

009433 - Belle Vue Co-op Academy, Manchester

Landscape Outline Specification

16th March 2021

P01

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1. Soft works

Generally

Materials, goods and workmanship shall be the best quality of their respective kinds, and those for which there is a British Standard or Code of Practice shall comply therewith. Regarding the timing of Horticultural Works, planting shall be carried out between November and March subject to suitable weather conditions.

Suitable weather conditions shall mean when the ground is moist but not wet and is workable. Planting shall be suspended during periods of drought, when soil is frost-bound or waterlogged, during persistent drying cold winds or during any other conditions unfavourable to successful establishment.

All supply, planting and other landscape works to be in accordance with relevant British Standards and Codes of Practice. Works to be undertaken by a competent and accredited landscape contractor with 12 months Defects Liability/ in contract maintenance. Trees should be covered by 5 years Defects Liability.

Soil

Soil to be free of pests, disease, fungus and foreign matter. Do not use topsoil contaminated with subsoil, rubbish or other materials that are corrosive, explosive, flammable, hazardous to human or animal life or detrimental to healthy plant growth. The Contractor shall appoint a suitably qualified and approved, independent Soil Scientist to undertake the sampling and testing of the soil materials considered for importation or re use. Sample results to be circulated prior to commencement of works.

Topsoil to be in accordance with BS 3882 2015 'Specification for topsoil' in all respects. Green compost for soil amelioration to be incorporated into soil for tree planting to be in accordance with BSi PAS 100:2011 or current revision and sourced from a PAS 100 compliant facility.

Fertilizer to be incorporated into soil for tree planting: Scotts Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO).

Prepare undisturbed topsoil in accordance with BS 4428 'Code of Practice for general landscape operations': Break up hard ground thoroughly, remove visible roots and large stones with a diameter greater than 50 mm, dig areas covered with turf over to full depth of topsoil and treat weeds at appropriate times with a suitable translocated non-residual herbicide.

Prepare subsoil by excavating/placing fill to the required profiles, loosening thoroughly when ground conditions are reasonably dry to a depth of 450mm and removing stones larger than 50mm, arisings, contaminants, debris and builders' rubble.

Spread remaining topsoil in layers of layers of 150mm maximum depth and gently firm each layer before spreading the next. After spreading topsoil, when weather and ground conditions are suitably dry and non-plastic, the soil profile shall be ripped at 300mm centres to a minimum depth of 300mm (grass areas) to decompact the soils and key in the topsoil and subsoil layers. Any large, compacted lumps of soil shall be broken down by further appropriate cultivation (in accordance with BS 4428) to produce a fine tilth suitable for planting (<30mm) and seeding (<10mm). Cultivations shall ensure that the topsoil is fully aerated.

In order to avoid physical degradation to the soil during all phases of soil handling (e.g. spreading, cultivation, amelioration, planting, turfing and seeding), soil handling operations shall be carried out when soil is non-plastic (friable) in consistency (i.e. at least 5% below the soil's lower plastic limit). Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery or handled when frozen or during and after heavy rainfall.

Ground Preparation

1. Remove the top 50-75mm of in situ topsoil across the site for reuse as feature mounding elsewhere on the wider site or to sell.
2. Strip the remaining topsoil and handle/store in accordance with specification for re-use in grassed/planting areas subject to topsoil testing results.
3. Rework the site levels/carry out earthworks using subsoil making allowance in levels for topsoil, which should be spread in layers of 150mm up to 300mm subject to available topsoil for re-use if suitable. Ensure subsoil is prepared prior to topsoil layer being laid.
4. Cultivate the topsoil and prepare seedbed in accordance with manufacturers recommendations.
5. Sow the seed mixes in accordance with manufacturers recommendations.

Seed bed cultivation

Cultivate the topsoil to sufficient depth then rake or harrow and roll to produce a fairly fine, firm surface. The finished seedbed should be firm enough to walk on without leaving impressions yet allow seeds to germinate. As the area will be mown at a later stage the finished surface should be free of obstructions such as large stones or bricks, and free of deep ruts or ridges.

Where time allows in the programme, the "stale seedbed technique" should be carried out. This can work well for annual weeds whose seeds will remain in the soil after clearance. This method involves preparing a seedbed then delaying sowing to allow a flush of weed seed germination from the surface layers. This flush of weeds is then killed, by spraying or shallow cultivation, before sowing your seed mixture onto the cleaned "stale" seedbed – the surface of which now has a reduced weed seed burden.

Note: Permission from the Environment Agency is required before the use of herbicides (weed killers) to control weeds and unwanted vegetation in or close to a river or water course. Soil cultivation around established trees and hedges can be very damaging to tree and shrub roots - only surface treatments are safe here.

Wildflower seeding

Subsoil to be cultivated using a disc harrow or rotovator, to 30mm depth then further cultivated and rolled to produce a firm seed bed. An 80% grasses:20% wildflower seed mix to be sown. E.g. Emorsgate Seeds, EM2: Standard General Purpose Meadow Mix at 4gm/square meter.

Timings

- Seeding: August-September and March-April usually produce the best conditions for sowing outside in most parts of the UK. May to July sowings also work well in wetter western regions. Late autumn sowings should be avoided on sites prone to waterlogging in winter and late spring and summer sowings should be avoided on droughty sites.
- Deciduous trees and shrubs: Late October to late March. Field-grown trees and shrubs planted out of season to be spring-ringed at nursery.
- Conifers and evergreens: September/October or April/May.
- Herbaceous plants: September/October or March/April.

- Container grown plants: At any time if ground and weather conditions are favourable.
- Provide watering and weed control as necessary.

Standard items relating to planting operations.

All planting to be carried out in accordance with BS 4428 and during suitable weather conditions. Do not use mechanical tools within 100mm of tree and plant stems. Water as necessary to ensure establishment and continued thriving of planting. Plants to be materially undamaged, sturdy, healthy and vigorous specimen, of good shape and without elongated shoots, grown in a suitable environment and hardened off and free from pests, diseases, discoloration, weeds and physiological disorders. Plant standard to BS 3936 'Nursery stock'. Name, forms, dimensions, provenance and other criteria as scheduled and defined in the National Plant Specification. Plant handling shall be in accordance with HTA 'Handling and establishing landscape plants'.

Amenity Grass Areas

This mixture is composed of top quality, fine leaved varieties of bent and fescue grasses. The choice of varieties means that this mixture is ideal for producing a first-class lawn but also has the qualities required for a low maintenance grass sward.

Origin of Plants, Certification and Labelling

All plants shall have been obtained from a reputable nursery and grown within the British Isles for at least one growing season if stock of local provenance is not available. The contractor shall provide a Certificate of Local Provenance and confirmation that all plants supplied comply with the specification. Plant samples shall be approved on site by the Landscape Architect prior to planting.

Planting

Ornamental planting: Planting density and groupings - refer to schedule. Planting bed depth to be 450mm minimum (of which 300mm topsoil and 150mm loosened base of planting bed). Finished level of mulch to be 25-30mm below adjacent grassed areas. Plant in groups of no less than 8 plants but no more than 16 (based on 8/m²) ensuring that no two groups of the same species are next to one another and in a naturalistic appearance.

Trees: Standard trees to be planted bare root at 8-10cm girth/2.5-3.0m. Rootball approximately less than 40 x 40cm and 75Kg. To include staking, irrigation and 12 months maintenance. A minimum area based on 500mm radius around base of the tree should remain weed free at all times, including a maintained 75mm depth of bark mulch. BS 8545:2014 Trees: from nursery to independence in the landscape should be followed in all respects.

Peat Free Shrub Planting Compost: Documentary evidence will be requested of the use of peat free soil materials must be supplied from nursery growers and suppliers for plants that are not soil grown. Organic composted material must be graded 25mm and free from biodegradable material. Root Barriers Use of Root Barriers as required to protect buildings and services from tree/hedge roots.

Protection of Newly Shrubs: Protection of plants from rabbits and mammalian pests are the full responsibility of the soft works contractor. *A detailed methodology is to be supplied by the **landscape contractor** as part of the tender submission.*

Tree protection during construction

When construction equipment, vehicles and even pedestrian traffic intrude into a tree's critical root zone - compaction of the soil and damage of near surface roots can endanger the structural integrity of the tree.

Tree Protection Fencing and Temporary Protection to Planting as recommended by British Standard BS 5837:2012 for trees, existing vegetation and identified root zones to be protected by a vertical and horizontal, scaffold framework, well braced to resist impacts, with vertical tubes at no more than 3m intervals. These should be driven into the ground. Weldmesh panels should be affixed to this framework with scaffold clamps. Fence to be erected in line with tree protection as indicated and to be maintained in good condition throughout the construction period. No work or storage will be undertaken within this area unless as part of a no dig solution for footpath construction.

Tree Root Protection systems must comply with the Arboricultural Method Statement as outlined in BS5837:2012, the Town and Country Planning Act 1990 and Arboricultural Practice Note 12 (APN12).

Full extent of RPA should be confirmed by tree survey if required.

Softworks Maintenance - General Tasks

- Maintenance visits during 12 months defects to be agreed.
- Keep all beds clear of weeds by hand cultivation. Do not use herbicides within planting beds.
- Keep all beds clear of litter and rubbish.
- Ensure plants have adequate supply of water.
- Ensure all shrubs are checked for wind damage including staking requirements.

INDICATIVE SPECIES LIST

Trees			
Species	Height	Girth/Pot	Specification
Extra Heavy Standard			
Quercus robur Fastigiata Koster	5m	20-25cm	Root balled including staking & irrigation
Carpinus betulus 'Frans Fontaine'	5m	20-25cm	Root balled including staking & irrigation
Proposed Heavy Standard			
Betula pendula (multi stem)	4m	16 - 18	Root balled including staking & irrigation
Tilia cordata	4m	16 - 18	Root balled including staking & irrigation
Acer saccharinum	4m	16 - 18	Root balled including staking & irrigation
Shrubs			
Ceanothus thyriflorus repens	30-40	3L	Full Pot: C
Cistus 'Silver Pink'	30-40	3L	Full Pot: C
Euonymous fortunei 'Emerald Gaiety'	20-30	3L	Full Pot: C
Hebe 'Autumn Glory'	20-30	3L	Full Pot: C
Hedra helix 'Green Ripple'	20-30	3L	Full Pot: C
Lavandula angustifolia 'Munstead'	30-40	3L	Full Pot: C
Mahonia aquifolium 'Apollo'	30-40	3L	Full Pot: C
Potentilla 'Abbotswood'	25-30	3L	Full Pot: C
Prunus Laurocerasus 'Otto Lyken'	30-40	3L	Full Pot: C
Skimmia Japonica 'Rubella'	30-40	3L	Full Pot: C
Spirea Japonica 'Goldflame'	30-40	3L	Full Pot: C
Ornamental Grass			
Blue fescue, Festuca glauca	20-30	5L	Full Pot: C
Korean feather reed grass, Calamagrostis brachystricha	20-30	5L	Full Pot: C
Feathertop, Pennisetum villosum	20-30	5L	Full Pot: C
Purple moor grass, Molinia caerulea	20-30	5L	Full Pot: C
Stipa tenuissima	20-30	5L	Full Pot: C

2. Hard Landscaping

Notes to be read in conjunction with for Hard Landscaping dwg 08191-SPACE-XX-DR-L-91-0013

1A Car Park and Vehicular Access

Dense Bitumen Macadam

Vehicular grade tarmac to be laid to car park, new entrance road and vehicular access routes to the rear of the school. Engineering kerb to engineer's specification to all pathways which abut the car park and access road.

(White lining to entrance road and car park to be as per the traffic engineer's drawings)

1B Pedestrian Plaza

Textured Concrete Flag Paving – Footpaths and General Paved Areas

Tobermore or similar approved, Braemar Flag

400 x 400mm Colour: Alto Silver and Cara Slate, laid stretcher bond on sand wearing course.

Sub base to civil engineers specification.

Concrete Setts – Edging to Footpaths and General Paved Areas

Tobermore or similar approved, Tegula Setts

100 x 100mm Colour: Charcoal, laid stack bond on sand wearing course.

Sub base to civil engineers specification.

Textured Concrete Flag Paving - Tactile

Tobermore or similar approved, Tactile Flag – Corduroy

400 x 400mm Colour: Natural, laid stretcher bond on sand wearing course.

Sub base to civil engineers specification.

(location to be as per the traffic engineers' drawings)

1C MUGA

Porous Tarmac with line marking appropriate for intended use as mixed sports environment.

To be installed to Sport England standards as per notes on dwg No 08191-SPACE-XX-DR-L-91-0009-P01-Sports and Play Provision.

NB: Lighting not included within contract.

1D Playgrounds and foot paths

Pedestrian and vehicular grade Tarmac with pin kerb edging.

Sub-base and build up as per the civil engineers' drawings.

1E Secure Cycle Shelter

Secure covered cycle compound with 2 no 3m wide double lockable gates. Marshalls Pluto Steel Cycle Shelter or similar. Colour – Black. 12 no units to accommodate 120 cycles. Compound to have double gates to each end.

Supplier: Jacksons Fencing or similar Euro guard Flatform Welded mesh.

Fencing to the compound to be 1.8m high welded mesh

Model: All gates to be lockable double or single leaf Euro guard Flatform Welded mesh.

Supplier: Jackson Fencing or Similar. Colour black

Separate shelter to be provided for secure staff cycle parking 1 no shelter (to accommodate 10 cycles) with a single lockable gate. Fencing and gates as per the above specification.

1F Existing access road

Existing access road from Kirkmanshulme Lane to be retained and made good. Macadam topcoat only and extent works to be agreed with traffic engineer.

2A Secure Boundary Fence

2.4m high Welded Mesh

Model: Euro guard Welded Roll Mesh.

All gates to be lockable double or single leaf (as indicated on drawing no 08191-SPACE-XX-DR-L-91-0004) to match adjacent fencing.

Model: Euro guard Flatform Welded mesh to match adjacent fencing to be installed in accordance with the manufacturer's specification.

Supplier: Jackson Fencing or Similar.

Colour: black

2B Internal Secure Line

1.8m high welded mesh

Model: Euro guard Welded Roll Mesh

Supplier: Jackson Fencing or Similar.

All gates to be lockable double or single leaf (as indicated on drawing no 08191-SPACE-XX-DR-L-91-0004) to match adjacent fencing.

Model: Euro guard Flatform Welded mesh to match adjacent fencing to be installed in accordance with the manufacturer's specification.

Supplier: Jackson Fencing or Similar.

Colour: black

2C MUGA Fence

3m high welded mesh

Model: Euro guard Rebound Welded Mesh Panels.

Supplier: Jackson Fencing or Similar.

Gates: All gates to be lockable double or single leaf Euro guard Rebound Swing gate. to match adjacent fencing to be installed in accordance with the manufacturer's specification.

2 no single gates 1.2m wide and 1 no double gate 3m wide.

Colour: black

2D Timber Fence

1.8m high Feather board

Supplier: Jacksons Fencing or similar. To be installed to bin shelter.

1830 x 1800 panel secured to timber post as 1880 cc with gravel board to lower section as per manufacturers specification. To be painted black with matching lockable timber gates 2 no double gates 2m wide to allow access for bins.

3. Sports and Play Provision

OUTLINE SPECIFICATION

Playing Fields

To be installed in accordance with Sport England Standards highlighted in Sports England design

Guidance Note: *Natural Turf for Sport* and in conjunction with civil engineer's drainage strategy.

A brief summary of the key design criteria is summarised below:

General Pitch Construction

The work should be tendered to experienced contractors with a proven track record in sports turf development.

Proposed materials should be tested by a competent consultant and approved laboratory before work commences to ensure that they comply with the specification. Further testing of materials should be carried out during the works. An effective programme of monitoring the workmanship will ensure that good standards are achieved.

Site Clearance

Before any clearance work can be carried out it is essential that all necessary consents are in place and that all measures to protect habitats, birds and animals have been carried out.

The site must be cleared of rubbish, rough grass and all unwanted hedges, trees and scrub before works start.

If any waste is to be removed to a tipping facility it will require characterisation to establish the Waste Acceptance Criteria (WAC).

Adjustments to the surface levels

In general, it is preferable to minimise the extent of earthworks and to carry these out under dry conditions, to reduce the potential for soil compaction.

A constant slope is desirable on all pitches to assist in shedding surface water in periods of heavy rainfall.

- Generally, depending on the standard of facility required, the playing surface should be no steeper than 1:80 - 1:100 along the line of play and 1:40 - 1:50 across the line of play.
- Any surrounding embankments should be no steeper than 1:3, for safe and effective maintenance.

Preferred method of drainage - Pipe drained with sand grooves

The basic system requires:

- Corrugated plastic pipe lateral drains that are usually installed at 5 - 10 m centres at a depth of 450 - 600 mm below ground level. (*See civil engineers drawings for detailed pipe layout*)

- Twin wall pipes are to be used for main drains to provide a more rigid pipe with better flow characteristics.
- All drains must be laid with a steady fall with the pipe diameter and gradient designed such that the design flow rate can be achieved. Falls in the region of 1:100 are preferred.
- A positive outfall must be provided in the form of an existing watercourse or surface water system or an effective soakaway system should be constructed. This will have to comply with requirements imposed by the drainage authority or Environment Agency.
- When the drains have been laid trenches must be backfilled with porous material to ensure that the high percolation rates necessary for effective drainage are achieved.
- Predominantly single-sized, hard, angular gravel or broken stone within the range 6 – 10 mm must be used as backfill. This should be brought to within 150 – 200 mm of the surface.
- The trench backfill is often 'capped' with a 50 mm 'blinding layer' in the form of coarse sand or fine grit to prevent infiltration of the topsoil. The trench is backfilled to ground level with preserved topsoil or an imported, permeable sandy rootzone material.

Sand grooves - In addition to the pipe drained system above an addition of a series of sand grooves, approximately 150 mm deep and 20 mm wide, introduced by a machine at a spacing of 260 mm will be required.

These grooves are forced into the soil with a tine rather than being created by excavating a narrow trench and can be filled with sand or fine grit. It is essential that the sand grooves connect efficiently with the permeable backfill of the pipe drainage system below them.

Heavy top dressings of suitable sand are essential for the successful construction and management of pipe drainage and sand grooved pitches:

- The dressing should be applied immediately after installation of the sand grooving and subsequently reapplied as part of routine maintenance works in the close season. This process will be necessary for at least three to five years following installation.
- Each application of dressing should be in the region of 60-100 tonnes, depending on the size of pitch.

Cultivation

It is important that the works are correctly timed and that soils are only worked in appropriate conditions (i.e. in the Spring or Summer when the soil is dry and friable). To achieve the desired tilth, it is essential that the appropriate equipment is used.

The final seedbed must comprise a smooth surface that is uniformly firm but not over-compacted. An appropriate fertilizer dressing should be applied prior to seeding or turfing.

Grass to pitches

The seed mixture must comprise predominantly, if not entirely, hard-wearing and fine-leaved cultivars (varieties) of perennial ryegrass. *Detailed seed mix to be supplied for approval by landscape architect.*

If turf is proposed it must contain hard wearing grass cultivars suitable for winter games and be predominantly weed-free. The turf must be grown on light sandy topsoil and should not be excessively fibrous.

Sand amelioration

The drainage characteristics and surface playability of topsoil can be improved by adding suitable sand but it should be noted that a high proportion of sand is required to achieve a significant improvement in drainage performance. Where a high standard pitch is required, the quantity of sand should be determined by laboratory analysis to determine the particle size distribution of the soil and sand. In some cases the sand will be mixed with topsoil off-site with the final rootzone material being spread over the prepared base.

Contractor to provide detailed amelioration strategy for approval by landscape architect.

Irrigation

Provide adequate watering facilities for winter games pitches not only for initial grass establishment but to assist with ongoing maintenance of the playing surface.

NOTE: Due to high percolation rates, well-drained pitches will require intensive irrigation to combat problems caused by drying out during periods of low rainfall.

Maintenance

Mowing

- The grass shall be maintained so that the length never exceeds 60 mm.
- Allow for a minimum of 20 cuts per year
- The grass should be maintained at between 25 and 30 mm in the playing season.

Fertilizer

Supply and spread fertiliser according to the following generalised programme making allowances for your own situation:

- March/April 12:6:6 at 350kg/ha
- June/July 12:0:9 at 350kg/ha
- September/October 10:5:20 at 350kg/ha

Top Dressing

- Use a sand that has the same particle size range or is coarser than that used previously (either as a dressing, in the sand slits / grooves or in the construction)

A detailed maintenance program to be supplied by pitch specialist for review by landscape architect.

Soft Informal and Social Area - Amenity grass to be installed in line outline specification on softworks drawing.

MUGA

To be installed in accordance with Sport England Standards highlighted in Sports England design

Guidance Note: *A Guide to The Design, Specification & Construction Of Multi Use Games Areas (Mugas) Including Multi-Sport Synthetic Turf Pitches (Stps)* and in conjunction with civil engineer's drainage strategy.

A brief summary of the key design criteria is summarised below:

Sub-base - In line with civil engineer's specification.

Well-draining Type 1 to Civil engineers' specification.

A porous engineered construction consisting of two courses of open-textured bituminous macadam laid above a graded sub-base material.

To prevent contamination from the sub-grade it may be necessary to install a geotextile membrane on the formation prior to installation of the sub-base.

Surface

Open textured porous macadam areas used for ball rebound sports where netball is the priority and sports such as tennis, mini-tennis, and basketball are the main users. These areas are to be suitable for wheelchair sports.

Pigmented macadam to be used to achieve required colour. Colour to be terracotta and green.

All line marking to be non-slip and the most frequently used sport should be marked out in white, the second most played sport in yellow, followed by blue, and red. Detailed layout to be agreed with Landscape Architect and School.

Fencing

3m high welded mesh games court fence in black. With appropriate kick boards to lower section.

Gates to located as per the site plan a single should measure 1.2m wide and be lockable. Double gates are 3m wide and lockable. All gate's thresholds should be level.

Softworks Maintenance - General Tasks

- Maintenance visits during 12 months defects to be agreed.
- Keep all beds clear of weeds by hand cultivation. Do not use herbicides within planting beds.
- Keep all beds clear of litter and rubbish.
- Ensure plants have adequate supply of water.
- Ensure all shrubs are checked for wind damage including staking requirements.