

Planting Implementation, Establishment & Maintenance Specification for Revegetation Landscaping Works

24/04/2025

Delmore, Upper Orewa Rd, Ōrewa, Auckland

SCOPE OF WORKS

1. PLANT INSTALLATION
2. MULCHING OF NEW LANDSCAPED AREAS
3. PLANT ESTABLISHMENT PERIOD
4. PLANTING DETAILS
5. PEST PLANT AND ANIMAL MANAGEMENT STRATEGY
6. MAINTENANCE SCHEDULE

This specification document covers the required implementation, establishment and maintenance strategies for the landscaping works collectively referred to as revegetation planting in the land surrounding the proposed housing development and associated roading at Delmore, Ōrewa. The areas where the works are proposed comprise of man-made stormwater wetlands, existing natural streams, wetlands and riparian margins and sloping land to be restored to native forest. The design information for the works is specified in the **Fast Track Application Landscape Plan Package** produced by Greenwood Associates Landscape Architecture Ltd for Vineway Ltd. Specifically plans labeled **Revegetation Plan 1-3** sheet numbers **2180/07, 2180/08** and **2180/09** dated **24/04/2025**. Refer to the aforementioned plan package for specification of all species, container sizes, spacing, setout, quantity and installation details. Reference in all cases within this document to the 'Contractor' is reference to the business entity engaged by signed contract to carry out the scope of works outlined within this document.

1. PLANT INSTALLATION

1A – SITE PREPARATION:

The Contractor is required to prepare the site for plant installation unless otherwise

agreed upon. The Contractor is to ensure all planting areas are weed free before planting and must undertake all necessary spraying a minimum of 1 week prior to the commencement of planting. Use only non-residual sprays to remove weed species and vegetation prior to planting.

If all garden areas designated for planting are not backfilled with growing medium to desired level the contractor is to supply appropriate growing medium and fertilizer to ensure the best chances of plant survival. The Contractor is to ensure garden areas designated for planting are free of any rubbish or foreign matter.

1B – PLANT SUPPLY:

All tree and plant species are to be supplied by the Contractor unless otherwise agreed upon and shall be nursery stock, true to name and type. Roots shall not be left exposed. Plants that have been eco sourced from nurseries near the final planting location are preferred when possible.

All aspects of the species supplied shall meet the following requirements where applicable:

Crown

All trees and plants supplied shall:

- Show no mineral deficiencies or chemical or frost damage.
- Be free of pests and diseases.
- Have good vigor and vitality and form.
- Have a crown/root ratio of reasonable proportions.
- Be hardened off thereby ensuring immediate establishment upon planting.
- Have a sound structure.

Roots

Roots are important to a tree or plant's establishment and continued growth. To ensure the optimum opportunity for survival all trees and plants shall:

- Be free of decay.
- Be weed free.
- Have no damaged roots (pruning shall be carried in accordance with accepted horticultural standards).
- Have a two-month supply of nutrients.
- Have reasonable moisture content.
- Be conducive to a successful transplant.
- Have a root/crown ratio of reasonable proportions.
- Have a solid root ball with roots holding the mix together firmly (i.e. not prone to disintegration or recently bagged on)
- Have an even 360° spread.

Stem

All trees and plants supplied shall:

- Have no damage either mechanical, insect or disease.
- Be firm and upright in the pot.
- Have a sound structure.

All trees or plants must be true to the species and container size specified, be well rooted and appear in general good health. Trees or plants shall not be substituted without the Landscape Architect's approval.

1C – TRANSPORT OF PLANTS:

The Contractor is responsible for transporting all trees and plants to the site of planting unless otherwise agreed upon.

The Contractor shall adhere to the following practices whilst transporting plants:

Handling

All trees and plants shall be handled with care at all times, lifted by the container and placed on the ground or into vehicles. The Contractor is to check the trees and plants at the nursery at the time of collection and if they are not considered to be of a suitable standard, shall inform the Landscape Architect. It is the Contractor's responsibility to ensure trees and plants are thoroughly watered before they are transported from the nursery. Once trees and plants leave the nursery they are the responsibility of the Contractor.

Packing and loading

All tree and plant material shall be carefully packed and protected during transport to the site to prevent damage. Foliage shall be protected from desiccation during transportation. Black polythene shall not be used for this. Container grown plants shall not be bundled together.

Condition maintenance

Plant roots shall be protected at all times from drying out. Bare rooted plants, such as trees, shall have individual root balls contained in moisture retentive material. Extreme care is required to ensure plants identified as 'Wetland' species do not dry out during storage, transportation and planting. Trees and plants shall be planted within 48 hours of delivery. The Landscape Architect shall be informed where this is not achieved. Plants that cannot be planted immediately on delivery shall be kept in the shade, well protected, sheltered and the soil kept well watered. If damage occurs the trees or plants they shall be replaced at the Contractor's expense. Pots and other protective materials shall not be removed until immediately prior to planting and shall be disposed of appropriately after planting.

1D – PLANTING OF SHRUBS, HEDGES, GROUNDCOVER AND WETLAND PLANTS:

The Contractor is responsible for the installation of all shrub, hedge, groundcover and wetland plants indicated on the planting plan. (See Section 4 of this document for detail.)

The Contractor shall adhere to the following practices whilst planting all shrub, hedge, groundcover and wetland species:

Timing

Planting shall take place between April and September (the planting season).

Planting may occur outside these times with the approval of the Landscape Architect and a watering regime, which is to be strictly adhered to. Wetland areas that involve permanently or regularly saturated soils, e.g. inter-tidal zones and stream margins may be planted outside the recognized planting season.

Setting out

Planting positions shall be in accordance with the planting plans. The Landscape Architect may require minor refinement to the design with adjustments to lines, levels and grouping of trees locally as the planting proceeds. The Contractor shall cooperate with this. In areas of block planting, plants shall be spaced so that when established they will completely and evenly fill the areas indicated, unless otherwise specified. Plants shall be spaced around the perimeter first to define the extent of the area to be filled by each species. The remaining plants shall then be used to fill the center of the area in an informal manner to create a natural appearing formation, unless otherwise specified on the planting plan. Plants identified as 'Wetland' species are to be planted in bands or lines following the natural contours or as specified on the planting plan by the Landscape Architect.

Condition maintenance

Containerized trees shall be thoroughly moistened at the time of planting. If the soil is dry, the plant shall be submerged in water for five minutes until air bubbles stop rising. Allow time to drain before planting. Balled and container grown plants shall have the cloth cordage, container, wire containment and hessian removed immediately prior to planting. Care shall be taken to ensure that the root ball is not disturbed during container removal or planting. If plants are slightly pot bound the roots shall be loosened, trimmed and spread out to ensure healthy growth. Roots shall not be exposed to the sun or wind.

Planting hole

The planting hole shall be twice the root ball width and twice the root ball depth. Planting holes, except for wetland plants, shall be loosened for at least 75mm each side of and under the plant prior to planting.

Fertilizer

Fertilizer for individual plant types shall be thoroughly mixed with the soil in the base of the planting hole, prior to planting. It is also recommended that two 2 year slow release fertilizer tablets or similar slow release granules per plant are mixed into soil at the base of the planting hole as shown in Planting Detail 3 in Chapter 4 of this document. Apply quantities as recommended by the manufacturer. The Landscape Architect may vary the amount depending on conditions and stock. The Contractor

must inform the Landscape Architect for approval of any proposed fertilizer regime and schedule of application over the maintenance period in the contract.

Planting

Plants shall be set upright in the center of the pit at such a depth that the soil, when firmed down is at the same height as the top of the root ball. Soil shall be heeled in using natural body weight and not compacted by machinery or 'stamped' down. Any major roots that accidentally break off or fray shall be cleanly cut off from the plant. Loose roots shall be spread out in a radial fashion, and the pit progressively backfilled with screened, weed free top soil or first class growing media, carefully placed under and amongst them to fill all voids and consolidated so that no air pockets are present and the plant is firmly held. Where roots are pot bound and/or girdling they shall be cleanly severed at the edge of the root ball and gently teased out in a radial fashion. Each plant shall be watered thoroughly after planting, ensuring that the moisture has penetrated to the full depth of the root ball (initial watering is also important to settle the soil around the roots). Plants identified for 'Wetland' areas shall be planted into permanently or temporarily saturated areas. Planting of aquatic and semi aquatic wetland plants (in stream beds and inter-tidal zones) requires roots to be buried to ensure they do not float away. These plants may also require pinning down or a small amount of gravel may be added to weight down soil. If drought conditions occur, planting into some areas should be delayed until soil moisture levels are sufficient to sustain the plants. The Contractor shall consult the Landscape Architect over any concerns with soil moisture levels.

To gain installation approval by the Landscape Architect specimen trees shall:

- be located as specified.
- be upright and firm in the ground.
- be securely staked.
- have the top of the root ball level with the surrounding surface.
- be healthy with no evidence of decline or damage (e.g. dead/dying/diseased foliage/tips/branches, loss of foliage that is uncharacteristic to the species, discoloured foliage, pests and diseases).

1E – MANNER OF EXECUTION:

The Contractor is responsible for completing the plant installation with care and consideration to the site and its surroundings. They are expected to cooperate with others on site and leave the site in the same or better condition it was prior to the contract being carried out. Any damage to private or public property at the site and surrounding area at the fault of the Contractor is the responsibility of the Contractor to rectify with the relevant or affected parties.

2. MULCHING OF NEW LANDSCAPED AREAS

2A – GARDEN PREPARATION:

The Contractor is required to prepare new landscaped areas for mulching. Spray any weeds with non-residual herbicide and remove any rubbish or foreign matter and make sure surface levels of growing media are as consistent as possible to allow easy and even application of mulch.

2B – MULCH SUPPLY:

All mulch is to be supplied to the site and applied to all new landscaped areas by the Contractor unless otherwise agreed upon. All new landscaped areas (all newly planted areas specified for planting on the planting plan) are to be covered with **75mm deep minimum unstained reharvest or cambium bark mulch**. The contractor may substitute bark mulch for a single layer of natural 500gsm jute matting on steep slopes or intermittently flooded areas if they wish to with approval by the client and landscape architect.

2C – MULCH APPLICATION:

The surface of the mulch in all new landscaped areas shall be flush with or no more than 25mm below the surrounding ground surface, garden edging, kerb, path or other formed surface and shall be even and free of hollows.

Mulch to tree pits within a lawn shall be placed over the tree pit radially to 1000mm from the trunk of the tree or to the extremity of the tree's drip line, whichever is the greater. Mulch to tree pits in other garden areas shall fill the entire area or radially to 600mm from the trunk of the tree.

Mulch shall not touch the stems of plants. A small circle shall be cleared (diameter of 50mm minimum) around the stem to avoid stem rot. Mulch shall be pulled back to 100mm off the trunk of any tree to prevent collar rot.

Unless specified otherwise, mulch shall be placed and maintained to a minimum consolidated depth of **75mm** for planter beds and tree pits. Mulch will not be used for 'Wetland' planting within storm water level zones and shall not be placed below the annual flood level within channels or regularly inundated tidal margins. Growing media shall not be mixed into the mulch during placement, planting or weeding. Mulch shall not spread onto paved surfaces or onto lawn areas.

2D – MANNER OF EXECUTION:

The Contractor is responsible for completing the mulching of new landscaped areas with care and consideration to the site and its surroundings. They are expected to cooperate with others on site and leave the site in the same or better condition it was prior to the contract being carried out. Any damage to private or public property at the site and surrounding area at the fault of the Contractor is the responsibility of the Contractor to rectify with the relevant or affected parties.

3. PLANT ESTABLISHMENT PERIOD

3A – PERIOD:

The Contractor is responsible for the establishment and maintenance of the new planting **until 80% canopy closure has occurred and a minimum survival rate of the plants being 90% of the original density through the entire planting area(s) has been achieved** over a minimum **5 year** defects liability period commencing on the date that the section 224(c) certificate is issued. This section (Section 3 – Plant Establishment Period) specifies the work to be undertaken by the Contractor within the **5 year** period at a maximum of **3 month** intervals as per (Section 6 – Maintenance Schedule), to provide optimum conditions to establish and maintain the landscape. Replacement of any failed plant specimens depicted on the drawing plan set **2180** is to be carried out at **3 month** intervals if during the planting season and at the conclusion of the **5 year** period. After the **5 year** period, the Landscape Architect will assess and issue a completion certificate to confirm that the landscape is being handed over by the contractor has been completed and maintained to the approved design depicted on the drawing set noted above, fast track resource consent application conditions and guidance outlined within this specification.

3B – SCOPE OUTLINE:

The Contractor is required to provide optimum conditions for plant survival which includes but is not limited to barricading, watering, weed control, cultivation, control of pests and diseases, removal of litter, checking of stakes and ties, trimming, pruning or mowing and other accepted horticultural operations necessary to ensure normal and healthy landscape establishment and growth.

The two most important factors are adequate moisture and eliminating competition from other vegetation. Throughout the establishment period, the Contractor shall visit the site as and when necessary, to ensure that plant establishment is not limited by drought stress or competition from other plants.

3C – WATERING:

The Contractor shall provide sufficient water to all lawn areas, trees and planting to maintain plants in a healthy condition. For trees, soil moisture shall contain an average volumetric water content of between 20 and 30%. This value shall be determined through taking four readings corresponding approximately to the four points of the compass. The readings shall be at 500mm below the topsoil surface and 300mm from the trunk for trees up to PB95 grade and 500mm from the trunk for PB150 grade and above trees.

For trees, this moisture content relates approximately to 40 litres of water per application in order to saturate the root ball. For trees larger than PB150 grade, each application should be approximately 80 litres of water. As a guide, shrubs and

groundcover should receive 5 litres of water each per application in order to saturate the root ball. Applications should occur at least once a week during summer months (October – March).

Water shall be applied evenly and radially around the root ball to a distance of 600mm from the base of the trunk or to the extremity of the tree's drip line, whichever is the greater. Water shall be applied at low pressure from a height of less than 500mm. Care shall be taken to avoid the displacement of soil or mulch whilst undertaking watering.

3D – PESTS AND DISEASES:

The Contractor shall promptly report all animal, insect or fungal infestations to the Landscape Architect. The Landscape Architect will provide instruction for treatment deemed most appropriate.

3E – RUBBISH AND LITTER COLLECTON AND REMOVAL:

The Contractor shall remove all litter from the new landscaped areas and berms or swales. Litter is defined as any refuse, garbage, rubbish, dead animal remains, plant debris including fallen leaves, glass, metal, organic or inorganic waste matter or any other material, which is detrimental to the appearance of the site excluding fly tipping. Fly tipping includes items such as rubbish bags, builders' rubble, motor vehicle bodies or larger items requiring removal by machine. The contractor will notify the Landscape Architect or site manager of any suspected fly tipping.

3F – PRUNING:

The Contractor shall remove all weak, dead, diseased or damaged growth, including spent flower heads. Sight lines at intersections and driveways shall be maintained and signs shall not be obscured. Pruning shall not be carried out during leaf burst or leaf fall.

Pruning shall be carried out on shrubs and groundcover by an appropriately qualified horticulturalist to maintain a high standard of presentation, display and plant vigor and to maintain the desired shape and size. An arborist qualified to international arboricultural standards shall undertake all tree pruning.

The following pruning techniques shall be employed where appropriate:

- Tips shall be pinched or purged, as appropriate for species, to give desired shape and size.
- Form pruning of young plants to ensure compact form and shape.
- Undercutting of groundcovers at border edges.
- Plants shall be pruned so that they do not smother neighboring plants.
- Plants shall be pruned off footpaths and access ways and hard surfaces

3G – PLANT VANDALISM, LOSSES AND REPLACEMENT:

Any plants vandalized or stolen shall be reported promptly to the Landscape Architect. The likely cause of damage shall also be reported. The plants shall be removed and replaced where ordered. Plant loss due to vandalism about which the Landscape Architect is not notified shall be assumed a result of planting operations and replacement shall be at the Contractor's cost. The Landscape Architect or Engineer will determine the value of plants or other landscape works lost due to theft, willful damage or vandalism.

The Landscape Architect may determine losses of a single species greater than 25% are due to extreme weather and are therefore not the Contractor's responsibility. All other losses of plants during the **5 year** maintenance period must be replaced in the first available planting season (between April and September) by the Contractor. The Contractor is responsible for covering all supply and labour costs associated with losses unless otherwise agreed upon. Replacements shall be the same as those specified, unless otherwise agreed between the Landscape Architect and the Contractor. The Landscape Architect may order replacement of plants that die through no fault of the Contractor. Any defective stakes, ties, etc. shall be replaced as soon as possible.

3H – LAWN VANDALISM AND DAMAGE:

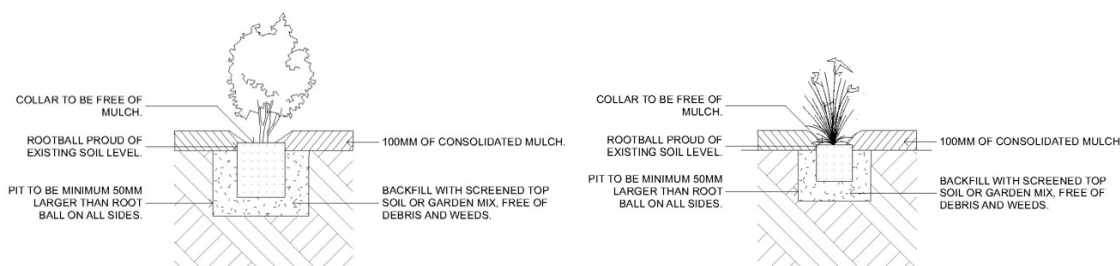
The Contractor shall be responsible for any damage to lawns caused by maintenance or planting over the **5 year** maintenance period. The Contractor shall notify the Landscape Architect of grassed areas damaged by others during the course of their legitimate work.

3I – MANNER OF EXECUTION:

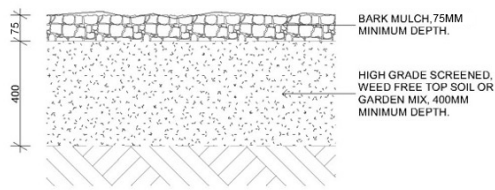
The Contractor is responsible for completing the plant establishment period with care and consideration to the site and its surroundings. They are expected to cooperate with others on site and leave the site in the same or better condition it was prior to the contract being carried out. Any damage to private or public property at the site and surrounding area at the fault of the Contractor is the responsibility of the Contractor to rectify with the relevant or affected parties.

4. PLANTING DETAILS

4A – PLANTING DETAIL 1 – SHRUB & GRASSES PLANTING:



4B – GARDEN BED DETAIL – MIN. 75MM MULCH / MIN. 400MM TOPSOIL:



5. PEST PLANT AND ANIMAL MANAGEMENT STRATEGY

5A – PERIOD:

The Contractor is required to maximize the survivability of plants through weed and pest animal management from the time installation is completed for a **5 year** period commencing on the date that the section 224(c) certificate is issued. The Contractor is responsible for monitoring the site for pest animals that might impact the restoration of the riparian and wetland planting (e.g. possums and rabbits) and if present, control of these species is to be undertaken for a period of **4–6 weeks**, at **4 month** intervals. Weed control should utilise a combination of techniques in an attempt to minimise herbicide usage and prevent weed invasion, this includes the use of mulch to cover bare soil, manual control methods, and the use of selective herbicides.

5B – SCOPE OUTLINE:

Pest animal and weed control is required to maximize the survivability of plants in their first **5 years** of growth. Animal pests are a common cause of failure for new riparian planting and the Contractor is expected to approach the task within industry standards and laws with common sense and safety high priorities. Weeds and pasture grasses are key competitors for new plantings. The weed management program should be undertaken in a proactive as opposed to a reactive manner. It will ensure that weeds do not compete with the new plantings. To this end weeds and grasses shall always be controlled before they flower, set seed or get to half the height of the new plantings.

5C-1 – PEST ANIMAL CONTROL METHOD:

The most suitable method for possum control in this area is kill trapping. Toxic baiting of possum and rabbits may be an option depending on the presence of non-target species on neighboring properties which will require an assessment of risk by the pest control contractor prior to control. The main actions that will be taken to avoid adverse effects on fauna will be to use appropriate pest control tools and techniques that limit the risk to non-target species. If kill traps are used for possums these will be set at appropriate heights (>80 cm above the ground) to avoid non target species capture, namely cats and dogs. If non-target species (e.g. cats and dogs) and/or native fauna are present within the site during pest control then it will

not be appropriate to use toxic control methods and a risk assessment prior to control will determine this.

5C-2 – WEED CONTROL METHOD:

A list of key weeds to be controlled and the appropriate eradication methods for each species is listed in Section 5F below. Note this list is not exclusive. Control of additional weeds will be undertaken with the same methodology. Weeds and grasses will not be allowed to grow over the top of new plantings. If this does occur, weeds must be pulled back from each native plant prior to any spraying being undertaken. In some cases this may require hand pulling of weeds as opposed to spraying.

The contractor will undertake regular maintenance visits. They are required to:

- a) Review work done in the month(s) prior to that visit
- b) Assess the condition of plantings and identify any issues
- c) Undertake weed control work to be done
- d) Identify and confirm work for upcoming months
- e) Review weed control species lists and identify any new threats

5D – RELEASE SPRAYING:

The contractor is to organize release spraying. It is anticipated that not less than two release sprays will be undertaken over the period of 12 months. Should more sprays be necessary then they will be undertaken. The contractor must ensure that its staff/spraying contractor is qualified to Advanced Growsafe level. Those undertaking spraying will adhere to the spraying specifications as set out under the Growsafe manual. All chemicals used will be approved. Detailed spray diaries will be kept and progressively forwarded to the Client as work is done. Marker dye is used every time spraying is undertaken.

5E – MANUAL WEED CONTROL:

Releasing of plants shall not be solely limited to the use of herbicides. Some plants may need to be hand pulled or dug out. Care needs to be taken to ensure the whole plant is removed and that it is disposed of in such a manner that it does not regrow. Crews will be experienced in weed identification and knowledge of which weeds can be hand pulled as opposed to those that cannot.

5F – PREFERRED TECHNIQUES FOR KEY WEEDS TO BE CONTROLLED:

5F1: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
<i>Agapanthus (Agapanthus praecox)</i>	Dig out and dispose off site	-	-	Year round	Only if this can be done without posing a weed hygiene risk
	Knapsack – foliar spray	Grazon	100ml per 10 litres water plus 20ml pulse	October-March	Not when flowering or seeding
	Knapsack – foliar spray	Escort1	5g per 10 litres water plus 20ml pulse	October-March	Not when flowering or seeding
Alligator weed (<i>Alternanthera philoxeroides</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	Year round	Requires follow up control
Aristea (<i>Aristea ecklonii</i>)	Knapsack – foliar spray	Escort1	5g per 10 litres water	October-March	
Arum lily & Flag iris	Hand pull seedlings/small plants	-	-	Year round	Only if this can be done without posing a weed hygiene risk
	Dig out and dispose off site	-	-	Year round	Monitor for re-growth.
	Cut and spray stems of large plants	Escort1	5g per 10 litres water	October-March	Spray immediately following cutting.
Artillery plant (<i>Galeobdolon luteum</i>)	Foliar spray Cut and treat stumps	Glyphosate Grazon	100ml per 10 litres water 1 part Grazon to 20 parts water	October-March October-March	
Asparagus fern (<i>Asparagus densiflorus</i>)	Knapsack/hand sprayer	Escort1	5g Escort plus per 10 litres water plus 20ml pulse	October-March	
Bamboo	Foliar spray re-growth	Glyphosate	200ml per 10 litres water plus 20ml pulse	October-March	Monitor for re-growth - Will need several treatments
	Foliar spray re-growth	Gallant	150ml per 10 litres water	October-March	Monitor for re-growth - Will need several treatments
	Cut tops and treat as per Giant reed grass.	-			
Banana plant	Knapsack – foliar spray	Glyphosate	20ml per litre water	Yearround	After foliage die off, remove plant from earth.
Banana passionfruit	Hand pull seedlings/small plants	-	-	Year round	
	Cut and treat stump	Grazon	1 part Grazon to 20 parts water	October-March	Leave foliage in host to die off
	Cut and treat stump	Escort1	5g per 10 litres water	October-March	Leave foliage in host to die off
	Cut and treat stump	Picloram (Vigilant gel)	Apply gel to cut stem	October-March	
Barberry (<i>Berberis glaucocarpa</i>)	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	October-March	Apply to freshly cut surface and stems to ground level
Bartlettina (<i>Bartlettina sordida</i>)	Knapsack – foliar spray	Escort1	5g per 10 litres water	October-March	
Bear's breeches (<i>Acanthus mollis</i>)	Dig out and dispose off site	-	-	Year round	
	Cut and treat stump	Grazon	1 part Grazon to 20 parts water	October-March	
Bindweed (<i>Calystegia sylvatica</i> , <i>C. sepium</i>)	Knapsack – foliar spray	Banvine	Follow label recommendations		
Blackberry (<i>Rubus fruticosus</i> agg.)	Knapsack – foliar spray	Escort1	5g per 10 litres water	December-April	
	Knapsack – foliar spray	Grazon	60ml per 10 litres water	December-April	

5F2: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
Black passionfruit (<i>Passiflora edulis</i>)	Handpull seedlings/small plants Cut and vines and spray re-growth	- Glyphosate	- 20ml per litre water	Year round Cut vines in winter and spray re-growth in spring	Leave foliage in host to die off
Black wattle Australian Black wood	Hand pull seedlings/small plants Cut and treat stumps Drill and inject Drill and inject	- Grazon Grazon Escort1	- 1 part Grazon to 20 parts water 1 part Grazon to 20 parts water 20g Escort per litre water, plus 2 ml pulse	Year round October-April October-April October – April	Ensure of felling that damage to surrounding native vegetation is limited.
Blue morning glory	Knapsack – foliar spray Cut and treat stumps	Grazon Grazon	60ml per 10 litres water 1 part Grazon to 20 parts water	November-March November-March	Leave foliage in host to die off
Boneseed	Handpull seedlings/small plants Cut and treat stumps	- Grazon	- 1 part Grazon to 20 parts water	Year round November-February	
Bottlebrush (<i>Callistemon spp.</i>)	Handpull seedlings/small plants Cut and treat stumps Drill and inject	- Grazon Escort1	- 1 part Grazon to 20 parts water 20g Escort per litre water, plus 2 ml pulse	Year round Year round Year round	Callistemon is to be planted within the residential planting area, to be monitored to ensure no seed spread via wind dispersal establishes in revegetation area
Broom	Knapsack – foliar spray	Escort1	5g per 10 litres water	November-February	Do not spray if seed pods have turned brown
Brush wattle	Handpull seedlings/small plants Cut and treat stumps Drill and inject	- Grazon Escort1	- 1 part Grazon to 20 parts water 20g Escort per litre water, plus 2 ml pulse	Year round October-April October – April	
Buddleia (<i>Buddleja davidii</i>)	Handpull seedlings/small plants Cut and treat stumps	- Grazon	- 1 part Grazon to 20 parts water	Year round Year round	
Buffalo grass (<i>Stenotaphrum secundatum</i>)	Knapsack – foliar spray	Gallant	60ml per 10 litres water	October-January	
Canary Island Date Palm (<i>Phoenix canarensis</i>)	Handpull seedlings/small plants Fell tree - remove stump	- -	- -	Year round Year round	
Canna lily	Dig out and dispose off site	-	-	Year round	Monitor for re-growth
Cape gooseberry	Hand pull Knapsack – foliar spray	- Glyphosate	- 100ml per 10 litres water	Year round	Monitor for re-growth For large infestations
Cape honey flower	Knapsack – foliar spray	Escort1	5g per 10 litres water	November-February	
Cape ivy	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	November-February	Leave foliage in host to die off
Castor oil plant (<i>Ricinus communis</i>)	Cut and treat stumps Knapsack – foliar spray	Grazon Glyphosate	1 part Grazon to 20 parts water 100ml per 10 litres water	October-March October-March	

5F3: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
Cestrum (<i>Cestrum</i> spp.)	Handpull seedlings/small plants Cut and treat stumps	- Grazon	- 1 part Grazon to 20 parts water	Year round October-March	
Chinese privet	Seedlings – hand pull Trees – drill and inject Saplings - cut and stump treat	- Escort1 Grazon	- 20g Escort per litre water, plus 2ml pulse 1 part Grazon to 20 parts water	November-April November-April November-April	
Climbing asparagus	Knapsack/hand sprayer	Escort1	5g Escort plus per 10 litres water plus 20ml pulse	October-March	Foliar spray both climbing stems up to 1m high and scrambling plants in situ. Brittleness of stems means they cannot effectively be pulled off plants. Ensure no tree fern or kowhai trunks are sprayed.
Climbing dock	Knapsack	Escort1	5g per 10 litres water	November-February	
Cotoneaster (<i>Cotoneaster glaucophyllus</i>)	Handpull seedlings/small plants Cut and treat stumps	- Grazon	- 1 part Grazon to 20 parts water	Year round October-March	
Crack willow/grey willow	Drill and inject/frill and spray	Escort1	20g Escort per litre water, plus 2ml pulse	November-February	Do not cut as every twig becomes another willow.
Creeping club moss	Knapsack/hand sprayer Knapsack – foliar spray	Mostox Renovate/Organic Interceptor	1% solution Label rate	Year round.	Ensure no tree fern or kowhai trunks sprayed
Elaeagnus	Cut and treat stumps Cut and treat stumps	Picloram (Vigilant gel) Grazon	Apply gel to freshly cut stump 1 part Grazon to 20 parts water	October-March October-March	Must be applied liberally within 5 mins of cutting
Elephants ear	Dig out and dispose off site Cut and spray stems	- Escort1	- 5g per 10 litres water	- October-March	Monitor for re-growth Spray immediately following cutting
Fatsia (<i>Fatsia japonica</i>)	Dig out	-	-	Year round	
Flame tree (<i>Brachychiton acerifolium</i>)	Drill and inject	Escort1	20g per litre water, plus 2ml pulse	Year round	
Fruit salad plant (<i>Monstera deliciosa</i>)	Handpull seedlings/small plants Cut and treat stump	- Grazon	- 1 part Grazon to 20 parts water	Year round October-March	
Garden nasturtium	Knapsack – foliar spray	Escort1	5g per 10 litres water	November-March	
German ivy	Cut stems and treat stumps Knapsack – foliar spray	Grazon Escort1	1 part Grazon to 20 parts water 5g per 10 litres water	November-March November-March	Leave foliage in host to die off
Giant reed	Cut and spray stumps Cut and spray re-growth Cut and spray re-growth	Glyphosate Glyphosate Gallant	1 part Glyphosate to 10 parts water 200ml per 10 litres water 150ml per 10 litres water	November-February November-February November-February	Do not break up canes. These should be removed off site and burned or taken to an approved disposal site.

5F4: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
Gorse, and other compostitae weeds, and legumes found in pasture such as lotus major.	Knapsack foliar spray For targeted gorse control with minimal loss of existing bush emerging	Versatill	500ml/100litres of water with wetting agent Knapsack 125ml/10 litres with wetting agent	October - March	Will target legumes and compostitae species so care needed around Kowhai, Hebe and Olearia species
Hawthorn	Handpull seedlings/small Cut and treat stumps	- Grazon	- 1 part Grazon to 20 parts water	Year round November-March	
Hydrangea (<i>Hydrangea</i> sp.)	Dig out and remove	-	-	Year round	
Himalayan honeysuckle	Hand pull seedlings/ small Knapsack – foliar spray Knapsack – foliar spray Cut and treat stems/ Cut and treat stems/	October to February Escort Glyphosate Escort1 Glyphosate	Ensure no tuber left behind. 5g/10 litres water + 10ml 100ml/10 litres water + 10ml 20g/10 litres water 50:50 mix with water	Spring to late autumn Spring to late autumn Spring to late autumn Spring to late autumn	Not for use around native vegetation or waterways. For application near waterways and indigenous For application near waterways and indigenous
Italian arum (<i>Arum italicum</i>)	Knapsack – foliar spray	Escort1	5g per 10 litres water	October-March	Monitor for re-growth. Spray immediately following cutting.
Ivy (<i>Hedera helix</i>)	Cut and treat stems/tubers Cut and treat stems/tubers	Grazon Escort1	1 part Grazon to 20 parts water 5g per 10 litres water	November-March November-March	Leave foliage in host to die off
Japanese honeysuckle	Knapsack – foliar spray Cut and treat stems	Versatill Grazon	40-50mls Versatill to 10 litres water 1 part Grazon to 20 parts water	October-March October-March	Pull away from non-target species before spraying. Spray to run off. Ensure no epiphytic attachment. Do not pull cut vegetation from host plant
Japanese spindle tree	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	November-March	
Jasmine	Cut and treat stems Where practical foliar spray Where practical foliar spray	Grazon Glyphosate Escort1	1 part Grazon to 20 parts water 20ml per litre water and 20ml Pulse with clean water 5g per 10 litres water	October-March October-March October-March	Do not pull cut vegetation from host plant Pull away from non-target species before spraying
Kikuyu grass and pasture grasses in the early stages of	Knapsack – foliar spray Knapsack – foliar spray	Glyphosate Gallant	100ml per 10 litres water 150ml per 10 litres water	Year round Year round	
Mexican daisy (<i>Erigeron karvinskianus</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	October-March	Requires regular follow up
Mexican devil (<i>Ageratina adenophora</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	October-March	
Mignonette vine	Cut and treat stump Cut and treat stump	Grazon Picloram (Vigilant gel)	1 part Grazon to 20 parts water Apply gel to cut stem	October-March October-March	Follow up control required to treat propagules Follow up control required to treat propagules
Mistflower (<i>Ageratina riparia</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	October-March	

5F5: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
Monkey apple (<i>Acmena smithii</i>)	Seedlings/small plants – hand pull	-	-	Year round	
	Tree – drill and inject	Escort1	20g per litre water, plus 2ml pulse	October-March	
	Sapling – Cut and stump treat	Grazon	1 part Grazon to 20 parts water	October-March	
Montbretia	Knapsack – foliar spray	Grazon	60mls per 10 litres water, 10ml Pulse per 10 litres water	October-February	
Moth plant	Cut and treat stump	Escort1	1 part Grazon to 20 parts water	October-March	Leave cut vegetation in host to die off. Remove seed pods if possible.
	Cut and treat stump	Picloram (Vigilant gel)	Apply gel to cut stem	October-March	Leave cut vegetation in host to die off. Remove seed pods if possible.
Palm grass (<i>Setaria palmifolia</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	October-January	
Pampas	Knapsack – foliar spray	Glyphosate	10ml per litre water	October-March best results	Use clean water and thoroughly soak centre of large plants.
	Knapsack – foliar spray	Gallant	150ml per 10 litres water plus crop oil	October-March	Best on smaller plants.
Periwinkle	Knapsack – foliar spray	Glyphosate	200ml per 10 litres water	November-March	Follow up spray as soon as re-growth big enough to treat. 4-5 treatments required 2-3 months apart.
Poplar At year 5 within the plant zone, prune annually for the first 4 years	Drill and inject/frill and spray	Escort1	20g per litre water + 10ml pulse	November-February	Prune annually for the first 4 years
Prickly hakea (<i>Hakea sericea</i>)	Handpull seedlings/small Cut and stump treat	- Grazon	- 1 part Grazon to 20 parts water	Year round Year round	
Willow leaved hakea (<i>Hakea salicifolia</i>)	Drill and inject	Escort1	20g Escort per litre water, plus 2ml pulse	Year round	
Reed sweetgrass (<i>Glyceria maxima</i>)	Knapsack – foliar spray	Glyphosate	100ml per 10 litres water	October-March	
Shrub balsam	Cut and treat stumps	Escort1	5g per 10 litres water	October-March	
Spanish heath	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	October-March	
Sweet pea shrub (<i>Polygala myrtifolia</i>)	Handpull small plants	-	-	Year round	
	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	October-March	
Three cornered garlic	Knapsack – foliar spray	Grazon	15ml per 10 litres water	September-December	
Tradescantia	Knapsack – foliar spray	Grazon	10ml per litre water + 2ml Pulse per litre water	November-March	Pull away from non-target species before spraying.
Tree lupin (<i>Lupinus arboreus</i>)	Cut and hand fell	-	-	Year round	

5F6: WEED CONTROL METHODS

Weed	Control Method(s)	Chemical(s)	Application Rate	Timing	Remarks
Tree privet	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	November-March	
	Drill and inject	Escort1	20g Escort per litre water, plus 2ml pulse	November-March	
Tuber ladder fern	Knapsack – foliar spray	Escort1	5g per 10 litres water	March to May	
Tutsan (<i>Hypericum androsaemum</i>)	Handpull small plants	-	-	Year round	
	Cut and treat stumps	Grazon	1 part Grazon to 20 parts water	November-March	
Velvet groundsel (<i>Senecio petasitis</i>)	Handpull small plants	-	-	Year round	
	Knapsack – foliar spray	Escort1	5g per 10 litres water	October-March	
Washington Palm (<i>Washingtonia filifera/robusta</i>)	Handpull seedlings/small plants	-	-	Year round	
	Fell tree - remove stump	-	-	Year round	
Wild ginger	Hand pull seedlings/small plants.	-	-	October to February	Ensure no tuber left behind.
	Knapsack – foliar spray	Escort1	5g/10 litres water + 10ml Pulse	Spring to late autumn	Not for use around native vegetation or waterways.
	Knapsack – foliar spray	Glyphosate	100ml/10 litres water + 10ml Pulse	Spring to late autumn	
	Cut and treat stems/tubers	Escort1	20g/10 litres water	Spring to late autumn	For application near waterways and indigenous vegetation.
	Cut and treat stems/tubers	Glyphosate	50:50 mix with water	Spring to late autumn	For application near waterways and indigenous vegetation.
Woolly nightshade	Seedlings/small plants – hand pull	-	-	Year round	
	Trees – drill and inject	Escort1	20g Escort per litre water, plus 2ml pulse	Year round	
	Saplings - cut and treat stump	Picloram (Vigilant gel)	Apply gel to cut stems	Year round	
	Saplings - cut and treat stump	Grazon	1 part Grazon to 20 parts water	Year round	
Wild cherry	Tree – drill and inject	Escort1	20g Escort per litre water, plus 2ml pulse	October-March	
	Saplings – cut and treat stump	Grazon	1 part Grazon to 20 parts water	October-March	

6. MAINTENANCE SCHEDULE

6A – PERIOD

The Contractor is required to carry out this maintenance schedule from the time installation is completed for a **5 year** period. After the **5 year** period, the Landscape Architect will assess and issue a completion certificate to confirm that the landscape is being handed over by the contractor has been maintained in accordance with the guidance outlined within this specification and fast track resource consent application conditions. This section (Section 6 – Maintenance Schedule) specifies the details of the maintenance program to be carried out in order to maintain the landscape to a high standard.

6B – SCOPE OUTLINE

Landscapes are to be maintained as per drawing plan set **2180**, with any plant replacements required to be carried out during the planting season following the plant failure. Site visits are to be undertaken as required to maintain moisture levels and carry out maintenance to minimise failures at a minimum of **3 month intervals, 4 times a year**, (even intervals ideally at the change of each season), to identify and carry out maintenance required in the schedule below:

6C – MAINTENANCE SCHEDULE

ITEM	MINIMUM FREQUENCY	ACTION
Watering	Minimum recommendation once per month. Once per week over the first summer growing season. As required thereafter to maintain growth.	Water all plants to maintain moisture content as specified. (Refer 3C)
Pests and diseases	Check @ 3-month intervals	Check for pests and diseases and apply appropriate treatment to ensure plants are pest and disease free.
Rubbish and Litter	Check @ 3-month intervals	Ensure landscape areas are free of litter and report fly tipping. Refer to specification 3E and maintain accordingly.
Plant maintenance vandalism, losses and replacement	Check @ 3-month intervals	Replace any plant losses as per approved landscape plans. Refer to specification 3G and follow.
Stakes and ties	Check @ 3-month intervals	Check all stakes and ties, repair and tension as required.
Fertilisation	Implement @ 6-month intervals or at the recommended rate depending on type and period of slow release.	Fertilise each plant (not wetland areas) to the recommended slow release period of manufacturers specification.
Weed control	Check @ 3-month intervals through growing seasons and less over winter	Refer Section 5 for specific species treatments.