

LANDSCAPE MANAGEMENT AND MAINTENANCE PLAN



MMU Re-development

Client: P J Liveseys
Produced by Ryder Landscape Consultants
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Revision 00

1. Scope of the report

Our Landscape Management Plan covers the extents of the former Manchester Metropolitan University off Wilmslow road in Didsbury as illustrated in drawing 14181-PP-600 Landscape Masterplan. The scope of the study has been defined by the red line boundary as illustrated with considerations of its setting within the wider landscape.

2. Site Description

The main campus site was historically operated by Manchester Metropolitan University (MMU), which vacated the site in 2014. The main campus site comprises a number of buildings associated with the former use, including listed buildings, which will be retained and converted for residential use as part of the redevelopment proposals. Modern buildings which do not contribute to the setting will be demolished. This part of the site is bounded by Wilmslow Road to the west and south, by Sandhurst road to the north and existing residential properties to the east.

There are over 150 trees across the main campus and to the front of the Broomhurst Halls of Residence site across Wilmslow Road. The existing trees are an integral part of the existing character and distinctiveness of the site and the local area/

The larger more established trees are concentrated towards the boundary of the site and create an attractive parkland setting, particularly those located to the western boundary which sit amongst the Listed Buildings and provide a distinctly green frontage to Wilmslow Road.

3. General objectives

Management and maintenance shall at all times reflect the highest possible standards and reflect generally speaking the management and maintenance objectives including:

- a) Maintaining a safe and welcoming environment;
- b) Maintaining a clean environment;
- c) Working towards horticultural excellence;
- d) Keeping up to date with and adhering to relevant legislation including pesticide legislation;
- e) The landscape maintenance schedule shall be for a minimum period of 5 years. However, may be extended in agreement with P J Liveseys thereafter;
- f) The client shall appoint a contractor for carrying out the planting and the landscape maintenance schedule;
- g) The contractor shall ensure that the landscape maintenance schedule is adhered to, and any changes to the plan are to be agreed in writing with the appropriate authority and P J Liveseys;
- h) The contractor shall oversee the landscape maintenance schedule throughout the defects liability period and the 5 year agreed maintenance period;
- i) This landscape maintenance schedule shall be read in reference to the landscape architect's landscape proposals plan (Drawing Number 14181-PP-500) and planting schedule; and
- j) The landscape maintenance schedule applies to both new and existing vegetation on the site.

4. Ground preparation and planting instructions

The landscaping works shall be carried out in accordance with the approved details within 12 months from the date when any building or other development hereby permitted is occupied or carried out as the case may be and in accordance with BS 3975 (or otherwise updated/superseded legislation).

4.1 Ground preparation

- a) Planting beds to be broken out to a depth of 450mm to ensure any existing hard standing is sufficiently broken up to free drainage. Any concrete, rubble > 10mm to be removed.
- b) Topsoil to be 450mm depth over planting beds, provide as necessary topsoil in line with BS3882:2007 (or otherwise updated/superseded legislation) to make up any deficiency of topsoil existing on site. Do not use topsoil contaminated with subsoil, rubbish or other material. Do not compact soil, preserve friable texture of separate visible crumbs wherever possible.
- c) Finished level of topsoil: above adjoining kerbs/paving 30mm, below damp proof course of adjoining building 150mm, marry new soils into existing soils.
- d) Herbicide and cultivation: topsoil to be treated with an application of herbicide prior to planting, where necessary, strictly in accordance with the Control of Pesticide Regulations 1986 (or otherwise updated/superseded legislation), and following manufacturer's instructions by qualified staff. The topsoil shall then be cultivated to 150mm depth and any stones >50mm that come to the surface should be removed.
- e) Do not plant into frozen or snow covered soil.
- b) Do not plant whilst strong winds prevail.
- d) Water planting area thoroughly before planting to full depth of topsoil and rake soil.

4.2 Plants and planting

- a) Check plants for their quality/quantity and their accordance with planting schedule and National Plant Specification upon arrival. Give notice if plants do not meet any of the above.
- b) Water plants upon delivery.
- c) Remove any weeds from plants prior to planting.
- d) Refer to planting plan for layout and respective quantities.
- e) Plant immediately upon delivery. Give notice if this cannot be achieved. Plants will need to be stored safely and watered regularly.

5. Visits

- a) For a five year period following completion of the Landscape Works, the Contractor shall visit the site as necessary to carry out the operations described in this section and as shown in Appendix II.
- b) The Contractor shall allocate sufficient resources to satisfactorily complete all the operations required.
- c) Following each visit the contractor shall report to P J Liveseys any additional operations considered necessary to ensure the satisfactory establishment of plants.

6. Replacement planting

- a) Any trees or shrubs planted or retained in accordance with this condition which are removed, uprooted, destroyed, die or become severely damaged or become seriously diseased within 5 years of planting shall be replaced within the next planting season by trees or shrubs of similar size and species to those originally required to be planted, unless the Local Planning Authority gives its written consent to any variation.
- b) After a year following the completion of the landscape works, the contractor shall attend an inspection of all the works with P J Liveseys. All plants which are missing, have died or have failed to make satisfactory growth shall be replaced in accordance to Appendix II and the planting plan and in agreement with P J Liveseys. This inspection shall be repeated in the second year after completion of works.
- c) Ground preparation and replacement planting shall be according to the specification, areas of ornamental planting etc. to be as for original planting, except that no further topsoil needs to be brought to pits.

7. Generals: Operations

- a) Watering: all plants shall be watered regularly and adequately to ensure healthy growth.
- b) When watering, the contractor shall apply sufficient water to return the soil to field capacity.
- c) In the event of restrictions on the use of water, the contractor shall make his own arrangements for obtaining and using water from other sources (e.g. second class water) with the landscape architect's approval.
- d) Firming up: plants which have become loosened, lifted up or out of the ground shall be set upright and re-firmed by treading.
- e) Removal of litter: all litter shall be removed from the areas under the contractor's maintenance.
- f) Pest and disease control: plants shall be kept free of pests and diseases. Control measures shall be carried out to the approval of P J Liveseys.
- g) Plant Supports: canes, tree ties and tree stakes shall be checked and when necessary adjusted.
- h) General Pruning: straggling stems, over-vigorous shoots, suckers and dead, misshapen or broken branches shall be removed from trees and shrubs by pruning back with a clean smooth cut to the main stem, or a sound and living outward growing lateral.

7.1 Operations to Trees

- a) Maintenance programmes should aim at providing conditions conducive to active growth and to minimising wounding of the bark (which admits parasitic fungi). Maintenance of trees which form part of groups need to take into account the implications for the whole group, either its appearance or its function in "supporting" other trees. Professional advice may be necessary.
- b) After inspection, all items requiring remedial action or further investigations must be listed and acted upon.

- c) Weed Control: a circle 500mm radius from the base of each tree shall be kept free of grass and weed growth. In the case of trees in grass areas, this circle shall be kept neatly edged and the mushroom compost topped up as necessary.
- d) Residual Herbicide: a residual soil-acting herbicide shall be:
- evenly applied to the soil surface over a circle, 500mm radius from the base of each tree;
 - shall be evenly incorporated into the full depth of the mulch.
- e) Slow release fertiliser: slow release fertiliser shall be:-
- evenly incorporated into the surface of the soil over the rooting area of each tree;
 - evenly incorporated into the mulch over the rooting area of each tree;
- f) The contractor shall prevent chafing and damage to the bark of trees, caused by rubbing against stakes.
- g) Stakes and ties, check annually that the stakes are secure and adjust ties to allow for growth as necessary. Remove stakes at the end of the third growing season.
- h) Water trees in period of drought at a rate of 50 litres per tree at weekly intervals.
- i) Pruning of trees (BS 7370, Part 4, Pg. 39) should, ideally, be confined to training or shaping when immature to removal of dead or diseased material in mature trees, and should be done by suitably qualified staff. For all grafted plants, suckers should be detached from the rootstock to their point of origin with a clean knife-cut in June and again in October. Epicormic growth must be removed at least once a year, in June.
- j) All damaged and broken branches are to be removed with a clean cut; to be agreed with xxx and a tree specialist before work commences.

Tree Inspection Checklist

Element	Inspection Element
Leaves, flowers and fruits	Inspect for signs of pests and diseases, and note whether treatment is necessary.
	Inspect for signs of nutrient deficiency, and note whether feeding is necessary.
Surrounding ground	Inspect for signs of interference with the root system (e.g. underground services and leaks, recent trenching or changes in level).
The environment in relation to the tree	Examine exposure, likely pollution, ground surface character (including compaction around the base of trees), soil, etc. Note where remedial action is required.
Consider the tree's effect on its environment	Is the tree obstructing pedestrian traffic or shading out new planting. Pruning trees should be done as a last resort. Generally, trees are both more structurally sound and visually attractive if left to grow naturally. Obtain expert opinion before pruning.
Understorey	Inspect under planting in mid-June to estimate the degree of thinning of the canopy that might be required to ensure the health of the under storey. Obtain expert opinion before pruning.
Overall health of tree	Consult expert opinion
Upper crown safety	Make arrangements for a visit by a climber to make a report based on direct observation

Old specimen trees	Inspect for longevity, so that plans for replacement can be made several years in advance, paying special attention to its location and the immediate and future impact it will have on views, sight-lines and the landscape character of the site.
Records	Record the visit, observations made and whether expert advice is required. File records of the inspection, and follow-up visits.

7.2 Operations to Hedges

Hedges should be cut annually in summer (checking first that there are no nesting birds). The aspect of hedge maintenance most often neglected is mulching and feeding. Most middle-aged hedges are malnourished. If old hedge plants are suffering from malnutrition, apply a general fertiliser or a formulation for tree nutrition. The fertiliser should be pricked in and then watered in with a fine spray. The most common cause of sudden death of hedges is honey fungus, and regular inspections should be carried out by making a small excavation to expose the condition of the roots and lower stem, and looking for traces of “bootlaces” of *Armillariella mellea*.

Recently planted hedges should be cut hard back in June and September, so that bushy growth down to ground level is encouraged, and the hedge should be allowed to reach its planned dimensions only by degrees. Exceptions are those plants having a leading shoot which will give better results if left to attain their full planned height, notably beech (*Fagus sylvatica*). Lateral branches of these species should be cut back moderately to ensure a dense habit. The ideal shape for hedges is A-shaped (with a flat top) – i.e. wider at the base than at the top – this encourages strong fresh growth up the entire face of the hedge. Perpendicular faced hedges suffer from shading and increasingly sparse growth low down.

Mature Hedges should be pruned annually late winter/early spring, outside the bird nesting period.

7.3 Operations to Grass

The overarching objective is to produce a smooth, even and hard-wearing sward, with the appropriate ground cover of acceptable species, and adequate control of weeds, pest and diseases, as defined in the BS 7370 for the grassed area. The lawn is to be maintained to the British Standard for close-mown amenity turf.

Amenity turf: Grass will be cut weekly in the growing season, with a cylinder mower set to 15mm and arising removed immediately. Other operations, performed at the frequency specified in the maintenance table, are scarification; aeration; fertilisation; irrigation; weed, pest and disease control; switching/brushing; maintenance of turf edges; light rolling; top dressing; and over seeding.

Maintenance Operation	Grass cutting	Operation/Season	Frequency
Mowing	In general, grass cutting will be carried out to achieve the standards set out here. Should winter weather conditions stimulate grass growth to the extent that additional cuts are required to maintain these standards, it will be necessary to undertake additional winter cuts.	Managed between 15mm and 25mm.	Managed between 20mm and 25mm.
Preparation for mowing	All seasons	Remove all surface debris.	Remove all surface debris.
	Before main growing seasons	- Roll lightly after frost to re-firm surface - Rake to lift glass blades	Rake to lift glass blades
	Main growing season	- Firm surface if it is disturbed and may cause scalping - Brush or switch grass when wet (e.g., after dew)	Firm surface if it is disturbed and may cause scalping
	After main growing seasons	- Remove leaves and other debris in autumn - Brush or switch grass when wet; allow any frost to disperse first	Brush or switch grass when wet (e.g., after dew)
			- Remove leaves and other debris in autumn - Brush or switch grass when wet - Allow any frost to disperse first

Maintenance Operation	Grass cutting	Operation/Season	Frequency
Method of mowing	All Seasons	• Use rotary or cylinder mower with rear roller • Refuel mower away from grass to avoid damage to turf • Remove clippings • Sweep clippings off the path • Mow in opposite/cross directions at each alternate cut • Mow headlands first • Set minimum height of mower to 20mm	• Use cylinder (min 50 cuts/m) or rotary mower • Refuel mowers away from grass to avoid damage to the turf • Sweep clippings off the path • Mow in opposite/cross directions at each alternate cut • Mow headlands first
	Before main growing seasons	• Mow weekly • Set minimum height of mower to 15mm	Set minimum height of mower to 25mm
	Main growing season	• During drought, reduce the number of cuts and raise the height of cut by 5- 10mm • When very wet, do not cut if the grass surface may be damaged	• Mow every 7-10 days • Set minimum height of mower 20mm • During drought, increase the interval between cuts
	After main growing season	• Set minimum height of mover to 20mm	Set minimum height of mower to 25mm
Matching up	All seasons	Strimming up to boundaries and other obstacles must be done at the same frequency as the main area.	Strimming up to boundaries and other obstacles must be done at the same frequency as the main area.
Edge Trimming	All seasons	• When the grass abuts gullies/ hard areas/ shrub beds with a dropped edges, cut back grass fringe to the turf cleanly and evenly with shears • Remove arisings • Trim edges once	• When the grass abuts gullies/ hard areas/ shrub beds with a dropped edges, cut back grass fringe to the turf cleanly and evenly with shears • Remove arisings
	Before main growing season	Trim edges weekly	Trim edges once
	Main growing season	Trim edges as necessary	Trim edges every other cut

Maintenance Operation	Grass cutting	Operation/Season	Frequency
	After main growing season		Trim edges as necessary
Edge Re-forming	After main growing season	•Where the grass abuts path/ hard areas/ scrub bed, the turf should be re-formed with a half- moon, plus board/tight string to a clean finish with straight lines/ smooth curves at an angle sloping back to slightly less than vertical where there is extensive damage •Repair by re-turfing	•Where the grass abuts path/ hard areas/ scrub bed, the turf should be re-formed with a half-moon •Plus board/tight string to a clean finish with straight lines/ smooth curves at an angle sloping back to slightly less than vertical •Where there is extensive damage repair by re-turfing
Thatch Removal	Main growing season	Carry out light de-thatching as required using a vertical mower	Carry out light de-thatching as required using a vertical mower
	After main growing season	•When necessary, scarify using a spring-tined rake (or suitable machine with revolving tines) •Penetrating the surface soil to 5mm •Scarify when dry and frost-free •Collect and remove all arisings as work progresses	•When necessary, scarify using a spring-tined rake (or suitable machine with revolving tines), penetrating the surface soil to 5mm •Scarify when dry and frost-free •Collect and remove all arisings as work progresses
Firming	Before Main growing season	•Roll lightly when the soil is moist but not wet 2 weeks before the first mowing •Striping may be done •Avoid sharp turning on headlands	•Roll lightly when the soil is moist but not wet 2 weeks before the first mowing •Striping may be done; Avoid sharp turning on headlands
	Main growing season	•There should be no need to roll during the mowing season •Use other methods to treat disturbed surfaces	•There should be no need to roll during the mowing season •Use other methods to treat disturbed surfaces

Maintenance Operation	Grass cutting	Operation/Season	Frequency
	After main growing season	Avoid rolling	Avoid rolling
Aeration	Main growing season	• Routinely spike with a roller with tines at least 25mm long • Aerate exceptionally compacted areas with a solid-tine machine or Hand fork to 10mm depth at 100mm depth centres.	Routinely spike with a roller with tines at least 25mm long Aerate exceptionally compacted areas with a solid-tine machine or hand fork to 10mm depth at 100mm depth centres.
	After main growing season	• Aerate once during frost-free periods when the ground is moist enough to allow penetration • Solid-tines at 100mm depth at 100mm centres to relieve compaction and deter the formation of thatch • If thatch has developed to 15mm hollow-tine and remove cores (unless the soil quality is good in which case break up the cores with a rotary rake) • If top-dressing is needed to improve the soil, hollow-tine, remove cores and brush in dressing	• Aerate once during frost-free periods when the ground is moist enough to allow penetration • Solid- tines at 100mm depth at 100mm centres to relieve compaction and deter the formation of thatch • If thatch has developed to 15mm hollow-tine and remove cores (unless the soil quality is good in which case break up the cores with a rotary rake) • If top-dressing is needed to improve the soil, hollow-tine, remove cores and brush in dressing

Maintenance Operation	Grass cutting	Operation/Season	Frequency
Top dressing	All seasons	•Top dressing should be fine and dry, and of a similar texture to soil •Where depressions occur, apply top dressing several times to low areas to raise the level gradually •Apply evenly after mowing and work into the sward •Mow after top dressing not before •Apply when dry and frost-free •Work in immediately with lutes, brushes, etc Apply before the end of December to allow absorption before the mowing season.	•Top dressing should be fine and dry, and of a similar texture to soil Where depressions occur, apply top dressing several times to low areas to raise the level gradually •Apply evenly after mowing and work into the sward •Mow after top dressing not before • Apply when dry and frost-free •Work in immediately with lutes, brushes, etc Apply before the end of December to allow absorption before the mowing season.
Feeding Lawn areas Walled Garden	All seasons	•Determine phosphate and potash requirements by soil analysis • Apply fertiliser diluted in water mixed with vermiculite/peat/ sand (used at 50-70g/m²) •Distribute evenly to avoid patchiness •Fill distributors away from the working area or lay protective sheeting on the turf. •If needed, apply potash or phosphate.	•Determine phosphate and potash requirements by soil analysis •Apply fertiliser diluted in water mixed with vermiculite/peat/sand (used at 50-70g/m²) •Distribute evenly to avoid patchiness •Fill distributors away from the working area or lay protective sheeting on the turf
	Before main growing season	Monitor nitrogen levels throughout the seasons Apply as needed usually up to 100k N/ha) Do not apply after August, unless really needed	If needed, apply potash or phosphate

Maintenance Operation	Grass cutting	Operation/Season	Frequency
	Main growing season	Generally, do not apply fertilisers	•Monitor nitrogen levels throughout the seasons •Apply as needed usually up to 100k N/ha) •Do not apply after August, unless really needed
	After main growing season		Generally, do not apply fertilisers
Control of weeds, moss, diseases and insect pests	All seasons	Examine turf for weeds, moss, diseases and insect pests and take measurements to control them	Examine turf for weeds, moss, diseases and insect pests and take measurements to control them
Repair and renewal	Re-turfing worn/damaged areas	•Remove old turf to a max depth of 25mm; Prepare surface by lightly forking, mixing in fertiliser, ranking to consolidate, and, if necessary, building up the soil levels •Lay new turf to stretcher bind, working from boards, and tamp down •Top dress with fine soil •Water generously after relaying turf	•Remove old turf to a max depth of 25mm •Prepare surface by lightly forking, mixing in fertiliser, ranking to consolidate, and, if necessary, building up the soil levels •Lay new turf to stretcher bind, working from boards, and tamp down •Top dress with fine soil •Water generously after relaying turf

Maintenance Operation	Grass cutting	Operation/Season	Frequency
	Reforming broken edges	•Lift turf 60mm deep •Prepare surface by lightly forking, mixing in fertiliser, ranking to consolidate, and, if necessary, building up the soil level •Re-lay lifted turf with good edges outwards on the correct line, and tamp down •Replace damaged parts of the turned turf with sound turf •Water •Support edges temporarily with board if possible	•Lift turf 60mm deep •Prepare surface by lightly forking, mixing in fertiliser, ranking to consolidate, and, if necessary, building up the soil level •Re-lay lifted turf with good edges outwards on the correct line, and tamp down •Top dress damaged parts with a suitable soil and seed mixture •Water •Support edges temporarily with board if possible
	Lifting hollows	•Lift turf to a depth of 20mm •Spread new matching soil over the area and fork in •Tread lightly to consolidate, apply fertiliser and rake to a new level 20mm below surrounding turf •Re-lay removed turf and •tamp down, removing any excess •Top dress and water •Lift turf to a depth of 20mm •Fork the base to a depth of 100mm, and remove all stones •Remove excess soil •Tread lightly to consolidate, apply fertiliser and rake to a new level 20mm below surrounding turf •Re-lay removed turf and •tamp down, removing any excess •Top dress and water	

Maintenance Operation	Grass cutting	Operation/Season	Frequency
	Lowering bumps	•Either: Spike, and apply an appropriate sand (most effective when soil is moist) •or vibrate using suitable machinery •or slit the surface, and apply an appropriate sand •Re-cutting may be needed as slit systems decrease in effectiveness over time	
	Relieving surface compaction	•Where damage to turf occurs as a result of mole activity, •The damaged areas shall be reinstated immediately as described above. •Moles shall not be deliberately killed without the agreement of the responsible Officer.	•Either: Spike, and apply an appropriate sand (most effective when soil is moist) •or vibrate using suitable machinery •or slit the surface, and apply an appropriate sand •Re-cutting may be needed as slit systems decrease in effectiveness over time
	Re-instating mole hills		•Where damage to turf occurs as a result of mole activity, the damaged areas shall be reinstated immediately as described above. •Moles shall not be deliberately killed without the agreement of the responsible Officer.
Source: BS 7370, Part 3			

7.4 Operations to Hard Surfaces

The overarching objective is to maintain clean, even, consistent surfaces safe for use by normal traffic in all conditions.

Areas that have been designed for light traffic should be prohibited to heavy vehicles in order to avoid damage to driveways, paths, road verges and planting.

Hard surface areas should be kept free from the following:

- litter, including autumn leaf fall
- dust and accumulated grit
- stains, e.g., oil or paint spillage
- graffiti
- weeds, moss and algae
- standing water

The table 7.4 below should be regarded as a checklist for inspection and maintenance of hard areas.

Defects should be reported and dealt with as they arise.

Cleanliness is important. Recommended treatments for specific stains on hard surfaces are tabulated below.

Gullies in areas of loose gravel must be checked monthly. Other gullies must be checked every six months, and kept open. Operations involved in maintaining a drainage system include the following:

- Inspection at least twice a year (or more frequently in areas of loose gravel)
- Immediate action to rod drains when blockages occur
- Removal of silt and grease as often as necessary
- Weeding the banks of open ditches at the end of the growing season
- Clearing outfalls of weeds and debris at the start of the winter season
- Periodic renewal, as all drainage systems eventually wear out.

Attention should be paid to drains that come into contact with trees, as leaf litter is prone to blocking drains and tree roots often penetrate them.

Note: where paved areas drain into tree pits or planted areas, high concentrations of salt, detergent or soil-acting herbicides should not be used (BS Part 2, p.8).

Table 7.4 Maintenance operations for hard surfaces

Maintenance Target	Operation
General	
Stain removal, e.g., oil or paint	Complete removal within 2 days of being reported.
Weed and moss growth	Should not exceed 1% of paved area and 20% of joints within it.
Integrity of material	Materials used in repairs should match the existing surface material specification, and be laid to a similar depth and, where applicable, to a similar degree of compaction.
Evenness	Where a risk of slipping exists, warning notices or handrails should be installed. All paving should be maintained to original levels and falls. Movement of adjacent units should not produce a differential greater than 6mm.

Maintenance Target	Operation
Breakage	Generally, footpath paving should not show more than 10% broken units overall. Concentrated damage, e.g., by vehicles tracking across or at the edges of pavements, should be repaired, upgraded or rebuilt even if less than 10% of the area is affected. All cracks wider than 6mm should be raked out and repaired, as should spalling and weathering at the edge.
Gullies	Surface water drains, channels, gullies, traps, outlets and grids should be kept clear of accumulated grit, leaves, grass and weeds. Gullies and inspection chambers with sumps should be emptied and outlets to all surface water drains should be inspected twice a year.
Permeability and drainage	Where paved areas drain into tree pits or planted areas, high concentrations of salt or soil-acting herbicides should not be used.
Safety	Any surface, wet or dry, should be safe for use by normal traffic. Loose materials should not present a hazard underfoot, for wheelchair users or for those using a walking aid.
Appearance and durability	The original colour and texture of surfaces should be maintained as far as possible, with due allowance for natural weathering. Surfaces should not be allowed to degrade under wear, frost or settlement. Re-dressing of loose-finish surfaces should be done so as to maintain the desired extent of cover.
Source: BS 7370, Part 2, pp. 7-9	
Element Specifics	Procedures
General: all hard surfaces	

Maintenance Target	Operation
General: all hard surfaces	Areas that have been designed for light traffic should be prohibited to heavy vehicles in order to avoid damage to driveways, paths, verges and planting. Inspection to ensure conformity to objectives should be done daily. Sweeping should be by hand or using pedestrian controlled motorised suction cleansers. On large open areas, mechanical sweepers may be used. Paving adjacent to buildings should be scrubbed with water and detergent, and hosed with clean water. Chemicals, detergents and oil based materials should not be hosed into planted areas, sewers or watercourses, but suctioned by a vacuum cleaner. Stains should be removed within two days of being reported, and chemicals, detergents and oil-based materials should not be hosed into planted areas, sewers or watercourses, but suctioned by a vacuum cleaner. Before treatment is attempted, as much as possible of the spillage should be mopped up or scraped off. Chemicals should only be used under appropriate supervision. Puddles of water should not be allowed to stand for extended periods. Depressions in hard surfaces should be repaired where possible. Snow clearance should be treated as a priority, to provide safe routes for pedestrians, especially where there are steps, ramps and steep cross falls. During the thaw, all surface water drainage channels, gully gratings and outlets must be kept cleared. Salt should be spread mechanically, at the following rates: - precautionary: 10g/m² - ice and light snow (20 mm): 20-40g/m² - snow 20-40mm: plough then salt 20g/m² s - snow 40mm+: plough then salt 20-40g/m² Salt should not be used in close proximity to trees and other plants. Salt will not be stored on site, but brought in from the depot as required. A programme of weed killing for roads, hard standings, pavements, paths and fence lines should be arranged to ensure effective control all year. If work can be undertaken in early spring, mid-February to mid-April, control should be effected by the use of a compound containing one or more residual chemicals; one application at the correct rate is usually sufficient. If satisfactory control is achieved in the first year, smaller maintenance doses in subsequent years is usually adequate. Annual weeds should be treated with a contact herbicide while they are growing strongly. Where there are concerns about the use of residual herbicides, or where a residual treatment is ineffective, a non-residual contact herbicide should be applied, generally more than once during the growing season. Treatment on paving should be targeted at the cracks where weeds grow and not applied over the whole surface. Losses through evaporation should be minimised by spraying in the early morning or late evening (also times when insect activity and pedestrian/vehicular traffic is lower).

Maintenance Target	Operation
cont.	Where moss and algae are removed with phenol-based moss killers, extreme care should be taken to avoid damage by spillage of corrosive concentrate and by run-off to adjoining planted areas. Where settlement or disturbance causes broken surfaces, paving should be taken up, a firm bed prepared and a new surface laid to match the original. Where normal wear and weathering cause the pointing between units to deteriorate, joints should be raked out and repointed in a similar style. Where paved areas drain into tree pits or planted areas, high concentrations of salt or soil-acting herbicides should not be used.
Bituminous surfacing	If litter accumulates, increase the frequency of sweeping. If dust or grit accumulates, remove with detergent/proprietary chemical. Where weeds colonise cracks and joints, treat with chemicals and repair. If moss and algae grow, treat with chemicals or scrape or sweep. Where the surface becomes uneven or there is a drainage problem, patch or replace to falls. Repair cracking and frost damage by raking out and repairing or replacing the surface. Potholes to be reinstated should be cut back to sound material, the sides cut vertically to a square/rectangular shape, painted with bitumen emulsion, and filled with new bitumen.
Reconstituted stone paving	If litter accumulates, increase the frequency of sweeping. If dust or grit accumulates, sweep or hose down. Where weeds colonise cracks and joints, treat with chemicals and repoint. If moss and algae grow, treat with chemicals or scrape or sweep. On susceptible stone, treatment should be regular. Where the surface becomes uneven or there is a drainage problem, replace as necessary. Repair cracking and frost damage by replacing the surface. If the problem represents a severe tripping hazard, replace with an alternative.
Source: BS 7370, Part 2, pp. 10-18, 25-27	