murray & associates

landscape architecture

LANDSCAPE WORKS SPECIFICATIONS and LANDSCAPE MANAGEMENT PLAN

for

Residential Development Clonburris

Clonburris SDZ

CLIENT:

Cairn Homes PLC

November 2022

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CONTROL SHEET

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A General Comments

A13. Description of the Work

PRELIMINARIES
In addition to Preliminaries/General Conditions identified by the Employer's Agent (EA), the contractor shall provide the following:

Identify the tree and shrub nurseries from which it is intended to supply the plants.

Prior to delivering shrubs and groundcover to site, images shall be provided showing container size, root growth and size of the plant.

Prior to delivering to site, images shall be provided of all hedge planting pre-grown and field grown showing container size or through size, root growth and height.

Prior to delivering trees to site, images shall be provided showing height, container size or root ball size, clear stem height (person standing on root ball).

All planting shall be inspected prior to planting and checked for damage that may have occurred during transit. Damaged plants will be rejected, and a replacement shall be provided.

The contractor needs to be aware that the bare rooted planting season is from the 1st of November till the 17th of March. Dependant on the construction phasing, the planting of bare-root plants may be completed post construction to tie in with the following bare-root season. If the contractor's program does not tie in with these dates the trees may need to be priced as container grown or spring ringed a minimum of 8 months in advance. Any cost if any for out of season planting will need to be included for within the tender.

Any costs associated with offsite maintenance will need to be included for in the tender.

When existing topsoil is no longer available on site, the contractor shall be responsible for importing the necessary remaining topsoil. Topsoil quality to comply with the specification clauses outlined in Q28.

SCOPE OF WORKS
GENERAL DESCRIPTION OF WORKS:

The works described in this document comprise hard works including granite paving, limestone paving, soft works including shrub and tree planting, landscape maintenance and street furniture.

PAVING SPARES:

The contractor shall provide an additional quantity of 5% of all paving materials / finishes included within the works at the completion of the development to the Employer's Agent (EA) for storage to a location to be agreed in writing.

Street furniture items to be supplied and installed as part of the site works area proposals shall include, but is not limited to the following:

- Timber benches and seats.
- Playground equipment.
- Cycle stands.

The defects liability period for hard elements shall is given in the contract preliminaries. For specific items the following shall apply:

- All paving and street furniture items: 12 months.
- All soft landscape areas including shrub planting and wildflower meadows: 12 months.
- All trees: 12 months.

The Contractor shall provide to the Employer all information that he may reasonably require to monitor and assess the Contractor's performance against the targets for those performance indicators.

Where the Employer considers that a target for any of those performance indicators may not be met, he may inform the Contractor who shall submit his proposal for improving his performance against that target to the employer.

MATERIALS

MATERIALS – GENERAL:

Where and to the extent that materials, products and workmanship are not fully detailed or specified they are to be:

- of a standard appropriate to the Works and suitable for the purposes stated in or reasonably to be inferred from the project documents;
- in accordance with good building practice, including provisions of building standards, Codes of Practice and British Standards and in accordance with the Specification for Highway Works.

MATERIALS – SUPPLIERS:

The Contractor shall submit to the EA's a list of suppliers from whom he proposes to purchase the materials necessary for the execution of the Works. Each supplier must be willing to admit the EA, or his Representative, to his premises during ordinary working hours for the purpose of inspecting materials and obtaining samples of the materials proposed. Alternatively, if directed by the EA, the Contractor shall deliver samples of the materials to the EA's office without charge.

The Contractor shall inform the EA of any subsequent additions to be made to the list and shall not change any source of supply without the EAs prior approval. Should the Contractor require to change any source of supply he shall inform the EA of this and supply a sample of the material from the new source for approval.

Samples of materials approved will be retained at the EA's office until the completion of the Contract.

A sample palette of 5sq.m of all paving to be laid out on site one month prior to commencement of contract works.

Materials to be equal to samples - all material incorporated in the Works after approval of samples shall be equal to the approved samples.

The Contractor shall produce written evidence of sources of supply when requested by the EA.

BRITISH STANDARDS

Where British Standard Specifications (hereinafter abbreviated to BS) and British Standard Codes of Practice (hereinafter abbreviated to CP) published by the British Standards Institution are referred to in the Specification the references shall be taken as referring to the latest editions including all amendments and additions thereto issued up to one month prior to the date of this document unless the year and/or Clause is given in the Specification.

Where any BS or CP provides for alternatives and no reference is made in the Specification or Drawings to the alternative required for the Works, then the Contractor shall request the EA to issue an instruction specifying the applicable alternative. If such instruction is not requested, then any resulting alterations subsequently required by the EA to materials and workmanship shall be at the Contractor's expense.

BRITISH STANDARD KITE MARKS

All products or installations specified to confirm to a British Standard or other accredited Quality Assurance scheme shall be clearly marked with the appropriate kite mark or other approved symbol.

TEST CERTIFICATES

Where materials are to comply with the relevant British Standards the Contractor shall arrange for the appropriate test certificates to be submitted free of charge to the EA or the EA's Representative prior to the materials being incorporated in the Works. All paving materials or walkable surfaces shall require to be tested for slip resistance by a Pendulum test and PTV values to be provided prior top handover. Anywhere a contrast is required an LRV test (Light Reflective Value) is required (steps nosing and risers, corduroy paving to top and bottom of stepped approach to buildings) the LRV requires to differ 30 units to be considered contrasting.

INSPECTION AND DESPATCH OF MATERIALS OFF THE SITE

Where inspection of materials off the Site is referred to in the Contract, the Contractor shall, having regard to the location of the material and the nature of the test, inspection or examination required, give to the EA or his representative at least one week's notice of such materials being ready for inspection, test or examination.

Delay to the Works arising from the late submission of such notice will not be acceptable as a reason for delay in the completion of the Works. On the previous working day to each such test or inspection the Contractor shall confirm that the material is ready for inspection. Where materials are to be inspected off the Site, such materials shall not be despatched to the Site or elsewhere without written authority from the EA or the EA's Representative.

STORAGE OF MATERIALS

All materials to be used in the Permanent Works shall be stored neatly and orderly on racks, on supports, in bins under cover or in like manner as appropriate to prevent deterioration or damage from any cause whatsoever to the entire satisfaction of the EA's Representative.

Materials to be stored in such a manner to:

Prevent over-stressing, distortion and any other type of physical damage.

Keep materials free from contamination.

- Prevent staining, chipping, scratching or other disfigurement, particularly of products exposed to view in the finished work.
- Keep materials dry and in a suitably low humidity atmosphere to prevent premature setting, moisture movement and similar defects. Where appropriate store off the ground and allow free air movement around and between stored products.
- Protect material adequately from rain, damp, frost, sun and other elements as appropriate.
- Keep different types and grades of products separately and adequately identified.

- So far as possible keep products in their original wrappings, packings or containers, with unbroken seals, until immediately before they are used.
- Ensure that protective measures are fully compatible with and not prejudicial to the products/materials.

USE OF PERMANENT MATERIALS FOR TEMPORARY WORKS

No materials to be incorporated in the Permanent Works shall be used for Temporary Works prior to their incorporation in the Permanent Works unless otherwise directed in this Specification or approved in writing in each case by the EA.

DISCREPANCIES

It is the Contractor's responsibility to report any inconsistencies on the drawings or between drawings and the Bill of Quantities or this Specification to the EA as soon as they become apparent. The Contractor shall request clarification and instruction from the EA before proceeding.

ACCEPTANCE OF WORK

The checking, approval or confirmation of works by the EA or the EA's Representative does not relieve the Contractor of his responsibility for the correctness thereof.

WORK BY HAND

Works around the base or within the root spread of existing trees or other plants to be retained shall be undertaken by hand.

BUILDING STANDARDS

All works installed and executed shall be in accordance with the relevant Building Regulations Technical Guidance Documents (TGD's) prepared by the Department of the Environment. Refer to website www.environ.ie

A33. Quality Standards / Control

STANDARDS OF PRODUCTS AND EXECUTIONS

110 INCOMPLETE DOCUMENTATION

General:

- Where and to the extent that products or work are not fully documented, they are to be:
- Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
- Suitable for the purposes stated or reasonably to be inferred from the project documents. Contract documents: Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 WORKMANSHIP SKILLS

- Operatives: Appropriately skilled and experienced for the type and quality of work.
- Registration: With Construction Skills Certification Scheme.
- Evidence: Operatives must produce evidence of skills/ qualifications when requested.

130 QUALITY OF PRODUCTS

- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works:
- Consistent in kind, size, quality and overall appearance.
- Source of supply: Submit evidence when requested.

170 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Changes to recommendations or instructions: Submit details.
- Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
- Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

180 WATER FOR THE WORKS

- Mains supply: Clean and uncontaminated.
- Other: If proposed, provide evidence of suitability.

SAMPLES/ APPROVALS

220 APPROVAL OF PRODUCTS

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to a sample of the product and not to the product as used in the Works.
- Do not confirm orders or use the product until approval of the sample has been obtained.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

230 APPROVAL OF EXECUTION

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

D Groundwork
D20 Excavating and filling

To be read with Preliminaries/General conditions

Generally/the site

145 Variations in ground water level

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

150 Existing services, features and structures

1. Services: Refer to the appointed Engineer's drawings for details.
2. Site features to be retained: See drawing 1738_C_P_01.1/01.2 for details.
3. Structures: None.

Clearance/excavating

164 Tree Roots

1. Protected area: Do not cut roots within precautionary protection area.
   1.1. Size of area: As drawing no. 1738_PLC_TPP_01
2. Outside protected area: Give notice of roots exceeding 25 mm and do not cut without approval.
3. Cutting
   3.1. Make clean smooth cuts with no ragged edges
   3.2. Pare cut surfaces smooth with a sharp knife.
   3.3. Treatment of cut roots.

164 Tree Roots

1. Trench: Sever all roots.
   1.1. Depth:
2. Root barrier:
3. Cutting roots: As clause 164.
4. Root barrier installation: Full depth of excavation. Fit closely to trench wall nearest the tree.
5. Backfill material: As dug material excavated from trench.
6. Backfilling: Lay and compact thoroughly in layers not more than 300 mm thick.

168 Site clearance

1. Timing: Before topsoil stripping, if any.
2. General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.
3. Treatment: Apply a suitable non-residual herbicide to areas to receive planting

170 Removing small trees, shrubs, hedges and roots

1. Identification: Clearly mark trees to be removed.
2. Small trees, shrubs and hedges: Cut down.
3. Roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
4. Safety: Comply with Forest Industry Safety Accord safety leaflets.

175 Felling large trees

1. Definition: Girth over 600 mm.
2. Identification: Clearly mark trees to be removed.
3. Safety: Comply with Forest Industry Safety Accord safety leaflets.
4. Felling: As close to the ground as possible.
5. Work near retained trees: Take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap and in confined spaces generally.

180 Chipping and shredding

1. General: Permitted, remove arisings from site

220 Stripping topsoil

1. General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, buildings, pavings/ roads and other areas shown on drawings.
2. Depth
   2.1. Remove to an average depth of 250 mm.
   2.2. Give notice where the depth of topsoil is difficult to determine.
3. Handling: Handle topsoil for reuse or sale in accordance with clause 225.
4. Site storage: Keep separate from excavated sub-soil

221 Treating topsoil

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

225 Handling topsoil

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

240 Adjacent excavations

1. Requirement: Where an excavation encroaches below a line drawn at an angle from the nearest formation level of another higher excavation, the lower excavation, all work within it and backfilling thereto, must be completed before the higher excavation is made.
2. Angle of line below horizontal: To be agreed on an individual area by area basis.
3. Backfill material: To be agreed on an individual area by area basis.

242 Excavations adjacent to existing backfilled trenches

1. Proximity: When width of undisturbed ground between the two excavations will be less than 1m.
2. Action: Assume that the ground between the trenches is unstable and provide side support accordingly.

244 Excavations adjacent to existing foundations

1. Prior to commencing excavation
    1.1. Excavate trial pits adjacent to existing foundations to determine extent and formation levels.
    1.2. Allow for inspection of trial pits.
    1.3. Allow time for amendment of details if required.
        1.3.1. Time period: 5 working days
2. Backfill material to new excavation: To be agreed on an individual area by area basis.

250 Permissible deviations from formation levels

1. Beneath mass concrete foundations: ±25 mm.
2. Beneath ground bearing slabs and r.c. foundations: ±15 mm.
3. Embankments and cuttings: ±50 mm.
4. Ground abutting external walls: ±50 mm, but such as to ensure that finished level is not less than 150 mm below dpc.

255 Accuracy – linear dimensions

1. Permissible deviations from linear dimensions generally: +/- 15mm

260 Inspecting formations

1. Give notice: Make advance arrangements for inspection of formations for foundations and filling formations; service trenches; roads and pavings.
    1.1. Notice (minimum): 3 days
2. Preparation: Just before inspection remove the last 150 mm of excavation. Trim to required profiles and levels.
    2.1. Loose material: Remove
3. Seal: Within 4 hours of inspection, seal formations with concrete.

270 Foundations generally

1. Give notice if
    1.1. A natural bearing formation of undisturbed subsoil is not obtained at the depth shown on the drawings.
    1.2. The formation contains soft or hard spots or highly variable material.

280 Trench fill foundations

1. Excavation: Form trench down to formation in one operation.
2. Safety: Prepare formation from ground level.
3. Inspection of formations: Give notice before commencing excavation.
   3.1. Period of notice: Three working days
4. Shoring: Where inspection of formation is required, provide localised shoring to suit ground conditions.
5. Concrete fill: Place concrete immediately after inspection and no more than four hours after exposing the formation.

290 Foundations in made up ground

1. Depth: Excavate down to a natural formation of undisturbed subsoil.
2. Discrepancy: Give notice if this is greater or less than depth given.

310 Unstable ground

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

330 Unrecorded features

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

350 Existing watercourses

1. Diverted watercourses which are to be filled: Before filling, remove vegetable growths and soft deposits.

360 Excess excavation

3. Excavation taken wider than required
   3.1. Backfill: Foundation bearing
4. Excavation taken deeper than required
   4.1. Backfill: Foundation bearing

370 Underground structures in landscape areas

1. Generally: Remove walls, roads, foundations, disused services, drains, manholes and the like to minimum depth.
2. Minimum depth below finished levels
   2.1. Grass, ground cover and perennial planting: 500 mm
   2.2. Shrub planting: 750 mm.
   2.3. Within 2 m of tree planting: 1000 mm.
3. Walls and slabs remaining: In every 10 m² of wall or slab, make a drainage hole at least 600 mm diameter.

Disposal of materials

410 Excavated topsoil storage

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

415 Excavated topsoil removal

1. General: Remove from site.

420 Topsoil storage heaps

1. Location: to be agreed
2. Standard: To BS 3882.
3. Protection
   3.1. Do not place any other material on top of storage heaps.
   3.2. Do not allow construction plant to pass over storage heaps.
   3.3. Prevent compaction and contamination.

421 Topsoil storage heap treatment

1. Treatment: Apply a suitable herbicide at appropriate times to prevent seeding of weeds

441 Surplus subsoil

1. Excavated material: Stockpile in temporary storage heaps.
2. Retained material: Spread and level surplus subsoil on site.
   2.1. Locations: to be agreed
   2.2. Protected areas: Do not raise soil level within root spread of trees that are to be retained.
3. Remaining material: Remove from site.

450 Water

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

454 Ground water level, springs or running water

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

457 Pumping

1. General: Do not disturb excavated faces or stability of adjacent ground or structures.
2. Pumped water: Discharge without flooding the site or adjoining property.
3. Sumps: Construct clear of excavations. Fill on completion.
   3.1. Locations: to be agreed.

Filling

500 Proposed fill materials

1. Details: Submit full details of proposed fill materials to demonstrate compliance with specification, including:
   1.1. Type and source of imported fill.

1.2. Proposals for processing and reuse of material excavated on site.

1.3. Test reports as required elsewhere.

2. Timing: 2 weeks prior to starting on site.

510 Hazardous, aggressive or unstable materials

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

520 Frost susceptibility

1. General: Except as allowed below, fill must be non frost-susceptible as defined in the 'Specification for highway works', clause 801.8.
2. Test reports: If the following fill materials are proposed, submit a laboratory report confirming they are non frost- susceptible:
   2.1. Fine grained soil with a plasticity index less than 20%.
   2.2. Coarse grained soil or crushed granite with more than 10% retained on a 0.063 mm sieve.
   2.3. Crushed chalk.
   2.4. Crushed limestone fill with average saturation moisture content in excess of 3%.
   2.5. Burnt colliery shale.
3. Frost-susceptible fill: May only be used:
   3.1. At depths below the finished ground surface greater than: 500 mm
   3.2. Within the external walls of buildings below spaces that will be heated. Protect from frost during construction.
   3.3. Where frost heave will not affect structural elements.

530 Placing fill

1. Surfaces of excavations and areas to be filled: Free from loose soil, topsoil, organic material, rubbish and standing water.
2. Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
3. Adjacent structures, membranes and buried services
   3.1. Do not overload, destabilise or damage.
   3.2. Submit proposals for temporary support necessary to ensure stability during filling.
   3.3. Allow 14 days (minimum) before backfilling against in situ concrete structures.
4. Layers: Place so that only one type of material occurs in each layer.
5. Earthmoving equipment: Vary route to avoid rutting.

535 Compaction generally

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

540 Benching in fill

1. Adjacent areas: If, during filling the difference in level between adjacent areas of filling exceeds 600 mm, cut into edge of higher filling to form benches 600 mm minimum width and height equivalent to depth of a layer of compacted filling.
2. New filling: Spread and compact to ensure maximum continuity with previous filling.

550 Geotextile sheet

1. Manufacturer: Contractor's choice, compliant to BS 8661.
   1.1. Product reference: Terram T1000
2. Type: Nonwoven
3. Polymer type: Polypropylene
4. Jointing: 300 mm overlap
5. Preparation of subgrade: Before laying sheet, remove humps and sharp projections. Fill hollows
6. Protect from
   6.1. Exposure to light.
   6.2. Contaminants.
   6.3. Materials listed as potentially deleterious by geotextile manufacturer.
   6.4. Wind uplift.

610 Compacted filling for landscape areas

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

615 Loose tip filling for landscape areas

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

650 Protection of compacted filling

1. Temporary protective filling: Before allowing construction traffic, raise level of compacted cohesive soil filling at least 150 mm above formation level using properly compacted temporary filling.
2. Removal: Remove temporary protective filling from site before permanent construction.

700 Backfilling around foundations

1. Under oversite concrete and pavings: Hardcore as clause 710.
2. Under grassed or soil areas: Material excavated from the trench, laid and compacted in 300 mm maximum layers.

710 Hardcore filling

1. Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any direction:
    1.1. Test requirements
        1.1.1. Minimum 10% fines value tested in a soaked condition to BS 812-111 50 kN.
2. Material
    2.1. Permitted materials in any one layer
        2.1.1. Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
        2.1.2. Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
        2.1.3. Crushed non-expansive slag.
        2.1.4. Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
        2.1.5. Well-burned non-plastic colliery shale.
        2.1.6. Natural gravel.
        2.1.7. Natural sand.
3. Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer.

F Masonry
F10 Brick/ block walling

To be read with Preliminaries/ General conditions

Types of walling

110 Clay facing brickwork

1. Description: TO EXTERNAL WALLS AROUND THE LOCAL PARK
2. Bricks: To BS EN 771-1.
3. Mortar: As section Z21.
    3.1. Standard: To BS EN 998-2
    3.2. Additional requirements: Coloured mortar to match bricks
4. Joints: Recessed
5. Features: Brick capping

255 Concrete facing blockwork

3. Description: Concrete facing blockwork (see drawing 1738_PLC_P_02.1)
4. Blocks: To BS EN 771-3.
    4.1. Manufacturer: Submit proposals
        4.1.1. Product reference: Submit proposals
    4.2. Finish/ colour: Concrete render finish to public realm
5. Mortar: As section Z21.
6. Joints: as per appointed engineer's specifications

Workmanship generally

430 Conditioning of clay bricks/ blocks

1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

440 Conditioning of concrete bricks/ blocks

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

500 Laying generally

1. Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
2. AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
3. Clay block joints
    3.1. Thin-layer mortar: Lay blocks on a full bed.
    3.2. Interlocking perpends: Butted.
4. Bond where not specified: Half-lap stretcher.

5. Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 Accuracy

1. Courses: Level and true to line.
2. Faces, angles and features: Plumb.
3. Permissible deviations
   3.1. Position in plan of any point in relation to the specified building reference line and/ or point at the same level: ± 10 mm.
   3.2. Straightness in any 5 m length: ± 5 mm.
   3.3. Verticality up to 3 m height: ± 10 mm.
   3.4. Overall thickness of walls: ± 10 mm.

545 Levelling of separate leaves

1. Locations for equal levelling of cavity wall leaves: As follows:
   1.1. Every course containing vertical twist type ties or other rigid ties.
   1.2. Every third tie course for double triangle/ butterfly ties.
   1.3. Courses in which lintels are to be bedded.

560 Coursing brickwork

1. Gauge: Four brick courses including bed joints to 300 mm.

615 Brickwork to receive asphalt dpc

1. Substrate: Mortar bed finished flush, smooth and level.

635 Jointing

1. Profile: Consistent in appearance.

645 Accessible joints not exposed to view

1. Jointing: Struck flush as work proceeds.

665 Pointing

1. Description:
2. Joint preparation: Remove debris. Dampen surface.
3. Mortar: As section Z21.
   3.1. Standard: To BS EN 998-2
   3.2. Mix: To Eng Spec
4. Profile: Recessed

671 Fire-stopping

1. Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

690 Adverse weather

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

2. Air temperature requirements: Do not lay bricks/ blocks:
   2.1. In cement-gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
   2.2. In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
   2.3. In thin-layer mortars when outside the limits set by the mortar manufacturer.
3. Temperature of walling during curing: Above freezing until hardened.
4. Newly erected walling: Protect at all times from:
   4.1. Rain and snow.
   4.2. Drying out too rapidly in hot conditions and in drying winds.

Additional requirements for facework

710 The term facework

1. Definition: Applicable in this specification to brick/ block walling finished fair.
   1.1. Painted facework: The only requirement to be waived is that relating to colour.

730 Brick/Concrete block samples

1. General: Before placing orders with suppliers submit for approval of appearance labelled samples.
2. Selection of samples: Representative of the range in variation of appearance.

750 Colour consistency of masonry units

1. Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
3. Facing bricks should be blended on site from a minimum of three packs to ensure an even distribution of colour and texture variation.
4. Finished work: Free from patches, horizontal stripes and racking back marks.

760 Appearance

1. Brick/ block selection: Do not use units with damaged faces or arrises.
2. Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
3. Quality control: Lay masonry units to match relevant reference panels.
   3.1. Setting out: To produce satisfactory junctions and joints with built-in features and components.
   3.2. Coursing: Evenly spaced using gauge rods.
4. Lifts: Complete in one operation.
5. Methods of protecting facework: Submit proposals.

780 Ground level

1. Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

790 Putlog scaffolding

1. Use: Not permitted in facework.

800 Toothed bond

1. New and existing facework in same plane: Bond together at every course to achieve continuity.

830 Cleanliness

1. Facework: Keep clean.
2. Mortar on facework: Allow to dry before removing with stiff bristled brush.
3. Removal of marks and stains: Rubbing not permitted.

Ω End of Section

F31 Precast concrete sills/ lintels/ copings/ features

Types of component

105 Precast

1. Description: Capping stone on top of the wall concrete rendered finish Dim. 500x375x75 mm
2. Concrete: Components manufacturer's 'proprietary' concrete.
   2.1. Identity: To Eng spec
3. Conformity: To BS 8500-2 and the recommendations of
   3.1. BS 8500-1, Annex A.4 for the specified exposure class.

General requirements

220 Concrete generally

1. Specification: To BS 8500-2 and BS EN 206.
2. Producer: Accredited to BS 8500-2 requirements where product conformity certification is required.

250 Reinforcement

1. Carbon steel reinforcement: As appropriate to BS 4449, BS 4482 and BS 4483.
   1.1. Cutting and bending: To BS 8666.
2. Galvanized reinforcement: Galvanized to BS EN ISO 1461 after cutting. Chromate treated.
3. Stainless steel reinforcement: To BS 6744.
   3.1. Designation 1.4301.
   3.2. Cutting and bending: To BS 8666.
4. Non-structural reinforcement: Include to resist shrinkage and handling stresses.
5. Bimetallic corrosion and staining: Prevent by appropriate selection and use of materials.
6. Condition at time of placement: Clean, free of corrosive pitting, loose materials and substances that adversely affect reinforcement, concrete, or bond between the two.
7. Fixing: Accurate and secure.
   7.1. Method: Wire tying, approved steel clips or tack welding if permitted.
   7.2. Concrete cover: Maintain free of all tying wire or clips.

260 Casting and curing

1. Placing of concrete: Thoroughly compact.
2. Protection against drying out: Methods and duration to BS EN 13369.
3. Immature components: Avoid movement, vibration, overloading, physical shock, rapid cooling and thermal shock.
4. Delivery to site: Minimum 14 days after casting.

261 Cutting

1. Cutting of precast concrete components: Not permitted.

Fair-faced components - Not Used

Installation

420 Laying

6. Mortar for bedding and jointing: As section Z21.
   6.1. Type: To Eng spec
   6.2. Mix: To Eng spec
   6.3. Packing: If required use slate.
7. Bedding components: On full bed of mortar.
8. Removal of marks, stains and extraneous mortar on visible faces: Rubbing not permitted.

L Window/Doors/Stairs
L37 External stair, ramps, handrail, and balustrades systems

To be read with Preliminaries/General conditions.

General

110 Stair systems

1. Description: All external stairs as per drawings
2. Type: Built in situ
3. Base/ Fabric: In situ concrete, as section E10
4. Surface: Precast concrete slabs, as section Q25
5. Unobstructed width:
6. Accessories: 'Corduroy' hazard warning surface, as section Q24; Handrail system

120 Ramp systems

1. Description: Throughout site
2. Type: Built in situ
3. Base/ Fabric: as per Eng. specs
4. Gradients
   4.1. Going: as per drawings
5. Accessories: Handrail system if required

150 Handrail systems

1. Description: TO STAIRS AND RAMPS IF REQUIRED, as per drawings
2. System manufacturer: Larkin or similar and approved

System performance

210 Design

1. Description: OF STAIR AND RAMP SYSTEMS
2. Inclusive design: Complete detailed design in accordance with Building Regulations (Eng) Approved Document M, volume 2 and BS 8300-1; highlight discrepancies and outcomes
3. Structure and associated features: Complete detailed design to BS EN 1991-1-1
4. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

220 Design

1. Description: OF HANDRAIL SYSTEM
2. Inclusive design: Complete detailed design in accordance with Building Regulations (Eng) Approved Document M, volume 2
3. Structure and associated features: Complete the design to meet structural and safety requirements of BS 6180 and in accordance with BS 8300-2
4. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

Fabrication

510 Fabrication generally

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

Execution

610 Loading

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

620 Concrete foundations generally

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

640 Concrete foundations generally

1. 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.
2. Heavily worked sections: Re-treat.

650 Installation generally

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

662 Adverse weather

1. General: Do not use frozen materials and do not lay on frozen surfaces.
2. Working limits: Do not lay blocks/ dressings:
    2.1. Cement gauged mortars: When the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and work is thoroughly protected).

2.2. Hydraulic lime:sand mortars: When the air temperature is at or below 5°C and falling or below 3°C and rising.

3. Temperature of the work: Maintain above freezing until mortar has fully set.
4. Newly erected work: Protect from precipitation; Prevent rapid drying in hot conditions.
5. Remedial work: Rake out and replace mortar damaged by frost.
   5.1. Damaged work: Rebuild.

670 Installation of tread inserts/ nosings

1. Treads: Fully cured, sound and level.
2. Fixing
   2.1. Location/ position: In accordance with BS 8300-1
   2.2. Fixings: As manufacturer's recommendations

Q Paving/Planting/Fencing/Paving accessories

Q10 Kerbs/edgings/channels/paving accessories

Types of kerbs/edgings and channels

170 Linear slot drainage channel systems

1. Manufacturer: Submit proposals
    1.1. Product reference: Submit proposals

Roads/paving accessories/marking/demarcation

305 Tree grilles and surrounds

1. Manufacturer: Castit or similar
    1.1. Product reference: Square Starburst Tree Grille or Similar and Approved
2. Size: 1200×1200 mm, central hole of ø450 mm. Formed by 4 pieces, width 1200mm, length, 1200
3. Material: Cast iron
4. Colour: Black

Laying

510 Laying kerbs, edgings and channels

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

520 Adverse weather

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

530 Concrete for foundations, races and haunching

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

540 Cement mortar bedding

1. General: To section Z21.
2. Mix (Portland cement:sand): 1:3.
    2.1. Portland cement: Class CEM I 42.5 to BS EN 197-1.
    2.2. Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
3. Bed thickness: 12-40 mm.

570 Channels

1. Installation: To an even gradient, without ponding or backfall.
2. Lowest points of channels: 6 mm above drainage outlets.

580 Drainage channel systems

1. Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
2. Silt and debris: Removed from entire system immediately before handover.
3. Washing and detritus: Safely disposed without discharging into sewers or watercourses.

590 Drainage channel systems with built in fall

1. Installation: Top of channels level, installed in correct sequence to form an even gradient without ponding or backfall. Commence laying from outlets.
2. Silt and debris: Removed from entire system immediately before handover.
3. Washings and detritus: Safely disposed without discharging into sewers or watercourses.

600 Radius kerbs/ channels

1. Usage: Radii of 15 m or less.

610 Angle kerbs

1. Usage: Internal and external 90° changes of direction.
2. Cutting of mitres: Not permitted.

620 Accuracy

1. Deviations (maximum)
    1.1. Level: ± 6 mm.
    1.2. Horizontal and vertical alignment: 3 mm in 3 m.

625 Regularity of paved surfaces

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

630 Narrow mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled, tightly butted and surplus mortar removed immediately.
    1.1. Joint width: 3 mm.

Q21 In situ concrete roads/ pavings/ bases

To be read with Preliminaries/General conditions.

Types of paving

115 Brushed Concrete

1. Description: Brushed Concrete in open spaces & Side house entrances. See drawings
2. Granular sub-base: Well compacted Clause 804 stone to falls/crossfalls required
   2.1. Compacted thickness: 250 mm
3. Separation membrane: Polyethylene sheet 125 micrometres thick, edges lapped 300 mm.
4. Embedded metal: R252 Reinforcing Mesh in centre of slab
5. Concrete: To BS 8500-2.
   5.1. Designation: Concrete as per Engineer's details and specifications
6. Slab thickness (minimum): 150 mm
7. Finish: Brushed with trowelled edges (50mm)

General/ preparation

140 Ready-mixed concrete

1. Production plant: Currently certified by a body accredited by UKAS to BS EN ISO/IEC 17065 for product conformity certification.
2. Source of ready-mixed concrete: Obtain from one source if possible. Otherwise, submit proposals.
   2.1. Name and address of depot: Submit before any concrete is delivered.
   2.2. Delivery notes: Retain for inspection.
3. Declarations of nonconformity from concrete producer: Notify immediately.

145 Admixtures

1. Calcium chloride and admixtures containing calcium chloride: Do not use.

155 Project testing of concrete - general

1. Testing: To BS EN 206-1, annex B and BS 8500-1, annex B.
2. Recording: Maintain complete correlated records including:
   2.1. Concrete designation.
   2.2. Sampling, site tests, and identification numbers of specimens tested in the laboratory.
   2.3. Location of the parts of the structure represented by each sample.
   2.4. Location in the structure of the batch from which each sample is taken.
3. Testing laboratory: Accredited by UKAS or other national equivalent.
4. Tests results
   4.1. Submission of reports: Within one day of completion of each test.
      4.1.1. Number of copies:
   4.2. Reports on site: A complete set, available for inspection.
5. Nonconformity:

240 Sub-base preparation

1. Surface: Sound, free of debris, mud and soft spots, and suitably close textured.
2. Levels and falls: Within specified tolerances:
   2.1. Vehicular areas: ±20 mm.
   2.2. Pedestrian areas: ±12 mm.

2.3. Drainage outlets: +0 to -10 mm of required finished level.

3. Kerbs and edgings: Complete, adequately bedded and haunched, and to required levels.

260 Steel formwork

1. Side forms: Steel, drilled for dowel bars, free from warping and kinks.
2. Fixing
   2.1. To required line, ±10 mm.
   2.2. To required level, ±3 mm.
3. Locking plates: Use where necessary to ensure rigidity and prevent movement during laying and compaction of concrete.
4. Removal of forms: Six hours (minimum) after completing compaction. Treat exposed edges with waterproof compound.

265 Timber permanent formwork

1. Side forms: Softwood board.
   1.1. Fixing: Galvanized nails to 50 x 50 x 450 mm long softwood pegs driven into the ground at 1200 mm centres.
2. Preservative treatment: As section Z12 and Wood Protection Association, Industrial wood Preservation Commodity Specification C4.
   2.1. Type: Contractor's choice

Laying concrete

310 Transporting concrete

1. General: Avoid contamination, segregation, loss of ingredients, excessive evaporation and loss of workability. Protect from heavy rain.
2. Entrained air: Anticipate effects of transport and placing methods in order to achieve specified air content.
3. Placing: Use suitable walkways and barrow runs for traffic over reinforcement and freshly placed concrete.

320 Laying concrete generally

1. Timing: Place as soon as practicable after mixing and while sufficiently plastic for full compaction. After discharge from the mixer do not add water or retemper.
2. Temperature of concrete at point of delivery
   2.1. In hot weather (maximum): 30°C.
   2.2. In cold weather (minimum): 5°C.
3. Cold weather
   3.1. Do not use frozen materials.
   3.2. Do not place concrete against frozen or frost covered surfaces.
   3.3. Do not place concrete when air temperature is below 3°C on a falling thermometer. Do not resume placing until rising air temperature has reached 3°C.
4. Surfaces on which concrete is to be placed: Free from debris and standing water.
5. Placing in final position: Place in one continuous operation up to construction joints.
   5.1. Do not place concrete simultaneously on both sides of movement joints.
6. Spreading: Spread and strike off with surcharge sufficient to obtain required compacted thickness.

7. Adjacent work: Form neat junctions and prevent damage. Keep clean all channels, kerbs, inspection covers, etc.

330 Compacting

1. General: Fully compact concrete to full depth (until air bubbles cease to appear on the surface) especially around reinforcement, cast-in accessories, into corners and at joints.
2. Poker vibrators: Do not use to make concrete flow into position. Do not allow to come into contact with fabric reinforcement.
3. Wet formed joint grooves: Rectify any irregularities by means of a vibrating float.
4. Finish: A dense, even textured surface free from laitance or excessive water.
   4.1. Excess concrete: Remove from top of groove formers.

340 Manhole cover and gully grating frames

1. General: Set frames in independent concrete slabs placed over, but slightly larger than, exterior of manhole shaft or gully pot and any concrete surround.
2. Positioning of joints in main slab: Set out so that manhole/ gully slabs are adjacent to a main transverse joint, wherever possible.
3. Joints: Separate the independent slabs from main slabs with 25 mm thick joint filler board. Set board 20 mm below top of slab to form a sealing groove.

350 Levels

1. Lines and levels of finished surface: Smooth and even, with regular falls to prevent ponding.
2. Finished surfaces: Within ±6 mm of required levels (+6 or -0 mm adjacent to gullies and manholes).

360 Surface regularity

1. General: Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straightedge (with feet) placed anywhere on the surface to be not more than 5 mm.
2. Sudden irregularities: Not permitted.

Joints

410 Joints generally

1. Layout: All joints to be accurately located, straight and well aligned.
2. Construction joints made at end of working day: Form as contraction joints.
3. Modifications to joint design or location: Submit proposals.
4. Temporary support: Prior to concreting, set formwork, dowel bars, tie bars, joint filler boards, sealing groove fillets and the like rigidly in position and support to prevent displacement. Maintain support until concrete has set.
5. Keep clean
   5.1. Do not allow concrete to enter gaps or voids in formwork or to render movement joints ineffective.
   5.2. Do not allow concrete to impregnate or penetrate materials used as compressible joint fillers.

470 Expansion joints

1. Joint filler board
   1.1. Type: Two layers of bituminous delt for dull slab depth at 3m centres as per Engineer's details and specifications.

1.2. Standard: To Highway Agency 'Specification for Highway Works', clause 1015.

1.3. Thickness: 25 mm.

1.4. Depth: Joint filler board must extend from underside of sealing groove fillet to full depth of slab to provide complete separation of adjacent slabs.

1.5. Holes for dowel bars: Accurately bored or punched holes to form a sliding fit for dowel bars.

2. Completion: Round upper edges of slabs at joints to 5 mm radius. Do not overwork concrete.

Surface finish

530 Brushed finish

1. Direction: Generally at right angles to the longitudinal direction of the slab
2. Texture depth: Approximately 1 mm with finished surface having an overall even texture.

550 Power trowel finish

1. Preparation: Float concrete to an even surface with no ridges or steps, then immediately commence curing.
2. Surface finish: Uniform, smooth and free from trowel marks and other blemishes.
3. Completion: Resume specified curing without delay.

Curing/ protection/ finishing

660 Protection

1. Prevent damage to concrete

1.1. From rain, indentation, physical damage, dirt, staining, rust marks and other disfiguration.

1.2. From thermal shock.

1.3. In cold weather, from freezing expansion of water trapped in pockets, etc.

1.4. By use as a building platform or for storing, mixing or preparing materials.

670 Opening to traffic

3. Light vehicles: as per contractor's decision
4. Heavy vehicles: Paving not suitable for heavy vehicles

Q23 Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays

To be read with Preliminaries/ General conditions.

Types of surfacing

110 Hard binding gravel

1. Description: Self-compacting gravel surface_Gravel Trim
2. Surface course: Angular gravel, free from clay, with sufficient grit to enable compaction.
    2.1. Type: Ballyslusk sourced
    2.2. Source: Ballyslusk
    2.3. Colour: Buff
    2.4. Size: dust to 10mm (max.)
    2.5. Compacted thickness: 50 mm
3. Completion: Compact to produce a firm, regular surface, stable in use.

230 Play bark mulch surfaces

1. Description: PS2 - Safety Surfacing - Playground Surface
2. Subgrade improvement layer: Submit proposals
3. Geotextile: Sheet
4. Surface course
    4.1. Manufacturer: Connaught Timber or similar
        4.1.1. Product reference: Playground Wood Chip or similar and approved
    4.2. Type: Softwood free from pests, disease, weeds, and any additives.
    4.3. Wood content (minimum): Wood fibre manufactured using 100% seasoned, recycled softwood fibres
    4.4. Thickness after at least 10% settlement and 30 days: 300mm

Laying

310 Timber edging

1. Softwood board
    1.1. Size: 175 x 38 mm.
    1.2. Fixing: Galvanized nails into softwood pegs.
2. Softwood pegs
    2.1. Size: 50 x 50 x 600 mm long
    2.2. Fixing: Drive into ground.
    2.3. Centres: 1200 mm

315 Materials

1. Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.

340 Laying generally

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
    2.1. Lines and levels: To prevent ponding.

2.2. Overall texture: Even.

2.3. State at completion: Clean.

350 Cold weather working

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

360 Drainage falls

1. Sealed surfaces
   1.1. Falls and cross falls (minimum): 1:40.
   1.2. Camber (minimum): 1:50.
2. Unsealed surfaces (minimum): 1:30.

380 Laying granular surfaces in pedestrian areas and cycle tracks

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

390 Protection from traffic and plant

1. Paved areas: Restrict access to prevent damage.

Q24 Interlocking brick/ block roads/ pavings

To be read with Preliminaries/ General conditions.

Types of paving

113_A UP1 Concrete block paving

1. Description: Public Spaces: Footpaths
2. Geotextile: Sheet
    2.1. Manufacturer: Contractor's choice, compliant to BS 8661.
        2.1.1. Product reference: Terram T1000
3. Laying course
    3.1. Material: In accordance with BS 7533-3.
4. Blocks: To BS EN 1338.
    4.1. Manufacturer: Kilsaran
        4.1.1. Product reference: Newgrange Block Paving
    4.2. Sizes: 3 size mix x 60mm D
    4.3. Special blocks: Edgings
    4.4. Arrises: Square Edge
    4.5. Colour/ Finish: Silver, Black detailing / Textured Granite
    4.6. Recycled content: as per manufacturer's product
5. Jointing
    5.1. Material: In accordance with BS 7533-3.
    5.2. Joint width: 2-5 mm.
6. Setting out
    6.1. Bond: Stretcher

113_B UP2 Concrete block paving

1. Description: Public Spaces: Seating Areas, Feature Spaces
2. Geotextile: Sheet
    2.1. Manufacturer: Contractor's choice, compliant to BS 8661.
        2.1.1. Product reference: Terram T1000
3. Laying course
    3.1. Material: In accordance with BS 7533-3.
4. Blocks: To BS EN 1338.
    4.1. Manufacturer: Kilsaran
        4.1.1. Product reference: Newgrange Block Paving
    4.2. Sizes: 3 size mix x 60mm D
    4.3. Special blocks: Edgings
    4.4. Arrises: Square Edge
    4.5. Colour/ Finish: Silver, Black detailing / Textured Granite
    4.6. Recycled content: as per manufacturer's product
5. Jointing
    5.1. Material: In accordance with BS 7533-3.
    5.2. Joint width: 2-5 mm.

6. Setting out
    6.1. Bond: Coursed Stretcher

115_A UP3 Permeable concrete block paving

1. Description: Car Parking Spaces - Off Curtilage
2. Laying course
    2.1. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
    2.2. Nominal thickness after compaction: 50 mm
3. Blocks: To BS EN 1338.
    3.1. Manufacturer: Kilsaran
        3.1.1. Product reference: Climapave Slane
    3.2. Sizes: 200 x 100 x 80
    3.3. Special blocks: Edgings
    3.4. Arrises: Chamfered
    3.5. Colour/ Finish: Silver / Textured Granite
    3.6. Recycled content: as pr supplier's product standards and requirements
4. Jointing
    4.1. Material: Single size 5 mm washed aggregate
    4.2. Joint width: 6 mm
5. Setting out
    5.1. Bond: 45° herringbone

115_B UP4 Permeable concrete block paving

1. Description: Car Parking Spaces - On Curtilage
2. Laying course
    2.1. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
    2.2. Nominal thickness after compaction: 50 mm
3. Blocks: To BS EN 1338.
    3.1. Manufacturer: Kilsaran
        3.1.1. Product reference: Climapave Newgrange
    3.2. Sizes: 3 size mix x 60mm D
    3.3. Special blocks: Edgings
    3.4. Arrises: Square Edge
    3.5. Colour/ Finish: Black / Textured Granite
    3.6. Recycled content: as pr supplier's product standards and requirements
4. Jointing
    4.1. Material: Single size 5 mm washed aggregate
    4.2. Joint width: 6 mm
5. Setting out
    5.1. Bond: Random Stretcher

Execution

200 Execution generally – concrete block and clay paver paving

1. Standard: In accordance with BS 7533-3.

220 Samples

1. General: Before ordering, submit samples of all blocks/ pavers/ setts that are representative of colour and appearance.

230 Control samples

1. General: Carry out sample area of finished work:
   1.1. Location: Site
   1.2. Size (minimum): 1.5 x 1.5 m
2. Give notice: When ready for inspection.
3. Timing: Obtain approval of appearance before proceeding.

240 Adverse weather

1. General: Do not use frozen materials or lay bedding on frozen or frost covered sub-bases.

250 Laying geotextile sheet for conventional paving

1. Location: Immediately below laying course.
2. Jointing: Lap by 300 mm
3. Laying: Fit neatly at edge restraints and other features that interrupt the sand laying course, e.g. drainage fittings, channels, manholes and kerbs.
   3.1. Edge detail: Turn sheet up to form an upstand against features.
      3.1.1. Height (minimum): Thickness of sand laying course

451 Laying geotextile sheet for permeable paving

1. Jointing: 300mm

485 Laying blocks/ pavers/ setts

1. Setting out: Start from an edge restraint.
2. Cutting: Cleanly, accurately and vertically, without spalling. Do not mark or damage visible surfaces.
3. Cut edges: Turn inwards where possible; do not position against edge restraints or other features.
4. In situ mortar or concrete infill: Do not use
5. Compaction: Vibrate to produce thoroughly interlocked paving of even overall appearance with regular joints and accurate to line, level and profile. Do not mark or damage paving units, kerbs and adjacent work.
   5.1. Concrete blocks and clay pavers: In accordance with BS 7533-3, Annex F, to site category required for laying course material.

490 Laying permeable paving

1. General: Do not fill joints with sand, except for a 300 mm strip along restraining edges and around features and the like, to hold cut blocks in place

500 Regularity of paved surfaces

1. Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface)
   1.1. Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

505 Regularity of paved surfaces

1. 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.
2. Joints between paving units or utility access covers
   2.1. 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).
   2.2. 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.
   2.3. Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
3. Sudden irregularities: Not permitted.

Completion

600 Sealer/ Stabilizer for new blocks and setts

1. Surface preparation: Random Stretcher
2. Sealer/ Stabilizer
   2.1. Manufacturer: Submit proposals
      2.1.1. Product reference: Submit proposals

615 Completion of paving

1. Final compaction of the surface course: In accordance with BS 7533-3.
2. Vacuum cleaning machines: Not allowed.

620 Slip resistance testing

4. Surfaces to be tested: All proposed surfaces
   4.1. Surface condition: Dry and wet
5. Timing: As agreed with contract administrator
6. Period of notice (minimum): 3 working days.

Q25 Slab/ brick/ sett/ cobble pavings

To be read with Preliminaries/ General conditions.

General

120_A UP5 Concrete flag paving system

1. Description: Entrance to houses / gardens / driveways
2. Subgrade improvement layer: to Eng. Specs
3. Granular sub-base: to Eng. Specs
4. Base: to Eng. Specs
5. Laying course: to Eng. Specs
6. Paving units: Concrete flags
7. Flags:: To BS EN 1339.
    7.1. Manufacturer:: Kilsaran
        7.1.1.Product reference:: Newgrange
        7.1.2.Sizes:: 600 x 400 x 50mm
        7.1.3.Colour/Finish:: Silver Granite

120_B UP6 Concrete flag paving system

1. Description: Private patios / GL terraces
2. Subgrade improvement layer: to Eng. Specs
3. Granular sub-base: to Eng. Specs
4. Base: to Eng. Specs
5. Laying course: to Eng. Specs
6. Paving units: Concrete flags
7. Flags:: To BS EN 1339.
    7.1. Manufacturer:: Kilsaran
        7.1.1.Product reference:: Newgrange
        7.1.2.Sizes:: 600 x 400 x 50mm / 400 x 400 x 50mm
        7.1.3.Colour/Finish:: Buff Granite

120_C Tactile Paving

1. Description: Tactile Paving (See drawing)
2. Subgrade improvement layer: to Eng. Specs
3. Granular sub-base: to Eng. Specs
4. Base: to Eng. Specs
5. Laying course: to Eng. Specs
6. Paving units: Tactile concrete flags
7. Flags:: To BS EN 1339.
    7.1. Manufacturer:: Kilsaran
        7.1.1.Product reference:: Corduroy
        7.1.2.Sizes:: 400x400x50mm
        7.1.3.Colour/Finish:: Buff Blister pattern

180 RG1 Plastics grass reinforcing paving system

1. Description: Fire / maintenance routes
2. Subgrade improvement layer: to Eng's Specifications
3. Geomembrane: to Eng's Specifications
4. Granular sub-base: to Eng's Specifications
5. Water collection: to Eng's Specifications
6. Laying course: Sand/ fine aggregate
7. Paving units: Plastics pavers (Ritter; Prograss - 500 x 390 x 45 mm)
    7.1. Bond: In accordance with manufacturer's recommendations
    7.2. Filling: Submit proposals

System performance

220 Design – concrete flag paving system

1. Design: Complete the design of the concrete slab paving system in accordance with BS 7533-4.
2. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

280 Design - plastics grass reinforcing paving system

1. Design: Complete the design of the plastics grass reinforcing paving system in accordance with manufacturer's instructions.
2. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

Products

305 Granular material for layer over existing bases

1. Material: to Eng. Specs

Execution

610 Material samples

1. Samples representative of colour and appearance of designated materials: Submit before placing orders.
    1.1. Designated materials: All pavings

615 Control samples

1. Sample areas: Complete as part of the finished work.
    1.1. Types of paving: Concrete slab paving
    1.2. Location: on site
    1.3. Size (minimum): 1.5 x 1.5 m
2. Approval of appearance and surface: Obtain before proceeding.

620 Adverse weather

1. General
    1.1. Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.

1.2. Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.

2. Paving with mortar joints and/ or bedding
   2.1. Protect from frost damage, rapid drying out and saturation until mortar has hardened.
3. Paving laid and jointed in sand/ fine aggregate
   3.1. Stockpiled laying course sand/ fine aggregate: Protect from saturation.
   3.2. Exposed areas of unbound laying course and uncompacted areas of unbound paving: Protect from heavy rainfall.
   3.3. Saturated unbound laying course: Remove and replace, or allow to dry before proceeding.
   3.4. Laying dry sand/ fine aggregate jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 Laying pavings – general

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

630 Levels of paving

1. Permissible deviation from specified levels
   1.1. Generally: ± 6 mm.
2. Height of finished paving above features
   2.1. At gullies: +6 to +10 mm.

635 Regularity of paved surfaces

1. Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface)
   1.1. Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
   1.2. Precast concrete flags or natural stone slabs: 3 mm.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

637 Regularity of paved surfaces

1. 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.
2. Joints between paving units or utility access covers
   2.1. 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).

2.2. 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.

2.3. Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.

3. Sudden irregularities: Not permitted.

645 Protection

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

650 Cementitious bases and sub-bases

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

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

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

675 Laying geotextile sheet edging strips

1. Location: Immediately below the laying course, abutting features which interrupt the laying course, including:
   1.1. Perimeters/ Edge restraints/ Kerbs.
   1.2. Other types of paving.
   1.3. Drainage fittings, e.g. channels and manholes.
2. Edge detail: Turn sheet up to a height not less than thickness of the laying course to form an upstand fitted neatly against features.
3. Width: 4.5m
4. Jointing: Lap by 300 mm.

715 Laying flag and slab paving – mortar laying course and jointing

1. Standard generally: In accordance with BS 7533-4.
2. Flag installation and cutting: To Interpave 'Concrete flag paving'.
3. Laying course
    3.1. Nominal thickness: 25 mm after compaction

Completion

920 Completion of grassed pavings

1. Protection: Protect from traffic for 6-8 weeks or until grass can tolerate traffic.

930 Slip resistance testing

5. Surfaces to be tested: All proposed surface treatments
    5.1. Surface condition: Dry and wet
6. Timing: Two weeks prior to handover, but after initial cleaning
7. Period of notice (minimum): 3 working days.
8. Test standard: To BS 7976-2
    8.1. Testing authority: An approved laboratory
    8.2. Report: Submit.
        8.2.1.Format: As required under BS 7976

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

System outline - Not Used

Products

300 Preparation materials generally

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

310 Materials not permitted

1. Materials: Products containing peat
   River and canal dredgings

315 Imported topsoil to BS 3882 (SITE WIDE)

1. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
2. Standard: To BS 3882.
3. Classification: Multipurpose
   3.1. Soil textural class to BS 3882, Figure 1: Any class
4. Source: Enrich Environment Limited
   4.1. Product reference: Screened topsoil with 10% compost blend

355 Organic materials

1. Type: Bark
2. Source: Contractor's choice
   2.1. Product reference: Contractor's choice

Execution

620 Importing topsoil

1. Give notice: Before stripping topsoil for transfer to site.
   1.1. Notice period: 7 days

625 Sample loads

1. Deliver to site a sample load: of not less than 5 m³

2. Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
    2.1. Notice period: 5 days

630 Documentation for imported topsoil

1. Timing: Submit at handover.
2. Contents
    2.1. Full description of all soil components.
    2.2. Record of source for all soil components.
    2.3. Record drawings showing the location and depth of all soils by type and grade.
    2.4. Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.
3. Number of copies: Two

635 Documentation for compost and composted materials

1. Timing: Submit at handover.
2. Contents
    2.1. Full description of all compost components.
    2.2. Record of source for all compost components.
    2.3. Analyst's report for each test carried out.
    2.4. Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
    2.5. Quality Compost Protocol certification: Required
3. Number of copies: Two

650 Notice

1. Give notice before
    1.1. Setting out.
    1.2. Spreading topsoil.
    1.3. Applying herbicide.
    1.4. Applying fertilizer.
    1.5. Visiting site during maintenance period.
2. Period of notice: 3 working days

655 Mechanical tools

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

660 Grading subsoil for:

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

670 Inspecting formations

1. Give notice: Before spreading topsoil for site wide.
2. Notice period: 1 week

680 Surplus topsoil to be retained

1. Generally: Spread and level on site:
   1.1. Locations: TBC
   1.2. Protected areas: Do not raise soil level within root spread of trees that are to be retained.

685 Surplus materials to be removed

1. Topsoil removal from site: Topsoil remaining after completion of all landscaping work
2. Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

690 Topsoil storage heaps

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

700 Grading of topsoil

1. Topsoil condition: Reasonably dry and workable.
2. Contours: Smooth and flowing, with falls for adequate drainage.
   2.1. Hollows and ridges: Not permitted.
3. Give notice: If required levels cannot be achieved by movement of existing soil.

705 Handling topsoil

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

710 Spreading topsoil on:

1. Standard: In accordance with BS 3882.
2. Temporary roads/ surfacing: Remove before spreading topsoil.
3. Layers
   3.1. Depth (maximum): 150 mm.
   3.2. Gently firm each layer before spreading the next.
4. Depth after firming and settlement: 450 mm

5. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

710_A Spreading topsoil on tree pits Type A

1. Standard: In accordance with BS 3882.
2. Temporary roads/ surfacing: Remove before spreading topsoil.
3. Layers
   3.1. Depth (maximum): 150 mm.
   3.2. Gently firm each layer before spreading the next.
4. Depth after firming and settlement: 1000 mm
5. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

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

720 Finished levels of topsoil after settlement

1. In relation to adjoining paving, kerbs or hard surfaces: 75 mm below
2. In relation to dpc of adjoining buildings: Not less than 150 mm below.
3. In relation to adjacent grass areas: 50 mm above
4. Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
5. Sportsfields: To even levels and within the following permitted deviations:
   5.1. From levels or gradients shown on drawings: ±75 mm.
   5.2. From line between boning rods 30 m apart: ±25 mm.
6. Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
7. Adjoining soil areas: Marry in.
8. Thickness of turf or mulch: Included.

810 Applying compost

1. Description: 10% Compost to be applied together with topsoil. 1m3 of topsoil conditioner will service an area of 20 m2 when spread to a depth of 50mm

820 Applying general fertilizer

1. Application: Spread evenly, carefully incorporating below mulch materials.
   1.1. Timing: Immediately before cultivation.
   1.2. Application rate: 10 g/m²

845 Applying loose mulch on planting beds and trees pits

1. Timing: Immediately after planting
2. Preparation: clear all weeds and soil as per proposed levels
3. Coverage of mulch (minimum)
   3.1. Planting beds (depth): 50 mm depth
   3.2. Trees: In a circular area of 500 mm radius measured from the tree stem
   3.3. Container planting: 50 mm depth

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

Completion

920 Applying mulch

3. Timing: At end of the maintenance period
4. Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
5. Planting beds: Re-mulch.
   5.1. Depth (minimum): 50 mm
6. Trees: Remulch.
   6.1. Depth (minimum): 75 mm
7. Container planting: Remulch.
   7.1. Depth (minimum): 50 mm
   7.2. 50 mm

Q30 Seeding/ turfing

To be read with Preliminaries/ General conditions.

General information/requirements

115 Seeded and turfed areas

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

120 Climatic conditions

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

145 Watering

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

146 Watering

1. Quantity: Wet full depth of topsoil.
2. Application: Even and without displacing seed, seedlings or soil.
3. Frequency: a detailed programme if works will be agreed with Contractor prior to maintenance

150 Water restrictions

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

160 Notice

1. Give notice before
    1.1. Setting out.
    1.2. Applying herbicide.
    1.3. Applying fertilizer.
    1.4. Preparing seed bed.
    1.5. Seeding or turfing.
    1.6. Visiting site during maintenance period.
2. Period of notice: 3 working days

170 Setting out

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

Preparation

210 Herbicide

1. Type: Suitable for suppressing perennial weeds.
2. Timing: Allow fallow period before cultivation.

2.1. Duration: As manufacturer's recommendation

212 Seed bed cleaning before sowing

1. Operations: As seed supplier's recommendations.

Seeding

310 Grass seed at public open space

1. Mixture: 35% Chewings fescue, 35% Slender red fescue, 20% Smooth stalked meadow grass, 10% Brown top bent
2. Application rate: Supplier's recommendations

312 Wildflower seed mixture

1. Supplier: Submit proposals
   1.1. Mixture reference: Submit proposals
2. Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): Local origin
3. Application rate: Supplier's recommendations

319 Quality of seed

1. Freshness: Produced for the current growing season.
2. Certification: Blue label certified varieties.
   2.1. Standard: EC purity and germination regulations.
   2.2. Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
3. Samples of mixtures: Submit when requested.

320 Quality of seed

1. Freshness: Produced for the current growing season.
2. Certification: Blue label certified varieties.
   2.1. Standard: EC purity and germination regulations and Department for Environment, Food and Rural Affairs Higher Voluntary Standard.
   2.2. Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
3. Samples of mixtures: Submit when requested.

322 Quality of wildflower seed

1. Standard: In accordance with Flora Locale's 'Code of practice for collectors, growers and suppliers of native flora'.
2. Samples: Submit when requested.

352 Edges to seeded areas

1. Timing: After seeded areas are well established.
2. Edges: Clean straight lines or smooth curves.
   2.1. Mulch and soil: Draw back to permit edging.
3. Arisings: Remove.

4. Completion: Respread soil and mulch.

Turfing - Not Used

Protecting/cutting

590 Cleanliness

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

Maintenance

610 Failures of seeding/ turfing

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

Q31 External planting

To be read with Preliminaries/ General conditions.

General information/ requirements

112 Site clearance generally

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
3. Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings
4. Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.

118 Soil conditions

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

120 Climatic conditions

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

125 Times of year for planting

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

130 Mechanical tools

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

145 Watering

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

146 Watering

1. Quantity: Wet full depth of topsoil.
2. Application: Even and without damaging or displacing plants or soil.
3. Frequency: As maintenance schedule

150 Water restrictions

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

160 Notice

1. Give notice before
    1.1. Setting out.
    1.2. Applying herbicide.
    1.3. Applying fertilizer.
    1.4. Delivery of plants/ trees.
    1.5. Planting shrubs.
    1.6. Planting trees into previously dug pits.
    1.7. Watering.
    1.8. Visiting site during maintenance period.
2. Period of notice: Three working days

170 Soil requirements

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

200 Plants/ Trees – general

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

215 Plants/ Trees – specification criteria

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

216 Plants/ Trees – specification criteria

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

225 Bulbs/ Corms/ Tubers

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

235 Container grown plants/ Trees

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

245 Labelling and information

6. 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:
    6.1. Full botanical name.
    6.2. Total number.
    6.3. Number of bundles.
    6.4. Part bundles.
    6.5. Supplier's name.
    6.6. Employer's name and project reference.
    6.7. Plant specification, in accordance with scheduled National Plant Specification categories.
    6.8. categories.

246 Labelling and information

1. Standard: To BS 3936.

255 Plants/ Trees reserved at supplier's premises

1. Types/ Species: As plant schedule
2. Predelivery inspection: Give notice.
3. Labelling: Identify inspected plants/ trees as reserved for use on this project.

260 Plant/ Tree substitution

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

1.2. Difference from specified plants/ trees.

2. Approval: Obtain before making any substitution.

265 Plant handling, storage transport and planting

1. Standard: To CPSE 'Handling and establishing landscape plants'.
2. Frost: Protect plants from frost.
3. Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
4. Plant packaging: as per nursery's specifications
5. Planting: Upright or well balanced with best side to front.

280 Treatment of tree wounds

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

285 Protection of existing grass

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

290 Surplus material

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

Preparation of planting beds/ planting materials

305 Weed control

1. Locations: All planting areas
2. General: Prevent weeds from seeding and perennial weeds from becoming established, in accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotwood code of practice'.

Planting shrubs/ herbaceous plants/ bulbs

401 Regular plant layouts to shrub, ornamental grasses and perennial planting

1. Spacing: to be determined at later stage (Specifications to be provided by Landscape Architect
2. Density: As plant schedule

405 Shrub planting pits

1. Timing: Excavate 1-2 days (maximum) before planting.
2. Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system
3. Pit bottom improvement Break up to a depth of 150 mm, incorporating soil ameliorant/ conditioner at 50 g/m².

420 Climbing plants

1. Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
   1.1. Branches: Lightly secured to supports.
2. Climber supports: Metal climbing structure along bin stores facades Stainless steel wire trellis; Supplier: Jakob Rope Systems or similar approved

435 Climbing plants used as ground cover

1. Planting
   1.1. Canes or other supports: Remove.
   1.2. Arrangement: Spread stems.
2. Fixing: Pinned to ground to ensure good contact.

445 Planting bulbs/ Corms/ Tubers

2. Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
3. Backfilling: Finely broken soil. Lightly firm to existing ground level.
4. Naturalized planting in existing grassed areas
   4.1. Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
   4.2. Planting: Neatly remove a plug of turf and replace after planting.
   4.3. .

470 Formal hedges

1. Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
2. Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

471 Naturalized hedges

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

472 Fencing support for new hedges

1. Type: Timber post and general pattern wire mesh, as section Q40
2. Timing: Before planting hedge.
3. Support: Lightly secure hedge plants to fence wires at appropriate intervals.

480 After planting

1. Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
3. Top dressing: Mulching and top dressing system, as section Q28
   3.1. Depth: 50 mm

Planting trees

500 Tree planting

1. Standard: Prepare trees and transplant in accordance with BS 4428

505 Tree pits

1. Sizes: as drawings and details
2. Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. Excavated material: Remove arisings
4. Pit bottoms: Excavate with slightly raised centre: Break up base to a depth of 150 mm.
5. Pit sides: Scarify.
6. Backfilling material: Mulching and top-dressing system, as per Q28 Topsoil and soil ameliorants

510 Tree pit root barriers

1. Locations: As drawing details
2. Manufacturer: Greenleaf
   2.1. Product reference: ReRoot200/RootStop, Ref.: RER220x1.5Ax1500mm
3. Thickness: 2.0 mm
4. Barrier depth: 1500 mm
5. Top of root barrier in relation to finished topsoil level: 50 mm below ground level
6. Installation: With sides vertical. Remove all sharp objects adjacent to barrier.

526 Underground guying for:

1. Description: Multistem tree - Rootballed Trees
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Anchoring system: Contractor's choice
4. Installation: Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

535 Tree stakes

1. Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
   1.1. Preservative treatment: Not required
2. Stake size (minimum): 75 mm diameter
3. Stake length (minimum): 1800 mm

550 Double staking for rootballed trees (standard)

1. Staking
   1.1. Position: Either side of tree position and perpendicular to wind direction.
   1.2. Driving: Vertically at least 300 mm into bottom of pit before planting.
   1.3. Backfilling: Consolidate material around stake.
   1.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
2. Height of stakes: Cut off to approximately 600 mm above ground level
3. Horizontal bracing: Crossbar
4. Ties: Adjustable
5. Nails for fixing ties, belts and webbing: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.

576 Tree pit surfacing – loose fill

1. Surfacing material: as per Q28 Topsoil and soil ameliorants
2. Area: 600 mm radius circle
3. Depth: 75 mm
4. Watering: Water soil thoroughly before laying.
5. Installation: Ensure the base of the tree stem is kept free from loose filled material.

Woodland/ matrix/ buffer zone planting

600 Woodland work generally

1. Services: Check for below and above ground services, including land drainage, in the vicinity. Give notice if they may be affected and obtain instructions before proceeding.
2. Safety: Comply with Arboriculture and Forestry Advisory Group Safety leaflets.

615 Woodland work generally

1. Existing trees and seedlings: Retain.
2. Coppice shoots: Thin to 3-5 stems per stool, removing all damaged, dead or diseased shoots

617 Removing trees and hedges

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

635 Notch planting in uncultivated ground

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

665 Setting out

1. Distance between trees: As drawing

680 Setting out

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

Protecting/ maintaining/ making good defects

710 Maintenance

1. Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
2. Frequency of maintenance visits: In accordance with the agreed maintenance schedule

720 Failures of planting

1. Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.

1.1. Exclusions: Theft or malicious damage after completion.

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

2. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. Timing of making good: During the next suitable planting season

730 F2 Protective Fencing along existing Hedgerow

1. Fencing type: Cleft chestnut pale fencing, as section Q40
2. Erection: along existing hedgerow

740 Cleanliness

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

750 Planting maintenance generally

1. Weed control: Maintain weed free area around each tree and shrub.

1.1. Diameter (minimum): The larger of 1 m or the surface of original planting pit.

1.2. Keep planting beds clear of weeds: By maintaining full thickness of mulch

2. Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
3. Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
5. Trees: Spray crown when in leaf during warm weather.

5.1. Timing: After dusk.

6. Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.

6.1. Broken or missing items: Replace.

6.2. Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.

6.3. Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.

6.4. Ties: Adjust to accommodate growth and prevent constriction or abrasion.

6.5. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.

6.6. Frequency of checks: At each scheduled maintenance visit

7. Watering: As required for healthy establishment, depending on weather conditions

760 Planting maintenance – pruning

1. General: Prune to promote healthy growth and natural shape.

1.1. Dead, dying, diseased wood and suckers: Remove.

1.2. Timing: As appropriate to the species

1.3. Trees: Favour a single central leading shoot.

2. Arisings: Remove.

770 Woodland planting maintenance

1. Watering: Only as necessary to prevent plants wilting.

2. Loose plants: Refirm surrounding soil, without compacting.
3. Weed control: Cut down and remove weeds prior to setting seed in a 1 m diameter area around each tree.
4. Vegetation except trees and coppice shoots to be retained: Cut within the plantation area.
   4.1. Arisings: Leave between rows.
5. Mechanical, chemical or mulching methods of vegetation control: Submit proposals.
6. Ditches and drains: Keep clear.

780 Maintenance instructions

1. General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide a schedule of any ongoing maintenance problems experienced during the rectification period.

790 Final mulching

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

Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

Generally

110 Notice

1. Give notice before
   1.1. Application of herbicide.
   1.2. Application of fertilizer.
   1.3. Watering.
   1.4. Each site maintenance visit.
2. Period of notice: 7 days

130 Reinstatement

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

155 Watering

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

160 Water restrictions

1. 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.

170 Disposal of arisings

1. General: Unless specified otherwise, dispose of arisings as follows:
   1.1. Biodegradable arisings: Remove to recycling facility
   1.2. Grass cuttings: Leave for two to three days after cutting and then remove
   1.3. Tree roots and stumps: Remove from site
   1.4. Shrub and tree prunings: Remove to recycling facility
   1.5. Litter and nonbiodegradable arisings: Remove from site

181 Mechanical equipment

1. General: Minimize.
2. Prohibited equipment:
3. Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only

190 Litter

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

195 Protection of existing grass

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

197 Cleanliness

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

Grassed areas

210 Performance-based maintenance of grassed areas

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

211 Maintenance of grassed areas

1. Standard: To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
   1.1. Objectives: To BS 7370-3, Table 6.
   1.2. Programme: To BS 7370-3, clause 11.
   1.3. Mowing methods: To BS 7370-3, Table 3.

220 Grass cutting generally

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

225 Tree stems

1. Precautions: Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other handheld mechanical tools carefully to avoid damage to bark

235 Bulbs and corms in grassed areas

1. Before flowering: Do not cut.
2. Interval between end of flowering and start of grass cutting (minimum): 6 weeks

250 Leaf removal

1. Operations: Collect fallen leaves.
2. Special requirements: None
3. Disposal: Remove from site for recycling

260 Mowing lawns

1. Grass height: 75 mm maximum
2. Arisings: Spread evenly over cut areas

273 Maintaining grassed areas with annual wildflowers

1. Preparation: Before each cut remove all litter and debris.
2. Timing of first cut: After flowers have set seed.
3. Height of first cut: 75 mm
4. Subsequent cutting: Cut as necessary, so the height of growth does not exceed 125 mm.
   4.1. Height of cut: 75 mm
5. Trimming: All edges.
   5.1. Arisings: Spread evenly over cut areas
6. Watering: Contractor's choice

309 Edges to seeded areas

1. Location: Adjacent to planting beds and around trees
2. Timing: After seeded areas are well established.
3. Method: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
4. Arisings: Remove.

345 Control of Japanese knotweed

1. Operations: Spot-treat in June and September during suitable weather conditions and when plants are growing vigorously.
2. Herbicide: In accordance with the INNSA 'Code of practice. Managing Japanese knotweed'
3. Application: In accordance with the INNSA 'Code of practice. Managing Japanese knotweed'
4. Arisings: In accordance with the INNSA 'Code of practice. Managing Japanese knotweed'

380 Reinstatement of damaged lawns

1. Damaged turf: Remove to a depth of 40 mm.
2. Preparation: Cultivate substrate to a fine tilth.
3. Reinstatement: Contractor's choice of returfing or topsoiling and reseeding:
   3.1. Returfing: Quality and appearance to match existing.
   3.2. Reseeding: Fill with fine topsoil to BS 3882 multipurpose class, free from stones, debris and weeds. Reseed with a seed mix to match existing grass in quality and appearance.
4. 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

1. Gaps in planting: Refill by replanting.
2. Watering
   2.1. New plants: Before and after planting out.
   2.2. Ongoing: As necessary for the continued thriving of all planting.
3. Operations at end of growing season
   3.1. Trim: Older flowering stems of herbaceous perennials.
   3.2. Remove: Redundant plant supports, litter, debris and arisings.
   3.3. Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.

470 Flower beds generally

1. Operations
   1.1. Remove: Dead flower heads, fallen leaves, litter and debris.
   1.2. Weeds: Thoroughly hand-weed.
   1.3. Cultivate: Lightly hoe.
   1.4. Trim: Clip grass edges.

Shrubs/trees/hedges

500 Establishment of new planting

1. Duration: One year
2. Weed control
   2.1. Method: Keep planting beds clear of weeds by Use of suitable herbicides.
   2.2. 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.
3. Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. Watering: As schedule and when instructed

502 Establishment of new planting – fertilizer

1. Time of year: March or April.
2. Type: Organic
3. Spreading: Spread evenly.
   3.1. Application rate: As manufacturer's recommendations

510 Tree stakes and ties

1. Inspection/ maintenance times: As scheduled and immediately after strong winds
2. Stakes
   2.1. Replace loose, broken or decayed stakes to original specification.
   2.2. 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.
3. Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
   3.1. Where chafing has occurred, reposition or replace ties to prevent further chafing.

4. Removal of stakes and ties: When instructed
    4.1. Fill stake holes with lightly compacted soil.

520 Refirming of trees and shrubs

1. Timing: After strong winds, frost heave and other disturbances.
2. Refirming: Tread around the base until firmly bedded.
3. 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.

535 Tree grilles

1. Operations: Lift grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level.

540 Pruning generally

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

545 Pruning of excessive overhang

1. Timing: As instructed
2. Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.

555 Pruning trees and shrubs

1. Standard: To BS 7370-4.
2. Special requirements: Growth retardents not permitted

570 Formative pruning of young trees

1. Standard: Type and timing of pruning operations to suit the plant species.
2. Time of year: Do not prune during the late winter/ early spring sap flow period.
3. Young trees up to 4 m high
    3.1. 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.
    3.2. Remove duplicated branches and potentially weak or tight forks. In each case, cut back to live wood.
4. Whips or feathered trees: Do not prune.
5. Operatives: Approved specialist contractor

575 Pruning ornamental shrubs

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

580 Pruning flowering species of shrubs and roses

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

600 Trimming rapidly establishing hedges

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

605 Trimming slowly establishing hedges

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

620 Removal of dead plant material

1. wood, and broken or damaged branches and stems.

625 Climbing plants

1. Pruning: Remove excess growth, to ensure that signs, light fittings, doors and windows are kept clear at all times.
2. Insecure growth: Attach to supporting wires or structures using Stainless steel wire.
3. Supporting structures: Check and repair as necessary.

630 Dead and diseased plants

1. Removal: As soon as possible
2. Replacement: In the next scheduled round of replacement planting

635 Reinstatement of shrub/ Herbaceous areas

1. Dead and damaged plants: Remove.
2. Mulch/ matting materials
    2.1. Carefully move to one side and dig over the soil, leaving it fit for replanting.
3. Do not disturb roots of adjacent plants.
4. Replacement plants
    4.1. 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.
    4.2. Additional requirements: Submit details and cost of plants before ordering
5. Dressing: Slow-release fertilizer:
    5.1. Type: Organic

5.2. Application rate: 50 g/m²

645 Weed control generally

1. Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high
2. Adjacent plants, trees and grass: Do not damage.

650 Hand weeding

1. General: Remove weeds entirely, including roots.
2. Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
3. Completion: Rake area to a neat, clean condition.
4. Mulch: Reinstate to original depth.

655 Weed cutting by hand or machine

1. Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 50 mm.
2. Herbicides: Give notice before use

657 Herbicide to kill regrowth

1. Type: Suitable foliar-acting herbicide to kill regrowth.
2. Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

665 Weed control with winter herbicide

1. Type: Suitable residual soil-acting herbicide.
2. Time of year: Unless otherwise agreed, complete before end of March.
3. Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

670 Weed control with summer herbicide

1. Type: Suitable foliar-acting herbicide.
2. Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

675 Digging over

1. General: Dig over beds. Do not damage existing plants, bulbs and roots.
   1.1. Depth of dig (minimum): 75 mm

680 Soil aeration

1. Compacted soil surfaces
   1.1. Prick up: To aerate the soil of root areas and break surface crust.
   1.2. Size of lumps: Reduce to crumb and level off.
   1.3. Damage: Do not damage plants and their roots.

685 Soil level adjustment

1. Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.
   1.1. Arisings (if any): Spread evenly over the bed.

690 Maintenance of loose mulch

1. Thickness (minimum): 50 mm
   1.1. Top up: Twice per year
2. Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
3. Weeding: Remove weeds growing on or in mulch by Hand-weeding.

695 Fertilizing established trees and shrubs

1. Time of year: April through July
2. Type of fertilizer: Organic
3. Application: Spread evenly.
   3.1. Rate: 60 g/m²

700 Snow removal from shrubs/ Trees

1. Standard: To BS 7370-4.
2. Plants subject to snow removal: All evergreens
3. Timing: Within 24 hours of snowfall

705 Winter leaf removal

1. Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
2. Arisings: Remove to recycling facility

710 Woodland planting maintenance

1. Watering: In exceptional circumstances to prevent plants dying.
2. Loose plants: Refirm surrounding soil, without compacting.
3. Vegetation: Except trees and coppice shoots to be retained, cut down to 100 mm above ground level within the plantation area.
   3.1. Arisings: Leave between rows.
4. Ditches and drains: Keep clear.

Tree work

810 Tree work generally

1. Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
2. Protection: Avoid damage to neighbouring trees, plants and property
3. Standard: To BS 3998.
4. Removing branches: Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
5. Appearance: Leave trees with a well-balanced natural appearance.
6. Chain saw work: Operatives must hold a certificate of competence.
7. Tree work: To be carried out by an approved member of the Arboricultural Association.

815 Additional work

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

820 Prevention of wound bleeding

1. Standard: To BS 3998.

825 Prevention of disease transmission

1. Standard: To BS 3998.

830 Cleaning out and deadwooding

1. Remove
    1.1. Dead, dying or diseased wood, broken branches and stubs.
    1.2. Fungal growths and fruiting bodies.
    1.3. Rubbish, windblown or accumulated in branch forks.
    1.4. Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
    1.5. Other unwanted objects, e.g. tree houses, swings.

835 Cutting and pruning generally

1. Tools: Appropriate, well maintained and sharp.
2. Final pruning cuts
    2.1. Chainsaws: Do not use on branches of less than 50 mm diameter.
    2.2. Hand saws: Form a smooth cut surface.
    2.3. Anvil type secateurs: Do not use.
3. Removing branches: Do not damage or tear the stem.
4. 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.
5. Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
6. Large branches: Remove only with prior approval
    6.1. Remove in small sections and lower to ground with ropes and slings.
7. Dead branches and stubs: When removing, do not cut into live wood.
8. Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

840 Crown reduction/ Shaping

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

845 Crown lifting

1. Clearances: Remove branch systems to give clearance.
    1.1. Height: 2.5 m above footpaths
2. 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.

860 Removing trees, shrubs and hedges

1. Standard: To BS 3998.

2. Existing services: Check for below and above ground services. Give notice if they may be affected.
3. Shrubs and smaller trees: Cut down and grub up roots.
4. Tree stumps
   4.1. Removal by winching: Give notice. Do not use other trees as supports or anchors.
5. Protection: Avoid damage to neighbouring trees, plants and property
6. 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.
7. Filling holes
   7.1. Material: Use as-dug material and/ or imported soil as required.
   7.2. Finishing: Consolidate and grade to marry in with surrounding ground level.

865 Bark damage

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

870 Cavities in trees

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

Water areas - Not Used

Hard landscape areas/fencing

900 Snow clearance

1. Clearance: On reaching a depth of 5 mm
2. De-icing: To roads and footpaths
   2.1. Material: Rock salt to BS 3247
   2.2. Timing: On snow reaching a depth of 5 mm
   2.3. Application rate: Spread evenly at a rate of As manufacturer's recommendations.

910 Hard surfaces and gravel areas

1. Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
2. Hard surfaces: Remove litter, leaves and other debris.
3. Surface gutters and channels: Remove mud, silt, and debris.
4. Drainage gullies: Empty traps and flush clean.
5. Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.

6. Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
7. Stain removal: In accordance with BS 7370-2, table 4.

920 Fencing

1. Fences: Inspect and repair to maintain protection against Intruders.

Q40 Fencing

To be read with Preliminaries/ General conditions.

Fencing systems

220 W6 Steel fencing (Estate fence)

1. Description: Front Houses and Duplexes Railing
   Estate Railing with horizontal bars
2. Manufacturer: Irishfencing
   2.1. Product reference: Estate Railing
3. Standard: To BS 1722-8, type .....
4. Height: 900 mm
5. Posts and bars
   5.1. Intermediate bars/ Joiner posts: Flat
   5.2. Finish: Hot-dip galvanized to BS EN ISO 1461
      5.2.1.Colour: TBC
   5.3. Centres of posts (maximum):
   5.4. Joiner posts: 6 m.
   5.5. Intermediate posts: 1.2 m
6. Method of setting posts
   6.1. Intermediate/ Joiner posts: Driven
7. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.

250 F1 Composite Panel System_Partitions at back to back heating pump

1. Manufacturer: Irish Fencing or similar and approved
2. Standard: To BS 1722-11.
3. Type of infill: Horizontal Composite Timber Boards
   3.1. Treatment: None
   3.2. Finish: None required
4. Height: 1600 mm
5. Posts: Composite Timber
   5.1. Treatment: None
   5.2. Finish: None
6. Method of setting posts
   6.1. Hole depth: As drawing detail
   6.2. Concrete depth: Filled to not less than half the hole depth.
7. Accessories: None
8. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-11.

260 W2 Concrete post and timber panel - Rear House Garden Dividing Boundary

1. Manufacturer: TBC
   1.1. Product reference: Contractor's choice
2. Precast concrete elements: To BS EN 12839.
3. Height: 1800 mm

4. Panel types: Round Top Hit & Miss Fence Panel
   Panel: 1.8 wide x 1.5m height
   Boards: 95mm x 38mm, 50mm gap (Nom.); Sanded and Planed; pressure treated with Tanalith E.
   Rails: 75mm x 50mm, slotted into concrete posts
   1.75m x 1m, planned, mortice, and tenoned.
   Stainless steel fixings with galvanized ring latch and hinges.
5. Post spacing: 1.8 m
6. Method of setting posts: in concrete foundations to eng.'s specifications
7. Accessories: Single gate to match Fencing

320 F2 Chestnut pale fencing - Along existing Hedgerow

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice as per detail drawing
2. Height: 1.2 m
3. Posts and struts: Wood
   3.1. Treatment: To provide a 30-year service life ·
4. Centres of posts (maximum)
   4.1. Straining posts: 70 m in straight runs and at all ends, corners, changes of direction and acute variations in level.
   4.2. Intermediate posts: 2 m
5. Accessories: Three lines of barbed wire

340 W5 Steel vertical bar fencing - Apartment Courtyard Railing

1. Manufacturer: Irish Fencing
   1.1. Product reference: Solid Roundbar Railing
2. Standard: To BS 1722-9.
3. Height: 1800 mm
4. Verticals: 16 mm diameter round bar
5. Centres of verticals: 116 mm
6. Posts: 80x40 mm
7. Centres of posts (maximum): 2750 mm
8. Accessories: Single leaf pedestrian gate
9. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

340_A W7 Steel vertical bar fencing - Local Park Railing Type A

1. Manufacturer: Irish Fencing
   1.1. Product reference: Solid Roundbar Railing
2. Standard: To BS 1722-9.
3. Height: 1800 mm
4. Verticals: 16 mm diameter round bar
5. Centres of verticals: 116 mm
6. Posts: 80x40 mm
7. Centres of posts (maximum): 2750 mm
8. Method of setting posts/ stays/ legs: Railing to fix on top of low brick wall
9. Accessories: Single and double gates

10. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

440 Boundary protection materials specification

1. Minimum BRE 'Green Guide to Specification Online' rating: Contractor's choice

Accessories

635 Gate openers

1. Description: Local Park Gates
2. Type: Bifold
3. Mechanism: Electro-mechanical

Execution

710 Installation generally

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

715 Competence

1. Operatives: Contractors must employ competent operatives.

720 Setting posts in concrete

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

730 Exposed concrete foundations

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

740 Exposed concrete foundations

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

770 Site cutting of wood

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

780 Making good galvanized surfaces

1. 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.
2. Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

790 Site painting

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

Completion

910 Cleaning

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

920 Fixings

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

930 Gates

1. Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
   1.1. Timing: Before handover.

Ω End of Section

Q41 Barriers/ guardrails

To be read with Preliminaries/ General conditions.

Performance/ inspection/ testing

300 Contractor's structural design

1. Requirement
   1.1. Generally: As section B51. Submit drawings and schedules in accordance with the designated code of practice and to satisfy the performance criteria specified in section B51.
2. Member sizes and locations: As drawing

330 Verification of anchorages

1. Certification: Four weeks prior to installation, submit certificates from a United Kingdom Accreditation Service (UKAS) independent laboratory, stating that for tests in accordance with BS 5080-1, anchorages are capable of resisting
2. Tolerance: Certification must include the maximum tolerance of hole size and evidence that load can be supported when anchor is installed in holes having these tolerances.

340 Site testing anchorages in drilled holes

1. Test parapet posts: Install on site.
2. Loading tests: To BS 5080-1.
3. Anchorage loadings: Incrementally in tension to 10% above the nominal tensile load determined
   3.1. Load holding periods
      3.1.1. Incremental loads: Not less than 30 seconds.
      3.1.2. Test loads: Not less than 5 minutes.
   3.2. Readings: Take after applying load and at the end of the time intervals stated.
   3.3. Movement: Total not to exceed 1 mm during test.
      3.3.1. Any evidence of slip during loading shall constitute failure.
4. Test results: Submit prior to full parapet installation.

Installation

410 Work on or adjacent to highways

1. Requirement: Comply with the Department for Transport's 'Safety at street works and road works. A code of practice'. Retain a copy of this document on site at all times during the course of the works.

420 Alignment

6. Erection: Fences/ barriers to present a flowing alignment. Tops of posts to follow ground profile.
7. Tolerance: ±30 mm of prescribed alignment and, within any 10 m length, ±15 mm from the straight or required radius.

430 Erection generally

1. Protection: Coat all internal and external surfaces of aluminium and steel posts below and up to 150 mm above ground level, with two coats of bituminous paint to BS 6949 type 2, unless other applied surface finish is specified.

2. Prevention of electrolytic corrosion: Isolate dissimilar metals.
3. Steel components: Do not drill, cut or weld after galvanizing.

480 Concrete foundations for posts

1. Excavations: To have vertical sides. Dispose of all arisings. Blind excavation bottoms with a 50 mm layer of concrete.
2. Concrete mix: To BS 8500-2, Designated mix not less than GEN 4 or Standard mix not less than ST5. Do not use admixtures.
3. Placing concrete: Fill holes to the specified depth and fully compact. Do not backfill for at least four days.
4. Temporary support to posts: Provide for a at least four days after placing concrete.

490 Damage repair to galvanized surfaces

1. Areas of repair: Minor damage, including fixings and fittings.
   1.1. Total area of repair not to exceed 0.5% of total surface area.
   1.2. Each area not to exceed 1000 mm².
2. Renovation: Use low melting point zinc alloy repair rods or powders or at least two coats of zinc-rich paint to BS 4652.

500 Preservative treated timber

1. Surfaces exposed by minor cutting and drilling: Treat with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

510 Preparation for site painting

1. Preparation and application: As soon as possible after installation of barriers/ guardrails.

Completion

900 Documentation

1. Contents
   1.1. General product information.
   1.2. Installation information.
   1.3. Inspection and maintenance reports.

Q50 Site/ street furniture/ equipment

To be read with Preliminaries/ General conditions.

Site and street furniture

110 Wood gate

1. Description: Single Gate to match with the proposed Timber Panel Rear house Garden Dividing Boundary
2. Manufacturer: Irish Fencing or similar
3. Standard: To BS 5709.
4. Wood: Contractor's choice
5. Treatment: As Wood Protection Association 'Industrial Wood Preservation. Specification and Practice'.
6. Adhesive: Synthetic resin to BS EN 301, type 1.
7. Method of setting posts: Concrete foundation

130 Gate

1. Description: Single and Double Gates to match the Steel Bar Railing
2. Manufacturer: Irish Fencing or similar
3. Size: As drawing
4. Posts: Steel
5. Finish as delivered: As manufactured
    5.1. Colour: TBC
6. Method of setting posts: Concrete foundation

190 Bollards

1. Description: Open Space
2. Manufacturer: Pittman
    2.1. Product reference: Semi Dome Stainless Steel Bollard (P-895766) or similar
3. Material: Stainless Steel
4. Height above ground: 1200 mm
5. Sectional size: 114 mm diameter

210 Cycle stands

1. Manufacturer: Hartecast (&/or similar and approved)
    1.1. Product reference: Sheffield stand, or similar and approved
2. Type: Single stands
3. Material: 316 grade stainless steel
4. Method of fixing: concrete foundation under the proposed surface treatment

220 Benches

1. Manufacturer: Hartecast
    1.1. Product reference: HC2033S Seat or similar and approved
2. Material: Powder coated stainless steel
    2.1. Colour: Anthracite Grey RAL 7016 or similar approved
3. Size: 1800x360x460mm

4. Accessories/ Special requirements: To include back and arm rests
5. Method of fixing: To be fixed to concrete pad

242 Bins

1. Manufacturer: Hartecast
   1.1. Product reference: HC2055 - 100 litre, or similar and approved
2. Material: cast ductile iron
   2.1. Colour: Anthracite Grey RAL 7016 or similar approved
3. Method of fixing: To be fixed to concrete pad

262 Tree grilles

1. Description: See drawing
2. Manufacturer: Castit or similar
3. Material: Cast iron
4. Size: 1200x1200mm

Installation

510 Concrete foundations generally

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

515 Setting components in concrete

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

520 Setting in earth

1. Holes: As small as practicable.
2. Components being fixed: Accurately positioned and securely supported.
3. Buried depth (minimum): to eng. Specs
4. Earth refill: Well rammed as filling proceeds.

530 Preservative treated timber

1. 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.
2. Heavily worked sections: Re-treat.

540 Building in to masonry walls

1. Components being built in: Accurately positioned and securely supported. Set in mortar and pointed neatly to match adjacent walling.

2. Temporary support: Maintain for 48 hours (minimum) and prevent disturbance.

545 Erection of timber and prefabricated structures

1. Checking: 5 days (minimum) before proposed erection date, check foundations, holding down bolts, etc.
2. Inaccuracies or defects in prepared bases or supplied structures: Report immediately. Obtain instructions before proceeding.

550 Damage to galvanized surfaces

1. Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
   1.1. 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.
   1.2. Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

560 Site painting

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

murray & associates
landscape architecture

Landscape Management Plan

November 2022

Contents:

1. Introduction

The purpose of this Landscape Management Plan is to provide guidance and specifications for the maintenance requirements of the landscape elements of the proposed development. This will cover all of the landscape typologies, both existing (hedgerows and mature trees) and proposed (trees, shrubs, hedging, etc.) on-site to ensure that all maintenance operations required for the efficient and effective management of the landscape are characterised and defined. The plan will provide a set of measurable performance standards that can be applied to evaluate landscape maintenance works carried out on the site.

2. Nature of Site

Landscape works proposed include extensive planting: specimen trees, shrubs, bare-root planting and perennials.
Hard landscape works include feature paving, ramps, steps, lighting and drainage.

3. Timeframe & Programming

The proposed development, including the landscape works, will be managed and maintained by the applicant until deemed suitable for Taking In Charge by South Dublin County Council.

A detailed programme of works will be agreed with the Contractor prior to maintenance operations commencing, in each year. A sample maintenance programme is contained at Point 8.

4. Aims & Objectives

4.1 General

Fundamentally, the aim of landscape management is to ensure that all external areas are kept in good condition, as perceived and expected by the users. The Landscape Management Plan aims to provide a manual for the maintenance requirements of the park and adjacent landscapes. It will define and specify all necessary operations for the efficient and effective management of the landscape in order to ensure that each area is appropriately and sustainably maintained.

4.2 Horticultural / Sylvicultural Objectives

Horticultural and sylvicultural aims relate to the appropriate management operations for all plants and trees. The specific horticultural objectives are as follows:

- All plants to be maintained so that they remain in good health;
- All plants to have a habit and form consistent with species type and aesthetic objectives;
- Specialist operations for particular types of plants where necessary to achieve the aesthetic or functional objectives, e.g. pruning, dead-heading of flowering plants, formative clipping, etc. are included in the plan;
- Areas surrounding plants are to be maintained in such a way that potential threats to plant viability are addressed, e.g. weed control (particularly invasive and noxious weeds);
- Recognition of planting (including trees) at the end of its viable life is important to ensure that it is removed and replaced in a timely manner to avoid eyesores.

4.3 Performance Standards

Performance Standards can be defined as follows in the context of this plan: ***written specifications of the conditions that will exist when satisfactory works are completed.*** Performance standards will be measurable against the specified outcomes required for a particular operation, within a particular area. Performance standards must be upheld by the contractor at all times and will be monitored on an ongoing basis through regular site inspections.

Performance standards are specified in section 5 of this document. All required maintenance operations are defined and detailed to provide both specifications for the landscape contractor to follow and a set of measurable outcomes to appraise and value the contractor's performance against the requirements of the contract.

4.4 Environmental Considerations

Responsible and sustainable landscape management is about balancing the performance standards with the required standard of maintenance. The following principles have guided the development of the specification:

- **Minimise use of non-renewable resources**
  - e.g. reduce lawn areas to reduce consumption of fossil fuels, reduce use of chemical inputs such as pesticides, where possible.
- **SuDS**
  - Sustainable Drainage Systems are to be included in the final design swales in landscape areas and tree pits with drainage gravel or structural soil materials for soakaway.
- **Utilise low input systems**
  - Includes measures such as: mulching instead of herbicide use, where possible.
- **On-site green waste recycling / mulching / composting**
  - Avoids excessive transportation and use of landfill
- **Use of environmentally friendly products where possible**
  - e.g. biodegradable herbicides, biodegradable tree ties, timber stakes.
- **Control of Invasive Species**
  - It is an objective of this plan to control and prevent the spread of invasive species, and in particular, Giant Hogweed, in order to protect the biodiversity of the landscape.
- **Protection of site resources**
  - Appropriate maintenance will result in the protection of existing trees, vegetation and soil resource of the site.

5. Specifications for Landscape Maintenance Operations

5.2 Shrub Planting

(i) Groundcover / Mixed Borders / Mass Shrub Plantation

Criterion	Performance Standards
Aesthetic / functional requirements	Shrub planting areas shall be kept clean at all times, with an even finish. Plants to have a healthy, lush appearance, typical for plant species and time of year.
Weed Control	Weeds shall not be allowed to cover more than 5% of the ground at any one time, neither shall weeds exceed 50mm in height. Residual herbicide permitted for established shrub areas.
Bark Mulch	Required – min. 50mm deep; to be kept topped up at all times.
Fertiliser	Annual feeding with 50g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)
Pruning / Clipping	Pruning once per annum to maintain the typical size and form of the plant, for sightlines and for plant health; all clippings to be gathered at every pruning and disposed of in designated area or off-site.
Edging	Beds to be edged by hand or edging machine twice per annum to leave an even, straight edge. Shrubs or soil not to protrude past the edge by more than 50mm.
Watering	Watering required only in periods of prolonged drought (i.e. after more than 2 weeks)
Dead-heading	Not required.

(ii) Specimen Shrubs

Criterion	Performance Standards
Aesthetic / functional requirements	Specimen shrub planting areas shall be kept clean at all times, with an even finish. Shrubs to have a healthy, lush appearance at all times, typical for plant species and time of year.
Weed Control	No weeds permitted in the shrub area. Established shrub areas may be treated with an approved residual herbicide to provide year round weed control.
Bark Mulch	Required – 50mm deep; to be kept topped up at all times.
Fertiliser	Annual feeding with 50-100g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)
Pruning / Clipping	Regular pruning as necessary to maintain the typical size, habit and form of the plant, for health and to maintain best appearance; all clippings to be gathered at every pruning and disposed of in designated area or off-site.
Watering	Watering required to ensure consistent availability of water to plant during periods of drought (i.e. after more than 2 weeks) - minimum

(iii) Hedge – Free Growing

Criterion	Performance Standards
Aesthetic / functional requirements	Even, clean finish to ground plane. Hedge to have a healthy, lush appearance, typical for plant species and time of year. Relatively informal habit acceptable.
Weed Control	No weeds permitted in the hedge area. Established hedge areas may be treated with an approved residual herbicide to provide year round weed control.
Bark Mulch	Required – 50mm deep; to be kept topped up at all times.
Fertiliser	Annual feeding with 50g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)

Pruning / Clipping	Pruning once per annum as necessary to maintain the required height and width, and prevent "leggy" growth; all clippings to be gathered at every pruning and disposed of in designated area or off-site. Laying may be required for Hawthorn and Blackthorn hedges if hedge growth becomes thin at the base.
Watering	Watering required only in periods of prolonged drought (i.e. after more than 2 weeks)

(iv) Hedge – Pruned (including topiary)

Criterion	Performance Standards
Aesthetic / functional requirements	Even, clean finish to ground plane. Hedge to have a healthy, lush appearance, typical for plant species and time of year. Formal habit to be maintained throughout year. Formal habit of hedge to be defined and maintained at all times.
Weed Control	No weeds permitted in the shrub area. Established shrub areas may be treated with an approved residual herbicide to provide year round weed control.
Bark Mulch	Required – 75mm deep; to be kept topped up at all times.
Fertiliser	Annual feeding with 50-100g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)
Pruning / Clipping	Regular pruning as necessary to maintain the required height and width of the plant, to maintain best appearance; all clippings to be gathered at every pruning and disposed of in designated area or off-site.
Watering	Watering required only in periods of prolonged drought (i.e. after more than 2 weeks)

(v) Native Shrub Plantation

Criterion	Performance Standards
Aesthetic / functional requirements	Even, clean finish to ground plane. Hedge to have a healthy, lush appearance, typical for plant species and time of year. Relatively informal habit acceptable.
Weed Control	Weeds shall not be allowed to cover more than 5% of the ground at any one time, neither shall weeds exceed 50mm in height. Residual herbicide permitted for established areas.
Bark Mulch	Required for high prominence areas; recommended for medium areas – 50mm deep; to be kept topped up at all times.
Fertiliser	Not required.
Pruning / Clipping	Pruning once per annum for shrubs such as Dogwood and Guelder Rose or to control height and spread when necessary.
Watering	Watering required only in periods of prolonged drought (i.e. after more than 2 weeks)

(vi) Scrub - naturally occurring

No maintenance operations required, except to ensure that any edge plants are kept cut back at least 1m from road edges and tidy where visible or prominent.

5.3 Trees & Woodlands

(i) General:

- Canopies overhanging a pedestrian path to be maintained to 2.2m and canopies overhanging vehicular access to 4m.
- Limb damage caused by wind, passing traffic, etc. to be pruned resulting in a clean even wound.
- No signs, security boxes, etc. to be attached to trees.
- Surface tree roots not to cause a trip or mowing hazard. In grass areas, top up soil over roots and re-seed.
- Raised paviors or cracked/bulging walls due to root growth are to be reported to the Contract Administrator.

- Exposed roots from construction works to be kept moist by wrapping damp hessian around roots until soil is backfilled and then apply a one off generous application of water. Root damage to be pruned resulting in a clean even wound prior to backfilling / topsoiling.
- Control of ivy and suckering on the trunks of trees within falling distance of activity
- Informal monitoring of trees for change of condition or evidence of a fungal fruiting body.
-

(ii) Specimen, Solitary Trees

All trees to be maintained in accordance with requirements for species and habit to be maintained in accordance typical form for tree. Tree trunk will be kept visible for defect inspection with control of ivy and removal of suckering. Mulch 1m diameter will be maintained around all individual trees within grassed areas. Stakes and ties to be retained for a maximum period of 3 years, with tie loosened annually and both stake and tie to be removed after 3 year period. All nursery marking, bamboo and labels to be removed off all trees. Tree grilles in hard surface areas to be maintained weed free.
Any visible change in condition to be reported.

(iii) Tree Groups, Woodland, Grid, Hedgerow Trees

Such areas shall be kept free of noxious and pernicious weeds at all times. Mulch or spray rings 1m diameter will be maintained along group perimeter and around all plants in young woodland areas where canopy cover has not been achieved. Established woodland areas shall not be treated with herbicide except where necessary for the removal of noxious and invasive weeds including Ragwort, Gorse, Thistle, and Dock, hogweed, bramble and any others. Japanese knotweed shall not be allowed to establish in any woodland areas. Bramble should not exceed 20% of ground cover of any woodland. Ivy shall be controlled and shall not be allowed to establish itself on trees along the perimeter and within falling distance of activity within woodland areas. Understorey (excluding saplings) not to exceed 1m in height in order to retain visibility for user safety in areas of activity. Tree numbers not to exceed 4 per sq.m of trees with a girth of less than 250mm and numbers not to exceed 2 per sq.m for trees with a girth of over 300mm. Fallen or felled trees in woodland areas to be maintained on-site where permissible, for reasons of biodiversity and ecology which contribute to the overall health of the woodland.

5.4 Herbaceous Perennial Planting (including Ferns and Ivy)

(i) Bulbs

Watering: Ensure that bulbs have adequate water throughout growth period, up until cutting back occurs (see below).
Fertiliser: Apply approved general purpose fertiliser to all bulb areas at nominal rate of 35g/sq.m in late February.
Cutting Back: Cut back dead foliage to ground level six weeks after the end of flowering (or earlier if foliage is yellow and straw-like). Do not tie or knot the leaves.
Deadheading: *High prominence areas only.* Deadhead flowers by cutting back spent flowers to the base of the flower stalk.

Note: Herbicides may not be used in or around bulb areas.

5.5 Hard Landscape Surfaces & Signage

Hard Standing including roads, paved areas, pavements, and kerb-lines - shall be kept clean at all times, with no growth of weeds and without moss infestation. Roads and kerb lines shall be kept free of litter and build up of grit and debris through the implementation of a regular sweeping program.

(i) Weed Control

All paved areas such as footpaths, kerb lines, feature paving, gravel areas, etc., throughout the site are to be maintained weed free at all times. The application of a suitable broad-spectrum herbicide e.g. Glyphosate (*Roundup Bi-Active* or equal and approved) shall be applied 3no. times per annum to achieve this. Once per annum a suitable chemical to treat moss shall be applied where it has established on hard surfaces. An initial physical treatment, such as scraping using a spade, will be required to remove existing moss growth prior to spraying.

(ii) Sweeping

Sweeping shall mean sweeping of feature paving areas, footpaths and kerb lines along all public roads (edge of road) and removal of all grit, rubbish and leaves from these areas. Soil wash from beds on to paved areas should also be swept. This work to be executed fortnightly.

Note: Particular attention is required during the period of October/ November to deal with leaf fall.

(iii) Cleaning

Cleaning shall mean the removal of paper, plastic bags and all other rubbish. Cleaning shall be carried out as follows:

- Fine cut grass areas, all paved and hard standing areas, footpaths and kerb lines: This work to be executed prior to grass cutting on each grass cutting visit. Cleaning shall be carried out 36no. times per annum, including winter.
- Rough cut grass areas: prior to each scheduled grass cut, minimum 8no. times per annum.
- Tree groups, boundary tree areas, shrub maintenance areas, all other areas: 8no. times per annum.

Cleaning shall also include the removal of grit and rubbish from road gullies, drains, Aco drains and collapsible bollards twice per year.

(iv) Signage

All signs are to be cleaned to a high standard 4 times per year.

(v) Gullies

All roadside gullies are to be inspected monthly and if full or blocked, must be cleared out as appropriate.

5.6 Natural Areas

No maintenance operations are permitted within areas designated as natural zones. Neither is dumping of any arisings, storage of materials or any other related activity.

5.7 Vacant Plot Areas/Rough Ground Areas

These areas shall be kept free of noxious, invasive and other pernicious weeds, including ragwort, thistle, dock, gorse, hogweed, bramble and Japanese Knotweed at all times.

5.8 Weed Control

5.8.1 General

Minimal amount of herbicidal chemicals are to be utilised on the site, with non-chemical means of weed control to be preferred (mulching, mechanical control, hand weeding, etc. where feasible). Biodegradable herbicides are to be preferred where herbicide use is required. Prior to executing weed control involving the use of herbicides, details of the products to be used including a Material Safety Data Sheet (MSDS) for each product is to be provided to the Contract Administrator for each of the herbicides proposed. A sample herbicide information chart is included in Addendum A.

Where translocated herbicides are applied, spray drift should be avoided and spray guards fitted to apparatus. Where feasible, spot treatment using CDA (Controlled Droplet Applicator) or glove preferred. Use of residual herbicides shall not be used in areas of herbaceous planting, in the initial year following planting of new shrubs or over areas of bare ground within shrub beds where replacement planting is to be carried out. Hand weeding in planting beds will be required where there is a large component of herbaceous material, bulbs or prostrate groundcover plants.

5.8.2 Invasive Weeds

Invasive weeds of any kind, most particularly Japanese Knotweed, Winter Heliotrope, Giant Hogweed and Himalayan Balsam (all identified on this site) shall not be allowed to establish in any area of the site. It will be the responsibility of the contractor to be able to identify same and treat at first sign of emergence. Treatment for all except Japanese Knotweed to consist of removal of weed by mechanical means, treating any remaining plant parts with Glyphosate (e.g. *Roundup* or equal).

Recommended Treatment for Giant Hogweed

A survey of the site should be carried out in spring and summer each year to identify if Giant Hogweed is present. When identified, Giant Hogweed should immediately be treated with Glyphosate (e.g. Roundup or equal). The herbicide is to be sprayed onto the plant or liberally applied using a glove. The plant should be left in-situ until completely dead and removed carefully when entirely withered. If the first treatment does not work, a second treatment should be applied. Following removal, the infected site must be monitored on a weekly basis for signs of re-emergence. Re-emergent plants should be treated in the same way, no later than October in any given year.

6. Duties of Contractor; Evaluation & Payment Procedures

The contractor shall be required to complete a site specific maintenance programme and attend site in accordance with the program agreed with the Contract Administrator. During the course of the contract the contractor shall supply after each visit to site a record of attendance using site attendance record sheets. These should be signed by the contractor's site foreman and manager and retained in a file for use as an appendix to the payment application. A sample site attendance sheet is given in Addendum C. Failure to complete works on the prescribed date, may result in determination of the contract, except where an adjustment to program has been agreed in advance with the Contract Administrator.

At the end of every month the contract manager shall complete the monthly report sheets to clarify the completion of works for the particular month. Items of work not completed shall be noted and a timeframe for their completion indicated. The forestalled works must be attended to at the first opportunity in the month following the submission of the monthly report sheet, unless exceptional circumstances or bad weather prevent the work from being completed. In this case the work shall be attended to, as soon as is practicable, and by agreement with the Contract Administrator.

Monthly program sheets, contained in Addendum B, shall be signed by the contractor's manager and forwarded to the Contract Administrator for verification. Upon verification the document will be returned to the contractor and shall be attached at the time of payment application. If necessary, a site visit will be undertaken with the contractor to verify completion of works. The completed monthly report sheets shall be used as the basis for payment. Items of work not completed to the required standards shall be excluded from payment for that particular month. Should the Contract Administrator / Property Manager be dissatisfied with the quality of work within a particular month then a reasonable sum of money shall be withheld in proportion to the amount of incomplete work or work that is not up to standard. A minimum of 80% of work must be complete or satisfactory in order for payment to be made for a particular month.

In relation to Health and Safety, the landscape contractor will be appointed Project Supervisor for the Construction Stage under current health and safety legislation. Therefore, a safety file must be maintained by the contractor and be made available for inspection upon request. All possible precautions and risk management strategies must be in place in relation to safety of employees, personal protective equipment, use and maintenance of equipment/vehicles, signage when works are underway, procedures for closing off areas while works are in progress, traffic management, etc. as required. Any incident or accident must be reported to the Contract Administrator and recorded in the safety file.

7. Inspections by Employer

As part of the management of this contract, eight critical inspections per annum shall be arranged with the Contract Administrator in attendance. These may not be notified to the landscape contractor. The Contract Administrator will produce a report of the site visit, commenting on the appearance of the site and examining each aspect of work in detail. The Landscape Architect may also direct resources to a certain area of work, in agreement with the Property Manager. It is at such dates that standards will be reviewed, problems arising rectified and issues of dispute arising from the concerned parties will be settled.

A preliminary schedule of critical inspection dates is as follows:

1. February
2. March
3. April
4. May
5. June
6. July
7. August

8. September
9. October
10. December

8. Monthly Maintenance Operations Schedule

The following tables give an indicative outline of the required monthly maintenance operations, based on the specification outlined above.

Maintenance Program - January

Item	Description
1.1	Yearly maintenance Shrub and tree planting Tree pruning Hedge cutting
1.2	Weed free circles around trees/whips Check tree stakes and ties
1.3	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Road/Paved area sweep 1 Road Gulley cleaning

Maintenance Program - February

Item	Description
2.1	Yearly maintenance Shrub and tree planting Tree pruning Check tree stakes and ties
2.2	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Road/Paved area sweep 1 Road Gulley cleaning

Maintenance Program - March

Item	Description
3.1	Yearly maintenance Shrub and tree planting Shrub Pruning Tree pruning Hedge cutting Hedgerow cutting Hand Weeding in shrub areas Weed free circles around trees/whips
3.2	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas Clean all signs

Maintenance Program - April

Item	Description
4.1	Yearly maintenance Shrub and tree planting Shrub Pruning Hedgerow cutting Herbicide application to shrub/woodland areas Hand Weeding in shrub areas Weed free circles around trees/whips Apply fertiliser
4.5	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas

Maintenance Program - May

Item	Description
5.1	Yearly maintenance Shrub and tree planting Hedge cutting Herbicide application to shrub/woodland areas Hand Weeding in shrub areas Apply fertiliser Watering
5.5	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas Road/Paved area sweep 1
5.6	Watering

Maintenance Program - June

Item	Description
6.1	Yearly maintenance Shrub and tree planting Tree pruning Herbicide application to shrub/woodland areas Hand Weeding in shrub areas Weed free circles around trees/whips Apply fertiliser Watering
6.4	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas Road/Paved area sweep 1 Clean all signs
6.5	Watering of all trees & shrubs

Maintenance Program - July

Item	Description
7.1	Yearly maintenance - Shrub and tree planting Hand Weeding in shrub areas Watering
7.3	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3
7.4	Watering of all trees & shrubs

Maintenance Program - August

Item	Description
8.1	Yearly maintenance Shrub and tree planting Shrub Pruning Hand Weeding in shrub areas Weed free circles around trees/whips Watering
8.3	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Road/Paved area sweep 1
8.4	Watering of all trees & shrubs

Maintenance Program - September

Item	Description
9.1	Yearly maintenance Shrub and tree planting Shrub Pruning Hedge cutting Herbicide application to shrub/woodland areas Hand Weeding in shrub areas Weed free circles around trees/whips Apply fertiliser Watering
9.5	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas Road/Paved area sweep 1 Road Gulley cleaning Clean all signs
9.6	Watering of all trees & shrubs
9.7	Attenuation Pond - cleaning, removal of detritus

Maintenance Program - October

Item	Description
10.1	Yearly maintenance Shrub and tree planting Tree pruning Hedge cutting Hedgerow cutting Herbicide application to shrub/woodland areas Hand Weeding in shrub areas Weed free circles around trees/whips Apply fertiliser
10.2	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Weed/Moss control to hard landscape areas Road/Paved area sweep 1 Road/Paved area sweep 2

Maintenance Program - November

Item	Description
11.1	Yearly maintenance Shrub and tree planting Hedgerow cutting Check tree stakes and ties
11.2	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Road/Paved area sweep 1 Road/Paved area sweep 2 Road/Paved area sweep 3

Maintenance Program - December

Item	Description
12.1	Yearly maintenance Shrub and tree planting Tree pruning Check tree stakes and ties
12.2	Hard Standing Maintenance and Cleaning Litter pick 1 Litter pick 2 Litter pick 3 Road/Paved area sweep 1 Clean all signs