitigation measures, the physical works are being designed to avoid or minimise impacts on features of nature conservation importance. Compliance and site awareness will be ensured by the Contractor through method statements retained on site.
- Potential impacts during the works will be avoided where possible outside March-August inclusively.

Q10

Kerbs/ edgings/ channels/ paving accessories

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q10 Kerbs/ edgings/ channels/ paving accessories

TYPES OF KERBS/EDGINGS AND CHANNELS

- 113 PRECAST CONCRETE BS KERBS to car park
- Drawings: 1406-02 Landscape Masterplan
 - Standard: To BS EN 1340.
 - Recycled content: Contractor's choice.
 - Designations: BN Kerb, bullnosed.
 - Size (width x height x length): 125 x 255 x 915 mm.
 - Special shapes: Drop kerbs, transition units and radius units as required.
 - Colour: Grey.
 - Bedding: Cement mortar.
 - Joints generally: Dry, 2-3 mm gap.
- 121 STONE KERBS To Entrance Forecourt Pavement
- Drawings: 1406-DD-03 and 1406-DD-30
 - Standard: To BS EN 1343.
 - Supplier: Hardscape Products Ltd, Ashworth House, Deakins Business Park, Egerton, Bolton, BL7 9RP. Contact Anthony Collins - 0845 260 1748. Or equal and approved..
 - Types: Bull-nosed.
Stone type: Granite.
 - Colour: Kobra
 - Finish: Flamed
 - Size (width x height): 200 x 225mm random lengths no less than 500mm.
 - Tolerances on overall width and height (nominal): No requirement.
 - Freeze/ Thaw resistance: Resistant.
 - Special shapes: Transition kerbs.
 - Bedding: Cement mortar.
 - Joints generally: Dry, 2-3 mm gap.
 - Additional requirements: Granite dropper units as per the Design Drawings.
Supplier to be a member of ETI (Ethical Trading Initiative).
- 123 STONE EDGING KERBS To raised lawn at frontage
- Drawings: 1406-03 and 1406-30
 - Standard: To BS EN 1343.
 - Supplier: Hardscape Products Ltd, Ashworth House, Deakins Business Park, Egerton, Bolton, BL7 9RP. Contact Anthony Collins - 0845 260 1748. Or equal and approved..
 - Types: Bull-nosed.
Stone type: Granite.
 - Colour: Kobra
 - Finish: Bush hammered
 - Size (width x height): 200 x 325mm random lengths no less than 500mm.
 - Tolerances on overall width and height (nominal): No requirement.
 - Freeze/ Thaw resistance: Resistant.
 - Special shapes: None.
 - Bedding: Cement mortar.
 - Joints generally: Dry, 2-3 mm gap.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).

- 126 STONE EDGING KERBS To stone terrace at rear of building
- Drawings: 1406-03 and 1406-30
 - Standard: To BS EN 1343.
 - Supplier: Hardscape Products Ltd, Ashworth House, Deakins Business Park, Egerton, Bolton, BL7 9RP. Contact Anthony Collins - 0845 260 1748. Or equal and approved..
 - Types: Square.
Stone type: Granite.
 - Colour: Kobra
 - Finish: [Cropped]
 - Size (width x height): 200 x 225mm random lengths no less than 500mm.
 - Tolerances on overall width and height: tbc in relation to cropped finish.
 - Freeze/ Thaw resistance: Resistant.
 - Special shapes: None.
 - Bedding: Cement mortar.
 - Joints generally: Dry, 2-3 mm gap.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).
- 201 STEEL EDGING TO PLANTING BEDS Frontage
- Drawings: 1406-03
 - Description: Steel edging to all planting beds within the raised lawn, except where adjacent to stone kerb edging.
 - Manufacturer: EverEdge, PO Box 333, Market Drayton, Shropshire, TF9 4WL, tel: 01453 731 717. Or equal and approved..
 - Product reference: EverEdge Classic B7.
 - Size: 1000mm length, 1.6mm thickness, 100mm depth.
 - Type/ Material: Galvanised steel.
 - Finish: Powder coated.
 - Colour: Slate.
 - Accessories: None.
 - Joints: Sections overlap by 6% and interlock.
 - Installation: To Manufacturer's written instruction.

ROADS/PAVING ACCESSORIES/MARKING/DEMARCATATION

- 395 ROAD MARKING (THERMOPLASTIC)
- Standard: Road Safety Markings Association standard specification document for road marking and road studs (StanSpec).
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Colour: As required.
 - Retroreflectivity to BS EN 1436: Not required (Class R0).

LAYING

- 510 LAYING KERBS, EDGINGS AND CHANNELS
- Cutting: Neat, accurate and without spalling. Form neat junctions.
 - Long units (450 mm and over) minimum length after cutting: 300 mm.
 - Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
 - 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.
 - 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
- 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
- Standard: To BS 8500-2.
 - Designated mix: Not less than GEN0 or Standard mix ST1.
 - Workability: Very low.
- 540 CEMENT MORTAR BEDDING
- General: To section Z21.
 - Mix (Portland cement:sand): 1:3.
 - Portland cement: Class CEM I 42.5 to BS EN 197-1.
 - Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
 - Bed thickness: 12-40 mm.
- 547 BEDDING/BACKING OF UNITS ON FRESH CONCRETE RACES
- Standard: To BS 7533-6.
- 570 CHANNELS
- Installation: To an even gradient, without ponding or backfall.
 - Lowest points of channels: 6 mm above drainage outlets.
- 580 DRAINAGE CHANNEL SYSTEMS
- Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
 - Silt and debris: Removed from entire system immediately before handover.
 - Washing and detritus: Safely disposed without discharging into sewers or watercourses.
- 590 DRAINAGE CHANNEL SYSTEMS WITH BUILT IN FALL
- Installation: Top of channels level, installed in correct sequence to form an even gradient without ponding or backfall. Commence laying from outlets.
 - Silt and debris: Removed from entire system immediately before handover.
 - Washings and detritus: Safely disposed without discharging into sewers or watercourses.
- 600 RADIUS KERBS/CHANNELS
- Usage: Radii of 15 m or less.
- 610 ANGLE KERBS
- Usage: Internal and external 90° changes of direction.
 - Cutting of mitres: Not permitted.
- 620 ACCURACY
- Deviations (maximum):
 - Level: ± 6 mm.
 - Horizontal and vertical alignment: 3 mm in 3 m.

625 REGULARITY OF PAVED SURFACES

- Maximum undulation of (non-tactile) paving surface: 3 mm.
 - Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
- Difference in level between adjacent units (maximum):
 - Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
 - Recessed, filled joints: 2 mm.
 - Recess depth (maximum): 5 mm.
 - Unfilled joints: 2 mm.
- Sudden irregularities: Not permitted.

Q23

**Gravel/ Hogglin/ Woodchip/ Resin bound roads/ paving/
overlays**

Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/ overlays

TYPES OF SURFACING

- 135 FINE HOGGIN PATH To meadow
- Location: Through meadow, refer to Drawing 1406-02
 - Description: 1.2m wide with timber edging
 - Subgrade improvement layer: To Engineer's Specification and Detail.
 - Compacted thickness: To Engineer's Specification and Detail.
 - Geotextile: Sheet.
 - Manufacturer: Submit proposals.
 - Granular sub-base: Submit proposals.
 - Compacted thickness: Submit proposals.
 - Surface course: Naturally occurring fine hoggin consisting of sand and gravel, with minimum clay content required to bind the material together, and with no large lumps of clay.
 - Size: Minimum of 85% by weight passing a 10 mm BS sieve.
 - Maximum particle size: 12 mm.
 - Compacted thickness: 75 mm.
 - Completion: Compact to produce a firm, regular surface, stable in use.
 - Additional requirements: Timber edge to Clause 310.
- 165 LOOSE GRAVEL To Frontage
- Description: Gravel path around the building frontage, the south east side of the building by the cycle store, and in the tree pit within the timber deck.
 - Drawings: 1406-02 and 1406-03
 - Subgrade improvement layer: To Engineer's Specification and Detail.
 - Compacted thickness: To Engineer's Specification and Detail.
 - Geotextile: Sheet.
 - Manufacturer: Submit proposals.
 - Granular sub-base: Submit proposals.
 - Compacted thickness: Submit proposals.
 - Blinding to sub-base: Submit proposals.
 - Gravel: Loose laid and raked to uniform thickness.
 - Type: Granite.
 - Supplier: CED Ltd, Unit 4 Langley Park Industrial Estate, North Street, Langley Mill, Nottinghamshire, NG16 4BS, tel: 01773 769 916. Or equal and approved..
 - Colour: Grey.
 - Size: 10 mm single size.
 - Thickness: 30mm.
 - Other requirements: The gravel path to the south east side of the building to have a timber edge to Clause 310.

LAYING

- 310 TIMBER EDGING
- Softwood board:
 - Size: 150 x 38 mm.
 - Fixing: Galvanized nails into softwood pegs.
 - Softwood pegs:
 - Size: 50 x 50 x 600 mm long.
 - Fixing: Drive into ground.
 - Centres: Contractor's choice.
 - Preservative treatment: Contractor's choice.

- 330 HERBICIDE TO PAVING Q23/ 135
- Type: Suitable for the application, location and conditions of use.
 - Weeds and moss: Grub up.
 - Application: As section A34, before surfacing.
- 340 LAYING GENERALLY
- Channels, gullies, etc: Keep clear.
 - Finished surfaces:
 - Lines and levels: To prevent ponding.
 - Overall texture: Even.
 - State at completion: Clean.
- 350 COLD WEATHER WORKING
- Frozen materials: Do not use.
 - Freezing conditions: Do not lay pavings.
 - Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
 - Other dressings or overlays: As manufacturers' recommendations.
- 360 DRAINAGE FALLS
- Sealed surfaces:
 - Falls and cross falls (minimum): 1:40.
 - Camber (minimum): 1:50.
 - Unsealed surfaces (minimum): 1:30.
- 380 LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS
- Permissible deviation from required levels, falls and cambers (maximum): ± 12 mm.
 - General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
 - Dry weather: Lightly water layers during compaction.
- 390 PROTECTION FROM TRAFFIC AND PLANT
- Paved areas: Restrict access to prevent damage.

Q25

Slab/brick/sett/cobble pavings

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q25 Slab/brick/sett/cobble pavings

PRODUCTS

- 300 NATURAL STONE SLABS TO ENTRANCE WALKWAY To Entrance Frontage
- Description: Stone paving leading to building entrance. Pedestrian use only.
 - Drawings: 1406-03, 1406-30
 - Standard: To BS EN 1341.
 - Supplier: Hardscape, Tel: 0845 260 1748, Eagley House, Deakins Business Park, Egerton, Bolton BL7 9RP, contact Anthony Collins. .
 - Product reference: Kilkenny Blue Limestone.
 - Finish: Flamed.
 - Colour: Mixed fossil.
 - Sizes: 264mm x random lengths 600-900mm x 50mm.
 - Plan dimension deviation class: P1.
 - Diagonal deviation class: D1.
 - Thickness deviation class: T1.
 - Arrises: Square.
 - Joints: 6mm-8mm mortar
 - Mortar: Instarmac Ultrascap Flowpoint or equal and approved. Colours to be agreed with Landscape Architect.
 - Bedding: Wet mortar bed, nominal thickness 30mm tbc
 - Bond: Random lengths in regular courses with joints staggered by minimum 100mm.
 - Breaking strength: Class 2.
 - Slip resistance: PTV to BS 7976-2 of 40.
 - Skid resistance: PSV to HA DMRB 7.5.1 of 50.
 - Surface treatment: None.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).
- 301 NATURAL STONE SLABS TO DIAGONAL PATHS To Entrance Frontage
- Description: Stone paving crossing the entrance frontage. Pedestrian use only.
 - Drawings: 1406-03, 1406-30
 - Standard: To BS EN 1341.
 - Supplier: Hardscape, Tel: 0845 260 1748, Eagley House, Deakins Business Park, Egerton, Bolton BL7 9RP, contact Anthony Collins. .
 - Product reference: Kobra Granite.
 - Finish: Flamed.
 - Sizes: 350mm x random lengths 600-900mm x 50mm.
 - Plan dimension deviation class: P1.
 - Diagonal deviation class: D1.
 - Thickness deviation class: T1.
 - Arrises: Square.
 - Joints: 6mm-8mm mortar
 - Mortar: Instarmac Ultrascap Flowpoint or equal and approved. Colours to be agreed with Landscape Architect.
 - Bedding: Wet mortar bed, nominal thickness 30mm tbc
 - Bond: Random lengths in regular courses with joints staggered by minimum 100mm.
 - Breaking strength: Class 2.
 - Slip resistance: PTV to BS 7976-2 of 40.
 - Skid resistance: PSV to HA DMRB 7.5.1 of 50.
 - Surface treatment: None.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).

- 303 NATURAL STONE SLABS TO FRONTAGE General paving
- Description: Stone paving around building entrance, and to entrance frontage pavement. Pedestrian use only.
 - Drawings: 1406-03 Landscape Forecourt Plan
 - Standard: To BS EN 1341.
 - Supplier: Hardscape, Tel: 0845 260 1748, Eagley House, Deakins Business Park, Egerton, Bolton BL7 9RP, contact Anthony Collins. .
 - Product reference: Kobra Granite.
 - Finish: Flamed.
 - Sizes: 550mm x random lengths 600-900mm x 50mm.
 - Plan dimension deviation class: P1.
 - Diagonal deviation class: D1.
 - Thickness deviation class: T1.
 - Arrises: Square.
 - Joints: 6mm-8mm mortar
 - Mortar: Instarmac Ultrascap Flowpoint or equal and approved. Colours to be agreed with Landscape Architect.
 - Bedding: Wet mortar bed, nominal thickness 30mm tbc
 - Bond: Random lengths in regular courses with joints staggered by minimum 100mm.
 - Breaking strength: Class 2.
 - Slip resistance: PTV to BS 7976-2 of 40.
 - Skid resistance: PSV to HA DMRB 7.5.1 of 50.
 - Surface treatment: None.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).
- 304 NATURAL STONE SLABS TO TERRACE at rear of building
- Description: Stone paving to the terrace which forms part of the Deck. Pedestrian use only.
 - Drawings: 1406-34, 1406-35
 - Standard: To BS EN 1341.
 - Supplier: Hardscape, Tel: 0845 260 1748, Eagley House, Deakins Business Park, Egerton, Bolton BL7 9RP, contact Anthony Collins. .
 - Product reference: Kobra Granite.
 - Finish: Flamed.
 - Sizes: 145mm x random lengths 600-900mm x 50mm.
 - Plan dimension deviation class: P1.
 - Diagonal deviation class: D1.
 - Thickness deviation class: T1.
 - Arrises: Square.
 - Joints: 6mm-8mm mortar
 - Mortar: Instarmac Ultrascap Flowpoint or equal and approved. Colours to be agreed with Landscape Architect.
 - Bedding: Wet mortar bed, nominal thickness 30mm tbc
 - Bond: Random lengths in regular courses with joints staggered by minimum 100mm.
 - Breaking strength: Class 2.
 - Slip resistance: PTV to BS 7976-2 of 40.
 - Skid resistance: PSV to HA DMRB 7.5.1 of 50.
 - Surface treatment: None.
 - Additional requirements: Supplier to be a member of ETI (Ethical Trading Initiative).

EXECUTION

- 610 MATERIAL SAMPLES
- Samples representative of colour and appearance of designated materials: Submit before placing orders.
 - Designated materials: All stone pavings.

615 CONTROL SAMPLES

- Sample areas: Complete as part of the finished work.
 - Types of paving: All pavings.
 - Location: On site.
 - Size (minimum): 1.5 x 1.5 m.
 - Included features: None.
- Approval of appearance and surface: Obtain before proceeding.

620 ADVERSE WEATHER

- General:
 - Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
 - Stockpiled bedding sand: Protect from saturation.
 - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
 - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
 - Laying dry-sand 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

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

637 REGULARITY OF PAVED SURFACES

- Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
- Joints between paving units or utility access covers:
 - Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

640 COLOUR BANDING

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

645 PROTECTION

- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- Materials storage: Do not overload pavings with stacks of materials.
- Handling: Do not damage paving unit corners, arrises, or previously laid paving.
- Mortar bedded pavings: Keep free from traffic after laying:
 - Pedestrian traffic (minimum): 4 days.
 - Vehicular traffic (minimum): 10 days.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

650 CEMENTITIOUS BASES AND SUB-BASES

- 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

- Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
- 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.
- Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
- Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
- Levels and falls: Accurate and within the specified tolerances.
- Drainage outlets: Within 0-10 mm of the required finished level.
- Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
- Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

661 RECESSED MANHOLE COVERS AND FRAMES TO ALL PAVED AREAS

- All external manhole covers set within paved areas are to have an inset cover to receive slabs.
- All covers are to be rotated to align with the paving pattern and insets cut to align with the paving grid.
- Sizes of paving insets and fillets shall be cut to align with the paving grid, to the acceptance of the Landscape Architect.
- Ensure that manhole covers are not located on the joint between different paving types.
- Cover and frame to be inset to finished levels, and completed paving and cover to sit flush with paving.

Q28

Topsoil and soil ameliorants

Q28 Topsoil and soil ameliorants

TO BE READ WITH SECTION D20 AND DRAWINGS

- 109 DRAWINGS
1406-02 Landscape Masterplan
1406-04 Tree Protection Plan
1406-05 Strategic Planting Plan
1406-10 Topsoil and Subsoil Strategy - Stripping
1406-11 Topsoil and Subsoil Strategy - Reinstatement.
- 110 NATURALLY OCCURRING TOPSOIL FOR ALL WOODLAND PLANTING AREAS
- Topsoil: Site topsoil .
 - Ameliorants: None.
 - Accessories: Gel irrigation system: Broadleaf P4.
- 110A NATURALLY OCCURRING TOPSOIL FOR LAWN AND ALL SHRUB, PERENNIAL AND HEDGE PLANTING AREAS
- Topsoil: Site topsoil.
 - Ameliorants: Fertilizer to be incorporated into topsoil .
 - Accessories: Gel irrigation system: Broadleaf P4.
- 110B NATURALLY OCCURRING SUBSOIL FOR MOUNDS IN MEADOW AREAS
- Topsoil: Site subsoil.
 - Ameliorants: None.
 - Accessories: None.
- 110C NATURALLY OCCURRING TOPSOIL FOR ORNAMENTAL PLANTING BEDS
- Topsoil: Site topsoil- selected by landscape architect as being of best quality.
 - Ameliorants: Fertilizer to be incorporated into topsoil .
 - Accessories: Gel irrigation system: Broadleaf P4 .
- 110D NATURALLY OCCURRING TOPSOIL FOR ALL TREE PITS
- Topsoil: Site topsoil- selected by landscape architect as being of best quality.
 - Ameliorants: None.
 - Accessories: None.
- 112 NATURALLY OCCURRING SUBSOIL FOR ALL MOUNDING AND MEADOWS
- Subsoil: Site sourced subsoil .
 - Ameliorants: None.
 - Accessories: None.
 - Other requirements:
 - Landscape architect to assess available stripped subsoil and topsoil, plus Soil Analysis (Clause 611) with Contractor to agree how much topsoil should be used in the mounding areas that are seeded with meadow mixes. Meadows work best with low fertile soils (subsoil).
- 112A NATURALLY OCCURRING SUBSOIL FOR WETLANDS
- Subsoil: Site sourced subsoil .
 - Ameliorants: None.
 - Accessories: None.
 - Other requirements:
 - No topsoil to be used in the wetlands

PRODUCTS

300 PREPARATION MATERIALS GENERALLY

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

310 MATERIALS NOT PERMITTED

- Materials:
 - Peat;
 - Products containing peat; and
 - River and canal dredgings.

360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100 As required

- Standard: In accordance with PAS 100.
- Source: Submit proposals.
 - Product reference: Submit proposals.
- Horticultural parameters:
 - pH (1:5 water extract): 7.0-8.7.
 - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
 - Moisture content (m/m of fresh weight): 35-55%.
 - Organic matter content (minimum): 25%.
 - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: 10 mm screen mesh aperture.
 - Carbon:Nitrogen ratio (maximum): 20:1.
- Texture: Friable.
- Objectionable odour: None.
- Composting Association certification: Required.
- Declaration of analysis: Submit.
- Additional analyses: Not required.
- Samples: Supply 5 kg sample before ordering.

385 WATER RETENTION GELS FOR PLANTING BEDS

- Type: Agri polymer gel .
- Manufacturer: Agripol.
 - Product reference: Broadleaf P4.
- Accessories: None.

390 FERTILIZERS TO BE INCORPORATED INTO TOPSOIL AND MANUFACTURED TOPSOIL Lawn, shrub, ornamental perennial and hedge planting

- Type: General fertilizer.
- Source: Submit proposals.
 - Product reference: Submit proposals.

EXECUTION

611 TOPSOIL AND SUBSOIL TESTING

- Soil to be analysed: Site topsoil and subsoil stored in temporary storage heaps.
- Soil analyst: Tim O'Hare Associates, Howbery Park, Wallingford, Oxfordshire, OX10 8BA, Tel:01491 822653.
- Samples: Collect in accordance with BS 3882.
- Submit:
 - Declaration of analysis:
 - Nutrient content, pH value and textural classification;
 - pH value and textural classification;
 - Phytotoxic and CLEA elements; and
 - Textural classification and maximum stone content.
 - Report detailing soil analyst's recommendations.

650 NOTICE

- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
- Period of notice: 1 week.

655 MECHANICAL TOOLS

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

660 GRADING SUBSOIL

- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Areas of thicker topsoil: Excavate locally.
- Avoid over compaction.

665 SUBSOIL SURFACE PREPARATION

- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Stones: Immediately before spreading topsoil, remove stones larger than 75 mm.
- Remove from site: Arisings, contaminants and debris and Builders rubble.

670 INSPECTING FORMATIONS

- Give notice: Before spreading topsoil for planting beds.
- Notice period: 7 days.

675 PREPARATION OF UNDISTURBED TOPSOIL

- Standard: In accordance with BS 4428.
 - Grading and cultivation: To suit cultivation operations specified in Q30.
- Hard ground: Break up thoroughly.
- Clearing: Remove visible roots and large stones with a diameter greater than 75 mm.
- Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
- Fallow period (minimum): Two months.
 - Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.

685 SURPLUS MATERIALS TO BE REMOVED

- Topsoil: Remove from site excess topsoil.
- Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

691 TOPSOIL AND SUBSOIL STORAGE HEAPS

- Refer to Section D20, Clauses 417 and 442.

695 CULTIVATION

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
 - Depth: 350 mm.
 - Particle size (maximum): 5 mm.
 - Timing: Within a few days before planting.
 - Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: 25 mm above adjoining paving or kerbs and Minimum 150 mm below dpc of adjoining buildings.
- Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding 75 mm.
- Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

697 FILL MATERIAL TO HARD LANDSCAPE AREAS

- Lime stabilised soil to be removed from any areas for planting, turfing or seeding.

700 GRADING OF TOPSOIL

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.

- 711 SPREADING TOPSOIL
- Temporary roads/ surfacing: Remove before spreading topsoil.
 - Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
 - Depths after firming and settlement (minimum): 400 mm.
 - Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
 - Compaction: Soils should be replaced in dry weather using the minimum amount of compaction.
- 713 PUDDLED CLAY
- Clay subsoil to be identified from the stockpiles and used to puddle the base of the micropools within the wetland.
- 715 LOOSE TIPPING OF TOPSOIL
- 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.
- 718 FINAL CULTIVATION FOR PLANTING BEDS AND LAWN AREA
- Compacted topsoil: Break up to full depth.
 - Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
 - Depth: 250 mm.
 - Particle size (maximum): 2-8 mm.
 - Timing: Within a few days before planting.
 - Weather and ground conditions: Suitably dry.
 - Surface: Leave regular and even.
 - Levels:
 - 25 mm above adjoining paving or kerbs;
 - 50 mm above adjoining lawns; and
 - Minimum 150 mm below dpc of adjoining buildings.
 - Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding 40 mm.
- 720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT
- Above adjoining paving or kerbs: 30 mm.
 - Below dpc of adjoining buildings: Not less than Not less than 150mm.
 - Planting beds: Higher than adjoining grass areas by 50 mm.
 - Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
 - Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
 - Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
 - Adjoining soil areas: Marry in.
 - Thickness of turf or mulch: Included.
- 826 APPLYING FERTILIZER TO PROPOSED GRASS AREAS TO TURFED AREAS
- Application: Before final cultivation and three to five days before seeding/ turfing.
 - Coverage:
 - Spread evenly, in transverse directions.
 - Rate: Submit proposals.
 - Other requirements: Not to be applied to seeded meadow areas.

- 835 APPLYING BURIED GEL IRRIGATION SYSTEM ..
- Depth: To manufacturer's/ supplier's recommendations.

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q30 Seeding/turfing

TO BE READ WITH PLANT SCHEDULES AND DRAWINGS

- 114 DRAWINGS
1406-02 Landscape Masterplan
1406-05 Strategic Planting Plan
- 115 SEEDED AND TURFED AREAS
- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
 - Appearance: A closely knit, continuous ground cover of even density, height and colour.
- 120 CLIMATIC CONDITIONS
- General: Carry out the work while soil and weather conditions are suitable.
- 145 WATERING
- Quantity: Wet full depth of topsoil.
 - Application: Even and without displacing seed, seedlings or soil.
 - Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing.
- 150 WATER RESTRICTIONS
- 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
- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Preparing seed bed.
 - Seeding or turfing.
 - Visiting site during maintenance period.
 - Period of notice: 3 working days.
- 170 SETTING OUT
- Boundaries: Mark clearly.
 - Delineation: In straight lines or smoothly flowing curves as shown on drawings.

PREPARATION

- 210 HERBICIDE FOR LAWNS
- Type: Suitable for suppressing perennial weeds.
 - Timing: Allow fallow period before cultivation.
 - Duration: 2 weeks.
- 212 SEED BED CLEANING BEFORE SOWING WILD FLOWER MEADOWS
- Operations: Kill pernicious weeds with selective contact herbicide..

280 FINAL CULTIVATION

- Timing: After grading and fertilizing.
- Seed bed: Reduce to fine, firm tilth with good crumb structure.
 - Depth: 25 mm.
 - Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
 - Remove surface stones/earth clods exceeding:
 - General areas: 40 mm.
 - Fine lawn areas: 10 mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

SEEDING WILDFLOWER MEADOWS

310A GRASS SEED FOR MEADOWS - FERTILE SOIL

- Refer to Drawing 1406-DD-25 for individual meadow mixes.

318 QUALITY OF SEED FOR WILD FLOWER MEADOWS

- Freshness: Produced for the current growing season.
- Provenance: All seed to be of native species and provenanced in the UK.
- Certification: Blue label certified varieties.
 - Standard: EC purity and germination regulations.
 - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

331 SOWING MEADOWS

- General: Establish good seed contact with the root zone.
- Method: Either scratch cultivate the surface, using a disc or chain harrow and sow, or rotavate to create a tilth for sowing.
 - Distribution: To Manufacturer's instructions
- Drilling:
 - Prepare seed bed to a fine tilth, in dry conditions.
 - Sow shallow.
 - Roll or harrow to set the seed into the soil.
- Wet weather: If a period of heavy rain, followed by dry weather occurs between operations, a hard panning may occur (especially on clay soils) which reduces the effectiveness of drilling.
- Other requirements:
 - Wet Soil and Wetland Edges: Establishment of damp meadow may prove difficult as seed broadcast on wet ground may end up on the surface. Sites are best prepared in mid summer when ground conditions are at their driest, and a good tilth and seed contact can be assured.

337 WILDFLOWER SOWING SEASON

- Wildflower seed:
 - Autumn in dry weather. The frosts will help to break up the clay soil, the winter wet will help with germination, and the wildflowers will have a better opportunity to establish before a spring flush of weeds.
- Wildflower seed to Wetland:
 - Midsummer, sow when ground is driest.

341 PRE-EMERGENT HERBICIDE FOR WILD FLOWER MEADOWS

- Standard: Pesticide Safety Directorate approved.
- Product: Use biodegradable Glyphosate based herbicides.
- Application rate: In accordance with manufacturer's written recommendation.
- Spraying: Should be carried out in dry conditions. Spot-treat weeds over the long term.
- Additional information:
 - Disturbed fertile soils will have a large weedbank of unwanted species. The correct use of herbicide will be necessary and weeds will need to be thoroughly sprayed off beforehand.
 - If possible areas should be sprayed and left until a secondary flush of weed seedlings appear within one to two weeks before spraying again.

352 EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
 - Mulch and soil: Draw back to permit edging.
- Arisings: Remove.
- Completion: Respread soil and mulch.

TURFING LAWN AREA

410 TURF TO BS 3969 FOR LAWNS

- Standard: To BS 3969, free from undesirable grasses and weeds.
 - Grade: Fine sports/ ornamental turf.
- Source: Submit proposals.
- Herbicide treatment: Apply not less than four weeks and not more than three months before lifting.
- Dimensions: Submit proposals.

420 DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
 - Standard: To BS 3969.
 - Declaration: Sward species composition.

423 INSPECTION OF TURF FOR LAWNS

- Sampling method: To BS 3969.
- Give notice: Before lifting turf.
 - Period of notice: 1 week.

430 TURFING GENERALLY

- Time of year: To be agreed.
- Timing of laying:
 - Spring and summer: Within 18 hours of delivery.
 - Autumn and winter: Within 24 hours of delivery.
- 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.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: 35% Finely sifted topsoil, 35% Compost, 30% Sand.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

450 TRIMMING TURF

- Newly planted tree pits: Neatly cut away around individual trees.
 - Diameter: 1000 mm.
 - Tree pit surface: Respread existing mulch.

PROTECTING/CUTTING

541 FIRST CUT OF LAWNS

- Height of initial growth: 75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 60 mm.
- Mower type: Contractor's choice.
- Arisings: Remove from site.

542 FIRST CUT OF WILDFLOWERS

- Timing: Should be mown regularly through the first year to control weeds, allow light in, and encourage good root development. Mow approx. 4 times.
Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 50 mm.
- Mower type: Contractor's choice.
- Arisings: Remove from site.

590 CLEANLINESS

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

MAINTENANCE

610 FAILURES OF SEEDING/TURFING

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

621 MAINTAINING LAWNS

- Duration: Carry out the following operations from completion of turfing until: the end of the rectification period.
- Maximum height of growth at any time: 50 mm.
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of 25 mm.
 - Arisings: Remove.
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
 - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: to ensure successful growth and establishment.

651 MAINTAINING MEADOW AREAS

- Duration: Carry out the following operations from completion of seeding until: the end of the rectification period.
- Preparation: Before each cut remove all litter and debris.
- Height and frequency of cut in first growing season:
 - Time of first cut: After flowering and seed has ripened and fallen.
 - Height of first cut: 50 mm.
 - Frequency of subsequent cutting (minimum): 4 times in first year.
- Height and frequency of cut in second growing season:
 - Time of cut: October, March and August.
 - Height of cut: 50 mm.
- Trimming: All edges.
 - Arisings: Remove.
- Watering: To ensure successful growth and establishment.

680 MAINTENANCE FERTILIZER FOR LAWNS

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

Q31

External planting

Q31 External planting

TO BE READ WITH PLANT SCHEDULES AND DRAWINGS

- 110 DRAWINGS
1406-02 Landscape Masterplan
1406-05 Planting Plan
1406-31 Tree Pit Detail
- 112 SITE CLEARANCE GENERALLY
- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
 - Stones: Remove those with any dimension exceeding 75 mm.
 - Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
 - Vegetation: None.
 - Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
 - Additional requirements: None.
- 118 SOIL CONDITIONS
- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
 - 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
- General: Carry out the work while soil and weather conditions are suitable.
 - Strong winds: Do not plant.
- 126 TIMES OF YEAR FOR PLANTING
- Deciduous trees and shrubs: Late October to late March.
 - Conifers and evergreens: September/ October or April/ May.
 - Herbaceous plants (including marginal): September/ October or March/ April.
 - Container grown plants: At any time if ground and weather conditions are favourable.
 - Watering and weed control: Provide as necessary.
 - Dried bulbs, corms and tubers: September/ October.
 - Colchicum (crocus): July/ August.
 - Green bulbs: After flowering in spring.
 - Wildflower plugs: Late August to mid November or March/ April.
 - Aquatic plants: May/ June or September/ October.
- 130 MECHANICAL TOOLS
- Restrictions: Do not use within 100 mm of tree and plant stems.
- 145 WATERING
- Quantity: Wet full depth of topsoil.
 - Application: Even and without damaging or displacing plants or soil.
 - Frequency: As necessary to ensure establishment and continued thriving of planting.
- 150 WATER RESTRICTIONS
- 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

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Delivery of plants/ trees.
 - Planting shrubs.
 - Planting trees into previously dug pits.
 - Watering.
 - Visiting site during maintenance period.
- Period of notice: One week.

165 PREPARATION, PLANTING AND MULCHING MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certification of source, analysis, suitability for purpose and absence of harmful substances: Submit.
 - Certified materials: Spent mushroom compost.
 - Give notice before ordering or using.

170 SOIL REQUIREMENTS

- Type
 - Planted beds: Existing topsoil.
 - Tree pits, shrub pits and other backfilling: Existing topsoil.
 - External container planting: None.
 - Mulch applied after planting: Mulching and top dressing system, as section Q28.

201 PLANTS/ TREES - GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
 - Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance:
 - Native planting: British provenance.
 - Non-native planting: [Grown in the United Kingdom for at least one growing season, unless otherwise approved].

Definition: Origin and Provenance have the meaning given in the National Plant Specification.

215 PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.

- 225 BULBS/ CORMS/ TUBERS
- Condition: Firm, entire, not dried out or shrivelled.
 - Health: Free from pests, diseases and fungus.
 - Handling: Remove from packaging immediately.
 - Storage: Permitted only when necessary.
 - Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
 - Duration: Minimum period.
 - Temperature: 18-21°C.
- 235 CONTAINER GROWN PLANTS/ TREES
- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
 - Plants: Centred in containers, firmed and well watered.
 - Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
 - Hardiness: Grown in the open for at least two months before being supplied.
 - Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.
- 245 LABELLING AND INFORMATION
- General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - Full botanical name.
 - Total number.
 - Number of bundles.
 - Part bundles.
 - Supplier's name.
 - Employer's name and project reference.
 - Plant specification, in accordance with scheduled National Plant Specification categories.
 - Additional information: Submit on request: Country of origin.
- 255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES
- Types/ Species: As plant schedule.
 - Predelivery inspection: Give notice.
 - Labelling: Identify inspected plants/ trees as reserved for use on this project.
- 260 PLANT/ TREE SUBSTITUTION
- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
 - Price.
 - Difference from specified plants/ trees.
 - Approval: Obtain before making any substitution.
- 265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING
- Standard: To CPSE 'Handling and establishing landscape plants'.
 - Frost: Protect plants from frost.
 - Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
 - Plant packaging: Black polyethylene bags.
 - Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
 - Planting: Upright or well balanced with best side to front.

280 TREATMENT OF TREE WOUNDS

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

285 PROTECTION OF EXISTING GRASS

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

290 SURPLUS MATERIAL

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

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300 HERBICIDE TO CLEAR OVERGROWN BEDS

- Locations: All planting areas.
- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration (minimum): Two weeks.

375 CULTIVATION

- Compacted topsoil: Break up to full depth.
- Cultivation: Loosen, aerate and break up soil into particles of 2-8 mm.
 - Depth: 350 mm.
 - Timing: Within a few days before planting.
 - Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels:
 - 25 mm above adjoining paving or kerbs;
 - 50 mm above adjoining lawns; and
 - Minimum 150 mm below dpc of adjoining buildings.
- Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding 50 mm.
- Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

401 REGULAR PLANT LAYOUT TO ALL BEDS

- Spacing: As plant schedule.
- Density: As plant schedule.

405 SHRUB PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system.
- Pit bottom improvement Not required.

- 415 ANTIDESICCANT FOR CONIFERS/ EVERGREENS
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Application: Dip before delivering to site. Spray soon after planting.
 - Do not apply in wet or frosty weather.
 - Ensure full coverage of underside of foliage.
- 445 PLANTING BULBS/ CORMS/ TUBERS
- Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
 - Backfilling: Finely broken soil. Lightly firm to existing ground level.
 - Naturalized planting in existing grassed areas:
 - Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
 - Planting: Neatly remove a plug of turf and replace after planting.
- 458 PLANTING AQUATIC/ MARGINAL PLANT PLUGS
- Handling: Keep plants watered and in shade until planted. Do not allow to dry out.
 - Preparation: Remove coarse weeds etc. from planting sites.
 - Planting sites: As Drawings.
 - 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.
- 459 NOTCH PLANTING BARE ROOT AQUATIC PLANTS
- Notching: Make a vertical 'I', 'L', 'T' or 'H' notch.
 - Depth: To accommodate full depth of roots.
 - Waterproofing membrane below soil: Do not puncture.
 - Planting: Insert plant at specified water depth, close notch and firm surrounding soil to ensure good root hold into substrate.
- 461 PLANTING CONTAINERIZED, BAGGED AND WEIGHTED BUNCH AQUATIC PLANTS
- Preparation: Remove coarse weeds, debris, etc.
 - Waterproofing membrane below soil: Do not puncture.
 - Planting sites: Form level, stepped or gently sloping areas as scheduled and/ or appropriate to planting water depths and container/ bag sizes and shapes.
 - Planting: Lower containers/ bags/ bunches gently into place, keeping plants upright.
- 462 BALLASTING AQUATIC AND MARGINAL PLANTING
- Requirement: Where containers/ bags are not preweighted, cover with sufficient ballast to prevent flotation and keep plants secure against likely maximum water flow.
 - Ballast: Washed gravel, maximum size 10 mm.
- 464 TRANSPLANTING REED RHIZOMES To Wetland
- Requirement: Reed rhizomes from the existing pond on site to be transplanted to the new wetland.
 - Size: Refer to Plant Schedule.
- 470 FORMAL HEDGES
- Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
 - Planting: In trenches large enough to take full spread of roots. Set out plants evenly.
- 471 NATURALIZED HEDGES
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

472 FENCING SUPPORT FOR NEW HEDGES

- Type: Timber post and general pattern wire mesh, as section Q40, except to Instant Yew hedging.
- Timing: Before planting hedge.
- Support: Lightly secure hedge plants to fence wires at appropriate intervals.

474 INSTANT HEDGES To Entrance Frontage

- Description: Established instant hedge.
Size: Refer to Plant Schedule.
- Supplier: Instant Hedges, Red Oak Farm, Hulcott Lane, Hulcott, Nr Aylesbury, Buckinghamshire, HP22 5AX. Tel: 01296 399585. Or equal and approved.
- Appearance: Consistent in species, cultivar and clone to ensure a uniform hedge. Hedge to look established with no gaps on planting.
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.
- Other requirements: Photographs from supplier to be submitted for approval before placing orders.

476 SHRUB, HERBACEOUS AND BULB BACKFILLING MATERIAL FOR FLOWERING SHRUB PITS

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required:
- Ameliorant/ Conditioner: Not required.
 - Application rate: not required.
- Fertilizer: Not required.
 - Application rate: Not required.

480 AFTER PLANTING

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- 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.
- Top dressing: Not required.
 - Depth: Not required.

485 MULCHING PLANTING BEDS

- Material: Medium grade bark mulch.
 - Purity: Free of pests, disease, fungus and weeds.
 - Recycled content: None permitted.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: 50 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

PLANTING TREES

500 ANTIDESICCANT FOR CONIFERS/ EVERGREENS

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

506 TREE PITS

- Sizes: 75 mm deeper and 150mm wider than root system and wide enough to accommodate roots when fully spread.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 150 mm.
 - Treatment: None.
- Pit sides: Scarify.
- Backfilling material: Tree backfilling material.
- Accessories: Perforated plastics irrigation/ ventilation pipe.
- Completed pits: Test for free drainage before planting.

507 TREE PITS TO ENTRANCE FRONTAGE

- Sizes: 75 mm deeper and 150mm wider than root system and wide enough to accommodate roots when fully spread.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 150 mm.
 - Treatment: None.
- Pit sides: Scarify.
- Backfilling material: Tree backfilling material.
- Accessories: Perforated plastics irrigation/ ventilation pipe and Underground guying to BS 4043.
- Completed pits: Test for free drainage before planting.

510A TREE PIT ROOT BARRIERS

- Locations:
 - Wherever the installed rootball will be within 3.0 m of an existing underground service route use Reroot 2000 from Greenleaf or similar
 - Wherever the installed rootball will be within 2.0 m of a building foundation use Reroot 1000 from Greenleaf or similar
 - Adjacent to kerbs use Reroot 300 from Greenleaf or similar ..
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Depth of top of root barrier below finished soil level: Flush.
- Installation: With sides vertical.

513 TREE ROOT ANCHORS FOR TREES TO ENTRANCE FRONTAGE

- Locations: Entrance Frontage .
- Manufacturer: Contractor's choice.
- Root anchor straps: Biodegradable within 3-5 years.

516 TREE PIT DRAINAGE FOR TREES TO ENTRANCE FRONTAGE

- Depth of excavation: Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.
- Aggregate layer: Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
 - Depth: 200 mm.
- Completed pits: Test for free drainage before planting.

526 SEMI MATURE TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support:
 - Trees generally: Long double staking.
 - Entrance Frontage trees: [Underground guying to BS 4043].
- Protection: Not required.

- 528 SEMI MATURE TREES Entrance Frontage
- Description: Standard semi-mature trees with dense clipped heads in a wide oval/rounded-off rectangle shape. Shape tbc.
 - Size: Refer to Plant Schedule.
 - Supplier: King and Co Tree Nursery Ltd, Dunmow Road, Rayne, Nr Braintree, Essex, CM77 6WF. Tel: 01376 340469. Or equal and approved.
 - Other requirements: Photographs from supplier to be submitted for approval before placing orders.
- 530 TRANSPLANTING OAK SAPLINGS To Meadow
- Description: Oak saplings will be transplanted from within the site into tree protection areas by others as part of the Enabling Works.
 - Number: Refer to Plant Schedule.
 - Requirement: To transplant these into the meadow as part of the tree planting generally.
- 535 STAKING GENERALLY
- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
 - Preservative treatment: Not required.
 - Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
 - Stake size (minimum): Rounded 50 mm.
- 555 SHORT SINGLE STAKING FOR LIGHT STANDARD AND STANDARD TREES
- Staking: Position stake close to tree on windward side and drive vertically at least 300 mm into bottom of pit before planting.
 - Backfilling: Consolidate material around stake
 - Height of stakes: Cut to approximately 600 mm above ground level.
 - Ties: Expanding ties.
 - Tying: Secure tree firmly but not rigidly to stake with at least two ties within 25 mm of top of stake.
- 575 SHORT DOUBLE STAKING FOR HEAVY STANDARD TREES
- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.
 - Backfilling: Consolidate material around stakes.
 - Height of stakes: Cut to approximately 600 mm above ground level.
 - Cross bar: Flexible webbing within 25 mm of top of stake.
 - Firmly fix on windward side of tree and as close as possible to stem.
 - Ties: Adjustable ties.
 - Tying: Secure tree firmly but not rigidly to cross bar.
- 586 TREE BACKFILLING MATERIAL
- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required.
 - Ameliorant/ Conditioner: Not required.
 - Application rate: Not required.
 - Fertilizer: Not required.
 - Application rate: Not required.

WOODLAND/ MATRIX/ BUFFER ZONE PLANTING

- 605 EXISTING VEGETATION/ WEED CLEARANCE
- Surface vegetation clearance: suitable nonresidual herbicide.
 - Arisings: Remove.

625A CULTIVATION

- General: Disc harrow to full depth of topsoil incorporating Broadleaf P4 from Agripol to manufacturers recommended specification.
- Consolidation: Leave for one month.
- Soil within root spread of trees to be retained: Do not plough or cultivate.

680 SETTING OUT

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

690A WOODLAND PLANTING PROTECTION

- Manufacturer: Contractors choice
 - Product reference: Contractor's choice
- Type: Spiral guard except around bushy plants such as hawthorn and eleagnus, which should be protected by spiral netting guard
- Size: Spiral guard 60x38cm, Netting guard 60cm high
- Colour: Green plastics
- Support: Single softwood stake secured with 2 ties
- General: Ensure that protection methods do not impede natural movement of shrubs/ trees or restrict growth.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
- Frequency of maintenance visits: Fortnightly during growing season.

720 FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: During the next suitable planting season.

730 PROTECTIVE FENCING

- Fencing type: Contractor's choice.
- Erection: On completion of planting.
- Removal: Fencing will remain the property of the Contractor. Remove and refill post holes following acceptance of rectified defects.

740 CLEANLINESS

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

750 PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By use of approved non-residual herbicides.
- 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.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: Every three months.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
- Watering: As required to ensure successful growth and establishment of plants.

755 PLANTING MAINTENANCE - FERTILIZER

- Time of year: March or April.
- Fertilizer: Slow release.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Application rate: To manufacturer's recommendations.

770A WOODLAND PLANTING MAINTENANCE

- Watering: Only as necessary to prevent plants wilting.
- Loose plants, guards and stakes: Refirm surrounding soil, without compacting. Refix stakes and guards
- Weed control: maintain woodland planting area weed free to ensure successful growth of planting.

780 MAINTENANCE INSTRUCTIONS

- 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 a schedule of any ongoing maintenance problems experienced during the rectification period.

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 75 mm.
- Trees: Remulch.
Depth (minimum): 50 mm.

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q35 Landscape maintenance

GENERALLY

110 NOTICE

- Give notice before:
 - Application of herbicide.
 - Application of fertilizer.
 - Watering.
 - Each site maintenance visit.
- Period of notice: 7 days.

130 REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.

155 WATERING

- Supply: Potable mains water.
- Quantity: Wet full depth of topsoil .
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

160 WATER RESTRICTIONS

- General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

165 IRRIGATION

- Contractor to price two options, both of which are in accordance with BREEAM requirements:
 - Option 1: Drip feed subsurface irrigation system to the planting beds and instant yew hedge to the Entrance Frontage. Irrigation system must incorporate moisture sensors and be zoned to permit variable irrigation to different planting areas. A rainstat must also be installed to prevent automatic irrigation during rainfall.
 - Option 2: Manual watering by landscape contractors.

170 DISPOSAL OF ARISING

- General: Unless specified otherwise, dispose of arisings as follows:
 - Biodegradable arisings: Remove to recycling facility.
 - Grass cuttings: Remove to recycling facility.
 - Tree roots and stumps: Dispose on site in boundary planting for wildlife.
 - Shrub and tree prunings: Remove to recycling facility.
 - Litter and nonbiodegradable arisings: Remove from site.

190 LITTER

- Extraneous rubbish not arising from the contract work: Collect and remove from site.

195 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

197 CLEANLINESS

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

GRASSED AREAS

210 MAINTENANCE OF GRASSED AREAS

- General: Maintain turf in a manner appropriate to the intended use.
- Soil and grass:
 - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
 - Waterlogging and compaction: Prevent.
 - Damage: Repair trampling, abrasion or scalping.
- Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
 - Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

220 GRASS CUTTING GENERALLY

- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.
- Edges: Leave neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas: Sweep clear and remove arisings.
- Drought or wet conditions: Obtain instructions.

226 TREE STEMS

- Precautions: Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree.
 - Operations close to stems: Complete using hand tools.

228 TRANSPLANTED OAK SAPLINGS To Meadow

- Description: Oak saplings transplanted from within the site require watering to ensure their continued thriving and establishment while temporarily within tree protection area, and when replanted into meadow.

235 BULBS AND CORMS IN GRASSED AREAS

- Before flowering: Do not cut.
- Interval between end of flowering and start of grass cutting (minimum): Six weeks.

251 LEAF REMOVAL To lawns and planting beds

- Operations: Collect fallen leaves.
- Special requirements: Remove by hand raking.
- Disposal: Remove from site for recycling.

255 FIRST CUT OF LAWNS

- Height of initial growth: 75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 60 mm.
- Mower type: Contractor's choice.
- Arisings: Remove from site.

- 260 MOWING LAWNS
- Grass height: Maintain between 25 and 50 mm.
 - Arisings: Remove from site.
- 270 MOWING ROUGH GRASSED AREAS
- Grass height: Maintain between 50 and 75 mm.
 - Arisings: Remove from site.
- 274 MAINTAINING MEADOW AREAS WITH PERENNIAL WILD FLOWERS
- Preparation: Before each cut remove litter and debris.
 - Height and frequency of cut in first growing season:
 - Time of first cut: After flowering and seed has ripened and fallen.
 - Height of first cut: 50 mm .
 - Frequency of subsequent cutting (minimum): 4 times in first year.
 - Height and frequency of cut in second growing season:
 - Time of cut: October, March and August.
 - Height of cut: 50 mm.
 - Trimming: All edges.
 - Arisings: Remove.
 - Watering: To ensure successful growth and establishment.
- 285 TOP DRESSING
- Location: All lawns.
 - Timing: Following scarification and aeration.
 - Material: Compost/ sand/ loam mix.
 - Supplier: Submit proposals.
 - Product reference: Submit proposals.
 - Declaration of analysis: Submit.
 - Additional analyses: Not required.
 - Samples: Not required.
 - Application rate: As Manufacturer's instructions.
- 290 ROLLING
- Location: All lawns.
 - Timing: Contractor's choice.
 - Roller: Contractor's choice.
 - Operations: Consolidate turf and reduce frost heave.
- 295 SPIKING
- Location: All lawns.
 - Timing: Contractor's choice.
 - Operations: Aerate the soil and improve surface water penetration.
 - Depth (minimum): Contractor's choice.
- 300 SCARIFYING
- Location: All lawns.
 - Timing: Contractor's choice.
 - Operations: Relieve thatch conditions and remove dead grass.
 - Depth (maximum): Contractor's choice.
 - Arisings: Remove from site.

- 305 HARROWING
- Location: All lawns.
 - Timing: Contractor's choice.
 - Operations: Aerate soil and remove worm casts.
 - Type of harrow: Chain harrow or drag mat.
- 307 HOLLOW TINING
- Location: All lawns.
 - Timing: Contractor's choice.
 - Depth: 75 mm.
- 309 EDGES TO SEEDED AREAS
- Location: Planting beds and around newly planted trees.
 - Timing: After seeded areas are well established.
 - Edges: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
 - Arisings: Remove.
- 310 RE-FORMING GRASS EDGES
- Location: All edges.
 - Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.
- 320 LEVELLING HOLLOWS AND BUMPS IN TURF
- Standard: To BS 7370-3, clauses 12.4 and 12.5.
- 325 RELIEVING SURFACE COMPACTION IN TURF
- Standard: To BS 7370-3.
 - Method: Spiking.
 - Top dressing: Medium to fine sand.
 - Depth: 2-3 mm.
- 330 SELECTIVE HERBICIDE
- Location: All lawns.
 - Herbicide: Contractor's choice.
 - Areas not to be sprayed: Wildflower areas.
- 340 SPOT WEEDKILLING IN ROUGH GRASS AREAS
- Herbicide: Contractor's choice.
 - Operations: Spot treat injurious weed species listed in the Weeds Act 1959 and Wildlife and Countryside Act 1981.
- 345 CONTROL OF JAPANESE KNOTWEED
- Operations: Spot treat in June and September during suitable weather conditions and when plants are growing vigorously.
 - Herbicide: Contractor's choice.
 - Application: Contractor's choice.
 - Arisings: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
- 350 FERTILIZER - SPRING APPLICATION
- Type: Slow release.
 - Application rate: 60 g/m².

360 FERTILIZER - AUTUMN APPLICATION

- Type: Slow release.
- Application rate: 60 g/m².

380 REINSTATEMENT OF DAMAGED LAWNS

- Damaged turf: Remove to a depth of 40 mm.
- Preparation: Cultivate substrate to a fine tilth.
- Reinstatement: Contractor's choice of returfing or topsoiling and reseeding:
 - Returfing: Quality and appearance to match existing.
 - Reseeding: Fill with fine topsoil to BS 3882 multi purpose class, free from stones, debris and weeds. Reseed with a seed mix to match existing grass in quality and appearance.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

FLOWER BEDS/ SEASONAL BEDDINGS

460 BEDS OF PERENNIALS OR PERENNIALS AND ANNUALS

- Plant supports: Stake and tie plants using bamboo canes.
 - Length: To suit plant height.
 - Maintain throughout the growing season.
- Gaps in planting: Refill by replanting.
- Watering:
 - New plants: Before and after planting out.
 - Ongoing: As necessary for the continued thriving of all planting.
- Operations at end of growing season:
 - Trim: Older flowering stems of herbaceous perennials.
 - Remove: Redundant plant supports, litter, debris and arisings.
 - Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
 - Top dress: Apply sanitized and stabilized compost top dressing.

470 FLOWER BEDS GENERALLY

- Operations:
 - Remove: Dead flower heads, fallen leaves, litter and debris.
 - Weeds: Thoroughly hand weed.
 - Cultivate: Lightly hoe.
 - Trim: Clip grass edges.
- Fungicide: Contractor's choice.
- Insecticide: Contractor's choice.

SHRUBS/TREES/HEDGES

500 ESTABLISHMENT OF NEW PLANTING

- Duration: One year.
- Weed control:
 - Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
 - Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
- Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: To ensure successful growth and establishment.

502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER

- Time of year: March or April.
- Type: Slow release.
- Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - Application rate: 300 g per m².

510 TREE STAKES AND TIES

- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
- Stakes:
 - Replace loose, broken or decayed stakes to original specification.
 - If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
 - Where chafing has occurred, reposition or replace ties to prevent further chafing.
- Removal of stakes and ties: During spring when no longer required to support the tree.
 - Fill stake holes with lightly compacted soil.

515 TREE GUY WIRES

- Inspection/ Maintenance times: Immediately after strong winds.
- Operations:
 - Replace or resecure loose or missing guy wires.
 - Adjust to suit stem growth and to provide correct and uniform tension.
- Removal: As schedule.

520 REFIRMING OF TREES AND SHRUBS

- Timing: After strong winds, frost heave and other disturbances.
- Refirming: Tread around the base until firmly bedded.
- Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

525 TREE GUARDS

- Loose or defective guards: Adjust, refix or replace to original specification and to prevent chafing.

530 TREE SHELTERS

- Loose or defective shelters: Adjust, refix or replace to original specification and to prevent chafing.
- Removal: During spring when no longer required to protect the tree.

540 PRUNING GENERALLY

- Pruning: In accordance with good horticultural and arboricultural practice.
 - Removing branches: Do not damage or tear the stem or bark.
 - Wounds: Keep as small as possible and cut cleanly back to sound wood.
 - Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
- Disease or infection: Give notice if detected.
- Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

545 PRUNING OF EXCESSIVE OVERHANG

- Timing: As instructed.
- Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
- Special requirements: None.

570 FORMATIVE PRUNING OF YOUNG TREES

- Standard: Type and timing of pruning operations to suit the plant species.
- Time of year: Do not prune during the late winter/ early spring sap flow period.
- Young trees up to 4 m high:
 - Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.
 - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- Whips or feathered trees: Do not prune.
- Operatives: Member of the Arboricultural Association.

575 PRUNING ORNAMENTAL SHRUBS

- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
- Suckers: Remove by cutting back level with the source stem or root.

580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES

- Time of year:
 - Winter flowering shrubs: Spring.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
 - Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.

590 PRUNING PARTICULAR SPECIES

- Species to be pruned to separate specific instructions: Ornamental grasses to Entrance Frontage to be cut down to the ground in February.

600 TRIMMING RAPIDLY ESTABLISHING HEDGES

- General: Allow to reach planned height as rapidly as possible.
 - Form: Trim back lateral branches moderately.

605 TRIMMING SLOWLY ESTABLISHING HEDGES

- Operations:
 - Timing: Cut back hard in June and September to encourage bushy growth down to ground level.
 - Form: Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit.

615 TRIMMING FIELD HEDGES

- Operations: Trim to specified height and profile using suitable mechanical cutters.

620 REMOVAL OF DEAD PLANT MATERIAL

- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

630 DEAD AND DISEASED PLANTS

- Removal: Within one week of notification.
- Replacement: In the next suitable planting season.

- 635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
- Dead and damaged plants: Remove.
 - Mulch/ matting materials:
 - Carefully move to one side and dig over the soil, leaving it fit for replanting.
 - Do not disturb roots of adjacent plants.
 - Replacement plants:
 - Use pits and plants: To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - Additional requirements: Submit proposals.
 - Dressing: Slow release fertilizer:
 - Type: Submit proposals.
 - Application rate: As manufacturer's recommendations.
- 646 WEED CONTROL TO PLANTING BEDS ENTRANCE FRONTAGE
- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
 - Adjacent plants, trees and grass: Do not damage.
- 647 WEED CONTROL TO PLANTING BEDS CAR PARK
- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
 - Adjacent plants, trees and grass: Do not damage.
- 650 HAND WEEDING
- General: Remove weeds entirely, including roots.
 - Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
 - Completion: Rake area to a neat, clean condition.
 - Mulch: Reinstate to original depth.
- 655 WEED CUTTING BY HAND OR MACHINE
- Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 75 mm.
 - Herbicides: Do not use near wildflower meadow.
- 657 HERBICIDE TO KILL REGROWTH
- Type: Suitable foliar acting herbicide to kill regrowth.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 665 WEED CONTROL WITH WINTER HERBICIDE
- Type: Suitable residual soil acting herbicide.
 - Time of year: Unless otherwise agreed, complete before end of March.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 670 WEED CONTROL WITH SUMMER HERBICIDE
- Type: Suitable foliar acting herbicide.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 680 SOIL AERATION
- Compacted soil surfaces:
 - Prick up: To aerate the soil of root areas and break surface crust.
 - Size of lumps: Reduce to crumb and level off.
 - Damage: Do not damage plants and their roots.

- 685 SOIL LEVEL ADJUSTMENT
- Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.
 - Arisings (if any): Spread evenly over the bed.
- 690 MAINTENANCE OF LOOSE MULCH
- Thickness (minimum): 50 mm.
 - Top up: Every three months.
 - Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
 - Weeding: Remove weeds growing on or in mulch by hand weeding.
- 695 FERTILIZING ESTABLISHED TREES AND SHRUBS
- Time of year: After flowering.
 - Type of fertilizer: Slow release.
 - Application: Spread evenly.
 - Rate: As manufacturer's recommendations.
- 700 SNOW REMOVAL FROM SHRUBS/ TREES
- Standard: To BS 7370-4.
 - Plants subject to snow removal: All evergreens.
 - Timing: Within 24 hours of snowfall.
- 705 WINTER LEAF REMOVAL
- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
 - Arisings: Remove.
- 710 WOODLAND PLANTING MAINTENANCE
- Watering: In exceptional circumstances to prevent plants dying.
 - Loose plants: Refirm surrounding soil, without compacting.
 - Vegetation: Except trees and coppice shoots to be retained, cut down to 200 mm above ground level within the plantation area.
 - Arisings: Leave between rows.
 - Ditches and drains: Keep clear.
- 720 COPPICING
- Material to be coppiced: Salix species within existing hedgerow.
 - Standard: Good forestry practice.
 - Cut stems: 200-300 mm.
 - Finish: Leave sloping upward towards the centre to promote rainwater runoff.
 - Brash: Stack around coppice stool to alleviate deer damage.
 - Coppiced timber: Stack as instructed within boundary planting for wildlife.

TREE WORK

810 TREE WORK GENERALLY

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
- Removing branches: Cut as Arboricultural Association Leaflet 'Mature tree management'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Appearance: Leave trees with a well balanced natural appearance.
- Chain saw work: Operatives must hold a Certificate of Competence.
- Tree work: To be carried out by an approved member of the Arboricultural Association.

815 ADDITIONAL WORK

- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

820 PREVENTION OF WOUND BLEEDING

- Standard: To BS 3998, clause 8.

825 PREVENTION OF DISEASE TRANSMISSION

- Standard: To BS 3998, clause 9 and Appendix B.

830 CLEANING OUT AND DEADWOODING

- Remove:
 - Dead, dying, or diseased wood, broken branches and stubs.
 - Fungal growths and fruiting bodies.
 - Rubbish, wind blown or accumulated in branch forks.
 - Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - Other unwanted objects, e.g. tree houses, swings.
 - Climbing plants Remove.

835 CUTTING AND PRUNING GENERALLY

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
 - Chainsaws: Do not use on branches of less than 50 mm diameter.
 - Hand saws: Form a smooth cut surface.
 - Anvil type secateurs: Do not use.
- Removing branches: Do not damage or tear the stem.
- Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
Large branches: Remove only if unavoidable.
 - Remove in small sections and lower to ground with ropes and slings.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

840 CROWN REDUCTION/ SHAPING

- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
- Operations: Reduce crown by 15%.

845 CROWN LIFTING

- Clearances: Remove branch systems to give clearance.
 - Height: As recommended by BS 7370-4, clause 3.7.2.3.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

850 CROWN THINNING

- Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.
- Thinning: Selectively remove secondary and small live branch growth evenly throughout the crown.
 - Quantity: 10 %.
- Cutting: Make no cuts of more than 50 mm diameter.
 - Branches: Cut back to lateral or sublateral buds or branches without leaving stumps.
- Appearance: Leave a uniform and well balanced structure of branches and foliage.

855 CUTTING TREE ROOTS

- Excavating: Use hand tools only.
- Protected area: Do not cut roots within an area which is the larger of:
 - The branch spread of the tree.
 - An area with a radius of half the tree's height, measured from the trunk.
- Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
- Cutting:
 - Cutting: Make clean smooth cuts with a hand saw.
 - Wounds: Minimize. Avoid ragged edges.
 - Finishing: Pare cut surfaces smooth with a sharp knife.
- Backfilling:
 - Protection: Cover cut roots with clean sharp sand.
 - Material: Backfill with original topsoil.

860 REMOVING TREES, SHRUBS AND HEDGES

- Standards: To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
- Existing services: Check for below and above ground services. Give notice if they may be affected.
- Shrubs and smaller trees: Cut down and grub up roots.
- Tree stumps:
 - Removal: Remove mechanically to a minimum depth of 300 mm below ground level.
 - Removal by winching: Give notice. Do not use other trees as supports or anchors.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
- Filling holes:
 - Material: Use as-dug material and/ or imported soil as required.
 - Finishing: Consolidate and grade to marry in with surrounding ground level.

865 BARK DAMAGE

- Wounds:
 - Do not attempt to stop sap bleeding.
 - Bark: Remove ragged edges using a sharp knife.
 - Wood: Remove splintered wood from deep wounds.
 - Size: Keep wounds as small as possible.
- Liquid or flux oozing from apparently healthy bark: Give notice.

870 CAVITIES IN TREES

- Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
- Water filled cavities: Do not drain.
- Sound wood inside cavities: Do not remove.
- Cavity openings: Do not cover.

WATER AREAS

891 WETLANDS MAINTENANCE

- Monthly:
 - Remove litter and debris.
 - Cut grass to access routes, wetland edges and overflows.
 - Inspect and clear inlets, outlets, control structures and overflows.
- Annually or as required:
 - Remove silt from forebays or other inlet structures.
 - Cut pond vegetation if required and no more than 30% 100mm above pond base and remove to wildlife areas.
 - Amenity grass cutting at 35-50mm for verges and paths.
- As required: -
 - Remove encroaching pond vegetation if required to meet design objectives.
 - Repair or replace inlets, outlets or control structures.

892 DETENTION BASIN MAINTENANCE

- Monthly:
 - Remove litter and debris.
 - Inspect and clear inlets, outlets, control structures and overflows.
- Annually or as required:
 - Remove sediments from forebay, inlets, outlets or other inlet structures.
 - Cut back overhanging branches.
 - Remove leaf accumulation.
 - Cut grass to access routes and basin, where required, at 75-100mm, not to exceed 150mm.
- As required: -
 - Inspect and repair damage to inlets, outlets or control structures.

896 INVASIVE SPECIES MONITORING

- Description: " No invasive species have been found on the site during ecological surveys, the most recent being December 2014. However, Japanese knotweed and Himalyan basalm have been found 100m away to the north.
- Annual monitoring of the site should be undertaken to ensure that invasive species have not spread on to the site. This must be undertaken annually during May/June. Refer to the Invasive Species Method Statement for any additional information.

HARD LANDSCAPE AREAS/FENCING

901 HARD LANDSCAPE MAINTENANCE OBJECTIVES

- The main objectives of a system of maintenance for hard landscape areas are:
 - To preserve surfaces in sound structural condition.
 - To keep them safe for users.
 - To maintain a good appearance.
- These objectives are to be achieved by regular inspection and maintenance in accordance with BS 7370-2 generally.
- Additional inspections may be necessary after severe weather conditions, such as frost and snow.

905 SNOW CLEARANCE

- Priority should be given to snow clearance in order to provide safe routes for pedestrians along footpaths and road crossings, in particular on slopes.
- Clearance: On reaching a depth of 5 mm.
- Deicing: To roads and footpaths.
 - Material: Acetate based granules.
 - Timing: When freezing precipitation is forecast and on snow reaching a depth of 5mm.
 - Application rate: Spread evenly at a rate of As manufacturer's recommendations.
- Thaw: During the thaw, all surface water drainage channels, gully gratings and outlets should be cleared first to prevent ponding, flooding and subsequent damage to hard paving and planted areas.

911 HARD SURFACES AND GRAVEL AREAS

- To be carried out in accordance with BS 7370-2.
- Hard surfaces: Remove litter, leaves and other debris.
- Surface gutters and channels: Remove mud, silt and debris.
- Drainage gullies: Empty traps and flush clean.
- Repairs to all paved surfaces: Where repairs are carried out, matching materials should be used in accordance with the original paving (Section Q25). In order to match the original paving, the joints may also require resealing in accordance with the original Specification.
- Cleaning: Pavings adjacent to buildings should be scrubbed using water and detergent and hosed with clean water. Chemicals, detergents and oil-based materials should not be hosed into adjoining planting beds, sewers or water courses, but should be intercepted and collected by a wet/dry vacuum machine.
- Weeds: Ensure that all weeds are removed by hand or suitable herbicides. any weeds which are over 75mm in size are to be removed by hand, unless of a persistent perennial type, in which case a suitable foliar acting or residual herbicide must be used and the resulting dead weeds removed. Allow the recommended period for herbicide to take effect before clearing arisings. refer to BS 7370-2:1994 Clause 4.6.
- Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
- Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
- Stain removal: In accordance with BS 7370-2, table 4.

913 HAND SWEEPING

- Hand sweep footpaths and paved surfaces using a stiff brush.
- remove soil, grass cuttings, mulch etc. from all hard surfaces and leave the works in a clean and tidy condition.
- Remove all surface debris and litter off site.

916 TIMBER DECK

- Maintenance: Regular brushing with a stiff brush.
- Annually: Clean using pressure spray or a purpose made deck cleaning product formulated to remove grease and discolouration, to Manufacturer's Instructions.

- 920 FENCING
- Fences: Inspect and repair to maintain protection against intruders.
- 921 OTTER PROTECTION FENCING
- Fences: Inspect and repair to maintain protection against otters.
- 930 GRAFFITI REMOVAL
- Method: So as not to damage surface material.
 - Subsequent treatment: Not required.
 - Finish: N/A.
- 931 MOSS AND ALGAE
- Moss and algae should not be allowed to cover more than 1% of the paved surface.
 - Remove by scrubbing. Refer to BS 7370-2:1994 Clause 4.6.2.4.
- 932 EVENNESS
- Where a risk of slipping exists, warning notices should be installed.
 - All pavings should be maintained to the levels and falls originally constructed.
 - Movement of paving units should not be allowed to produce a differential between adjacent units greater than 6mm.
 - If, under the load for which the paving was designed, the foundation below paving permits surface units to rock by more than 5mm at any point, then relaying should be undertaken.
 - Differential settlement should not exceed 6mm under a 3m straight edge or 10mm for block paved areas.
- 933 BREAKAGE
- Concentrated damage: E.g. by vehicles tracking across or at the edges of pavements, should be repaired or upgraded and rebuilt.
 - Trip hazard: Damaged paving units generally should be repaired or rebuilt. particular attention should be given if the break creates a trip hazard.
- 934 PERMEABILITY
- The maintenance of hard areas should ensure that the surface and surface structures retain their designed hydrodynamic properties in terms of flow and permeability in accordance with BS 7370-2:1994.
 - Outlets from any system of subsoil drainage beneath paved areas should be periodically inspected and cleaned.
 - Surface water drains, channels, gullies, traps, outlets and grids should be kept clear of accumulated grit, tree leaves, etc.
 - Permeable materials: Should be capable of absorbing heavy rain and allowing it to pass through to a permanent drainage point.
 - Impermeable materials: Care should be taken when carrying out repairs to ensure that the original surface falls and the spacing between gullies are maintained.
- 935 SAFETY
- Hard paving: Should be firm and even and should not become slippery, even when wet, as BS 7370-2:1994.
- 936 APPEARANCE AND DURABILITY
- The original colour and texture of surfaces should be maintained as far as possible, with due allowance for the natural weathering of materials (e.g. the timber deck will fade to a silvery grey).
 - Surfaces should not be allowed to degrade under wear, frost attack or settlement.
 - Weed growth: Herbicides should be used in accordance with Clause 15 of BS 7370-1:1991.

937 REMOVAL OF STAINS

- Stain removal: In accordance with BS 7370-2, Table 4 and Section 4.9.
- Before treatment is attempted as much as possible of the spillage should be mopped up or scraped off the surface.
- Before commencing full-scale treatment, a small area should be treated in order that the extent and effect of the treatment can be judged.
- Chemicals for the removal of stains should be used only under correct supervision and in accordance with the label directions.

938 STRUCTURES GENERALLY

- Visual inspections should be carried out of all structures in order to monitor their safety and appearance. It is essential that any indications of damage or potential defects, e.g. to freestanding or retaining walls over 1m high, should be referred to a Structural Engineer for advice. Refer to BS 7370-2:1994.
- Repairs should be carried out using equivalent materials in accordance with the original Specification.

939 GATES

- Thorough inspections are essential in order that the extent of any corrosion can be seen.
- Attention should be paid to hinges and bolts which are particularly susceptible to wear and seizure.

945 EXTERNAL FURNITURE

- Furniture should be cleaned by washing with water and weak detergent, unless the suppliers' instructions give other recommendations. The cleaning of items such as seats, plant containers, signs and notice boards, should be included in the overall cleaning programme for the area.

950 SAFETY SIGNAGE

- Safety signage around the wetland area should be cleaned regularly by washing with water and weak detergent.

Q40
Fencing

Q40 Fencing

FENCING SYSTEMS

211 WOODEN POST AND RAIL FENCING

- Description: To site boundary either side of entrance
- Drawings: 1406-02
- Manufacturer: Contractor's choice.
Standard: To BS 1722-7, type SPR 11/4.
- Height: 1100 mm.
- Wood: Contractor's choice.
 - Treatment: Submit proposals.
 - Finish: Submit proposals.
- Rails: Top rail to be fixed so top edge is 100mm from the top of the main post.
- Posts: Length of main posts 1.8m,
- Maximum centres of posts: 1.8 m.
- Method of setting posts: Rammed earth to a minimum depth of 600 mm.
- Other requirements: Holes for posts should be as small as practicable with vertical sides.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-7

415 POST AND WIRE STOCK FENCING To site boundary

- Drawings: 1406-02
- Height: 1200 mm.
- Materials: Timber posts and hot dipped galvanised wire mesh as used for cattle fencing.
- Centres of posts: Submit proposals.
- Method of setting posts: Rammed earth to a minimum depth of 600 mm.
- Other requirements: Holes for posts should be as small as practicable with vertical sides.
- Accessories: None.

EXECUTION

710 INSTALLATION GENERALLY

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

715 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
 - NHSS Sector Scheme 2A sub categories: (a).
 - NHSS Sector Scheme 2C sub categories: Not required.

740 SETTING POSTS IN EARTH

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

760 NAILED WOOD RAILS

- Length (minimum): Two bays, with joints in adjacent rails staggered.
- Fixing: Nail each length of rail to each post with two 100 mm galvanized nails.
- Rails with split ends: Replace.

770 SITE CUTTING OF WOOD

- General: Kept to a minimum.
- Below or near ground level: Cutting prohibited.
- Treatment of surfaces exposed by minor cutting and drilling: Two flood coats of solution recommended for the purpose by main treatment solution manufacturer.

780 MAKING GOOD GALVANIZED SURFACES

- Treatment of minor damage (including on fasteners and fittings): Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
- Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

COMPLETION

910 CLEANING

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

920 FIXINGS

- All components: Tighten.
 - Timing: Before handover.

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q50 Site/street furniture/equipment

GATES, BARRIERS AND PARKING CONTROLS

- 122 AUTOMATIC STEEL GATE to entrance
- Description: Double leaf automatic swing gates with card swipe post and manual pedestrian swing gate.
 - Standard: BS/EN 12453
 - Manufacturer: Submit proposals.
 - Product reference: Submit proposals.
 - Standard: To BS 4092-1.
 - Size: Overall width including pedestrian gate 14.7m. 2.2m high.
 - Materials: Galvanised steel.
 - Jointing: Welded.
 - Finish as delivered: Primed for painting.
 - Colour: tbc.
 - Fittings and accessories: Submit proposals.
 - Method of setting posts: Concrete foundations to Engineer's Specification.

SITE AND STREET FURNITURE

- 209 EMPLOYEE CYCLE STANDS
- Location: To entrance frontage, refer to Drawing 1406-03
 - Manufacturer: Broxap Ltd, Rowhurst Industrial Estate, Chesterton, Newcastle under Lyme, ST5 6BD, tel: 0844 800 4085. Or equal and approved.
 - Product reference: Sheffield Cycle Stand.
 - Material: Galvanised steel to BS eN ISO 1461:2009.
 - Finish: As manufactured.
 - Colour: None.
 - Size: 800mm high, 715mm wide
 - Number of stands: 15.
 - Accessories: None.
 - Method of fixing: Root fixed below ground in concrete base to Manufacturer's written instructions.
- 211 VISITOR CYCLE STANDS
- Location: To entrance frontage, refer to Drawing 1406-03
 - Manufacturer: Broxap Ltd, Rowhurst Industrial Estate, Chesterton, Newcastle under Lyme, ST5 6BD, tel: 0844 800 4085. Or equal and approved.
 - Product reference: Harrogate Cycle Stand.
 - Material: Stainless steel Grade 304.
 - Finish: As manufactured.
 - Colour: None.
 - Size: 800mm high, 715mm wide
 - Number of stands: 4.
 - Accessories: None.
 - Method of fixing: Root fixed below ground in concrete base to Manufacturer's written instructions.
- 231 PICNIC TABLES
- Location: In meadow area, refer to Drawing 1406-02
 - Description: Existing Moneypenny picnic tables to be moved to Site and reused.
 - Material: Timber.
 - Number of picnic benches: 10 tbc.

232 OAK TREE SEAT

- Location: Existing oak tree
- Description: Tree seat to be constructed around existing tree.
- Material: Prime grade European oak, FSC certified.
- Additional features: Text etched around edge of seat explaining that the tree is 400-500 years old.
- Other requirements: The oak tree is within a root protection area, the tree seat must not bury into the ground but must sit on the surface.

235 UPTURNED BOAT

- Location: In meadow area near wetlands, refer to Drawing 1406-02
- Description: An upturned timber fishing boat, set into the meadow to give the impression of an abandoned wreck, but also the possibility of an unusual place to sit on a sunny day.
- Material: Timber.
- Source: Contractor to source options for approval of the Landscape Architect and Money Penny.
- Other requirements: Timber structure must be sound enough to sit and climb on

241 LITTER BINS Throughout the site

- Drawings: 1406-DD-02
- Manufacturer: Kingfisher Direct, Retford Enterprise Centre, Retford, Nottinghamshire, DN22 7GR. Tel: 01777 858009. Or equal and approved.
 - Product reference: Wood Effect Dual Litter & Recycling Bin - 78 litre.
- Size: Height 1000mm, width 700mm, depth 400mm
- Material: Wood effect.
 - Finish: As manufactured.
- Number of bins: 6
- Accessories/ Special requirements: Supplied with two plaques: Mixed Recycling & General Waste. Bin is lockable.
- Method of fixing: Ground fixing bolts required from Manufacturer. Fix in to concrete foundation beneath paving, or into neat concrete foundation in soft landscape, to Manufacturer's written instructions.

INSTALLATION

510 CONCRETE FOUNDATIONS GENERALLY

- Standard: To BS 8500-2.
- Concrete: To Engineer's Specification.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Holes: As per Manufacturer's Instructions.
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

550 DAMAGE TO GALVANIZED SURFACES

- Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
 - Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
 - Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

560 SITE PAINTING

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

External decks, boardwalks and bridges

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q55 External decks, boardwalks and bridges

GENERAL

- 115 TIMBER DECK To rear of building
- Description: Timber deck with integrated seating along edge. Treated softwood timber has dark brown pigment and eventually fades to grey.
 - Drawings: 1406-34, 1406,35.
 - Base preparation: Remove projections and debris and lay 1000 gauge polyethylene sheet with slits for drainage; cover with 75 mm depth of 10 mm single size gravel and treat with suitable residual herbicide.
 - Structure, other than surfacing: Softwood beams.
 - Fasteners: Submit proposals.
 - Post setting: Not required.
 - Surfacing: Deck boards.
 - Method of attachment: Stainless steel screws.
 - Edge protection: Timber seat as Drawing.
 - DECK BOARDS:
 - Manufacturer: John Brash & Co. Ltd, The Old Shipyard, Gainsborough, Lincolnshire, DN21 1NG, tel: 01427 613858. Or equal and approved.
 - Product reference: JB Antislip Plus Classic, smooth with two inserts to Clause 116.
 - Material: Scandinavian redwood, Strength Graded to C16 or C24, Use class 3, as classified within BS EN 350-1
 - Treatment: Preservative treated using MicroPro to BS 8417:2011. Treatment carries a brown pigment to achieve the darker finish.
 - Profile: Smooth
 - Finished size: 46 x 145mm
 - Length: 3m - 5.7m tbc
 - Gaps between boards: 6-8mm
 - Packaging: Timber to be supported evenly on even sized bearers spaced 1.2 max to prevent sagging.
 - Other requirements:
 - All timber to be ordered in a single order to ensure it can be sent away to receive the dark brown pigment with the treatment.
 - All site cuts must be painted/coated with 'Cut-Ends' timber preservative.
 - Timber to have a 25 year guarantee.
 - Timber source must be fully accredited from responsible suppliers, certified to FSC and PEFC chain of custody schemes. PEFC:BMT-PEFC-0109, FSC: TT-COC-001967.
 - Seat:
 - Timber to be same as deck boards but without non-slip inserts.
 - Integrated lighting within seating to Engineer's Design and Specification.
- 116 APPLIED SLIP RESISTANT ACCESSORIES TO DECK By Manufacturer
- Manufacturer: As Clause 115.
 - Material: Grey bauxite anti-slip inserts.
 - Slip resistance - water wet (minimum): PTV 63.
 - Size/ Coverage: 10mm wide strips, two per deck board.
 - Colour: Grey.

PRODUCTS

305 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests and/ or plantations in accordance with:
 - The laws governing forest management in the producer country or countries.
 - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
 - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.
- Certification scheme: Forest Stewardship Council (FSC).
- Other evidence: None.

FABRICATION

510 FABRICATION GENERALLY

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

EXECUTION

655 ERECTION OF PREFABRICATED TIMBER STRUCTURES ON PREPARED BASES

- Survey: Five days (minimum) before proposed erection date. Check foundations, holding down bolts, etc.
- Inaccuracies or defects in prepared bases or supplied structures: Report immediately. Obtain instructions before proceeding.

661 PRESERVATIVE TREATED TIMBER

- Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer. Refer to Clause 115, Other Requirements.
- Heavily worked sections: Re-treat.

665 INSTALLATION GENERALLY

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

670 INSTALLATION OF SURFACING

- Heading joints: Kept to a minimum, and formed only as butt joints situated over joists.
- Length: Each board must span not less than two bays between joists with joints in adjacent boards staggered.
- Gaps between boards: 6-8mm.