373 COLYTON ROAD - FEILDING

Rural Residential Subdivision

LANDSCAPE DEVELOPMENT CONCEPT

DEC 2023

Information and Quality Control

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This document meets 4Sights information and document control procedures in accordance with our quality assurance system, independently audited by Telarc under Qbase code 2001.

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Plan Set

Appendix - Background Design Work

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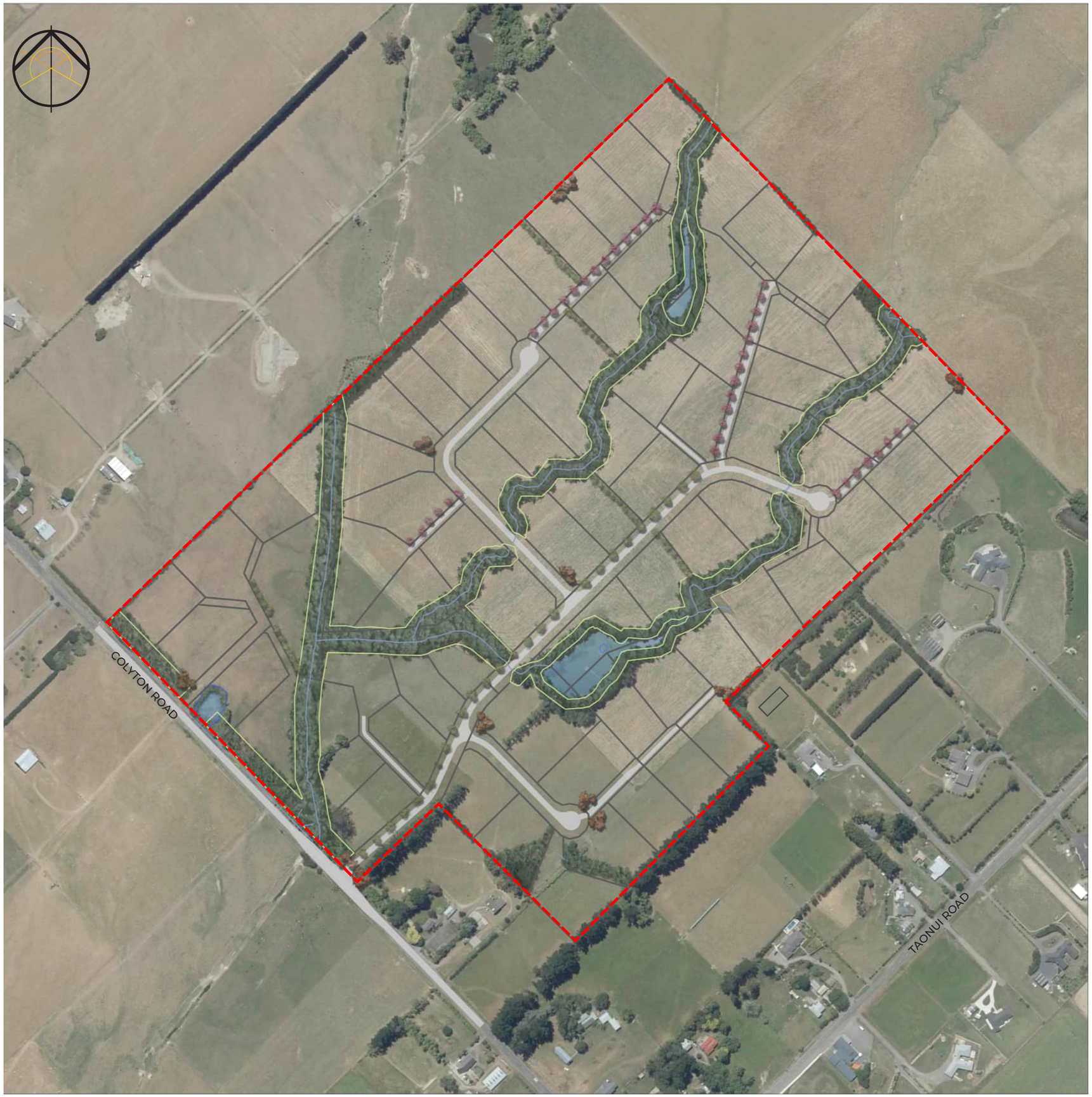

Landscape Development Concept

Before

Design Objectives

- Create a subdivision led by environmental improvements
- Future proof cross catchment water management
- Create a rural residential subdivision complementary to Colytons rural and village setting
- Create a subdivision with a prominent vegetative framework creating an outlook and enabling privacy, avoiding overlooking
- Use the vegetative framework to fragment the visual extent of development from off site vantage points and within the development
- Give consideration to existing neighbouring dwellings and their outlook

COLYTON RURAL RESIDENTIAL SUBDIVISION

Client	Fine Time Ltd
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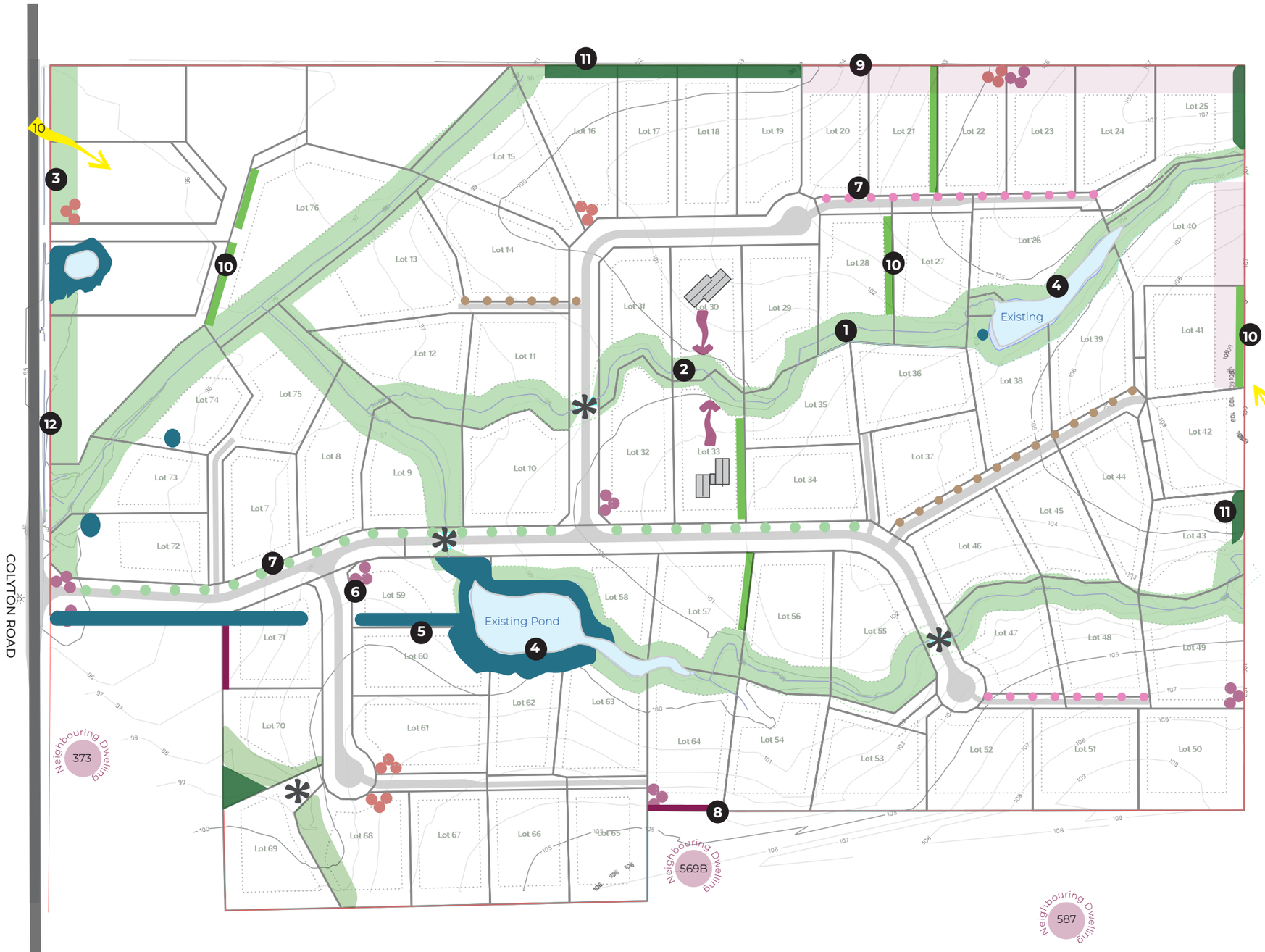
LANDSCAPE DEVELOPMENT CONCEPT

LA101



For proposed road & ROW cross sections, street light locations, cesspits and culvert crossings, refer to Engineers Plan Set

Design Explanation

1. Drainage pattern retained for stormwater management. Drainage pattern defines lot layout and boundaries. Drainage pattern enhanced and protected with 20m wide covenanted native revegetation
2. Drainage pattern establishes vegetated outlook, enhancing separation between overlooking lots
3. Colyton Road Lots (Stage 1), 15m wide earthworked and revegetated strip to contain potential flood waters.
4. Existing Ponds - weed species removed, replacement planting with native revegetation species
5. Existing vegetation retained where suitable to minimise disruption of established vegetated rural character
6. Exotic specimen tree clusters proposed in lot on key corners to improve site legibility, forming recognisable landmarks, while enhancing site aesthetic with seasonal contrast to native revegetation
7. Differing street trees (in road reserve) and ROW tree avenues (in Lot) further enhance site legibility and seasonal contrast (ref LA 103)
8. Mixed shrub boarders / hedges proposed to create vegetated interface with existing dwellings (ref LA 103)
9. Increased rear boundary yard proposed for lots abutting nearby existing dwellings to ensure separation
10. Fast growing exotic hedge rows proposed on limited lot boundaries to fracture extent of visibility of collective development from off site and within site (ref LA 103)
11. Native riparian vegetation extended in areas (10m width) to further fracture extent of visibility of collective development from off site (ref LA 103)
12. Colyton Road frontage fence styles varied to reduce look of collective subdivision development (ref LA 104)

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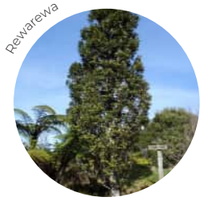
Exotic Hedge Row

Riparian Specimen Tree Clusters



Riparian Revegetation

Titoki

Street Trees

American Sweetgum

Oriental Plane

On Lot Cluster Specimen Trees

Chonosuki Crabapple

Flowering Cherry

ROW Avenue Specimen Trees

Landscape Development Plan

Proposed Vegetation Key

- Existing Vegetation
- Vegetation to be removed
- Proposed Riparian Edge Native Revegetation 20m width
- Proposed Riparian Specimen Tree Clusters
- Proposed Native Revegetation Extended 10m width
- AC — Exotic Hedge Row 3m width double zig zag row
- PO / LS — On Lot Cluster Specimen Trees x3 Typically 5 to 7m spacing (within lot)
- MT / PK — Single Avenue Specimen Trees Typically 15m spacing (within Lot)
- AE — Single Avenue Street Trees Typically 20m spacing (within road reserve)
- Mixed Shrub Border / Hedge 3m width triple zig zag row

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LANDSCAPE DEVELOPMENT CONCEPT

LA103

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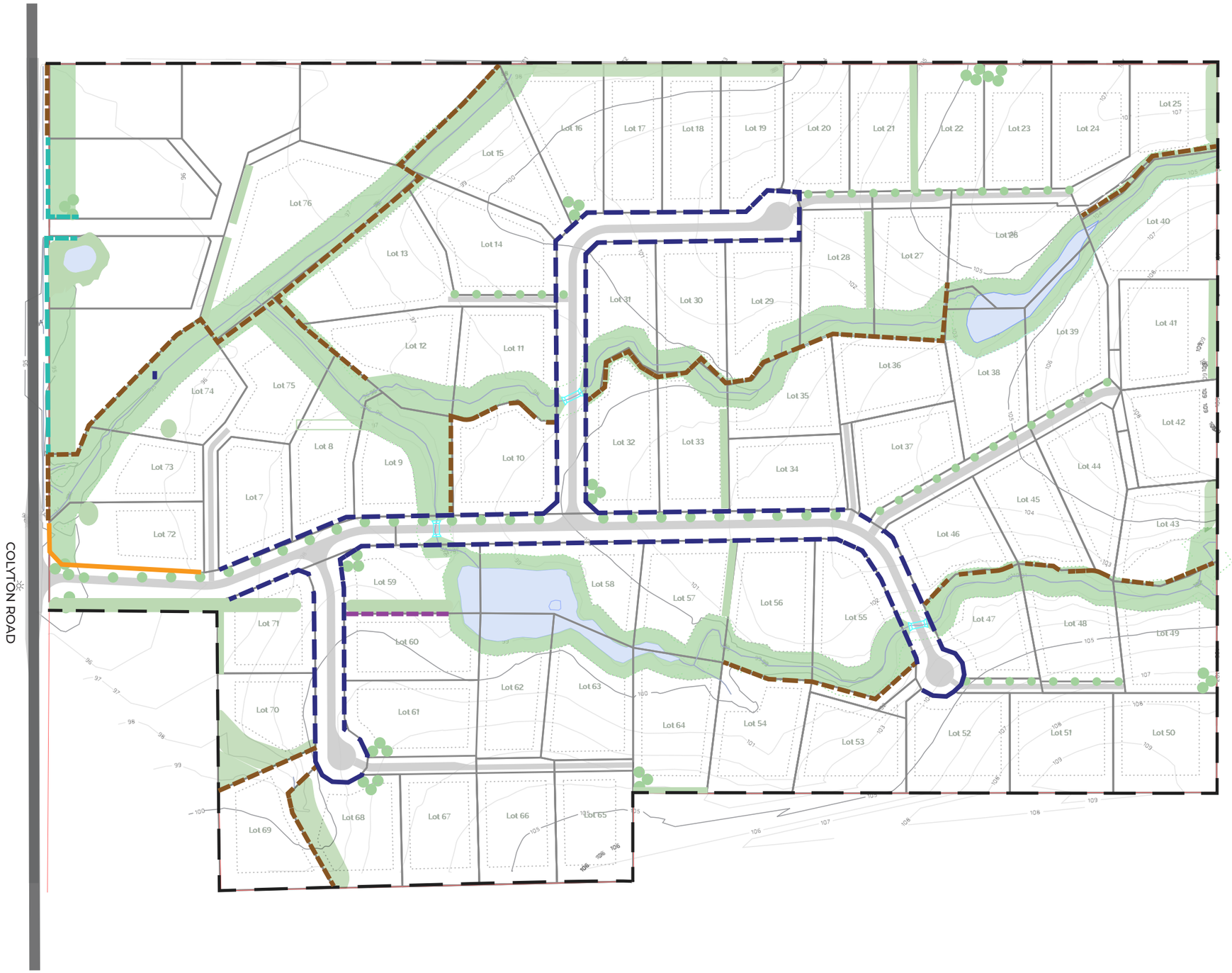

Fence Development Plan

Proposed Fence Key

Existing Boundary Fencing

Road Edge & Entrance
Post & Rail Fence - Type 1

Example Image

Road Edge & Entrance
Post & Rail Fence - Type 2

Example Image

Revegetation
Post & Wire/Mesh Fence

Example Image

Street Front Fence Covenant
Lot boundary fences installed by owners

Street front fences restricted to post & rail, post wire/mesh fence or planted boarders/hedgerows.

Close board timber fences restricted to service court areas (max length 15m) in assocaitions with planted boarders

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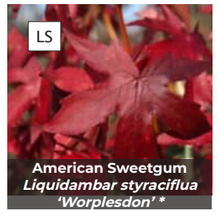
Streets & ROWs

Exotic Landmark Specimen Tree Clusters
Tree cluster corner of Lots



Native Street Tree
Street Tree

Exotic Single Avenue Specimen Trees
ROW Avenue Tree

Areas of Underplanting
for Tree clusters corner of Lots

Riparian Edge Native Revegetation

Riparian Specimen Trees

Riparian Edge Shrubs and Groundcovers

NOTES:

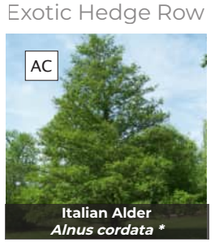
Schedule complied with regard to Palmerston North Council Vegetation Framework Plan, dated 2016 & Leafland Nursery Catalogue

Species Schedule not exhaustive, subject to detailed design and plant availability.

** Exotic plant species*

Boundarys

Exotic Hedge Row



MIxed Shrub Border / Hedge (3m width)

Plant Species Schedule

Botanical Name	Common Name	Grade	Space	H x W
STREET , ROWS & CORNER OF LOTS				
Specimen Trees				
Alectryon excelsus	Titoki	45L	20m	7 x 6m
Liquidambar styraciflua 'Worplesdon'	American Sweetgum *	45L	7m	8 x 5m
Malus tschonosk	Chonosuki Crabapple *	35L	15m	6 x 4m
Platanus orientalis 'Autumn Glory'	Oriental Plane *	45L	7m	8 x 6m
Prunus serrulata 'Kanzan'	Flowering Cherry *	35L	15m	6 x 4m
Under Planting (Specimen Tree Clusters Corner of Lots)				
Chionochloa rubra	Red Tussock	2L	1/m²	1 x 1m
Dietes grandiflora	Fortnight Lily *	2L	2/m²	0.7 x 0.5
Hebe 'Wiri Mist'	Hebe	2L	1/m²	1 x 1m
Lomandra 'Tanika'	Lomandra *	2L	2/m²	0.7 x 0.7
Phormium 'Emerald gem'	Dwarf Harakeke	2L	1/m²	1 x 1m
Pittosporum tenuifolium 'Golf Ball'	Kohuhu Cultivar	2L	1/m²	1 x 1m
Poa cita	Silver Tussock	2L	2/m²	0.7 x 0.7
RIPARIAN NATIVE REVEGETATION				
Specimen Tree Revegetation				
Cordyline australis	Cabbage Tree	2L	1/m²	6 x 2m
Dacrycarpus dacrydiodes	Kahikatea	PB12	5m	20 x 5m
Hoheria sexstylosa	Houhere	PB12	3m	5 x 3m
Knightia excelsa	Rewarewa	PB12	4m	20 x 5m
Kunzea ericoides	Kanuka	2L	2/m²	8 x 3m
Plagianthus regius	Ribbonwood	PB12	3m	10 x 4m
Podocarpus totara	Totara	PB12	6m	15 x 8m
Sophora microphylla	Kowhai	PB12	2m	8 x 3m
General Revegetation				
Apodasmia similis	Oioi	1L/RT	2/m²	1 x 1m
Carex dissita	Forest Sedge	1L/RT	1/m²	1 x 1m
Carex secta	Purei	1L/RT	1/m²	1.5 x 1.5m
Carex virgata	Pukio	1L/RT	2/m²	0.6 x 1m
Coprosma propinqua	Mingimingi	1L	1/2m²	2.5 x 5m
Coprosma robusta	Karamu	1L	1/2m²	4 x 5m
Eleocharis acuta	Spike Rush	1L/RT	1/m²	1 x 1m
Hebe stricta	Koromiko	1L	1/m²	1 x 1m
Leptospermum scoparium	Manuka	1L/RT	1/m²	4 x 2m
Myrsine australis	Red Matipo	1L	1/2m²	3 x 5m
Phormium cookianum	Mt Flax	1L	1/m²	1.5 x 1.5m
Phormium tenax	Harakeke	1L	1/2m²	2 x 1.5m
Piper excelsum	Kawakawa	1L	1/2m²	4 x 2m
BOUNDARYS				
Alnus cordata	Italian Alder *	PB28	5m	15 x 5m
Carpodetus serratus	Marble Leaf	2L	3m	10 x 4m
Leptospermum scoparium	Manuka	1L	1m	4 x 2m
Photinia x fraseri 'Red Robin'	Red Tip Photinia *	2L	2m	4 x 3m
Pittosporum eugenioides	Kohuhu	5L	2m	10 x 3m
Plagianthus regius	Ribbonwood	2L	2m	10 x 4m
Pseudopanax arboreus	Five Finger	5L	2m	6 x 3m
Pseudopanax lessonii 'Cyril Watson'	Cyril Watson	2L	1m	4 x 2m
Viburnum tinus 'Emerald Green'	Viburnum *	2L	2m	2 x 2m

COLYTON RURAL RESIDENTIAL SUBDIVISION

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1.0 PLANT MATERIAL

1.1 PLANT QUALITY

All plants shall be best nursery stock, healthy and vigorous, with well-developed root systems, free of disease, pests and physical damage. Plants shall be well branched and symmetrically shaped and a normal habit for their particular species.

Containerised plants shall be in a potting mix suitable to the species. The size of the container must suit the plant size and stage of development.

1.2 TREE QUALITY (FOR GRADES GREATER OR EQUAL TO 35L)

All trees shall be of good form with a single dominant stem with all side branches evenly spaced and less than 1/3 of the diameter of the main stem, (this may not be possible with species which have a multi-stemmed crown). All side branches should be set onto the main stem at angles between 30 and 75 degrees, or at such an angle that is natural for the particular species.

At no time should there be evidence of included bark at any of the branch collars, double or co-dominant leaders, bark damage, old wounds or other defects. Graft position onto rootstocks should be within 150mm of the root collar.

The ratio between the tree diameter (DBH) at a 1.5 meter heights and the tree height shall be no less than 1:100 for trees up to 3 meters in height.

Main stems shall be straight and vertical with occasional diversions allowable of less than 5% at any point.

The main root system shall radiate evenly from the base of the tree, with no evidence of girdling roots. The root system shall be vigorous and healthy and rooted throughout the container without being root bound. The root system should be well developed and healthy with a large portion of fine roots in relation to the main roots. Root systems shall be in balance with the amount of foliage growth on the plant.

Open ground trees should have been wrenched on an annual basis to encourage root development.

All necessary pruning shall be done at time of planting.

1.3 PLANT STORAGE

Potential short term storage of plants on site to be discussed and agreed with Project Manager prior to dispatch of plants from nursery.

Plant material shall be planted on the day of delivery, or as soon as possible after this. It is the Landscape Contractor's responsibility to ensure that plants shall be kept protected and well-watered on site prior to planting and not damaged by the sun and drying winds.

At all times open ground species shall have their roots damp and protected in wrappings or bags. Their roots must not be allowed to dry out or be exposed to wind or sun.

2.0 PLANTING TYPOLOGIES

2.1 PLANT TYPOLOGIES

Landscape development planting includes six typologies:

- Proposed riparian revegetation (with and without specimen trees)
- Proposed native revegetation extended beyond riparian zone
- Proposed exotic hedge rows
- Proposed mixed shrub boarder
- Proposed clustered specimen trees & under planting
- Proposed street trees and ROW avenue specimen trees

2.2 PLANT METHODOLOGIES

Riparian planting will be planted into grassed areas (to avoid flood water distributing bark mulch) and pegged with bamboo stakes for identification during the maintenance period.

Native revegetation extending beyond the riparian zone, mixed shrub boarders and clustered specimen trees and under plantings shall be cleared of weeds and grass varieties and bark mulched.

Individual trees within exotic hedge rows, street trees and ROW single avenue specimen trees shall have a 1m diameter of bark mulch around the base of each tree.

3.0 SITE/GROUND PREPARATION

3.1 TIMING

The weed eradication programme should commence at least three (3) months prior to the date in which the plant implementation is due to commence in order to ensure successful eradication is achieved. A six (6) month lead time is required if removing 'noxious' weeds, to enable multiple applications and monitoring.

3.2 GROUND PREPARATION

All revegetation plant areas shall be prepared in such a manner that competition for the proposed plants from all weed varieties, particularly noxious weeds are controlled in an acceptable manner.

The plant areas to be bark mulched shall be prepared in such a manner that competition for the proposed plants from all weeds and grass varieties, particularly noxious weeds and visually undesirable weeds are controlled in an acceptable manner.

3.3 CHEMICAL HERBICIDES

Chemical herbicides are to be used with caution. Where herbicides are required, the use of Glyphosate, such as Roundup, Escort and Versatil herbicides are the only herbicides to be used. They shall be applied strictly in accordance with the manufacturer's instructions by a certified contractor.

No spraying shall be undertaken in windy conditions. Any damage caused by drift will be made good at the Landscape Contractor's expense.

3.4 SOIL CULTIVATION FOR GENERAL PLANTING

Any earthworked soil medium shall be cultivated to provide good plant support and to encourage active root growth in the Planting Areas. 200mm minimum depth of adequate friable topsoil shall be provided within earthworked planting areas. All topsoil shall be finely smoothed to eliminate all minor depressions and wheel marks and to produce a smooth, evenly-graded, open-textured surface which will not hold water.

In the event that the ground has been compacted, lightly disk the topsoil and cultivate to a depth of 100mm minimum to assist in creating a desirable planting bed.

4.0 PLANTING SMALL GRADE SHRUBS, GROUNDCOVERS & TREES

4.1 PLANTING LAYOUT

Proposed planting is to be undertaken in accordance with the layout mapped in LA103, Landscape Development Plan and the Summary Plant Species Schedule LA105, dated 12 December 2023.

4.2 PLANTING DATE & PERIOD

All planting shall be undertaken during autumn/winter months (from April through to the end of August, with May, June and July the preferable months).

4.3 GROUND PREPARATION FOR PLANTING

Planting holes shall be hand dug. The base of the hole is to be broken up/roughened to allow water infiltration and root growth.

4.4 PLANTING TECHNIQUE

Plant holes, planting and backfilling for all plants shall be in accordance with good horticultural practice and techniques. Plants should be set in the holes so that the soil level, after settlement, will be at the original soil mark on the stem of the plant and level with the surrounding ground. No plant roots should be left exposed to the surface.

4.5 FERTILISER

All plants (except Manuka and Kanuka) shall be planted with a controlled release (2 plus year) general fertiliser (such as 'Nutricote', 'Osmocote Plus or Agriform). The fertiliser shall be applied according to the manufacturer's recommendations for the plant size. The fertiliser shall be placed in the base of the hole.

Soft Landscape Specifications & Maintenance Plan

PROPOSED PLANT TYPOLOGIES

- Proposed Riparian Edge Native Revegetation 20m width
- Proposed Riparian Specimen Tree Clusters
- Proposed Native Revegetation Extended 10m width
- AC — Exotic Hedge Row 3m width double zig zag row
- PO / LS — Landmark Cluster Specimen Trees x3 Typically 5 to 7m spacing (within lot)
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LA106

4.6 WATERING/SOIL CONDITIONS

If soil conditions are very dry at the time of programmed planting dates, then the Landscape Contractor shall discuss delaying plant implementation (in the short term) with the Project Manager.

4.7 STAKING

Any large plants that are limp or struggling to stand up once in the ground shall be staked with a single appropriately sized stake and fastened with a tie in accordance with good horticultural practice.

All revegetation plants planted into grassed areas shall be planted with a bamboo stake so plants can be identified, accounted for and maintained during the maintenance period.

4.8 MULCH

A 100mm minimum average layer of Cambium Mulch shall be placed within all plant areas identiifed in Sectin 2.2 . It is important that any plant hole's backfill material is not mixed in with the mulch.

5.0 PLANTING SPECIMEN & STREET TREES

5.1 LOCATION OF TREES

Specimen tree locations shall be pegged on site prior to planting, with all service locations confirmed before planting works commence.

5.2 GROUND PREPARATION FOR SPECIMEN TREES

Tree holes shall be at least twice the diameter of the plant rootball at the base of the hole and one and a quarter times the depth of the rootball.

Planting holes shall be hand dug, or if machine dug, then finished by hand, breaking up/roughening the edge and base of the hole to avoid glazing of clay and to allow water infiltration and root growth.

5.3 PLACEMENT OF TREES & BACKFILLING

The lower one-fifth of the planting hole shall be backfilled with reworked basal material and compacted by foot. The trees rootball shall be positioned on this and the remainder of the hole backfilled with topsoil. For the upper 300mm of the hole, topsoil shall be mixed with organic compost (approx 0.02m^3) .

The tree trunk shall be vertical and orientated so that the weathered face of the trunk faces north. It shall be set in the hole so that the soil level, after settlement, will be at the original soil mark on the stem of the plant and level with the surrounding ground.

5.4 FERTILISER

All trees larger than 35L grade shall be planted with a controlled release fertiliser Sierrablen Flora. Quantities shall be in accordance with the manufacturer's recommendations for the tree size. The fertiliser shall be placed in the base of the hole.

5.5 STAKING

All trees shall be firmly staked and tied. 35L & 45L grade trees shall be staked with three 1.8m x 50mm x 50mm ground treated or ground durable timber stakes.

The stakes shall be positioned with at least one third of their total length in the ground and shall be positioned in the ground as the tree is being planted to avoid damaging the roots. All stakes shall be finished vertically with the tops level with each other. The three stakes shall be positioned forming an equal angled triangle, with two stakes being parallel with the road/ ROW.

Trees shall be fastened with 50mm wide Hessian webbing ties or an approved equivalent. Trees shall be tied at one third to one-half of the tree height, leaving enough play for a small amount of natural movement.

5.6 WATERING/SOIL CONDITIONS

If soil conditions are very dry at the time of programmed planting dates, then the Landscape Contractor shall discuss delaying plant implementation (in the short term) with the Project Manager.

5.7 BARK MULCH

All trees shall be mulched with Cambiium Mulch to at least a 100mm depth. The outer perimeter shall be shaped and raised a little to allow water infiltration while the mulch shall be kept clear of the base of the tree trunk. The bark mulch shall be spread to a one metre diameter around the tree trunk, or to the drip line of the tree whichever is the larger.

6.0 MAINTENANCE OF PLANTED AREAS

6.1 MAINTENANCE PERIOD

The Landscape Contractor shall be responsible for the ongoing maintenance within lots until the property is purchased and settled. The Landscape Contractor shall be responsible for the ongoing maintenance of the Street Trees and ROW Avenue Trees for period of two years. The Landscape Contractor shall maintain the site every two months for the first year of plant establishment, with a minimum of quarterly visits for the following year.

6.2 WEED CONTROL

Monitor and protect all plants from weeds. Any plant deaths resulting from weed suppression or weed control measures shall be replaced.

Manual weeding only is to be undertaken in all planted areas during establishment with the exception of mulched areas in which some spot spraying of the herbicides Glyphosate (e.g. Roundup) or Escort may occur. Weed control shall be undertaken as often as required to ensure the successful establishment and ongoing survival of all planted material.

6.3 TREE WEED CONTROL

Monitor and protect all trees from damage by pests and disease and remove all weed and grass species from within the one metre radius of the tree. Weed and grass species shall either be removed by hand or by spot spraying.

6.4 MULCH IN PLANTING AREAS

The cambium mulch shall be contained in Planting Areas in a tidy state and maintained at a minimum depth of 100mm. The Landscape Contractor shall infill any holes that develop in the mulch and top-up any levels that fall below the depths specified.

6.5 STAKING OF TREES

Ensure all tree stakes and ties are in good repair and are not restricting plant growth. Any breakages shall be replaced. If excessive movement in the wind is damaging a tree then the number and location of the stakes shall be reviewed and amended accordingly. When the specimen tree is firmly established tree stackes and ties can be removed from the site.

6.6 TREE PRUNING

All dead wood, broken or damaged branches and bottom growth shall be removed using the best horticultural technique. Clean cuts with a single flat face shall be made close to the truck or parent branch and when removing dead branches and stubs, cuts into live wood shall be avoided. Dead Nikau fronds shall be removed.

6.7 WATERING/ PLANT STRESS

Ensuring that no plants or trees experience stress from lack of moisture and/or nitrogen deficiencies.

During the summer months or any other extended dry periods water the trees and bark mulched area as often as required to ensure the successful establishment and ongoing survival of all planted material. An additional high nitrogen fertiliser application may be required in spring and autumn over the bark mulch if the bark decomposition is noticeably competing with the nutrient availability for plants.

6.8 REPLACEMENT

Any plants, which are dead, badly damaged or unhealthy, shall be removed and replaced. The Landscape Contractor shall be responsible for the replacement of species for the two years maintenance period or until lots are privately owned and managed.

If a particular species is found to be preforming poorly then this species can be substituted with another similar species used elsewhere on site, with the agreement for the Project Manger.

6.9 INSPECTION TIMEFRAMES

The Project Manager may inspect works at any time during either the implementation or maintenance stages. A formal inspection shall be carried out by the Project Manager at the completion of implementation and in autumn each year thereafter until the completion of the maintenance period. The Landscape Contractor shall be present on site during these inspections.

Any implementation or maintenance work found to be defective (due to poor workmanship) or is not in accordance with the specifications outlined shall be made good at the Landscape Contractor's expense within two weeks of written notice being given to the Landscape Contractor.

Soft Landscape Specifications & Maintenance Plan

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