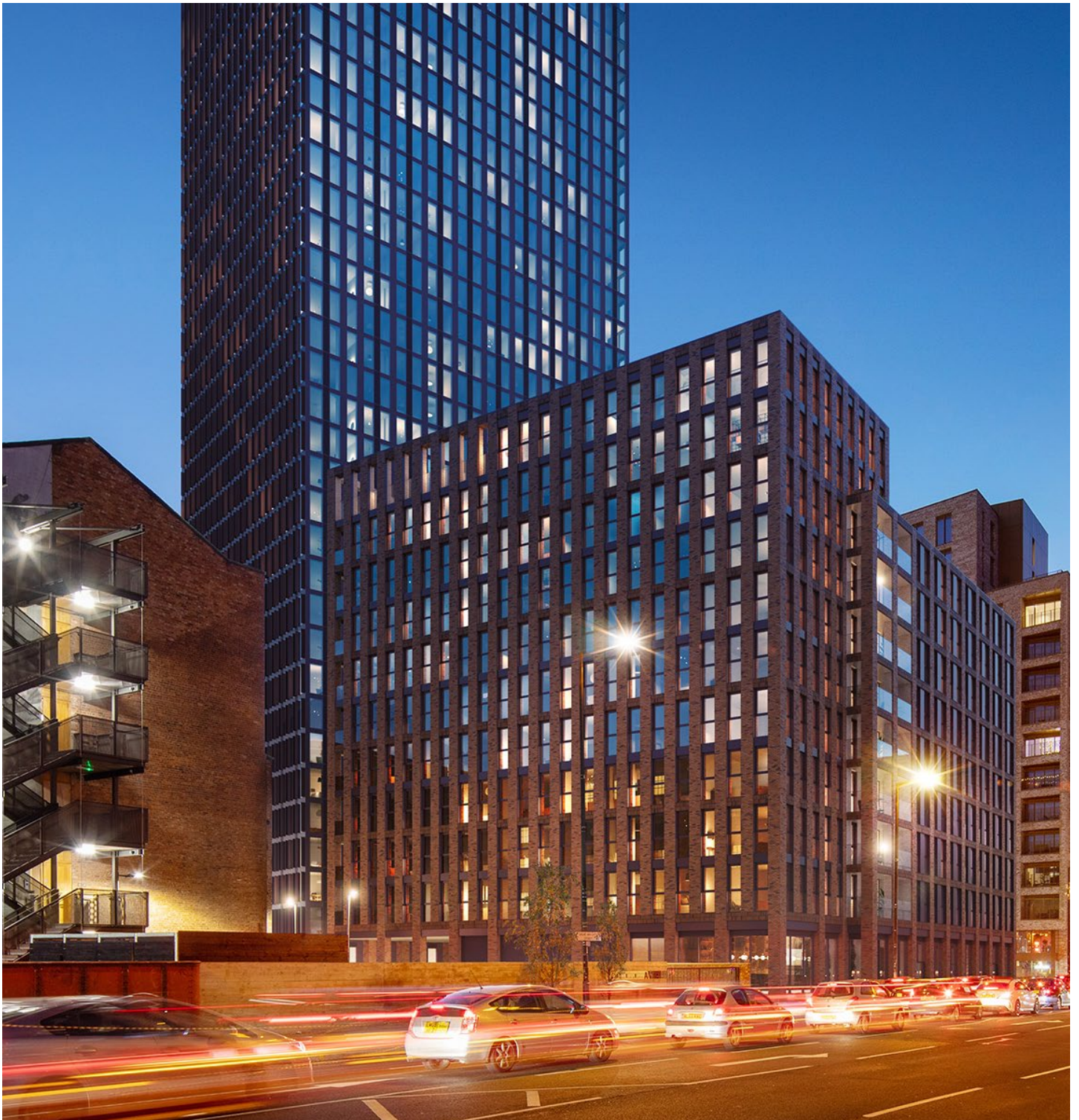




August 2022 / Z0-REF-G710-SP-GRD-0894-0003

Port Street, Manchester Landscape Maintenance Specification

Revision C01

Contents

A. Introduction

B. Design intent

C. Maintenance operations

01 Notes and conditions

02 Schedules

A Introduction

This report outlines the maintenance operations required for Port Street, Manchester. The purpose of this management plan is to aid the efficient and effective management of the site, preserving the design intent for the lifetime of the development.

In the event of failure, the main contractor will replace the soft landscape elements (trees, hedges, grass, planting) for a period of 12 months from practical completion, or completion of the soft landscape works, whichever is later.

All maintenance will be conducted by the client's chosen maintenance contractor after this period.

This document is to be read in conjunction with the following drawings and documents:

- Z0-REF-G710-PL-GRD-0894-0005 Landscape General Arrangement
- Z0-REF-G710-PL-GRD-0894-0008 Detailed Hardworks Plan 1 of 3
- Z0-REF-G710-PL-GRD-0894-0009 Detailed Hardworks Plan 2 of 3
- Z0-REF-G710-PL-GRD-0894-0010 Detailed Hardworks Plan 3 of 3
- Z0-REF-G710-PL-GRD-0894-0012 Planting Plan 1 of 3
- Z0-REF-G710-PL-GRD-0894-0013 Planting Plan 2 of 3
- Z0-REF-G710-PL-GRD-0894-0014 Planting Plan 3 of 3
- Z0-REF-G710-PL-GRD-0894-0015 Planting Schedules and Details
- Z0-REF-G710-SP-GRD-0894-0002 NBS Landscape Specification
- Z0-REF-G710-HS-GRD-0894-0001 Designers Risk Assessment

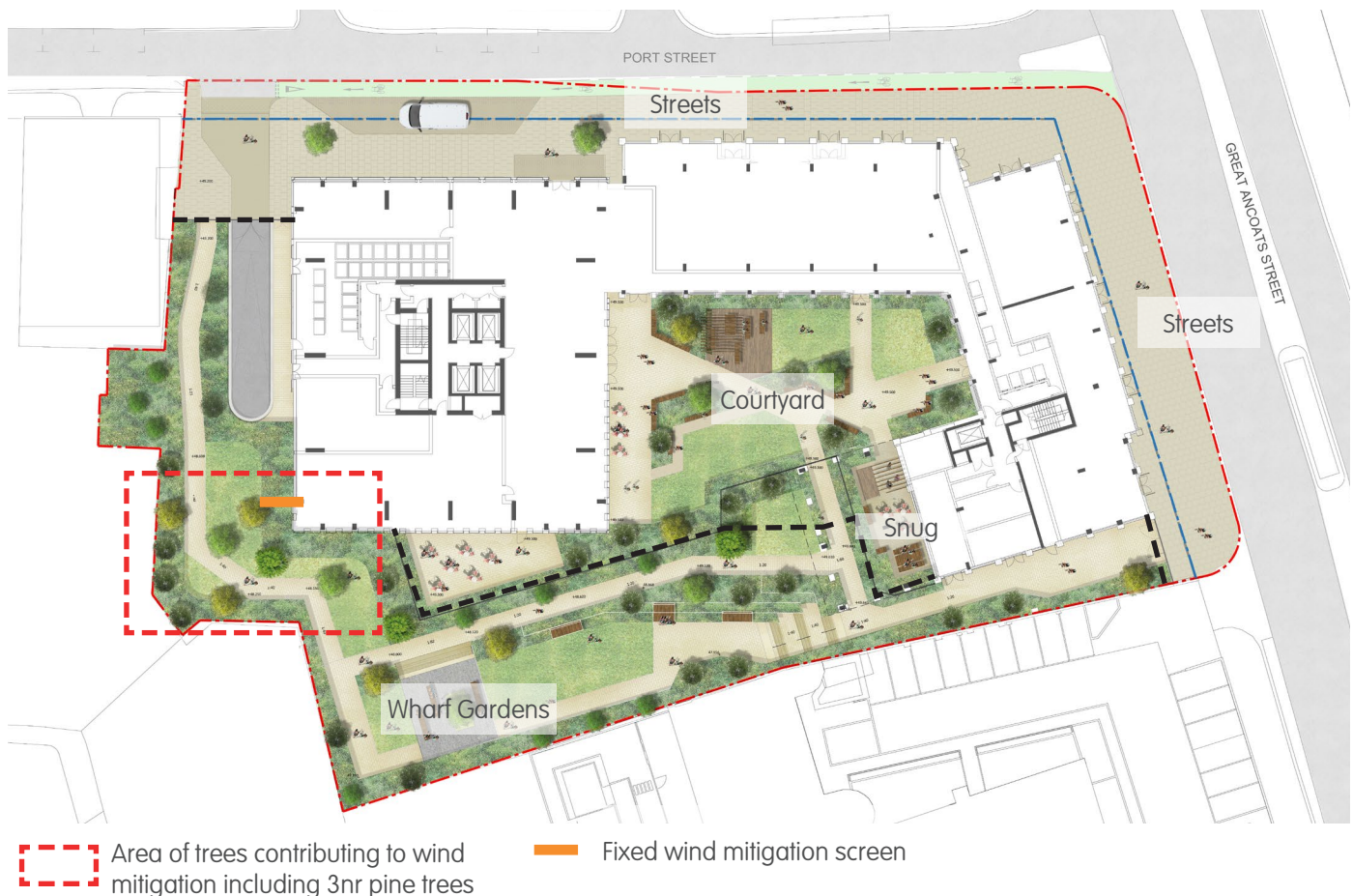
B Design intent

The public realm and courtyard landscape within the development site It aims to create a transformational public realm and landscape environment, which forms a strong relationship with the new building and the local context, as well as establishing a newly defined sense of place and legibility across the site. The scheme aims to introduce better climate resilience through the introduction of trees and planting, which is currently absent from the Site and sustainable water management.

The landscape scheme comprises four main areas:

- Wharf Gardens: An area of publically accessible landscape, which includes paved footpaths, a small area of lawn and play provision, seating and planting and trees. Gardens are to be open to the general public only during managed hours and closed off out of ours. Out of hours access to residents of development only.
- Private Coutyard: An area of emenity landscape accessibly only to building occupants via controlled access points. Courtyard to include raised planters with trees, seating and lawns
- Snug: This is an area associated with the private courtyard and accessible to residents only. The area is located beneath a building overhang. Planting within this area sits within a rain shadow and is to be irrigated in line with specific requirements identified in this document.
- Streets: Port Street and Great Ancoats Street include natural stone paving and trees within hard landscape.

A number of trees contribute to microclimatic conditions and wind mitigation at the base of the tower. There is also a fixed screen adjacent to the base of the tower also for the purpose of wind mitigation. These are highlighted below and subject to specific maintenance requirements defined within the document.



C Maintenance operations

Notes and conditions

The objectives of the management plan are summarised as;

- Maintain a safe, accessible and clean, litter free environment
- Ensure the development is an attractive place for people of all ages to use
- Ensure the original design intent is realised and helped to prosper and mature as intended
- Increase biodiversity throughout the site by providing food and habitat

General Conditions

- All cleaning materials and products to be in accordance with all relevant policies of local authority, e.g. Waste Policy.
- At the time of tendering, maintenance contractors are to provide details of proposed materials/cleaning products. Products to be chosen based on minimum level of environmental impact.
- Maintenance contractors are to provide a method statement before commencement of any maintenance operations.
- Use only machines and tools suitable for the site conditions and the work to be carried out. Use hand tools around trees, plants and in confined spaces where it is impracticable to use machinery.

Good Practice

- Where products are not fully specified they are to be suitable for the purposes of the works stated and in accordance with good horticultural practice, including the relevant provisions of current British Standard documents.
- Maintenance standards should at all times reflect the development's high quality status and position in the city.

Health & Safety

Chemicals

The Maintenance Contractor must comply with The Control of Pesticides Regulations 1986' made under the 'Food and the Environment Protection Act 1985', 'The Control of Substances Hazardous to Health Regulations 1988' made under the 'Health and Safety at Work Act 1974' and any other legislation enacted during the contract period.

The Maintenance Contractor must comply with all relevant Codes of Practice issued by DeFRA. In particular where work is near water, comply with the Code of Practice for the Use of Herbicides on Weeds in Watercourses and Lakes'. Written approval from the Environment Agency should be obtained prior to the use of pesticides within these areas.

A recognised nominated storekeeper's certificate of competence (BASIS) is required by a Contractor storing more than 200 litres of pesticides.

The Maintenance Contractor shall dispose of waste pesticides and containers in accordance with the Control of Pesticides Regulations 1986, Control of Pollution Act 1974', and 'Water Act 1989'. Safe disposal arrangements shall be made before starting to apply pesticides.

Concentrated pesticides shall be disposed of in arrangement with the local Environmental Health Department or with a specialist waste disposal contractor.

The Maintenance Contractor shall be responsible for making good and or compensation for any damage resulting from negligence in the application, handling and storage of pesticides.

The Maintenance Contractor shall be responsible for keeping up to date with all legislation and regulations regarding the use of pesticides.

The Maintenance Contractor shall inform the client of any subsequent changes to legislation and regulations that affect the contract.

In general the following precautions should be taken:

- Prior to maintenance/cleaning being undertaken a site specific risk assessment is to be carried out.

C Maintenance operations

Notes and conditions

- Prior to any chemicals being used a COSHH assessment is to be undertaken
- When using chemicals, protective clothing such as gloves, goggles, boots and overalls should be worn.
- Adequate ventilation is required when using chemicals in confined spaces.
- When using flammable materials i.e. cigarettes, naked flames and other sources of ignition should be carefully controlled.
- When diluting acids, ALWAYS add acid to water and not water to acid.
- Any clothing that is contaminated with chemicals should be disposed of safely.
- When using any chemicals, care must be taken not to damage, contaminate or stain any adjoining materials, landscaping or finishes.
- Care must be taken to protect personnel operating in the area of the cleaning from any injury or hazard created by the cleaning. The appropriate First Aid must be available on-site.
- All operatives should be properly trained / supervised / and hold up to date certificates where necessary.
- Before undertaking any cleaning operation a trial should be carried out on a small, preferably inconspicuous area, to determine the effect of the chemicals before treating a large area.

Acid Washing

Stubborn and persistent stains that will not generally weather away naturally will require the application of a specific acid cleaning treatment to remove them.

Prior to any acid cleaner being applied, the surface must be thoroughly wetted with clean water to prevent the acid being absorbed directly into the paving. A dilution of 7 to 10% of hydrochloric acid should then be prepared and applied to the affected area.

As the staining begins to dissolve, some frothing may be apparent, which should be followed by agitation of the surface using a stiff bristle brush to completely remove all trace of the stain.

Once this process is complete the whole surface should be rinsed thoroughly with clean water, taking care to dispose of the run off safely. In the vast majority of cases, one treatment will be sufficient; however, in some cases re-treatment may be required.

When using any form of chemical treatment the following guidelines should be strictly adhered to:

- With deeper stains, the degree of acid treatment may result in an acid etched appearance.
- Protective clothing (gloves, boots, goggles etc.) should be worn at all times when using chemicals and the appropriate first aid measures must be available on-site.
- Take care to ensure that surrounding materials and landscape are protected.
- Soft landscape and exposed metals can be severely affected by chemical treatments.
- It is better to treat several times with the correct dilution than to use concentrated acid, which may damage the surface of the unit.
- Extreme care must be taken when using chemical cleaners on wet cast concrete products as these are less resistant to such treatments. Please refer to the manufacturer for other cleaning solutions.
- When diluting acids, always add acid to water and not water to acid.
- Keep the general public out of any work area.

C Maintenance operations

Notes and conditions

Tree management

General Notes

The Maintenance contractor shall maintain all tree stock in accordance with the specification set out below.

- All works should be in accordance with BS:3998 and Forestry and Arboricultural Training and Safety Council Safety Guides. All operatives undertaking chainsaw work must hold appropriate certification and should be approved members of the Arboricultural Association.
- When cutting, cut at fork or at the main stem to avoid stumps wherever possible.
- Large branches — remove only if unavoidable. Remove in small sections and lower to the ground with ropes and slings.
- Dead branches and stubs— when removing do not cut into live wood.
- Unsafe branches — remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease of fungus — give notice if detected. Do not apply fungicide or sealant unless instructed.
- Bark Damage — wounds — do not attempt to stop sap bleeding. Gently remove ragged edges and remove splintered wood from deep wounds as small as possible. Give notice if there is any liquid or flux oozing from apparently healthy bark.
- Cavities in Trees — Cavities should be investigated. If bats are found present in the cavities, no further investigative work is to be carried out until a suitable trained ecologist has visited the site to investigate further and to agree a course of action with Natural England. Rubbish and rotten wood should be removed, subject to the above. The cavity should be probed to find the extent of any decay, and give notice. The cavities should not be covered.

Crown Lifting

- 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.
- In general for clearance remove branch systems to give clearances as follows:
2.5m above pathways, 3m above vehicle carriageways.

Crown Thinning

- When removing branches, remove inward growing, crossing, rubbing, dead and damaged branches. When thinning selectively remove an agreed percentage of secondary and small live branch growth evenly throughout the crown. When cutting make no cuts of more than 50mm diameter.
- Cut portions of branches back to lateral or sub lateral buds or branches without leaving stumps. The appearance should be uniform with a well balanced structure of branches and foliage.

Watering

- Care should be taken to ensure all trees are watered sufficiently to encourage establishment and healthy growth, using relevant guidance. This is particularly important during early establishment on site.
- During prologued periods of dry and hot weather conditions, additional watering will be required to ensure tree stock doesn't dry out.

Trees for wind mitigation

- A number of trees have been identified for contributing to wind mitigation. These are highlighted in the introduction of the document. As with all other trees, these must be regularly inspected to ensure they are in a healthy and stable condition. Any signs of deterioration must be reported immediately so remedial action can be facilitated. Also refer to re-form designers risk assessment 0894-RFM-XX-00-HS-L-0001 for additional information.

C Maintenance operations

Notes and conditions

General Stipulations

Failures of planting

- Any trees/shrubs/plants that have died or failed to thrive (not developing full foliage throughout all branches) within the period of this maintenance plan should be replaced. Years 1 – 3 replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater. Years 4 – 10 replacements to be as original specification.

Watering

- The maintenance contractor shall make due allowance in his rates for carrying out these tasks outside normal working hours when necessary to avoid premature evaporation or leaf damage caused through watering in bright sunlight.
- The maintenance contractor is to allow for the provision of water, water carts or hoses with a fine hose attachment or sprinklers at normal mains pressure. The maintenance contractor is to include and state in his tender the cost of compliance with this clause so that the cost of visits can be deducted in whole or in part if not required to be used.

Drought Conditions

- Should emergency legislation restricting the use of water during drought conditions be imposed, the maintenance contractor will be required to ascertain - before operations - the availability and cost of, and arrange to collect and apply second class water by bowser or other means from an approved sewage works, deliver to site and apply as specified. When required by the Architect, the maintenance contractor shall arrange for tests of this water to be carried out in accordance with BS 6068:2000 Water Quality.

Pests and Diseases

- Maintenance shall include an inspection for signs of, and the control of insects, fungus and disease by spraying with an approved insecticide or fungicide.

Litter Collection and cleanliness:

- The maintenance contractor shall at all times keep the site clean, tidy and free from litter and carry out a litter collection at each maintenance visit.
- 'Fly tipping': large items such as discarded furniture that require two or more people to lift or are in excess of 0.5m³ will be treated as fly tipping and not litter. The maintenance contractor should provide a cost for removal and depositing for fly tipping on each and every occasion.
- At completion and at each visit, remove soil and other debris from all hard surfaces and grassed areas and leave the works in a clean and tidy condition.

Leaf Clearance:

- The maintenance contractor is responsible for the clearance of leaves, twigs, etc. from all areas of the grounds including planting beds, lawns, paths, channels, drains, car park steps and other areas specified by the Client, from leaf fall (normally October until end December). The Client will instruct the maintenance contractor when to begin.
- The clearance shall be carried out with hand raking or sweeping, or using machinery appropriate and approved by the Client.
- All collected leaves to be removed from site and should not be left in piles awaiting removal but cleared immediately. Leaves should not be left on ground for more than a week. The maintenance contractor shall schedule operations to achieve this standard.

Clear Snow and Supply and Apply Rock Salt

- The Client may at times of inclement weather require the Maintenance contractor to clear snow and ice and apply approved rock salt, evenly spread at 20 grammes per square metre, to specified areas within the Contract area.
- The Maintenance contractor shall take care to avoid spreading rock salt near and around trees, shrubs, turf and other plant material. Any damage caused by the Maintenance contractor's negligence shall be fully reinstated at the Maintenance contractor's expense to the Client's satisfaction.

- The Contractor may be required to undertake these operations during normal working hours, outside normal working hours; at weekends and during Bank Holidays.

C Maintenance operations

Schedules - Soft landscape

This maintenance schedule details how and when maintenance work items are to be carried out. In each identified month, the number in the shaded box details the number of times per month when a work item is to be carried out. Where a number "1" is indicated, the maintenance work item must be carried out once a month at the beginning of the month. Where a number "4" is indicated, the maintenance work item must be carried out once per week during the month. Where a number "2" is indicated, the maintenance work item must be carried out once at the beginning of the month, and once halfway through the month.

This schedule is for guidance only, and site conditions should be considered when determining the number of visits required. In times of exceptionally warm weather, for example, watering may be required more than once weekly.

Item	Description	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1.0	All trees												
1.1	Check for general health in line with good horticultural practice. Any signs of disease or decreasing health to be reported to site management so remedial measures can be actioned.	1	1	1	1	1	1	1	1	1	1	1	1
1.2	Cut back broken, diseased or dying branches or braches that obstruct pavement access .	1	1	1	1								
1.3	Top up mulch to base of trees in soft areas. Mulch depth of 50mm to be maintained.						1		1				
1.4	Check branches for litter, especially after strong winds, and remove.	1	1	1	1	1	1	1	1	1	1	1	1
1.5	All shoots or suckers emanating from roots or the root stock and all epicormic shoots arising from dormant or adventitious buds growing from the trunk should also be removed.	1	1	1	1	1	1	1	1	1	1	1	1

2.0	Additional work to newly planted trees (Years 1-5)												
2.1	Prune trees to maintain a desirable shape in the first three years after planting.	1	bird nesting										
2.2	Check stakes and ties monthly (assume they will need adjusting at least twice annually.) Any broken or damaged stakes will be replaced and ties re-fixed at a slightly lower position, allowing for growth since planting. Remove stakes at year 5.	1	1	1	1	1	1	1	1	1	1	1	1
2.3	Water trees during summer months as necessary, minimum 2 x per month during Years 1 and 2. This is dependent on weather conditions, and the frequency may increase during spells of hot weather or drought. Where tree irrigation system exists, fill reservoir.			1	1	2	2	2	2	2			
2.4	To reduce excessive competition, retain a weed free area around all trees to a diameter of 1m around the base of the trees using glyphosate spray twice a year. Newly planted trees will require refirming as required during the first three years.			1							1		
2.5	Re-firming Trees and Shrubs after strong winds, frost heave and other disturbances (staked). To re-firm the Maintenance contractor should tread around the base until firmly bedded. Any collars in the soil at the base of tree stems, created by tree movement should be broken up by fork, avoiding damage to roots. The voids should be backfilled with topsoil and re-firmed.	As required											
2.6	Rebalancing/realignment of trees that have moved with wind or bad weather (underground guying). Tree anchor systems to be tightened on affected trees as necessary to ensure trees are stable and upright.	1	1	1	1	1	1	1	1	1	1	1	1
2.7	All trees identified for contributing to wind mitigation must be regularly inspected to ensure they are maintaining a healthy crown density and habit and that they are stable and upright in the ground, with anhorng measures in good working order. Operations to be carried out as opposite and additionally after strong winds.	2	2	2	2	2	2	2	2	2	2	2	2

C Maintenance operations

Schedules - Soft landscape

Item	Description	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3.0	Planting												
3.1	Check for general health in line with good horticultural practice. Any signs of disease or decreasing health to be reported to site management.	1	1	1	1	1	1	1	1	1	1	1	1
3.2	Years 1-2: Water as required to ensure good establishment of planting.			2	2	4	4	4	4	4			
3.3	Watering (thereafter) as required to ensure ongoing health of planting. This is dependent on weather conditions, and the frequency may increase during spells of hot weather or drought.	As required											
3.4	Special watering requirements: Area of planting within Snug beneath the building overhang (as identified on drawings as 'planting with special maintenance requirements') to be manually irrigated on a regular basis to maintain soil moisture due to being located within a rain shadow.	4	4	4	4	4	4	4	4	4	4	4	4
3.5	Apply fertiliser as per NBS specification to manufacturer's recommendations.			1									
3.6	Weeding. Remove arisings from site.				1	1	1	1	1	1	1		
3.7	Cut back spent and dead foliage of herbaceous perennials and ornamental grasses, once risk of heavy frost has passed.			1	1								
3.8	Comb out dead foliage of semi-evergreen herbaceous perennials and ornamental grasses avoiding damage to new growth. Remove arisings from site.			1	1								
3.9	Top up mulch to base of trees in soft areas. Mulch depth of 50mm to be maintained.						1		1				
4.0	Turfing												
4.1	Mow and cut neat edges fortnightly through May - October to maintain a length of 35 - 50mm (12 visits)					2	2	2	2	2	2		
4.2	Year 1: water as required to ensure good establishment of lawn.												
4.3	Watering (thereafter) as required to ensure ongoing health of lawn. This is dependent on weather conditions and the frequency may increase during spells of hot weather or drought.	As required											
4.4	Feeding: refer to feeding regime advised by supplier of growing substrate.			1									
4.5	Re-cut edges of lawns with half-moon					1	1	1	1	1	1		
4.6	Re-turfing and re-seeding: cultivate and re-turf or re-seed areas of bare ground (as necessary during spring) using exact same turf / seed mix to that originally used.				1								

C Maintenance operations

Schedules - Hard landscape

Item	Description	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
6.0	General												
6.1	Leaf fall: sweep up all leaf fall and adjust frequency to reflect leaf fall at different times of year or in spell of windy or frosty weather.	1	1	1	1	1	1	1	1	1	1	1	1
6.2	Litter clearance: all areas shall be maintained clean and litter free. Litter may be gathered by hand, paper picker or mechanical means. Damage to soft and hard landscaped areas through collection operations shall be made good. Arisings to be removed upon completion.	4	4	4	4	4	4	4	4	4	4	4	4
6.3	Chewing gum: newly discarded gum can be scraped off or jet washed but hardened gum to be removed by both freezing the gum and chiselling it from the surface of the paving or utilising a hot water / steam cleaner.	As required. Check weekly.											
6.4	Fly posting: check for and remove posting.	As required. Check monthly.											
6.5	Smoke, fire, tobacco stains: scrub with a biodegradable detergent and hot water.	As required. Check monthly.											
6.6	Beverage stains: scrub with a biodegradable detergent and hot water.	As required. Check monthly.											
6.7	Rust stains: identify & eliminate the sources of staining. Wet the surface with clean water and then treat the affected area with a 7 to 10% dilution of Hydrochloric acid solution. Refer to Notes and Conditions section of this document.	As required. Check monthly.											
6.8	Epoxy/polyester stains: treat areas of solidified epoxy or polyester resin on paving, kerbs and other stone elements by carefully burning off the area with a blowtorch. Care must be taken not to inhale any fumes given off. If, after burning, a black stain remains, this can be removed by scrubbing with detergent and hot water. For larger areas, grit blasting may have to be considered. However the effect of such treatment on the micro texture of the surface should be carefully considered. It is advised that a small area be tested initially.	As required. Check monthly.											
6.9	Oil stains: remove immediately with an absorbent material e.g. paper towels, cloth or absorbing granules. Do not attempt to wipe the stain as this will drive the oil into the surface and spread it over a wider area. If the stain persists then an emulsifying degreaser should be employed. Brush the cleaner onto the affected area, leave for a period of time according to the manufacturer's instructions and then wash the emulsified oil away with plenty of clean water. Alternatively the surface can be scrubbed with a biodegradable detergent and hot water taking care to ensure that the strength of the detergent is not detrimental to the appearance of the item.	As required. Check monthly.											

C Maintenance operations

Schedules - Hard landscape

Item	Description	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
7.0	Paving and kerbs												
7.1	Cleaning (avoid run-off entering planting areas/tree grilles): surface to be kept free of stains, marks and spillages. General cleaning to be carried out with a mechanical sweeper, warm water and a mild detergent. No jet washer to be used. For specific stains, refer to general section.				Annually, spring or early summer								
7.2	De-icing: non-chloride based de-icer product to be used to prevent formation of ice and settlement of snow.	As required										As req	
7.3	Moss, lichen, algae: treat with a proprietary weed or moss killer used in accordance with the manufacturer's instructions.			As required, check monthly.									
7.4	Damage: check for any damage, deterioration or loss of units. Inspect for movement and replace paving as required.	As required, check monthly.											
7.5	Drainage channels, slot drains, service covers: check for blockages and rod as necessary.	As required, check monthly.											

8.0	Site furniture, Play equipment, boundaries and raised planters												
8.1	Inspection - inspect items, fixings and individual components for looseness and damage. Repair, replace and tighten in line with drawings, specifications or manufacturer / fabricator's details. If repair is not possible immediately, arrange to prevent public use until repair can be carried out.	4	4	4	4	4	4	4	4	4	4	4	4
8.2	Play surfacing to be inspected and repaired in conjunction with manufacturers guidance or replaced as necessary	1	1	1	1	1	1	1	1	1	1	1	1
8.3	Cleaning - clean annually with a mild detergent mixed with warm water. Avoid run off into planting and soil. For specific stains, refer to general items section.			1									
8.4	Powder coated elements: check for scratches and damage to surface. Repair unsightly scratches / those that penetrate the outer coating in accordance with manufacturer's instructions.	As required, check monthly.											
8.5	Wind mitigation screens. To be inspected regularly for any signs of damage, defects or instability. Any issues to be raised with building management immediately to enable remedial action to take place	2	2	2	2	2	2	2	2	2	2	2	2

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