



Young High School and Hilltops Council Library & Community Centre

OPERATIONAL LANDSCAPE MANAGEMENT PLAN L-SP-02

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1.0 INTRODUCTION

1.1 BACKGROUND

This Maintenance Plan will govern the required maintenance works relevant to the landscape to ensure its longevity and continued success.

The primary function of this Maintenance Plan is to provide specifications for the management and annual care requirements. The document will outline;

- maintenance tasks + specifications
- maintenance access
- maintenance schedule

1.2 SITE LOCATION

Young High School Library and Joint-Use Community Facility
9 Campbell Street, Young NSW 2594

1.3 IMPORTANT NOTES

- All works are to be undertaken by suitably qualified personnel;
 - Arborist Supervisor - AQF Level 5 (Diploma) in Arboriculture
 - Arborist Fieldworker - AQF Level 3 (Cert III) in Arboriculture
 - Horticulturalist Supervisor - AQF Level 4 (Cert IV) in Horticulture
 - Horticulturalist Fieldworker - AQF Level 3 (Cert III) in Horticulture
- Tree Protection Zones for all trees requiring protection are to comply with;
 - AS4970:2009 Protection of Trees on Development Sites
- Soils, mulches and application of pesticides, fertilisers or other soil treatment are to comply with;
 - AS4454:2012 Composts, Soil Conditioners & Mulches
 - AS4419:2003 Soils for Landscaping & Garden Used Veterinary Chemicals (NSW) Act 1994
- Detailed records of all maintenance procedures
- Pesticides are to be registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA) under the agricultural and Veterinary Chemicals (NSW) Act 1994
- Detailed records of all maintenance procedures are to be kept (including activity, date and findings) and to be logged in onsite maintenance manual

1.2 DEFINITIONS

Landscape Works

Planning, design and implementation of all hardscape and softscape treatment to the surface of the land in all areas external to the building envelopes. This may include both public and private open space areas and road reserve areas for the purposes of amenity and function.

Softscape

Softworks includes all areas where topsoil is disturbed and resurfaced with growing media such as topsoil, grass, mulching, hydromulching, seeding, all new planting and rehabilitation works including incorporation of existing vegetation. Maintenance activities includes but is not limited to pruning, mowing, weeding, pest control and irrigation.

Hardworks

Hardworks includes all landscape elements not categorised as softworks. This includes but is not limited to all external hard surfaces, walls, edges, fixed furniture and similar landscape structures.

Establishment Period

The period of time after completion of construction that the Contractor is responsible for:

- providing intensive monitoring and support to stimulate healthy growth and ensure plants fully establish
- maintaining the softworks to ensure plants are healthy and landscapes are well maintained

This period requires supplementary irrigation as drip irrigation does not provide adequate water coverage for the Plant Establishment Period. Supplementary water is also important to reduce heat stress and root burn during extreme heat events and periods of drought or low rainfall.

Defects Liability Period (DLP)

The period of time after completion of construction that the Contractor is responsible for:

- repairing or rectifying all defects or breakages that appear in the works
- ensuring that all landscape elements are fully functional, free of faults and breakages, and of correct function.
- regularly maintaining the landscape in accordance with this Maintenance Plan and all Landscape Drawings and Specifications

'On' Maintenance

The agreed or required period of time where all maintenance is the responsibility of the builder. This period will commence on the satisfactory completion of the establishment phase.

'Off' Maintenance

The continual period after the completion of the 'on' maintenance phase by the owner, where all maintenance responsibilities are handed to a relevant corporate or management team.

Routine Maintenance

Any maintenance activity seen to need to regularly occur to maintain the intended function and form of all landscape elements.

Reactive Maintenance

Any maintenance activity that needs to occur resulting from the direct result of another unscheduled event occurring such as an accident, graffiti or pest invasion. Reactive maintenance activities require scheduled monitoring.

1.6 TIME FRAMES

Defects Liability Period & Establishment Period ('On Maintenance')

52 weeks

General / Routine Maintenance ('Off' Maintenance)

Ongoing after completion of DLP

2.0 LANDSCAPE REQUIREMENTS

2.1 CONDITIONS OF CONSENT SATISFACTION TABLE

The collective measures required to mitigate the impacts associated with the proposed works are detailed in the table below. These measures have been derived from previous assessments and those detailed in the appended consultants' reports.

Condition Number	Condition	Reference	Satisfied
Condition D20	<p>Prior to the commencement of operation, the Applicant must prepare an Operational Landscape Management Plan to manage the revegetation and landscaping on-site, to the satisfaction of the Certifier. The plan must:</p> <p>(a) describe the ongoing monitoring and maintenance measures to manage revegetation and landscaping; and</p> <p>(b) be consistent with the Applicant's Management and Mitigation Measures at Section 7 in the EIS.</p>	<p><i>L-SP-2 Operational Landscape Management Plan</i> (this document)</p> <p>Refer <i>Mitigation Measures</i> below</p>	
Mitigation Measures			
Ecologically Sustainable Development	<ul style="list-style-type: none"> The detailed design of the development is to incorporate the ESD principles and measures set out in the ESD Report prepared by WSP dated 11 October 2019. 	<p><i>Section 2.2 Cross References and Mitigation Measures - Ecologically Sustainable Development</i> (page 8)</p>	
Built, Aboriginal and Historical Archaeological Heritage	<ul style="list-style-type: none"> The proposed development will be undertaken in accordance with the recommendations of the Heritage Impact Statement prepared by GML provided at Appendix I The proposed development will be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Report prepared by GML provided at Appendix K The proposed development will be undertaken in accordance with the recommendations of the Historical Archaeological Assessment and Testing Report prepared by GML provided at Appendix J 	<p><i>Section 2.2 Cross References and Mitigation Measures - Built, Aboriginal and Historical Archaeological Heritage</i> (page 8)</p>	
Operational Waste Management	<ul style="list-style-type: none"> The operation of the proposed development will be carried out in accordance with the Operational Waste Management Plan prepared by EcCell and provided at Appendix U 	<p><i>Section 2.2 Cross References and Mitigation Measures - Operational Waste Management</i> (page 8)</p>	
Noise and Vibration	<ul style="list-style-type: none"> Construction activities will be undertaken in accordance with the recommendations in Section 5.1 of the Noise and Vibration Assessment prepared by Marshall Day provided at Appendix M 	<p><i>Section 2.2 Cross References and Mitigation Measures - Noise and Vibration</i> (page 8)</p>	
Hazardous Waste and Materials	<ul style="list-style-type: none"> Removal of hazardous materials will be undertaken in accordance with the relevant plans and policies as detailed in Section 5 of the Hazardous Materials Survey prepared by WSP dated 29 January 2019 	<p><i>Section 2.2 Cross References and Mitigation Measures - Hazardous Waste and Materials</i> (page 8)</p>	
Tree Protection Measures	<ul style="list-style-type: none"> Tree protection measures will be incorporated as per the recommendations of the Arboricultural Assessment provided by Wade Ryan Consulting provided at Appendix X 	<p><i>Section 2.2 Cross References and Mitigation Measures - Tree Protection Measures</i> (page 8)</p>	
Stormwater and Flooding	<ul style="list-style-type: none"> Finished floor levels will be raised above ground level or strip drains provided on the upslope to control localised overland flooding as advised by Northrop 	<p><i>Section 2.2 Cross References and Mitigation Measures - Stormwater and Flooding</i> (page 8)</p>	

2.2 CROSS REFERENCES AND MITIGATION MEASURES

This *Operational Landscape Management Plan* adheres to Australian Standards and the Management and Mitigation Measures in the EIS. In addition to the maintenance tasks outlined in this plan, operational management must adhere to the below:

ACCESSIBILITY

Maintain the Accessibility routes ensuring they are even and smooth riding, free of trip hazards, and with stable compacted garden beds 600mm either side of the paths in accordance with *AS1428.1 Design for access and mobility*. Inspect and repair handrails immediately if damaged. Replace Tactile Ground Surface Indicators (TGSIs) like for like.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Maintain the ESD principles of the design by regular maintenance checks of the quadrangle swale and associated stormwater pits and systems. Keep the swale, stormwater lids and lines clear of rubbish and debris. Additional inspections will be required after heavy rainfall and storm events.

BUILT, ABORIGINAL AND HISTORICAL ARCHAEOLOGICAL HERITAGE

If unexpected finds are found, including historic, colonial and aboriginal artefacts, follow the recommendations of:

- the *Aboriginal Cultural Heritage Report* prepared by GML.
- the *Historical Archaeological Assessment and Testing Report* prepared by GML
- the *Heritage Impact Statement*

OPERATIONAL WASTE MANAGEMENT

Operational waste management is to adhere to the *Operational Waste Management Plan* prepared by EcCell.

NOISE AND VIBRATION

Post construction activities are to comply with the recommendations in Section 5.1 of the *Noise and Vibration Assessment* prepared by Marshall Day provided at Appendix M. Operational activities are to comply with Hilltops Council regulations.

HAZARDOUS WASTE AND MATERIALS MANAGEMENT

All hazardous waste and materials are to be removed in accordance with the relevant plans and policies as detailed in Section 5 of the Hazardous Materials Survey prepared by WSP dated 29 January 2019. Post construction, hazardous waste, including chemical cleaners, pesticides and fertilisers must be disposed off-site to a licenced waste facility with the appropriate inspection and classifications being undertaken. Non chemical and organic plant based treatments are to be preferred over chemical products.

TREE PROTECTION MEASURES

When working within Tree Protection Zones (TPZs), comply with Tree Protection Measures outlined in the *Arboricultural Assessment* prepared by Wade Consulting.

STORMWATER AND FLOODING

Regularly check all stormwater pits and grated trench drains (including those at doorways), to ensure the designed stormwater system is fully functional. Keep all drains, lids and stormwater lids and lines clear of rubbish and debris. Additional inspections will be required after heavy rainfall and storm events.

2.0 LANDSCAPE REQUIREMENTS

2.3 GENERAL REQUIREMENTS

IMPORTED MATERIAL

TESTS

- Soil tests are to be carried out for all imported soil and materials, and is used ensure suitability of material for construction.
- Soil testing to include soil pH test to determine the suitability of the imported soil to the desired plant palette.
- Where required, existing soils may be ameliorated according to soil test certificates prior to use on site. Testing and screening shall be as recommended in:
 - AS 4419:2003 – Soils for landscaping and garden use
 - AS 1289 – Method of testing soils for engineering methods
 - Soil Chemical Methods – Australasia (Australian Soil and Land Survey Handbooks Series) by George E. Rayment and David J. Lyons (this book supersedes and updates the soil chemical testing section of the 1992 Australian Laboratory Handbook of Soil and Water Chemical Methods by Rayment and Higginson).

IMPORTED SOIL ANALYSIS

- Where required, a bioassay of the imported topsoil and the completed media (topsoil mix) detailing the nutrient levels, pH and biological properties for each landscape bed is to be provided to the Superintendent.
- All analysis is to be carried out by a National Association of Testing Authorities (NATA) approved laboratory capable of carrying out the complete schedule of soil test parameters.
- A Certified Practising Soil Scientist (CPSS) member and/or a soil scientist who is eligible for membership with the Australian Soil Scientist Society (ASSS) is to assess the interpretation of the planting media tests.

SAMPLES

- Representative samples of each topsoil material are to be submitted to the Superintendent, packed so as to prevent cross contamination and labelled to indicate source and content.
- In the case of bulk material, 2kg samples of backfill/topsoil are to be supplied to Superintendent for approval, five (5) working days prior to delivery.
- Contractor is to arrange an inspection of the plants with Superintendent at point of supply and prior to arrival of plants on site, or provide digital photos for the approval of the Superintendent as agreed.

SUBMISSIONS

- The contractor must submit written statements from suppliers of plants and other material detailing the following information:
- Particulars of the suppliers experience in the required type of work

2.0 LANDSCAPE REQUIREMENTS

- Topsoil certification as per AS 4419:2003 Soils for Landscaping and Garden Use.
- Product Warranty: Seven (7) working days prior to the installation of plants, the Contractor is to submit a written statement from the suppliers certifying that plants are true to the required species and type, and are free from diseases, pests and weeds.
- Pesticides are to be registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA) under the Agricultural and Veterinary Chemicals (Queensland) Act 1994.
- Name of the licensed commercial operator carrying out or supervising the distribution of chemicals, as required by the Agricultural Chemicals Distribution Control Act 1966 (ACDC act) and the Agricultural Chemicals Distribution Control Regulation 1998 (ACDC regulation).
- Detailed records of each spraying operation authorised under current regulations
- Contractor to submit written production capacity for plant materials of the specified type, sizes and quantity.
- Contractor to submit written lead times for delivery of the material to the site.

SITE PROTECTION

- In the event that other civil, electrical or hard landscape works are programmed for construction after the placement of plants, trees or mulch or during the landscape maintenance period, the Contractor is to protect soft landscaping works from damage using barricades and best practice techniques.

SAFETY DATA SHEETS (SDS)

A Safety Data Sheet (SDS), previously called a Material Safety Data Sheet, is a document containing important information about a hazardous chemical which may be identified as both a hazardous substance and/or dangerous good. The SDS provides health and safety representatives, employers, self-employed persons and workers with the necessary information to safely manage the risk from hazardous substance exposure.

The following is required;

- A current SDS be readily available in paper form for all substances that may be transported on a work vehicle and at sites where work is to be undertaken.
- The Contractor and/or Contractor's staff engaged in the handling or use of chemicals have thoroughly read the product label and have ready access to a SDS for each chemical being used.
- The relevant SDS and product labels are to be onsite whenever chemicals are being used.

2.4 GARDENS

PREPARATION

- Where required, break up soil to a minimum depth of 300mm.
- Minimum 400mm friable topsoil depth, determinant upon existing soil substrate depth.
- In situations where tubestock are to be installed, minimum friable topsoil depth is to be 200mm.
- Decompact and cultivate subgrade to a further depth of 150mm.
- Shape sub-soil to fall naturally to low points or to sub-soil drains where applicable.
- Remove any spoil and deleterious material off-site.
- Remove weeds, roots, boulders, rubbish and other debris.
- Garden beds are to be flush with top of adjoining hard surfaces, after mulch has settled.
- Where possible and to the approval of the Superintendent, mulch vegetative spoil on site and use on site.
- Maximum pot size for plants within the TPZ of retained trees to be no bigger than tube stock (max 75mm) to minimise root damage during installation.

CULTIVATION

- Cultivation is to comply with AS 4419:2003 Soils for Landscaping and Garden Use.
- Soil amelioration may be needed depending on the requirements for pH and soil salinity tolerance for desired planting palette. Superintendent is to advise of amelioration requirements in accordance with plant species and/or soil test results.
- Thoroughly mix in soil additive materials as required.
- Cultivate manually within 300mm of existing paths or structures.
- Cultivate manually within the TPZ of existing trees, under the supervision of Project Arborist.
- Remove stones exceeding 25mm.
- Break up or remove clods of earth exceeding 50mm.
- Remove weeds, rubbish and other deleterious material brought to the surface during cultivation.
- Trim the surface to design levels after cultivation.
- Once cultivated, no vehicle compaction is to be applied. Light compaction under foot traffic is acceptable.

ADDITIVES

- Apply required additives according to AS 4419:2003 Soils for landscaping and garden use. Ensure compliance with the relevant test criteria, soil test certificate and the recommendations of the Superintendent following soil analysis.
- The topsoil in garden beds and tree pits is to be improved with additives to the manufacturer's application instructions, rates and safety procedures in accordance with this specification.
- Composts and soil conditioners are to comply with AS 4454 – 2012 Composts, Soil Conditioners and Mulches.

2.5 TOPSOIL

PREPARATION

- Topsoil or organic soil mix is to conform to AS 4419:2003 Soils for Landscaping and Garden Use.
- Unless otherwise specified, and depending on existing soil substrate, depth of topsoil is to be minimum of 300mm.
- Organic matter range is to be:
 - 15 – 25% for garden beds
- Nutritional, structural and textural ameliorants are to be added as specified.

BIOLOGICAL PROPERTIES

- Components to be evenly distributed throughout the mix.
- Free of acrid odours (such as those caused by excessive ammonia or organic acid).
- Free of sharp items and chemical components deemed dangerous to the health and safety of humans (sewage sludge, glass, etc.).
- Topsoil to be free flowing and to be of such moisture content that water cannot be squeezed from it by hand.
- Topsoil supplied to the site is to be consistent with samples provided.
- Free of weeds including seed and propagable materials e.g. Nut grass (*Cyperus rotundus*) tubers.
- Free of pests and diseases such as pathogenic organisms e.g. *Phytophthora* spp. and the larval stages of insect pests.
- Free of chemical contaminants.

MANAGEMENT OF SITE & IMPORTED PLANTING MEDIA

- Planting media stockpile sites are to be approved by Superintendent, as required.
- Imported planting media is not to be stored for more than one (1) week on site without prior approval by Superintendent.
- If stockpiling of topsoil media is required for more than one (1) week, it is to be stockpiled in a way that ensures biological and structural properties do not degrade.
- If stockpiles are to be in place for more than three months, they are to be sown with a seasonally appropriate annual cover crop.
- Stockpiles of planting media are to abide by the following:
 - located minimum 5m from concentrated water flows, including waterways, drainage lines and roadways
 - outside of TPZ of retained trees
 - located away from overland flow paths and other environmentally sensitive areas
 - are to be left with roughened edges to promote air and water infiltration
 - records are to be kept of location and soil type
 - limited to a height of 3m and a base of 5m, but may be flat topped
 - protected upslope by diversion drains

2.0 LANDSCAPE REQUIREMENTS

- protect against downslope sediment loss using sediment control structures (sediment fencing or approved methods)
- protected from the dumping of waste and encroachment of works
- are to be kept free of weed species to ensure that the properties of materials are not degraded and made unsuitable for use in the landscaping works.

PLACING GROWING MEDIUM

- Spread the growing medium on the prepared sub-soil and grade evenly, making the necessary allowances for light compaction and shaping to the designed surface levels and the placement of mulch.
- Depth is to be 300mm unless otherwise specified, dependent on existing soil substrate.

2.6 SOIL AMELIORANTS & FERTILISERS

GENERAL

- Application of fertiliser is to be suitable for the plant size and in accordance with manufacturer's application instructions, rates and safety procedures.
- Fertiliser to be delivered to site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N: P: K ratio, recommended uses and application rates.
- Fertiliser is not to be applied during adverse weather, temperature or wind conditions.
- For recommended fertiliser types and application rates refer to Table 1 Fertiliser applications and rates – Garden beds
- Soil testing is to be undertaken to determine requirement for fertiliser application.

INSPECTION

- Minimum five working days notice before applying fertiliser to allow the Superintendent to inspect the unopened bags or containers.

COMPLETE ORGANIC (DYNAMIC LIFTER or APPROVED EQUIVALENT)

- In planting beds and individual plantings, fertiliser is to be incorporated into the backfill material in accordance with the fertilising regime and as per planting detail.
- Complete organic fertiliser is to be applied as per manufacturer's application instructions, rates and safety procedures.

SEAWEED CONCENTRATE (SEASOL or EQUIVALENT)

- Seaweed concentrates can be used as:
 - a general tonic for plants.
 - to combat stress.
 - reduce transplant shock.
- Seaweed concentrates are to be applied as per manufacturers application recommendations, rates and safety procedures.

SLOW RELEASE TABLETS (AGRIFORM or EQUIVALENT)

- Where specified, slow release fertiliser tablets are to be applied in accordance with the manufacturer's application instructions, rates and safety procedures.

SOIL CONDITIONER (TERRACOTTEM or EQUIVALENT)

- Where specified, soil conditioners are to be applied in accordance with the manufacturer's application instructions, rates and safety procedures.
- Avoid placing soil conditioners under root ball.

SOIL WETTING AGENTS (SURFACTANT)

- Soil wetting agents are designed to overcome the hydrophobic effect, or water repellence, of certain soils. Wetting agents lower the surface tension of water molecules, enabling water to wet the waxy surface of soil particles and allowing water to move into the soil through the pores.
- During the installation process, soil wetting agents may be used in mass planted areas and the individual planting of trees and shrubs.
- Wetting agents can be used to:
 - reduce watering requirements.
 - improve water penetration into soils.
- Where specified, wetting agents are to be applied in accordance with the manufacturer's application instructions, rates and safety procedures.
- Avoid placing under root ball and spread evenly through topsoil.

WATER STORAGE CRYSTALS

- Water storage crystals are small crystals of polymers that are designed to absorb up to four hundred times their weight in water.
- Water crystals can be used to improve the water holding capacity of soil.
- Water crystals will not change the amount of water a plant uses, but more water may be held for plant use, allowing for longer periods between watering.
- Where specified, wetting agents are to be applied in accordance with the manufacturer's application instructions, rates and safety procedures.
- Avoid placing under root ball and spread evenly through topsoil.

2.0 LANDSCAPE REQUIREMENTS

Table 1. Recommended fertiliser applications – Garden beds

Planting beds			
Location / process		Recommended N : P : K Ratio	Recommended fertiliser (or equivalent)
Native mass plantings		19.1 : 0.0 : 11.9	Nutricote Purple (controlled release)
		17.9 : 0.8 : 7.3	Osmocote Native Gardens
		3.5 : 1.85 : 4.0	Katek Organic Super Growth
Established gardens	Natives and acid loving plants	3.5 : 1.85 : 4.0	Katek Organic Super Growth
	Ornamental shrubs and roses	3.5 : 1.85 : 4.0	Katek Organic Super Growth
Individual tree plantings	Exotics	3.5 : 1.85 : 4.0	Katek Organic Super Growth
	Natives	3.5 : 1.85 : 4.0	Katek Organic Super Growth

2.0 LANDSCAPE REQUIREMENTS

2.7 PLANTS

SUPPLY

- Contractor to arrange for an inspection of the plants prior to delivery to site or provide digital photos for the approval of the Superintendent.
- The Contractor is to supply and install plants as detailed in the 'plant schedule' and 'planting plan'.
- Where possible, supplier is to be located within a 100km radius of Sydney, in order for plant stock to be properly acclimatised to the region.
- Plants grown outside of this region are to be relocated to the area for a minimum of 8 weeks prior to planting in order for the stock to acclimatise.
- Plants to be healthy, vigorous, well established, free from pests and diseases and of good form consistent with the species or variety. Trees must be certified NATSPEC compliant by a qualified Arborist.
- Plant stock is to be true to type.
- Root systems to be healthy with no evidence of root curl, restriction or damage.
- Root bound plants will not be accepted.
- Plants to be hardened off for the prevailing site conditions, not soft or forced, and conditioned to be suitable for planting in the natural climatic conditions of the site.
- Plants to be supplied in weed-free containers of required size.
- Where project delay occurs that may cause containerised plant stock to become overgrown, Contractor is to arrange for the plant supplier to repot the stock on to the next larger size. This only applies when plant stock is under the control of the Contractor. Contractor is to obtain approval from the Superintendent prior to potting on.
- Plants are to be of a consistent height, width, form and maturity when plantings occur in pairs, groups or lines.

DELIVERY AND STORAGE

- Deliver plants to the site daily and plant as soon as practical after delivery.
- When not immediately planted, plants are to be kept well watered and protected.

PLANTING DENSITIES AND SPACINGS

- Appropriate plant spacings are to be provided to avoid establishment problems and plant failure due to over or under embellishment.
- Plant size at maturity is to be considered to ensure minimal or partial overlap of other plantings.
- Considerations are to be taken into account in regards to the species spread and habit, to minimise undesirable issues.
- To ensure long term coverage of planting area, groundcovers are to be appropriately spaced to allow for healthy establishment.
- An over embellishment of plants in a small area forces plants to compete for nutrients, whereby they can struggle to establish.

2.0 LANDSCAPE REQUIREMENTS

INSTALLATION

- The topsoil level of the plant root ball is to be level with the finished surface of the surrounding soil. The natural flare of the trunk should be visible.
- Ensure root ball is moist and plant in its final position, in the centre of the hole and plumb.
- Holes for planting are to be prepared no more than 24 hours before planting.
- Excavate a hole for each plant slightly larger than the root ball (approximately 3 times the root ball size), with sloped sides, to a depth that ensures rootball sits at, or slightly above grade when positioned in the planting hole.
- Break up sides of the hole, particularly in heavy clay soils.
- Thirty minutes prior to planting, 5L of water is to be placed in hole.
- Soak root ball thoroughly before removing from the container.
- Carefully remove plant from the container and inspect rootball with minimal disturbance.
- Gently tease out roots, as required.
- Where girdling or tightly packed roots are present, gently loosen the rootball, teasing and straightening roots out of the mass.
- Remove matted and coiled roots with secateurs.
- Severely girdled roots are to be vertically sliced then pulled away from container.
- Rootball is to be thoroughly watered in the hole before soil is added.
- Back fill with topsoil mixture or site soil as per landscape documents.
- Lightly tamp and lightly water to eliminate air pockets. Do not compact soil surface.
- Ensure top soil level of the plant rootball is level with the finished surface of the surrounding soil.
- Do not mix topsoil with mulch.

WATERING

- Water used for plant establishment and maintenance is to have:
 - a pH between 5.5 – 7.5
 - total soluble salts less than 1000mg/L
 - no phytotoxic substances.

MULCH

- Depth is to be 75mm (100mm max) to ensure continued air flow to roots.
- Mulch is not to be in contact with the plant stem.
- A gap of at least 100mm between trunk and mulch layer is to be maintained to prevent bark decay.
- Form a small bermed dish around plant stems to facilitate flow of water and nutrients to rootball.

2.8 TREES

INSPECTIONS

- The stock must be certified as compliant with AS2303 by the supplying nursery.
- The Contractor is to give the Superintendent minimum five (5) working days notice so that trees may be inspected by the project arborist Arborist at the nurseries premises prior to delivery to site.
- The Contractor is to give the Superintendent two working days notice of tree stock's arrival to site to approve trees and tree locations/orientation prior to installation.

STOCK SELECTION

- All stock is to conform to the stock selection criteria outlined in AS 2303:2015 – Tree Stock for Landscape Use.
- It is recommended that all stock 400L or greater are procured through a growing contract to ensure stock species, quantity, sizes and quality are met.
- All tree stock over 200mm is to be certified NATSPEC compliant by Project Arborist.
- The superintendent may request photographs, joint nursery inspection, or nominate a preferred supplier to undertake assessment of stock in accordance with NATSPEC principles and/or inspection of stock at delivery.
- Compliant tree stock must have a tamper proof tag attached.
- Where possible, trees are to have a minimum 1.2m clear trunk, unless specified otherwise. Clarification is required from Project Arborist and NATSPEC guidelines.
- Trees are to have a well established single leader, unless otherwise specified. May vary depending on species.
- Bifurcated trees with included bark will not be accepted regardless of species, whether excurrent or decurrent in habit.
- Trees are to have an appropriate calliper for bag/pot size.
- Any trees that do not comply with the tabled NATSPEC tree stock selection criteria may be rejected on arrival to site.

PREPARATION

- To allow for greater root penetration into the surrounding soil, preference is the use of a chain trencher, rather than an auger bit, for planting holes. This avoids effectively placing a tree into a 'pot' in the field.
- Tree positions and quantities are to be set out as detailed on the landscape plan, unless directed otherwise by Superintendent.
- Tree planting pits are to be excavated to the depth of the rootball and cultivated to a depth three times the width of the rootball or greater.
- Cultivate subgrade to a depth of 150mm.
- Where possible, tree planting pit is not to be circular in shape as this may encourage girdling of root system.
- Create flared side walls, loosen or rip compacted sides of the hole as necessary to prevent confinement of root growth and ensure porosity.

INSTALLATION

- Trees are to be positioned centrally in planting hole and root crown is placed at ground level or slightly higher to allow for settling
- Trunk flare is to be at the height of the finished hole, or just above.
- Backfill with 50 / 50 mix of existing site soil and friable imported topsoil, if specified.
- Newly planted trees are to be watered with 5L of appropriately diluted Seasol (or equivalent) solution allowing the water to penetrate the planting pit.

MULCH

- Depth is to be 75mm (100mm max) to ensure continued air flow to roots.
- Mulch is not to be in contact with the plant stem.
- A gap of at least 100mm between trunk and mulch layer is to be maintained to prevent bark decay.
- Form a small bermed dish around plant stems to facilitate flow of water and nutrients to rootball.

STAKES AND TIES

- Stakes to be centrally pointed, driven vertically into ground outside of rootball and to be located as per plan view in drawings. Do not pierce the rootball.
- Stakes are to be driven in to a height to ensure lower lateral limbs are not damaged, but not so deep that they can not be removed when required.
- Stakes to be appropriate to the size of stock to be planted.
- Use hardwood or treated softwood timber stakes, free from knots, warps and other deformities that may cause the stake to fail.
- Guying ties are to be hessian, hessian / PVC or soft flexible tree tie, 50mm in width.
- Ties are to be secured loosely to tree in a figure 8 loop to allow flexibility and growth, and fixed to the stake with galvanised flat head nails or staples. Ties are to be loose enough to allow for some movement in high wind periods.
- Height of tie is to be 1/3 to 2/3 from finished ground level.
- Stakes are to be removed after 12 months.

Table 2. Stake Sizes for Plants

Stake sizes for pot sizes	
Pot Size	Stakes
25L	38mm x 38mm x 1800mm (approx. 300mm in ground)
45L	38mm x 38mm x 1800mm (approx. 300mm in ground)
100L	38mm x 38mm x 1800mm (approx. 300mm in ground)
200 / 400L	50mm x 50mm x 2400mm (approx. 300mm in ground)

3.0 MAINTENANCE SPECIFICATIONS

3.1 STANDARDS OF MAINTENANCE

- Maintain whole of landscape works from the date of practical completion of “Landscape Works”
- All work is to be performed in accordance with all applicable laws, ordinances and regulations required by authorities having jurisdiction over such work and are to provide for all inspections and permits required by Federal, State and Local Governments and Authorities in procuring and transporting materials.
- Unless otherwise specified, current relevant Australian Standards are to be observed.
- Ensure site is maintained in a safe, and as far as practicable, clean and tidy condition.
- Airborne dust is to be kept to a minimum.
- Ensure that no spillages or discharges of oil, fuel or other pollutants occur during servicing, refuelling or works operations.
- Driving of vehicles on pavements is to be minimised.
- Parking and driving of vehicles within TPZ is prohibited.
- Unless absolutely necessary to carry out works, the driving of plant and equipment in the following areas is to be avoided:
 - irrigated areas
 - landscaped areas
 - tree root zones
 - infrastructure areas.
- Access to open space areas for specific works is to be coordinated with the Superintendent.

3.2 RECTIFICATION OF DAMAGE

- Contractor is to rectify, at their own expense, any damage to landscaped areas, including compaction and wheel ruts
 - shrubs, plants and trees
 - footpaths
 - medians
 - kerb and channel
 - any other property caused by maintenance operations or the movement of vehicles or plant.
- Uphold a no net loss of vegetation philosophy, and all plants that are damaged beyond rectification (as assessed by Project Arborist) are to be replaced at a minimum ratio of 1:1.
- If a tree is removed in error or damaged beyond the point of rectification, additional replacement trees to offset canopy loss may be required as directed by the owner

3.0 MAINTENANCE SPECIFICATIONS

3.3 GENERAL MAINTENANCE

Throughout the planting establishment period, the Contractor is to carry out all maintenance work including:

- watering
- weeding
- rubbish removal
- fertilising
- pest and disease control
- reseeding
- cultivating
- pruning
- hedge clipping
- aerating
- mulch reinstatement
- renovation

Provide the Superintendent with a report (at monthly intervals) of activities completed.

3.4 WEED CONTROL

- Inspect garden beds and mass planting areas for weeds and rectify as required to prevent seeding, germination and competition.
- Weeds within tree basins are to be removed by hand.
- Retaining mulch levels within tree basins assists in keeping weed growth to a minimum.
- Stream banks, damp exposed areas and other weed prone areas are to have appropriate weed control measures enforced.
- Hand weeding should be part of an integrated approach to weed control, particularly if there is a possible risk to waterways or damaging desirable plant species.
- Avoid herbicide residue leaching into nearby waterways.
- Eradicate weeds using an approved herbicide.
- Adhere strictly to manufacturers application instruction, rates and safety procedures.
- Herbicides are to be applied outside normal operating areas, but not during extreme temperature or high wind periods.
- Watering is to be delayed for the recommended period after application.

3.5 PEST AND DISEASE CONTROL

- Immediate notice is to be given to Superintendent when evidence of significant insect attack or disease amongst plant material is found.
- If pests and diseases are identified, affected portions are to be removed from the plant and disposed of off site.
- Chemical methods are to be secondary control measures where pruning is not successful. Where required, spray with non-toxic organic pesticide, fungicide, or both, at the discretion of the Superintendent / Arborist.
- Approval is to be obtained from Superintendent 5 days prior to the use of pest and disease control chemicals.
- Adhere strictly to manufacturers application instructions, rates and safety procedures.
- Pesticides are to be applied outside normal operating hours.
- Pesticides are not to be applied during extreme temperature, high wind or rain periods.
- Irrigation is to be delayed for the recommended period after application.

3.0 MAINTENANCE SPECIFICATIONS

Table 3. Chemical List

Herbicides		
Application	Active Ingredient	Product (or equivalent)
Non-selective control of annual and perennial weeds	GM Free Plant Oils (Non-Glysohate)	Slasher
Non-selective control of annual and perennial weeds	GM Free Plant Oils (Non-Glysohate)	Slasher
Selective broadleaf weed control in turf and lawns	MCPA / Dicamba – Dimethylamine salt	Kamba M
Selective post-emergence control of Nutgrass and Mullumbimby couch in turf	Halosulfuron – methyl	Sempra
Non-spray, selective control for invasive weeds	Picloram as potassium salt	Vigilant
Insecticides		
Application	Active Ingredient	Product (or equivalent)
Non-toxic, natural caterpillar control	Bacillus thuringiensis (Bt)	Nature's Way Caterpillar Killer – Dipel
Controls caterpillars and other pests on fruit, vegetables and ornamentals	Spinetoram	Yates Success Ultra Insect Control
Low toxicity, organic control for mites, aphids, thrips, mealybugs and whitefly.	Potassium salts of fatty acids	Yates Nature's Way Insect and Mite Killer Natrasoap
Surfactants and Chemical Dyes		
Application	Active Ingredient	Product (or equivalent)
Spray adjuvant – used to minimise drift and to promote wetting, spreading and sticking.	Vegetable oil	Synertrrol Horti Oil
Liquid marking dye – mixed with pesticides to assist in identification of sprayed areas.	Rhodamine B	Marker Dye

3.6 LITTER COLLECTION AND REMOVAL

- Waste from contractor's activities is to be removed from site legally.
- In hardstand areas, vegetative matter is to be removed from around trees and shrubs.
- Mulch spilt from garden areas is to be reinstated
- Sweep/vacuum leaf litter to operator's requirements
- Collection of all hard waste and litter from within the subject site

3.7 WATERING

- Mass planted areas, trees and palms are to be sufficiently watered to maintain adequate soil moisture during the specified maintenance period. This should be achieved using low pressure driplines with adequate volume, and supplementary hose watering and temporary sprinklers during the Establishment Period
- Generally every two to three days in summer.
- Generally every three to four days in winter.
- Allow soil surface to partially dry out between watering.
- Watering shall be increased during periods of wind, drought and/or where soils have low moisture retaining characteristics.
- Rates may be decreased during periods of high rainfall.
- Ensure moisture is maintained in planting media in sufficient quantities to promote plant growth and minimise stress after installation.
- Watering is to be prioritised for early morning or night application to lessen evaporation.
- Water used for plant establishment and maintenance is to have:
 - a pH of between 5.5 – 7.5
 - total soluble salts less than 1000mg/L
 - no phytotoxic substances.

3.0 MAINTENANCE SPECIFICATIONS

Table 4. Minimum Watering Schedule

Establishment Period				
Container	Minimum frequency			
	Week 1–4	Week 5–8	Week 9–12	Week 13-52
Planted areas				
< 25L	10L per plant daily	10L per plant two days a week	10L per plant once a week	10L per plant once a week
≥25L	20L per plant daily	20L per plant two days a week	20L per plant once a week	20L per plant once a week
≥100L	50L per plant daily	50L per plant two days a week	50L per plant once a week	50L per plant once a week, continue until the Project Arborist is satisfied that trees are well established and don't require supplementary watering
Ex-ground	100L per plant daily	100L per plant two days a week	100L per plant once a week	75L per plant once a week, continue until the Project Arborist is satisfied that trees are well established and don't require supplementary watering
Mass plantings (≥2 per m ²)	20L per m ² daily	20L per plant two days a week	20L per plant once a week	20L per plant once a week

3.8 PLANT MAINTENANCE

GENERAL PRUNING

- Prior to pruning activities, plants are to be evaluated for natural growth habit and relationship to total landscape.
- Shrubs and groundcovers are to be pruned to encourage natural plant form.
- Smooth, clean cuts are to be used to encourage fast healing.
- Equipment is to be sharp and sized appropriately for pruning requirements.
- Generally, plants are to be pruned after flowering.
- The combined techniques of thinning out and dead heading are to be used to encourage natural growth habit.
- Remove dead organic matter and diseased plant material.
- Remove branches and foliage overhanging pavements and paths, in line with current standards for road and footpath clearances.
- All vines and creepers are to be pruned to keep clear of all tree trunks and canopies

SPECIFIC PRUNING TECHNIQUES

Shrubs

- Prune where required to maintain sightlines and prevent concealment points adjacent to main circulation paths.
- Prune in a manner that encourages natural form.
- Allow skirt to grow down to ground level.
- Do not prune off bottom growth.

Groundcovers

- Prune to encourage dense coverage.

Vines

- Encourage horizontal spread by removing vertical growth.
- Allow spreading to form a dense mat.
- Trim groundcovers in planter boxes to formalise cascading beyond the planter.
- Prune to keep the height and spread in scale with surrounding planter boxes and remove runners that have a tangled appearance

FERTILISING

- A general purpose fertiliser is to be applied as per the manufacturers application instructions, rates and safety procedures.
- Soils are to be moist.
- Irrigation systems or hand held hoses are to be used to wash excess fertiliser from plants to prevent burning.
- Landscaped areas are to have repeat irrigation the morning following the fertiliser application.

REPLACEMENT

- Where plants fail or die during the 'on maintenance' period, it is the contractors responsibility to replace those plants, as soon as practicable.
- Approval is required by the Superintendent prior to purchasing and planting of replacement plants.
- Replacement plants are to be the same size as described in the contract, plant schedule and/or landscape drawings.

RE-MULCHING

- Replenish mulched areas to maintain a consistent depth of 100mm.
- Mulch used is to match originally specified material.
- Mulch is to be raked to an even surface to the level of the surrounding finish.
- Spread mulch so that after settling it is smooth and evenly graded toward the base of plant stems, forming a shallow dish drain with the aim of preserving soil moisture, providing essential soil nutrients and suppressing weed growth.
- Mulch is not to be closer than 100mm from the plant stem / trunk

3.9 TREE MAINTENANCE

GENERAL PRUNING

- All tree pruning, maintenance, pest and disease control, etc. is to be undertaken under the guidance and supervision of an AQF Level 5 Arborist.
- Prior to commencing any pruning operation, evaluate trees for their natural growth habit and relationship to the total landscape.
- Pruned trees are to be left in a natural form. No hedging to boxes, balls or other shapes.
- Trees are to maintain a shape and character appropriate for the species and the environment.
- Tree pruning may be required to:
 - enhance tree health and structure
 - reduce failure risk
 - meet specified clearance requirements
 - meet traffic visibility requirements
 - improve form
 - encourage growth direction in young trees.
- Pruning is to be undertaken by a qualified Arborist, experienced in the formative pruning of young trees and in a manner that minimises damage to trees, in accordance with AS 4373:2007 – Pruning of Amenity Trees. Key elements of include:
 - no lopping or topping of trees
 - no flush cuts
 - no greater than 25% of tree crown removed

SPECIFIC PRUNING TECHNIQUES

Trees

- Remove lower branches where required to maintain sightlines and prevent concealment points adjacent to main circulation paths.
- remove dead, diseased or damaged limbs.
- remove suckers from the base of tree.
- improve the structure of tree, e.g. pruning to define a leader in a codominant tree.
- formative pruning works are to focus on defining a leading stem or to improve the overall branching framework or structure of a tree.
- care is to be taken not to damage trunk(s).

DAMAGE

- Where damage occurs to trees as a result of the actions of the contractor, the contractor will be held responsible for the repair or replacement of tree stock.

DISPOSAL OF PLANT MATERIAL

- Dead timber, dead trees and large diameter trunks are to be removed from site by the contractor and delivered to green waste dumps.
- Contaminated or infected materials must be addressed in accordance with current NSW Government Plant Quarantine guidelines. This may include quarantining or burial of infected plant material to prevent spread of disease.
- All off-site waste disposal must be to a licenced waste facility with the appropriate inspection and classifications being undertaken.

SOIL AERATION

- Deep aeration of the soil should be conducted to decompact tree root zones, where required.
- Equipment that uses compressed air to fracture the soil is to be utilised for decompaction work e.g. Air spade or equivalent.

FERTILISING

Large trees:

- Core 50mm holes around the drip line perimeter 500mm apart and 500mm deep.
- Backfill holes with a mixture of 50% soil and 50% Dynamic Lifter (or equivalent) granular form.
- Use a liquid soil injection system at the same spacing around the dripline, as described above.

Smaller, young trees:

- Surface fertiliser with Dynamic Lifter (or equivalent) and cultivate lightly into the ground surface.

RE-MULCHING

- Replenish mulched areas to maintain a consistent depth of 75mm.
- Mulch used is to match originally specified material.
- Mulch is to be raked to an even surface to the level of the surrounding finish.
- Spread mulch so that after settling it is smooth and evenly graded toward the base of plant stems, forming a shallow dish drain with the aim of preserving soil moisture, providing essential soil nutrients and suppressing weed growth.
- Mulch is not to be closer than 100mm from the plant stem / trunk

REPLACEMENT

- Replacement trees are to be the same size and type as described in the contract

4.1 GENERAL REQUIREMENTS

Routine maintenance is to be undertaken by qualified personnel holding relevant certificates in horticulture. Site visits are to be undertaken on a weekly basis for the initial period of 12 weeks post practical completion. Inspections after this period will depend on the seasons and general maintenance requirements of the site. Below is a brief summary of the observations and actions that are to be carried out during each visit. Refer to Section 5.0 for more detailed Site Inspection Activities.

4.2 MAINTENANCE ACCESS

- Maintenance access to all gardens is on-grade with no access restrictions or constraints other than security fences and gates.
- All site maintenance visitors must report to the security reception to sign in and follow all process and protocols of the building management.

4.3 OBSERVATIONS

- Comment on plant performance, make note of each species in reference to their appearance since last visit.
- Look for damage resulting from pests or disease on each species
- Check growth rate and performance
- Check soil moisture level
- Check irrigation for damage, leaks, and blockages

4.4 ACTIONS

- Check and adjust as appropriate pH or nutrient levels of the soil
- Treat for pests and disease as necessary
- Remove irrigation filter and clean
- Adjust irrigation rates according to season and external factors
- Rectify any faults in irrigation lines
- Check for dead or unhealthy foliage and remove using appropriate methods to avoid risk of infection to plants
- Prune any plants that are growing too far from intended cable system
- Remove weeds

4.5 RECORDING

- Date / time of inspection
- Observations of plant performance
- Current irrigation schedule and adjustments
- Document pictures
- Additions of nutrients etc
- Pest or disease presence and treatment

5.0 SITE INSPECTIONS AND ACTIVITIES

'ON' MAINTENANCE ACTIVITY SCHEDULE

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
GENERAL						
Logbook	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Complete a logbook entry of site inspections and maintenance work every day at site and at least every two weeks. All actions listed below require a logbook entry. Include details of any chemicals used. Make the log book available for inspection on request. Submit copies of new entries in the logbook to the Contract Administrator on a monthly basis.
TREES & PLANTS						
Replace failed trees and plants	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and replace failed, damaged or stolen plants within 2 weeks of observation. Match species, original size and location of new with old.
Weeding	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove weeds and dispose off site legally
Stakes and Ties	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and adjust and/or replace as necessary but remove as plants mature and are able to support themselves.
Pruning	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and prune to remove dead wood, improve plant shape and promote healthy vigorous new growth. Remove spent flowers and dead stalks as they become apparent.
Remove overgrown vegetation	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and remove overgrown vegetation including that growing on paths and hardscapes
Remove Leaf Litter	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove leaf litter as necessary
Additional planting to bare areas	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Replant bare areas using only groundcover species from the original planting plan
Treatment for disease or pest attack	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and action as necessary. Use pesticides only if non-chemical methods will not be effective. Spray for disease control only when absolutely necessary.
Tree Surgery	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and action dead, diseased or weak branches by qualified Arborist
Fertilising generally				<input type="checkbox"/>		Fertilise gardens every 3 months or other frequency in accordance with fertiliser manufacturer's directions.
Fertilising for specific nutrient deficiencies				<input type="checkbox"/>		Fertilise to address specific nutrient deficiencies by qualified Horticulturalist
SOILS & MULCHES						
Top up slumping or eroded soils	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and repair ground, soil and mulch immediately. Maintain erosion control device as necessary.
Weeding	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove all weeds and dispose off site legally
Remulching bare areas	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and replace mulch deficiencies within 2 weeks of observation.
Top-up Mulch				<input type="checkbox"/>		Prior to placing new mulch aerate the soil by fork turning to a depth of at least 100mm, roughly level the soil and then place mulch. Do not disturb major plant roots while aerating soil.
Soilworks					<input type="checkbox"/>	Check soil depths for slumping and top up to design levels using original specified soils

'ON' MAINTENANCE ACTIVITY SCHEDULE (CONT.)

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
TURF						
Mowing and edging	☐ Summer		☐ Winter			Mow all turf and clip all edges. Ensure whipper snippers do not touch trunks and stems of plants.
Weeding	☐ Summer	☐ Winter				Remove weeds and dispose off site legally
Top Dressing					☐	Top-dress with a sandy loam to level uneven turf. Do not completely cover the lawn with sand. Level and water sand into the gaps. Maintain regular water for 2 weeks after top dressing.
Returfing & reseedling					☐	Returf worn, dead or dying turf throughout the maintenance period. Maintain regular water for 2 weeks after returfing.
Treatment for disease or pest attack	☐ Summer	☐ Winter				Inspect and action as necessary. Use pesticides only if non-chemical methods will not be effective. Spray for disease control only when absolutely necessary.
IRRIGATION & DRAINAGE						
Inspect irrigation system	☐ Summer	☐ Winter				Inspect and adjust the irrigation system to suit plant requirements, seasonal changes and prolonged periods of dry and windy weather. Inspect and adjust the irrigation system to suit plant growth and both macro and micro climatic conditions as they change post Plant Establishment. Adjust to suit shade created by canopy trees, leaf growth which may be blocking sprayers, and general watering requirements of the plants as they grow
Hand Watering	☐ Summer					Supplement irrigation with handwatering during the establishment period. Watering will be dependant on plant requirements, seasonal changes and prolonged periods of dry and windy weather. Adjust as required for optimal plant growth. Do not allow soil and plants to dehydrate. Water in the early morning or late afternoon to avoid excessive evaporation during the heat of the day. Comply with authority regulations for water use where applicable.
Inspect and clear drains		☐ Winter				Inspect clear drains immediately. Additional inspections are required after heavy rainfall.
HARDWORKS						
Remove spills and stains to paving and walls	☐ Summer					Inspect pavements and walls weekly and action as required
Repair dips, hollwos and upright to paving	☐ Summer					Inspect pavements weekly and action as required
Replace cracked paving	☐					Inspect pavements weekly and action as required
Remove and treat weeds	☐					Inspect pavements weekly and action as required
Clean walls and pathways						Hi pressure clean pavements and walls annually or as required

'ON' MAINTENANCE ACTIVITY SCHEDULE (CONT.)

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
FURNITURE & MISC.						
Repair and clean benches and seats	<input type="checkbox"/>					Inspect benches and seats weekly and action as required
Repair loose tree pits and fixings	<input type="checkbox"/>					Inspect tree pits weekly and action as required
Repair and clean drinking fountains	<input type="checkbox"/>					Inspect drinking fountains weekly and action as required
Replace or rectify damaged bollards	<input type="checkbox"/>					Inspect bollards weekly and action as required
Repair damaged or missing fencing	<input type="checkbox"/>					Inspect fencing weekly and action as required
Replace blown light lamps and damaged diffusers						Action as required
CLEAN SITE						
Remove general rubbish and litter from site	<input type="checkbox"/>					Dispose of rubbish and litter off site legally
Remove leaf litter from path and paved areas	<input type="checkbox"/>					Inspect paths and paved areas weekly and action as required
Remove trade waste	<input type="checkbox"/>					Dispose of all waste off site legally
Remove Graffiti	<input type="checkbox"/>					Inspect site for graffiti. Photograph and report graffiti to Authorities Remove graffiti using graffiti removal methods appropriate to the substrate. Reinstate any sealers where required.
Repair or replace vandalised assets	<input type="checkbox"/>					Inspect site for vandalism. Photograph and report vandalism to Authorities. Repair or replace assets to original condition.
OTHER						
Urgent Works						As required. Complete immediately and within 24hrs of notification

IRRIGATION SYSTEM MINIMUM REQUIREMENTS

IRRIGATION	SUMMER	WINTER	ACTION
WEEKS 1-12 AFTER PC			
Plants	4x per week 20mins each run at 5am	3x per week 20mins each run at 5am	Inspect irrigation system weekly at a minimum and adjust to suit zoning and plant requirements, seasonal changes and prolonged periods of wet or dry and windy weather.
Turf	3x per week 20mins each run at 5am	3x per week 20mins each run at 5am	Inspect irrigation system weekly at a minimum and adjust to suit zoning and plant requirements, seasonal changes and prolonged periods of wet or dry and windy weather.
AFTER 12 WEEKS FROM PC			
Plants	3x per week 20mins each run at 5am	3x per week 20mins each run at 5am	Inspect irrigation system weekly at a minimum and adjust to suit zoning and plant requirements, seasonal changes and prolonged periods of wet or dry and windy weather.
Turf	3x per week 20mins each run at 5am	2x per week 20mins each run at 5am	Inspect irrigation system weekly at a minimum and adjust to suit zoning and plant requirements, seasonal changes and prolonged periods of wet or dry and windy weather.

'OFF' MAINTENANCE ACTIVITY SCHEDULE

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
GENERAL						
Logbook	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Complete a logbook entry of site inspections and maintenance work every day at site and at least every two weeks. All actions listed below require a logbook entry. Include details of any chemicals used. Make the log book available for inspection on request. Submit copies of new entries in the logbook to the Contract Administrator on a monthly basis.
TREES & PLANTS						
Replace failed trees and plants	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and replace failed, damaged or stolen plants within 2 weeks of observation. Match species, original size and location of new with old.
Weeding	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove weeds and dispose off site legally
Stakes and Ties	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and adjust and/or replace as necessary but remove as plants mature and are able to support themselves.
Pruning	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and prune to remove dead wood, improve plant shape and promote healthy vigorous new growth. Remove spent flowers and dead stalks as they become apparent.
Remove overgrown vegetation	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and remove overgrown vegetation including that growing on paths and hardscapes
Remove Leaf Litter	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove leaf litter as necessary
Additional planting to bare areas	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Replant bare areas using only groundcover species from the original planting plan
Treatment for disease or pest attack	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and action as necessary. Use pesticides only if non-chemical methods will not be effective. Spray for disease control only when absolutely necessary.
Tree Surgery	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and action dead, diseased or weak branches by qualified Arborist
Fertilising generally				<input type="checkbox"/>		Fertilise gardens every 3 months or other frequency in accordance with fertiliser manufacturer's directions.
Fertilising for specific nutrient deficiencies				<input type="checkbox"/>		Fertilise to address specific nutrient deficiencies by qualified Horticulturalist
SOILS & MULCHES						
Top up slumping or eroded soils	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and repair ground, soil and mulch immediately. Maintain erosion control device as necessary.
Weeding	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove all weeds and dispose off site legally
Remulching bare areas	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and replace mulch deficiencies within 2 weeks of observation.
Top-up Mulch				<input type="checkbox"/>		Prior to placing new mulch aerate the soil by fork turning to a depth of at least 100mm, roughly level the soil and then place mulch. Do not disturb major plant roots while aerating soil.

'OFF' MAINTENANCE ACTIVITY SCHEDULE (CONT.)

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
Soilworks					<input type="checkbox"/>	Check soil depths for slumping and top up to design levels using original specified soils
TURF						
Mowing and edging	<input type="checkbox"/> Summer		<input type="checkbox"/> Winter			Mow all turf and clip all edges. Ensure whipper snippers do not touch trunks and stems of plants.
Weeding	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Remove weeds and dispose off site legally
Top Dressing					<input type="checkbox"/>	Top-dress with a sandy loam to level uneven turf. Do not completely cover the lawn with sand. Level and water sand into the gaps. Maintain regular water for 2 weeks after top dressing.
Returfing & reseeded					<input type="checkbox"/>	Returf worn, dead or dying turf throughout the maintenance period. Maintain regular water for 2 weeks after returfing.
Treatment for disease or pest attack	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and action as necessary. Use pesticides only if non-chemical methods will not be effective. Spray for disease control only when absolutely necessary.
IRRIGATION & DRAINAGE						
Inspect irrigation system	<input type="checkbox"/> Summer	<input type="checkbox"/> Winter				Inspect and adjust the irrigation system to suit plant requirements, seasonal changes and prolonged periods of dry and windy weather. Inspect and adjust the irrigation system to suit plant growth and both macro and micro climatic conditions as they change post Plant Establishment. Adjust to suit shade created by canopy trees, leaf growth which may be blocking sprayers, and general watering requirements of the plants as they grow
Hand Watering	As required					Hand watering will be dependant on a correctly functioning irrigation system, plant requirements, seasonal changes and prolonged periods of dry and windy weather. Hand water as required for optimal plant growth. Do not allow soil and plants to dehydrate. Water in the early morning or late afternoon to avoid excessive evaporation during the heat of the day. Comply with authority regulations for water use where applicable.
Inspect and clear drains		<input type="checkbox"/>				Inspect clear drains immediately. Additional inspections are required after heavy rainfall.
HARDWORKS						
Remove spills and stains to paving and walls	<input type="checkbox"/>					Inspect pavements and walls weekly and action as required
Repair dips, hollows and uplift to paving	<input type="checkbox"/>					Inspect pavements weekly and action as required
Replace cracked paving	<input type="checkbox"/>					Inspect pavements weekly and action as required
Remove and treat weeds	<input type="checkbox"/>					Inspect pavements weekly and action as required
Clean walls and pathways						Hi pressure clean pavements and walls annually or as required

'OFF' MAINTENANCE ACTIVITY SCHEDULE (CONT.)

ACTIVITY	WEEKLY	FORTNIGHTLY	MONTHLY	3 MONTHS	6 MONTHS	ACTION
FURNITURE & MISC.						
Repair and clean benches and seats	<input type="checkbox"/>					Inspect benches and seats weekly and action as required
Repair loose tree pits and fixings	<input type="checkbox"/>					Inspect tree pits weekly and action as required
Repair and clean drinking fountains	<input type="checkbox"/>					Inspect drinking fountains weekly and action as required
Replace or rectify damaged bollards	<input type="checkbox"/>					Inspect bollards weekly and action as required
Repair damaged or missing fencing	<input type="checkbox"/>					Inspect fencing weekly and action as required
Replace blown light lamps and damaged diffusers						Action as required
CLEAN SITE						
Remove general rubbish and litter from site	<input type="checkbox"/>					Dispose of rubbish and litter off site legally
Remove leaf litter from path and paved areas	<input type="checkbox"/>					Inspect paths and paved areas weekly and action as required
Remove trade waste	<input type="checkbox"/>					Dispose of all waste off site legally
Remove Graffiti	<input type="checkbox"/>					Inspect site for graffiti. Photograph and report graffiti to Authorities Remove graffiti using graffiti removal methods appropriate to the substrate. Reinstate any sealers where required.
Repair or replace vandalised assets	<input type="checkbox"/>					Inspect site for vandalism. Photograph and report vandalism to Authorities. Repair or replace assets to original condition.
OTHER						
Urgent Works						As required. Complete immediately and within 24hrs of notification

IRRIGATION SYSTEM MINIMUM REQUIREMENTS

IRRIGATION	SUMMER	WINTER	ACTION
Plants	3x per week 20mins each run at 5am	3x per week 20mins each run at 5am	
Turf	3x per week 20mins each run at 5am	2x per week 20mins each run at 5am	Inspection irrigation system weekly at a minimum and adjust to suit zoning and plant requirements, seasonal changes and prolonged periods of wet or dry and windy weather

6.0 APPENDIX: SITE INSPECTION REPORTS

LOCATION:

DESCRIPTION:

LANDSCAPE INSPECTION DETAILS

Site Visit Date:

Site Visit By:

Weather:

PURPOSE OF SITE VISIT

Weekly Inspection Monthly Inspection 2 Monthly Inspection 6 Monthly Inspection Urgent Works

TREES & PLANTS	Frequency (Summer/Winter)	Comments/Actions
Replace failed trees & plants	Weekly/Fortnightly	
Weeding	Weekly/Fortnightly	
Adjust stakes and ties	Weekly/Fortnightly	
Pruning	Weekly/Fortnightly	
Remove overgrown vegetation	Weekly/Fortnightly	
Remove leaf litter	Weekly/Fortnightly	
Additional planting to bare areas	As Required	
Treat for disease or pest attack	As Required	
Tree surgery	As Required	
Fertilising generally	3 Monthly	
Fertilising for specific nutrient deficiencies	As Required	
SOILS & MULCHES		
Top up slumping or eroded soils	Weekly/Fortnightly	
Weeding	Weekly/Fortnightly	
Remulch bare areas	Weekly/Fortnightly	
Top up mulch	6 monthly	
TURF		
Mowing and Edging	Weekly/Monthly	
Weeding	Weekly/Monthly	
Topdressing	6 Monthly	
Returfing and reseeded	6 Monthly	
Treat for disease or pest attack	As Required	
IRRIGATION & DRAINAGE		
Irrigation	Weekly	Refer Irrigation Inspection Report
Handwatering	Plant Establishment	
Inspect and clear drains	Fortnightly	
HARDWORKS		
Remove spills and stains to paving and walls	Inspect Weekly	
Repair dips, hollows and uplift to paving.	Inspect Weekly	
Replace cracked paving	Inspect Weekly	
Remove and treat weeds	Inspect Weekly	
Wash walls and pathways	Annually as required	
FURNITURE & MISCELLANEOUS		
Repair and clean benches and seats	Inspect Weekly	
Repair loose tree pits and fixings	Inspect Weekly	
Repair and clean drinking fountains	Inspect Weekly	
Replace or rectify damaged bollards	Inspect Weekly	
Repair damaged or missing fencing	Inspect Weekly	

LOCATION:

DESCRIPTION:

LANDSCAPE INSPECTION DETAILS

Site Visit Date:

Site Visit By:

Weather:

PURPOSE OF SITE VISIT

Weekly Inspection Monthly Inspection 2 Monthly Inspection 6 Monthly Inspection Urgent Works

TREES & PLANTS	Frequency (Summer/Winter)	Comments/Actions
Replace failed trees & plants	Weekly/Fortnightly	
Weeding	Weekly/Fortnightly	
Adjust stakes and ties	Weekly/Fortnightly	
Pruning	Weekly/Fortnightly	
Remove overgrown vegetation	Weekly/Fortnightly	
Remove leaf litter	Weekly/Fortnightly	
Additional planting to bare areas	As Required	
Treat for disease or pest attack	As Required	
Tree surgery	As Required	
Fertilising generally	3 Monthly	
Fertilising for specific nutrient deficiencies	As Required	
SOILS & MULCHES		
Top up slumping or eroded soils	Weekly/Fortnightly	
Weeding	Weekly/Fortnightly	
Remulch bare areas	Weekly/Fortnightly	
Top up mulch	6 monthly	
TURF		
Mowing and Edging	Weekly/Monthly	
Weeding	Weekly/Monthly	
Topdressing	6 Monthly	
Returfing and reseeded	6 Monthly	
Treat for disease or pest attack	As Required	
IRRIGATION & DRAINAGE		
Irrigation	Weekly	Refer Irrigation Inspection Report
Handwatering	Plant Establishment	
Inspect and clear drains	Fortnightly	
HARDWORKS		
Remove spills and stains to paving and walls	Inspect Weekly	
Repair dips, hollows and uplift to paving.	Inspect Weekly	
Replace cracked paving	Inspect Weekly	
Remove and treat weeds	Inspect Weekly	
Wash walls and pathways	Annually as required	
FURNITURE & MISCELLANEOUS		
Repair and clean benches and seats	Inspect Weekly	
Repair loose tree pits and fixings	Inspect Weekly	



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