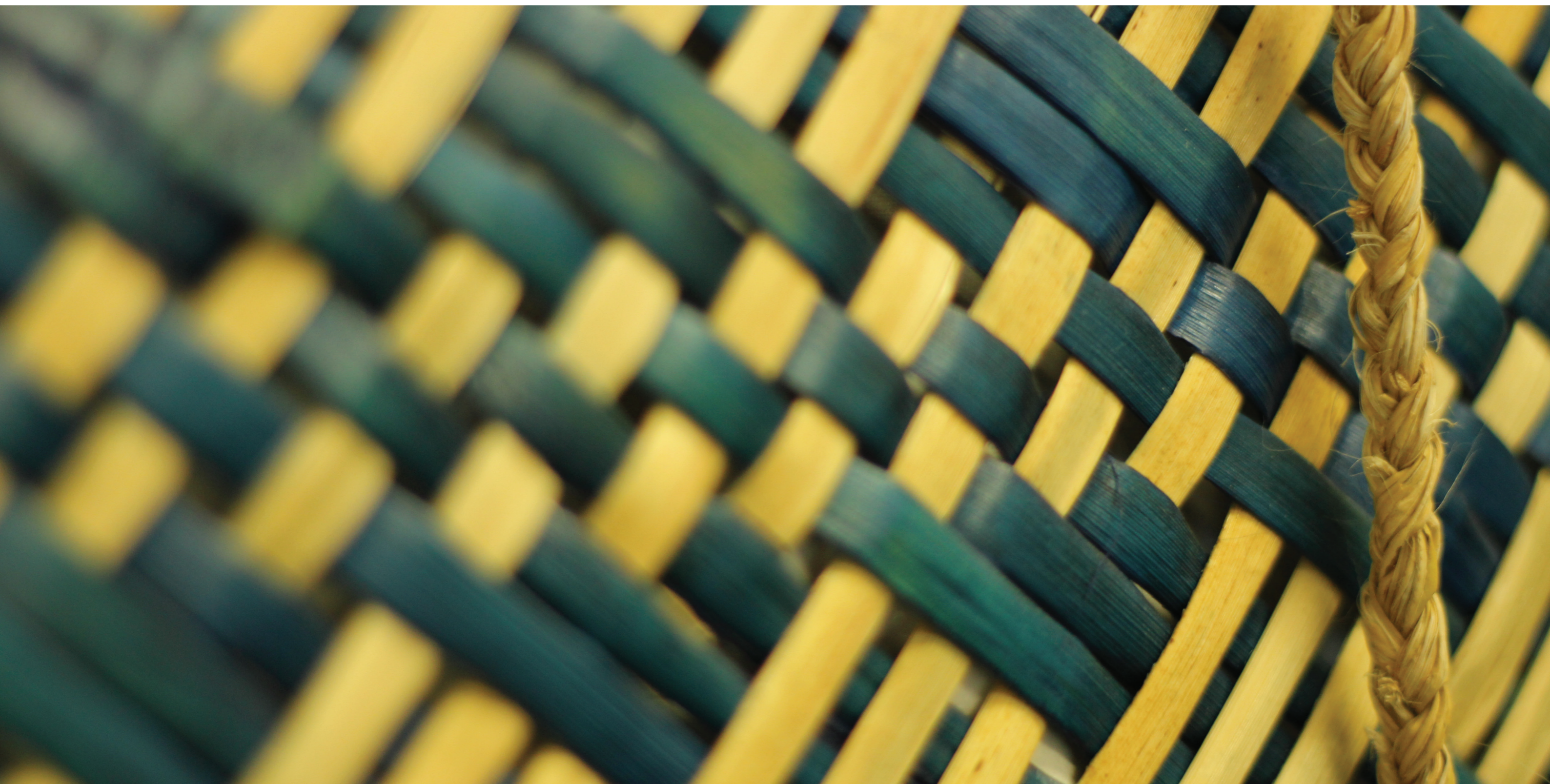


# LANDSCAPE MANAGEMENT PLAN

TE PUNA BUSINESS PARK | 245 TE PUNA STATION ROAD, TE PUNA

11TH MAY 2023





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# INTRODUCTION

## BACKGROUND

This Landscape Management Plan (LMP) applies to the Business Park at 245 Te Puna Station Road, Te Puna, Tauranga, referred to as 'The Site'.

The Site is located within the jurisdiction of Western Bay of Plenty District Council (WBOPDC). Pirirakau hapū approved the plant species selection and assisted with the implementation of existing mitigation planting on The Site.

WBOPDC has identified that the mitigation planting already implemented does not meet the requirements of the Environment Court Decision and illustrated in the Approved Plans & Planting Sections. The undertaking of maintenance has also been noted as a concern, along with visual concerns from neighbours to the south-west.

This LMP provides guidance with regard to the additional mitigation and stormwater planting and maintenance requirements for The Site.

The guidance provided is founded upon review of the Environment Court Decision, Approved Plans and Planting Sections, Proposed Stormwater Design, Landscape Mitigation Planting & Maintenance Proposal, along with site visits undertaken on Monday 13th December 2021 and Tuesday 10th May 2022, to assess the existing environment and state of mitigation planting already undertaken.

Revision B of this LMP includes mitigation design updates in response to Environment Court mediation and Request for Further Information provided by Western Bay of Plenty District Council.

It is important to note that the activities that will foreseeably be established within The Site are different to those anticipated by the Environment Court, as a result of the Flood Hazard classification across The Site. This change, along with adjustments to the subdivision composition, stormwater requirements and input from Pirirakau hapū result in adjustments to the mitigation planting, in response to these changes.

## OBJECTIVES & OUTCOMES

The objectives of this Landscape Management Plan is to ensure the appropriate integration of the Business Park into the receiving environment. This involves the appropriate design, implementation and maintenance of mitigation planting and stormwater planting in order to meet the expected mitigation outcomes, as anticipated by the Environment Court Decision.

The outcomes as a result of these objectives are:

- Mitigation planting that achieves appropriate screening of on-site activities.
- Plant species that respect the advice of Pirirakau hapū.
- Plant species and spacings that will achieve the degree of mitigation required over different time periods.
- A maintenance regime that suppresses weed and pest species and ensures the successful establishment of mitigation planting.

By following the contents of this LMP, it will ensure the Business Park will have an appropriate degree of landscape and visual mitigation, provided by the combination of existing and proposed mitigation planting and established through a quality maintenance regime.

## VISUAL MITIGATION

Visual mitigation is to be achieved to various degrees through differing application of mitigation planting across The Site, in response to the requirements of the Environment Court Decision requirements.

This LMP divides the mitigation planting areas into five distinct areas, being:

1. Te Puna Station Road Roadscape.
2. Business Park Southern Boundary.
3. Business Park Internal Boundaries.
4. Business Park Internal Roadscape.
5. Stormwater Swales & Overland Flowpaths.

# TE PUNA STATION ROAD ROADScape | MITIGATION PLANTING REQUIREMENTS

## SUMMARY

The Te Puna Station Road Roadscape planting area is 5,768m<sup>2</sup> and is located along The Site's northern boundary, shared with Te Puna Station Road, and The Site's eastern boundary.

Planting areas to both boundaries comprise acoustic bunds, which have had mitigation planting applied to them previously.

The proposed mitigation planting contained within this section of the LMP is supplementary to the existing mitigation planting.

## OBJECTIVES & OUTCOMES

To install and successfully establish additional mitigation planting to supplement existing mitigation planting, to ensure the required degree of mitigation, as anticipated by the Environment Court Decision and District Plan provisions, is met.

This will be implemented through the use of native plant species only, with respect to advice provided by Pirirakau hapū when undertaking the existing mitigation planting.




Mitigation planting is to suitably screen the yard storage activities occurring and anticipated for The Site.

## PLANTING SCHEDULE

Supplementary native planting is to form a densely planted northern and eastern boundary to The Site, to ensure the suitable mitigation of the yard storage activities.







Based on observations made on the site visit undertaken, the total supplementary infill mitigation planting area for the Te Puna Station Road Roadscape planting area is 1,442 m<sup>2</sup> (25% of the total area).

The supplementary mitigation planting is primarily focused on infilling areas of the existing planting where plant losses have been experienced. Species observed as establishing most successfully from the initial planting have been selected as infill species.

PLANT IMAGE	BOTANICAL NAME	COMMON NAME	% OF PLANTING	GRADE	PLANTED HEIGHT	SPACING	QUANTITY
	Pittosporum eugenioides	Lemonwood	20	1L	1m	2m	60
	Kunzea ericoides	Kanuka	50	1L	0.5m	2m	151
	Leptospermum scoparium	Manuka	30	1L	0.5m	2m	91

# TE PUNA STATION ROAD ROADScape | LANDSCAPE MITIGATION PLAN

## LEGEND

-  TE PUNA STATION ROAD ROADScape PLANTING
-  SOUTHERN BOUNDARY PLANTING
-  INTERNAL BOUNDARIES PLANTING
-  INTERNAL ROADScape PLANTING
-  STORMWATER SWALE & OVERLAND FLOWPATH PLANTING
-  EXISTING PLANTING



LANDSCAPE PROPOSAL | 245 TE PUNA STATION ROAD | 12 MAY



# BUSINESS PARK SOUTHERN BOUNDARY | MITIGATION PLANTING REQUIREMENTS

## SUMMARY

The Southern Boundary planting is focused along the 738m long southern boundary of The Site, which also includes a channelised stream along the entire southern boundary of The Site.

An acoustic bund has been established at the eastern end of the southern boundary, for a length of approximately 150m. Existing mature stands of bamboo and Liquidambar are located on the eastern end of the southern boundary.

The proposed mitigation planting along the southern boundary is to be installed in a linear fashion, to the northern side of the channelised stream.

## OBJECTIVES & OUTCOMES

To install and successfully establish mitigation planting along the southern boundary, to ensure the required degree of mitigation, as anticipated by the Environment Court Decision and District Plan provisions, is met.



This will be implemented through the use of native plant species only, with respect to advice provided by Pirirakau hapū when undertaking the existing mitigation planting. Mitigation planting is to be installed in a linear fashion, to generally align with the linear configuration outlined within the District Plan.

## PLANTING SCHEDULE

Native hedging species is to form a densely planted southern boundary edge to The Site, to ensure the suitable mitigation of the yard storage activities.

The total mitigation planting length along the southern boundary is 738m.







The mitigation planting is focused on providing a connected planted boundary, supported by additional layered planting within the adjoining Swale & Overland Flowpath planting area.

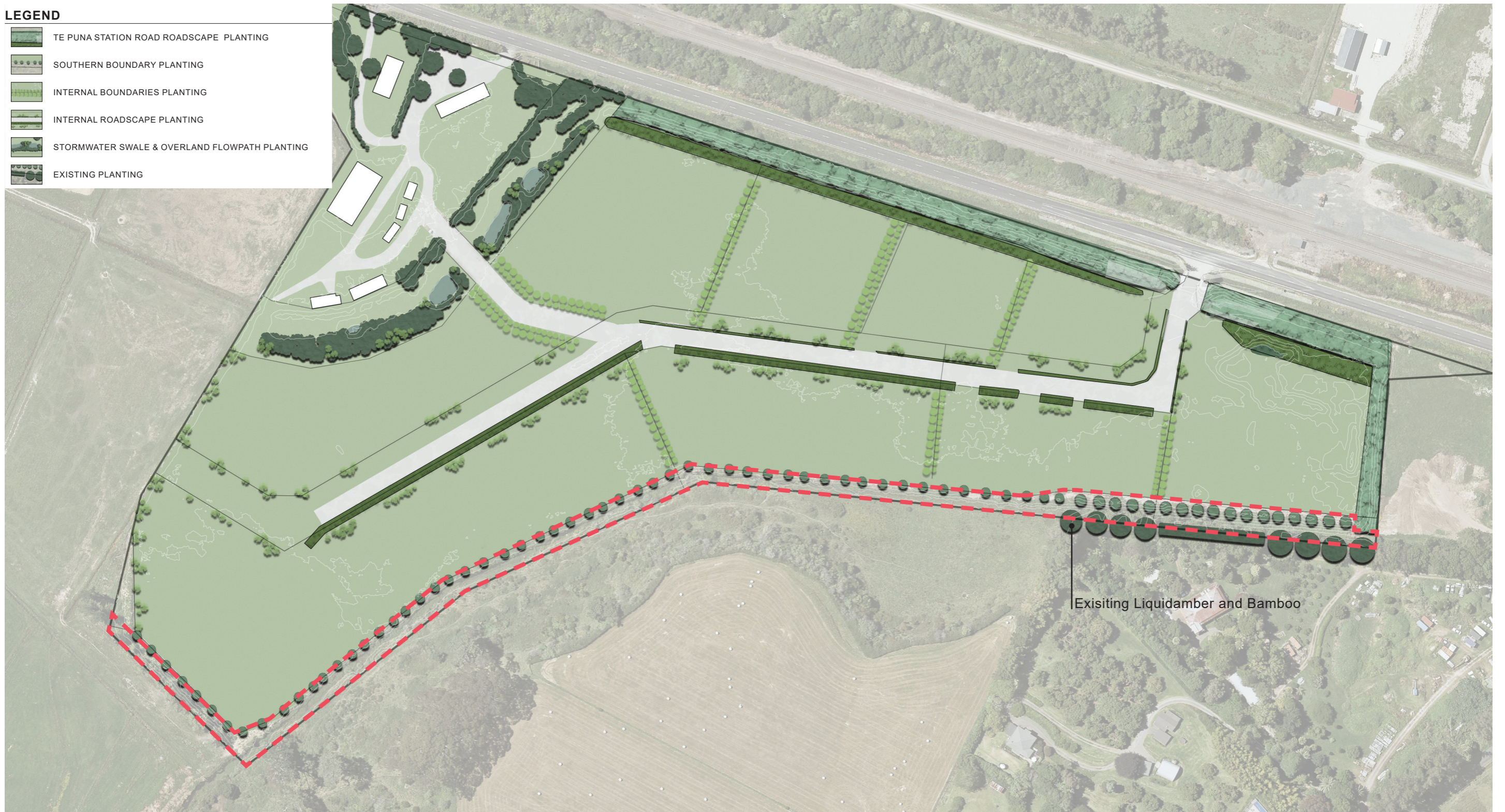
PLANT IMAGE	BOTANICAL NAME	COMMON NAME	% OF PLANTING	GRADE	PLANTED HEIGHT	SPACING	QUANTITY
	Pittosporum crassifolium	Karo	50	1L	1.2m	2.5m	148
	Pittosporum eugenioides	Lemonwood	50	1L	1.2m	2.5m	148



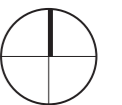
# BUSINESS PARK SOUTHERN BOUNDARY | LANDSCAPE MITIGATION PLAN

## LEGEND

-  TE PUNA STATION ROAD ROADSCAPE PLANTING
-  SOUTHERN BOUNDARY PLANTING
-  INTERNAL BOUNDARIES PLANTING
-  INTERNAL ROADSCAPE PLANTING
-  STORMWATER SWALE & OVERLAND FLOWPATH PLANTING
-  EXISTING PLANTING



LANDSCAPE PROPOSAL | 245 TE PUNA STATION ROAD | 12 MAY



# BUSINESS PARK INTERNAL BOUNDARIES | MITIGATION PLANTING REQUIREMENTS

## SUMMARY

The Internal Boundary planting is a total length of 345m.

The proposed mitigation planting along the internal boundaries is to be installed in a two-layered, linear fashion, in general alignment with that outlined with the District Plan.

Som exotic specimen tree planting has already been implemented along some of these internal boundaries. The proposed mitigation planting contained within this section of the LMP is supplementary to the existing specimen tree mitigation planting.

## OBJECTIVES & OUTCOMES

To install and successfully establish mitigation planting along the internal boundaries, to ensure the required degree of mitigation, as anticipated by the Environment Court Decision and District Plan provisions, is met.



This will be implemented through the use of native and exotic plant species, in combination with existing specimen trees already installed along some internal boundaries. Mitigation planting is to be installed in a two-layered, linear fashion, to align with the layered configuration outlined within the District Plan.

Mitigation planting is to provide visual softening and backdropping of the yard storage activities occurring and anticipated for The Site.

## PLANTING SCHEDULE







Two-layered, linear specimen tree planting along internal boundaries, to contribute to visual softening and backdropping of the storage yard activities.

The total length of the Internal Boundary mitigation planting is 345m.

PLANT IMAGE	BOTANICAL NAME	COMMON NAME	% OF PLANTING	GRADE	PLANTED HEIGHT	SPACING	QUANTITY
	Alnus glutinosa	Black Alder	50	20L	1.2m	5m	35
	Alectryon excelsus	Titoki	50	20L	1.2m	5m	70

# BUSINESS PARK INTERNAL BOUNDARIES | LANDSCAPE MITIGATION PLAN

## LEGEND

-  TE PUNA STATION ROAD ROADSCAPE PLANTING
-  SOUTHERN BOUNDARY PLANTING
-  INTERNAL BOUNDARIES PLANTING
-  INTERNAL ROADSCAPE PLANTING
-  STORMWATER SWALE & OVERLAND FLOWPATH PLANTING
-  EXISTING PLANTING



LANDSCAPE PROPOSAL | 245 TE PUNA STATION ROAD | 12 MAY



# BUSINESS PARK INTERNAL ROADSCAPE | MITIGATION PLANTING REQUIREMENTS

## SUMMARY

The Internal Roadscape planting is a total area of 3,800m<sup>2</sup>, comprising the internal roadfront boundaries of The Site.

The proposed mitigation planting along the internal roadfront boundaries is to be specimen tree species, installed in clusters.

Clustered specimen tree planting will assist with the visual integration of the yard storage activities contained within The Site.

## OBJECTIVES & OUTCOMES

To install and successfully establish mitigation planting along the internal boundaries, to ensure the required degree of mitigation, as anticipated by the Environment Court Decision and District Plan provisions, is met.





This will be implemented through the use of native and exotic specimen tree species. Mitigation planting is to be installed in clusters, to generally align with the internal road planting requirements outlined within the District Plan.

Mitigation planting is to provide visual softening and integration of the yard storage activities occurring and anticipated for The Site

## PLANTING SCHEDULE







Clustered specimen tree planting along internal roadfront boundaries, to contribute to visual softening and integration of the storage yard activities.

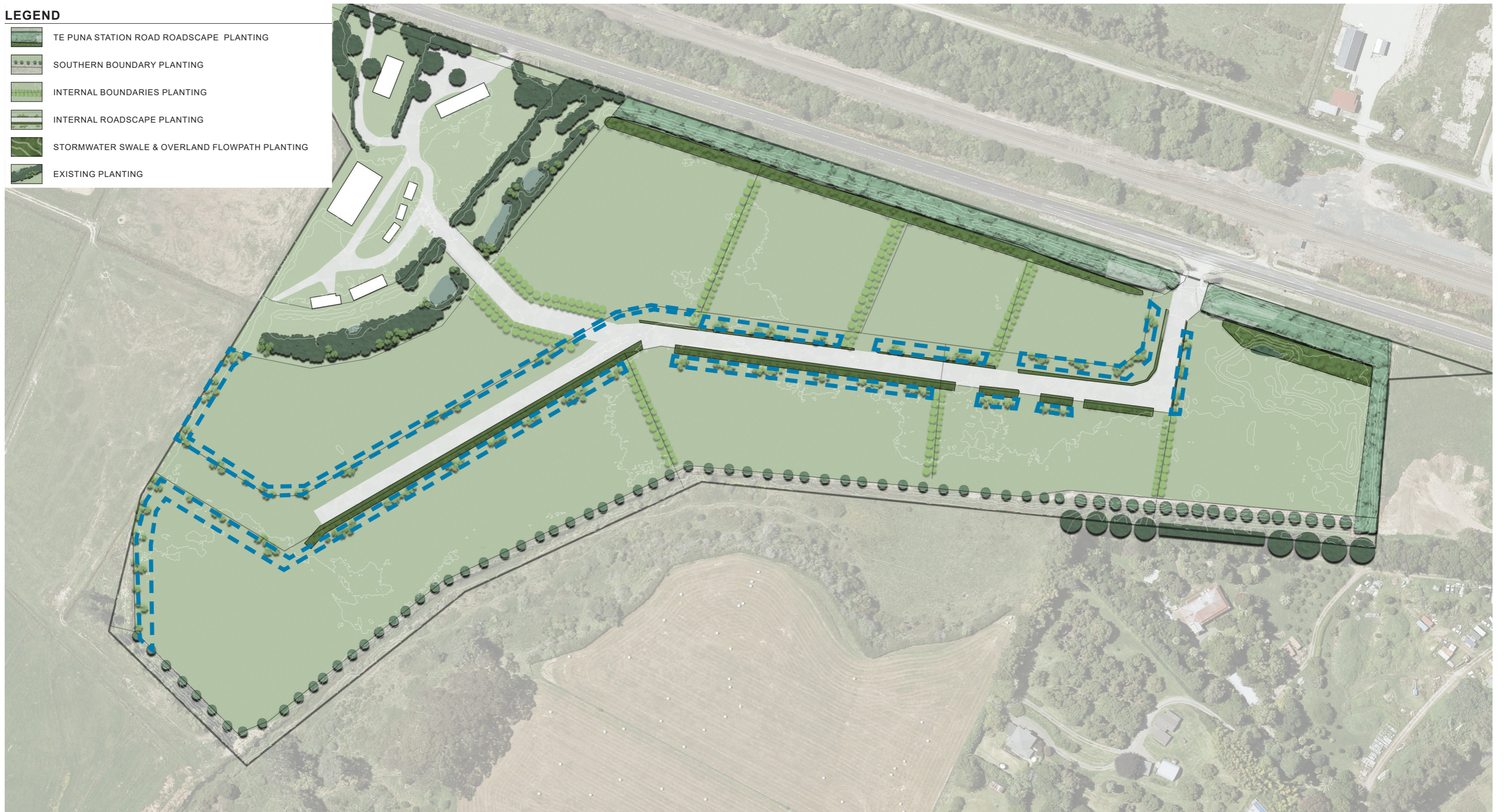
The total length of the Internal Roadscape mitigation planting is 1,300m.

PLANT IMAGE	BOTANICAL NAME	COMMON NAME	% OF PLANTING	GRADE	PLANTED HEIGHT	SPACING	QUANTITY
	<i>Alnus glutinosa</i>	Black Alder	25	20L	1.2m	15m	22
	<i>Metrosideros excelsa</i> 'Māori Princess'	Upright Pōhutukawa	25	20L	1.2m	15m	22
	<i>Alectryon excelsus</i>	Titoki	25	20L	1.2m	15m	22
	<i>Carpinus betulus</i> 'Fastigiata'	Upright Hornbeam	25	20L	1.2m	15m	22

# BUSINESS PARK INTERNAL ROADScape | LANDSCAPE MITIGATION PLAN

## LEGEND

-  TE PUNA STATION ROAD ROADScape PLANTING
-  SOUTHERN BOUNDARY PLANTING
-  INTERNAL BOUNDARIES PLANTING
-  INTERNAL ROADScape PLANTING
-  STORMWATER SWALE & OVERLAND FLOWPATH PLANTING
-  EXISTING PLANTING



LANDSCAPE PROPOSAL | 245 TE PUNA STATION ROAD | 12 MAY



# STORMWATER SWALES & OVERLAND FLOWPATHS | MITIGATION PLANTING REQUIREMENTS

## SUMMARY

The Stormwater Swales and Overland Flowpaths planting area is 4,580m<sup>2</sup>, comprising swale areas at the northern and southern boundaries of The Site.

The proposed mitigation planting provided in these areas is to be typically low riparian species, shrub and mid-tier species, and specimen tree species.

## OBJECTIVES & OUTCOMES

To install and successfully establish mitigation planting within the planting areas required for stormwater, to support visual mitigation provided in the other planting areas, while retaining the views down the valley that connects to the western edge of The Site, as anticipated by the Environment Court Decision and District Plan provisions.










This will be implemented through the use of native plant species only, with respect to advice provided by Pirirakau hapū when undertaking the existing mitigation planting. Mitigation planting is to be installed in a naturalistic, clustered fashion.

Mitigation planting within the stormwater swales and overland flowpaths are focussed on managing stormwater and providing increased native biodiversity to enhance landscape values.

## PLANTING SCHEDULE







Combined native riparian, shrub and specimen tree planting is to provide tiered planting to the northern and southern edges of The Site, to contribute to the integration of the yard storage activities and to support the stormwater functions required within The Site.

The total planting area for the Stormwater Swales and Overland Flowpaths planting area is 4,580m<sup>2</sup>. Some previous native riparian planting has been implemented within the western flowpath and channelised stream area which is establishing well.

PLANT IMAGE	BOTANICAL NAME	COMMON NAME	% OF PLANTING	GRADE	PLANTED HEIGHT	SPACING	QUANTITY
	Apodasmia similis	Oioi	20	RT	0.5m	2m	229
	Carex secta	Pukio	20	RT	0.3m	2m	229
	Coprosma repens	Taupata	10	1L	0.3m	2m	115
	Cordyline australis	NZ Cabbage Tree	5	1L	0.5m	2m	67
	Dacrycarpus dacrydioides	Kahikatea	3	20L	1.2m	5m	15
	Juncus edgariae	Wiwi	20	RT	0.5m	2m	229
	Metrosideros excelsa	Pohutukawa	5	20L	1.2m	5m	14
	Phormium tenax	Harakeke	10	1L	0.5m	2m	115
	Plagianthus regius	Lowland Ribbonwood	7	1L	1m	5m	13

# STORMWATER SWALES & OVERLAND FLOWPATHS | LANDSCAPE MITIGATION PLAN

## LEGEND

-  TE PUNA STATION ROAD ROADSCAPE PLANTING
-  SOUTHERN BOUNDARY PLANTING
-  INTERNAL BOUNDARIES PLANTING
-  INTERNAL ROADSCAPE PLANTING
-  STORMWATER SWALE & OVERLAND FLOWPATH PLANTING
-  EXISTING PLANTING



LANDSCAPE PROPOSAL | 245 TE PUNA STATION ROAD | 12 MAY



# PLANTING SPECIFICATION

## SITE PREPARATION

### 1.0 SCOPE

This section of the Specification covers the clearing and disposal of existing vegetation (except existing mitigation planting and trees noted to be retained), removal of inorganic debris, weedspraying, pruning, minor landscape earthworks and topsoil re-spreading if required.

### 2.0 RELATED DOCUMENTS

Work shall comply with the relevant requirements of the following standard specifications together with the further provisions herein:

- Code of Practice for Safety and Health in Tree Work, Part 1 – Arboriculture
- NZS 4402 Methods of Testing Soils for Civil Engineering Purposes

### 3.0 MATERIALS

#### 3.1 Topsoil

Topsoil is defined as the top layer of soil characterised by the presence of organic matter.

### 4.0 PREPARATION

#### 4.1 Setting Out

In accordance with the Landscape Planting Plans & Schedules provided within the Landscape Management Plan.

#### 4.2 Erosion and Sediment Control

During the course of the works, the Owner shall be responsible for undertaking regular inspections and maintaining the erosion and sediment control measures in operational order.

### 5.0 WORKMANSHIP

#### 5.1 Clearing - General

Clearing shall include the complete removal of all pest plant species, stumps, inorganic debris, boulders, and other materials as specified.

Where machine clearing is not possible, vegetation shall be removed by hand methods and removed off site. Roots from cleared vegetation shall be removed during cultivation work. Particular care shall be taken around the root zone of native vegetation to be retained.

#### 5.2 Tree Clearing

No native trees shall be cleared from the site. Trees and shrubs to be cleared shall include the removal of stumps to be mulched, with mulch retained on site. Stumps in excess of 300mm in diameter may be ground in lieu of removal.

#### 5.3 Weed Spraying

All vegetated areas to be planted shall be sprayed with 2 applications of approved herbicide one week apart and one week prior to clearing.

To attain a weed-free ground prior to planting, the existing weed growth may require cutting, trimming and removal prior to herbicide application. Any vegetation exceeding 200mm in height shall be cleared or mown prior to application of herbicide. Generally this shall mean that all areas to be sprayed other than lawn shall be cleared or mown. Herbicide shall be applied to cleared/mown areas following sufficient re-growth of the weeds through the mulch as specified.

Existing grass areas to be re-sown shall be eradicated by an application of translocated herbicide.

Spraying of herbicides shall not take place in windy conditions and the Owner shall be responsible for reinstating any damage caused by drift of spray.

Where a translocation herbicide is used around plants in leaf to be retained, an adequate guard must be used, or a suitable hood applicator used for spot treatment.

All spraying equipment is to be carefully calibrated to prevent over or under dosing.

The Owner shall note that planting shall not proceed until at least two weeks after the first application of the residual herbicide, unless prior approval is obtained.

#### 5.4 Pruning

All pruning shall be undertaken by skilled operatives. Pruning shall remove all injured twigs and branches. Operations are to be carried out using sharp clean implements to give a clean sloping cut with one flat face. Ragged edges of bark or wood are to be trimmed with a sharp knife. All prunings shall be mulched and retained on site for spreading.

## PLANTING

### 6.0 SCOPE

The scope of planting works shall include the preparation for planting, supply of plants, planting, staking (of trees), fertilising and mulching of all plant material.

### 7. RELATED DOCUMENTS

Works shall comply with the relevant requirements of the following standard specifications together with the further provisions herein:

- NZS 4454: Standard for Composts, Soil Conditioners and Mulches
- "Site Preparation"

### 8. MATERIALS

#### 8.1 Plant Materials - General

Plant materials shall mean plants of all descriptions required for the project in accordance with the plans and as specified.

Plant materials shall be first class specimens of nursery stock, true to name and type with well developed and well shaped trunk or stem and head. They shall be well hardened to cope with the climatic conditions of the site, and free from pests and disease. Planting shall be undertaken in Autumn.

The roots shall have a high percentage of fibrous roots that are just touching the edge of their containers. Plants with roots that are wound round their containers in circular fashion shall be rejected.

Plants shall be free from disfiguring knots, bark abrasions, wind, or freezing injury or other disfigurements and shall bear evidence of proper pruning.

Where several specimens of the same species are to be selected, evenness of shape and size is required within the size range specified.

Legible labels shall be attached to each plant delivered to site as a separate unit, or to each box, bundle or bale containing plants. The labels shall give the approved botanical name, size, age and quantity and other information required to identify the plant or plants.

In exceptional supply shortages, plant substitution may be considered.

#### 8.2 Container Grown Shrubs (excludes root trainers)

Container grown shrubs shall be to the container size (PB) specified in the Schedule and on the drawings.

Container grown shrubs shall be strong well-rooted sturdy plants without stakes or canes. Shrubs shall have two or three main stems and a good bushy form. They must have been grown in the containers for at least 6 months over a summer period prior to planting out and the container shall be full of root but not root bound.

#### 8.3 Compost

Compost shall be proprietary top-quality compost produced in accordance with the Best Practice Guidelines contained in the New Zealand Standard for Composts, Soil Conditioners and Mulches (NZS 4454:2005).

#### 8.4 Mulch

Mulch shall be Grade 3 Bark Mulch or chip mulch.

#### 8.5 Fertilisers

All plants shall be planted with controlled, slow release fertiliser such as 'Nutricote' or 'Osmocote Plus' of composition 6:15:3 (N:P:K).

Fertiliser shall be applied to the backfill of each tree, shrub and groundcover in accordance with the following application rates. In all cases, the fertiliser shall be mixed with the soil in the base of the prepared hole prior to placement of the root ball.



# PLANTING SPECIFICATION

Plant Size	Application Rate per plant (grams)
RT	12g
PB2	12g
PB5	12g
PB8	20g
PB10	25g
PB28	50g
PB40	80g
PB60	100g
PB95	150g
PB150	400g
Transplant	1000g

## 8.6 Delivery and Temporary Storage

All plants stored on site shall be watered daily.

Plant roots shall be protected at all times from sun or drying winds. Plants that cannot be planted immediately on delivery shall be kept in the shade, well protected, with soil kept well watered.

If shoots or roots suffer slight damage they shall be carefully pruned and treated with an approved fungicidal sealant. If major damage occurs the plants shall be replaced at the Owner's expense.

Pots and other protective materials shall not be removed until immediately prior to planting, and shall be disposed of off the site after planting. Roots shall not be left uncovered at any time.

## 9.0 PREPARATION

### 9.1 Clearing

Areas to be planted shall be cleared, mown and weed sprayed as required in accordance with "Site Preparation".

### 9.2 Acceptance of Soil Conditions

The Owner shall assess the condition of the existing topsoil on-site and where they consider that the existing topsoil is deficient, or waterlogged, they shall advise the Landscape Architect to agree the soil condition and whether any remedial measures will be adopted.

### 9.3 Setting Out

Planting positions shall be pegged/laid out, in accordance with the planting plan.

Native Canopy Tree positions shall be pegged prior to planting and the final positions approved prior to the holes being dug.

In areas of block planting, plants shall be spaced evenly so that when established they will completely fill the areas indicated as precisely as possible. The area to be filled by each species shall first be defined by plants spaced around the perimeter. The remaining plants shall then be used to fill the centre of the area in an informal manner avoiding straight lines and regular geometric patterns.

## 10.0 WORKMANSHIP

### 10.1 Timing of Operations

Work shall only be undertaken when the weather is suitable, ie. mild, dull and moist, and when the ground is moist and workable. This applies between the months of April and October only. All planting operations shall be suspended during periods of severe frosts, waterlogging, drought or persistent drying winds.

### 10.2 Existing Vegetation

The Owner shall ensure that existing vegetation to be retained shall be protected from damage. Care shall be taken in the operation of equipment that branches and canopies of trees are not damaged.

Equipment and machinery should not be stored within the drip line of any trees or in garden beds.

### 10.3 Planting

All planting shall be performed by experienced workmen in accordance with the recognised best horticultural practice.

All plants not requiring tree pits shall be planted into holes so that the soil level after settlement shall match the original soil mark on the stem of the plant. The bottom of each hole shall be pierced to a depth of 200mm with the tines of a fork or similar implement to ensure root penetration and free drainage. The sides of the pit pits dug by rotary augers, shall be roughened to remove and glazing of the surface.

The base of each hole for plants less than PB40 shall be provided with a 25mm layer of proprietary compost. Plants PB40 and larger shall have compost applied in accordance with clause 3.4 above.

Fertiliser shall be applied to the base of the dug hole in accordance with clause 3.11 above.

Container grown plants shall have the container removed immediately prior to planting. Care shall be taken to ensure that the root ball is not disturbed during container removal or planting. Plants shall be set in their final positions with main stem vertical and at such a depth that the soil, when firmed down is at the same height as the nursery earth marks on the stem or the container soil level. Loose roots shall be spread out in a natural fashion, the soil being carefully placed under and amongst them to fill all voids and firmed in.

Specimen trees and advanced stock shall be orientated when planted, so that the weathered face of the trunk faces north.

Any major roots that become accidentally broken off or frayed shall be cleanly cut off from the plant. Damaged roots over 25mm diameter on advanced nursery stock and specimen trees shall be cut back to sound growth and treated with fungicidal sealant.

### 10.4 Pruning Generally

Before planting, all shrub material shall be pruned as necessary to conform with the best horticultural practice appropriate to the type of plant.

Pruning shall remove all injured twigs and branches and shall be such as to compensate for any loss of roots during planting operations and shall be carried out without any bruising or tearing of the bark.

After planting, all plants with damaged branches unless rejected, shall be carefully pruned back to healthy wood.

Operations are to be carried out using sharp clean implements to give a clean sloping cut with one flat face. Ragged edges of bark or wood are to be trimmed with a sharp knife.

All pruning waste shall be mulched and spread on site.

At the end of the maintenance period, all plant material shall be checked for any dead wood, broken or damaged branches which shall be pruned and removed from the plant.

### 10.5 Water Generally

The Owner shall be responsible to provide water supply for watering (or water carts if necessary) and to water the installed plants to the level required for season the planting is programmed to be installed. Additional watering will be required during the drier seasons.

Attention must be paid to watering during and after planting to ensure successful establishment.

In the interests of good horticultural practice watering shall be sufficient to give 300mm minimum depth penetration and not just surface dampening.

Planting unable to be completed before 25th September shall require additional watering visits during the establishment period.

#### 10.5.1 Prior to Planting:

All plants shall be thoroughly watered a few hours prior to planting.

#### 10.5.2 After Planting:

At the time of planting all trees and shrubs are to be copiously watered in such a way that the entire tree pit or shrub station is moistened to field capacity to encourage settlement. The Owner shall be responsible for watering all plants as required to ensure their survival.

# PLANTING SPECIFICATION

## 10.6 Mulching Generally

Upon completion of planting, all spot mulching shall be spread with mulch to a depth of 100mm after settling.

The mulch shall be spread to a 0.5m diameter around the trunk.

Mulch is to be kept clear from the base of tree trunks or underneath shrubs which have a tendency to develop leaf rot and not piled against stems of plants.

No mulch is to be applied within stormwater, wetland and swale planting areas.

## 10.7 Weed Control

Spraying should include a pre-spray of all new planting areas, then selective weed spraying monthly throughout the 3-year maintenance period to ensure weeds are suitably controlled.

## 10.8 Pest Control

To control the pests to reduce the damage the Owner may implement any of the following measures;

- Install wire staples around the root balls of the plants,
- Install pest proof netting,
- Install additional stakes and ties to the plants,
- Apply poison or trapping to control hares and possums.

## 11.0 COMPLETION

### 11.1 Loss or Damage of Plants

A loss of 5% of plants less than (and not including) PB28 is deemed to be an acceptable loss, provided the lost plants are evenly spread over the whole of the planted area and are not noticeable as a bare patch. In the event that loss occurs over a confined area, the Owner shall replace such plants at its cost.

Any plants stolen or vandalised shall be replaced.

## MAINTENANCE

### 12 MAINTENANCE

#### 12.1 Maintenance General

The Owner shall undertake maintenance of the landscaping works regularly throughout the first 3 years.

#### 12.2 Area to be Maintained

The area to be maintained shall be the whole site as defined on the Landscape Planting Plan, including existing mitigation planting already installed.

### 13 HEALTH AND SAFETY

All works will be undertaken in accordance with the requirements of the Health and Safety in Employment Act.

Where the public or Owner's staff are likely to be at risk of harm or contact with paint, chemicals, excessive noise or dust, the Owner shall isolate the works area with barriers, warning tape or signs (or a combination of these measures) to a degree commensurate with the hazards.

### 14 FREQUENCY

#### 14.1 Maintenance

Maintenance shall be undertaken in accordance with the following schedule. Maintenance records should be held and provided to the Landscape Architect, to ensure maintenance in accordance with the requirements and schedule is undertaken. 6-monthly site inspections by the Landscape Architect are recommended to confirm plant establishment.

SOFT LANDSCAPE MAINTENANCE SCHEDULE													
	GROWING SEASON												AT COMPLETION
	SPRING			SUMMER			AUTUMN			WINTER			
	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
<b>TREES, SHRUBS AND GROUNDCOVERS</b>													
• Staking	Monthly – As Required												
• Trimming	Monthly – As Required												
• Hedge trimming													
• Fertiliser													
• Weed Control	Monthly												
• Watering	3 Times Per Week During Dry Periods												
• Replacement	Monthly – As Required												
<b>Wetland Planting</b>													
• Weed Control	Monthly												
• Replacement	Monthly – As Required												
<b>GRASS</b>													
• Mowing (Medium)	Fortnightly			Monthly			Fortnightly			Monthly			
• Mowing (Rough)	Monthly			Monthly			Monthly			2 Monthly			
• Fertiliser													
• Weed Control													
• Over Sowing													
<b>LITTER REMOVAL</b>													
• Removal	Monthly												
<b>MULCH</b>													
• Top Up													

# PLANTING SPECIFICATION

## 14.2 Responsive Maintenance

In addition to the routine maintenance of soft landscaping programmed above, responsive monitoring and repairs as necessary should be carried out as follows:

- Following a storm event,
- Following prolonged dry or wet periods.

## 15 SOFT LANDSCAPING - DEFECTS

### 15.1 Planting Defects

Any material or plant that is found to be defective (e.g. does not show leaf or make adequate growth).

Planting shall be done to a standard that is fit for purpose.

Broken or damaged stakes, ties and ground anchors shall be replaced as soon as practicable. Damage to the plants resulting from delays in replacing plant supports shall be made good at the Owners expense.

The Owner is responsible to ensure that plants installed, survive and grow. Water is essential to achieve this.

The Owner shall inspect the soft landscaping works no less than monthly to confirm the health of the plants, existence of pests or diseases or vandalism.

### 15.2 Replacement Plants

Plants used to replace defective plants, shall be the same species/cultivar and similar size to those originally specified.

Dead or unhealthy plants shall be replaced within 1 month of the Owner being aware of this condition of the plants. Any plant which is found to be defective (eg. does not show leaf or make adequate growth) from any cause other than vandalism (See below), shall be deemed to have deteriorated through poor installation and/or poor maintenance and shall be replaced by the Owner, at their expense.

## 16 SOFT LANDSCAPING - MAINTENANCE

### 16.1 General

Maintenance shall include watering, weed removal, plant trimming, cultivation, insect and disease control, checking stakes and ties, pruning and other accepted horticultural operations to ensure normal and healthy plant establishment and growth and generally keeping the area neat and tidy.

#### 16.1.1 Watering

The Owner shall water all plants over periods of dry weather to ensure the plants survive and grow. Water shall be applied until the top 200mm of topsoil around each plant is saturated.

Watering should not be undertaken during the hot part of the day. Watering nozzles shall be fine rose or sprinkler heads to prevent damage to growth areas of the plants.

#### 16.1.2 Weed Control

Weeds shall be removed by hand removal where possible. Spaying of weeds with an approved herbicide may be required for persistent weeds, however the visible portion of the weed shall be removed as soon as the weed has died. Herbicide application shall be spot sprayed using a protective spray nozzle/cone.

Inadequate mulch depth may allow excessive weed growth, therefore mulch shall be kept topped up to the original specified depth.

#### 16.1.3 Fertiliser

Slow release fertiliser is applied to the bedding soil of plants at the time of plant installation.

Further applications of approved, NPK balanced, slow-release fertiliser shall be applied in accordance with the Maintenance Schedule. Application rates shall be as recommended by the fertiliser manufacturer with regard to the size of plant.

Fertiliser should be watered-in after application.

Fertiliser shall be applied to grassed areas in accordance with the maintenance programme above. Fertiliser shall be Osmocote, or similar approved, Applied at the rate of 20gm/m<sup>2</sup> or at a rate recommended by the manufacturer.

#### 16.1.4 Noxious Pests

The Owner shall monitor the works for insect and plant disease problems, shall identify the problem and apply appropriate remedy by accepted horticultural practices including chemical or biological methods.

The Owner is responsible to take all suitable precautions for the safe handling and application of herbicides, fungicides and insecticides and shall use these strictly in accordance with the manufacturer's specifications. In all cases, sprays shall be applied on windless days. Public shall be advised by signage that spraying is occurring and shall be directed away from the spray area.

#### 16.1.5 Mulch

The Owner shall supply and install additional mulch and/or bark (the same material as existing) to ensure all mulch areas have a depth of no less than 100mm.





#### **About Boffa Miskell**

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Whangarei, Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin, and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

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