

APPENDIX ONE - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES - UPPER HUTT CITY

PINEHAVEN STREAM IMPROVEMENT WORKS

FOR WELLINGTON WATER / JACOBS

24 SEPTEMBER 2019 / PROJECT NO. 2017_009

REVISION D (STATUS - FINAL)



PROJECT NAME

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Date: 24 September 2019
Client name: Wellington Water / Jacobs

Author: David Compton-Moen

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REVISION	DATE	DESCRIPTION	BY	REVIEW	APPROVED
A	26/07/2019	Draft LVIA Report	DCM		
B	07/08/2019	Draft LVIA Report	DCM		
C	18/09/2019	LVIA Report	DCM		
D	24/09/2019	LVIA Report	DCM		



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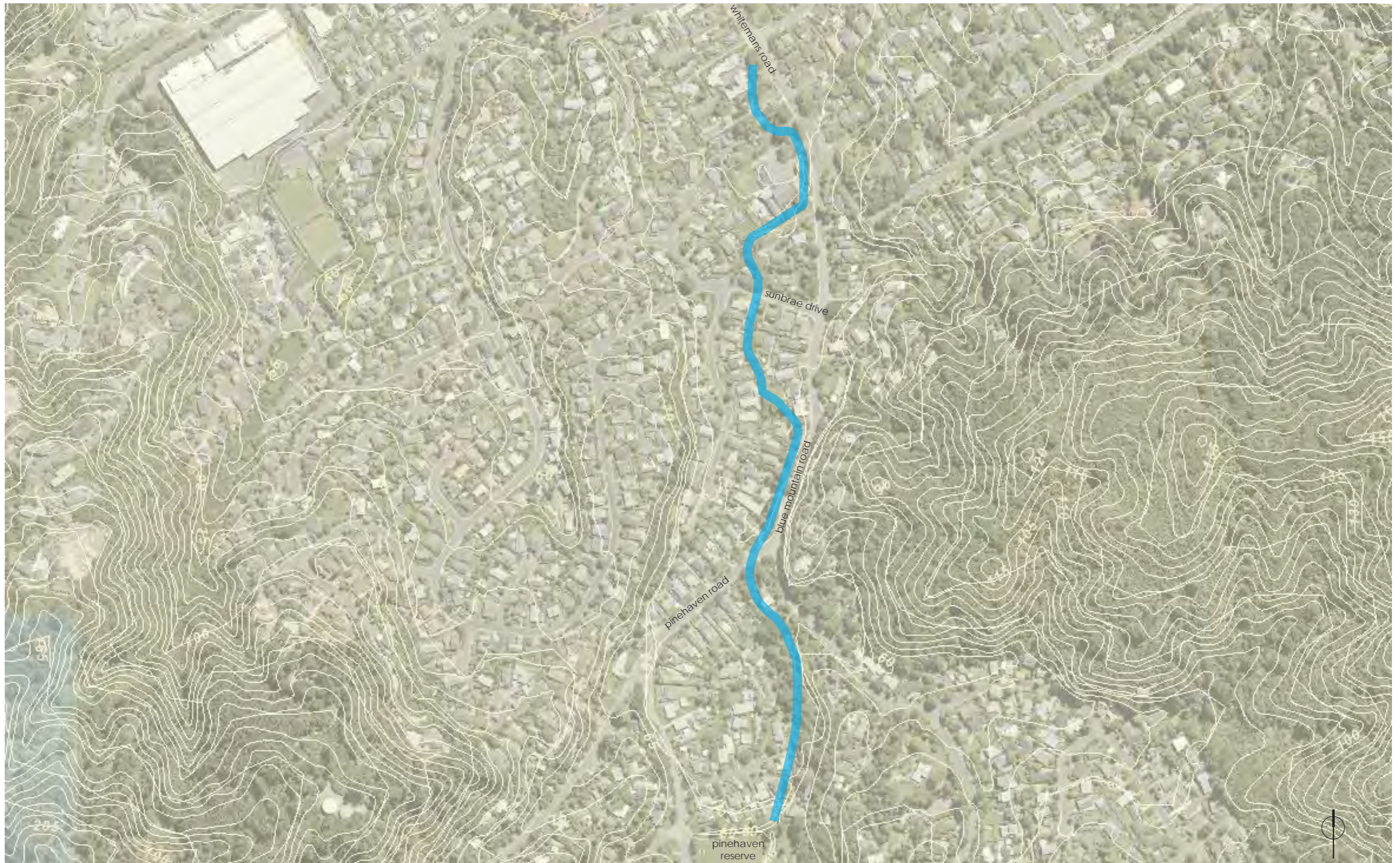
aerial map source: Greater Wellington GIS - 1:10000 @ A3

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

CONTEXT - EXISTING BASELINE CHARACTER

0 0.1 0.2 0.3 0.4 Kilometres



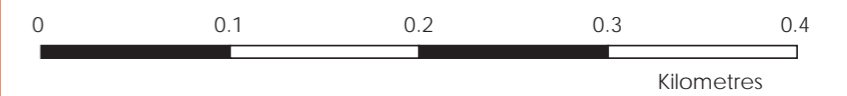


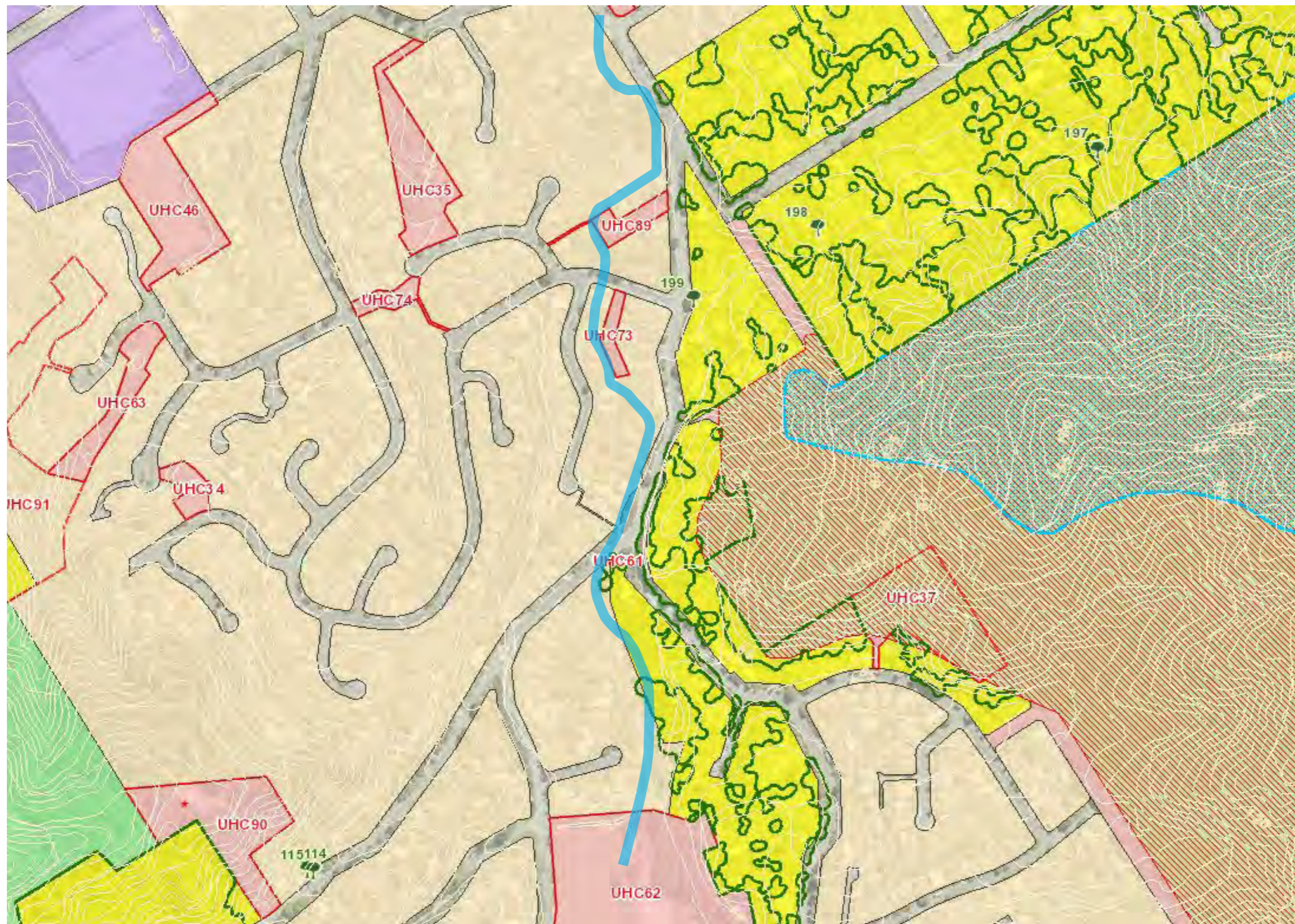
A. TOPOGRAPHICAL PLAN 1:4000

map source: Xplorer, Upper Hutt City Council - 5m contour lines

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

CONTEXT - EXISTING TOPOGRAPHY





LEGEND

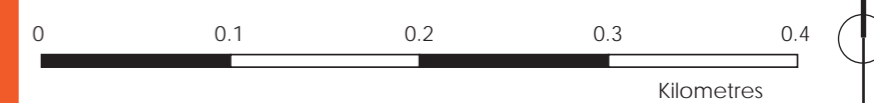
- District Plan Zones
- Business Commercial
 - Business Industrial
 - Open Space
 - Residential
 - Residential Conservation
 - Residential Hill
 - Rural Hill
 - Rural Hill Blue Mountains
 - Rural Lifestyle
 - Rural Valley Floor
 - Special Activity

A. DISTRICT PLAN ZONING MAP 1:4000

map source: Upper Hutt City Council

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

CONTEXT - DISTRICT PLAN ZONING MAP





A The urban form is typified by small to medium sized, single storey detached residential dwellings on sites ranging in size from 450m² up to 2,000m² with some two storey dwellings



B Most dwellings in the surrounding area have well maintained landscape plantings and lawn. This photo is of Blue Mountains Road which 'straddles' the stream and is to be removed as part of the improvement works.



C Most properties have limited or no front fencing resulting in a relatively open character



D There is a high level of amenity planting, trees and vegetation within Pinehaven



E Surrounding properties display a moderate degree of stewardship and care



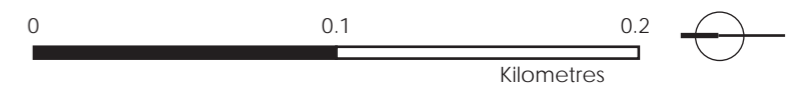
LEGEND

- | | | |
|---|--|--|
| 1 VP1 - VIEW NORTHWEST - 52-52A WHITEMANS ROAD | 5 VP5 - VIEW WEST -28 BLUE MOUNTAINS ROAD | 9 VP9 - VIEW NORTH - PINEHAVEN RESERVE |
| 2 VP2 - VIEW SOUTH - SILVERSTREAM REFORMED CHURCH | 6 VP6 - VIEW NORTH - 40 BLUE MOUNTAINS ROAD | |
| 3 VP3 - VIEW WEST - WILLOW PARK ENTRANCE | 7 VP7 - VIEW SOUTH - CORNER BLUE MOUNTAINS AND PINEHAVEN ROADS | |
| 4 VP4 - VIEW WEST - SUNBRAE DRIVE | 8 VP8 - VIEW SOUTHWEST - 48 WHITEMANS ROADE | |

map source: Xplorer, Upper Hutt City Council 1:2500

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

LOCATION PLAN AND KEY VIEWPOINT LOCATIONS





A. IMAGE LOCATION

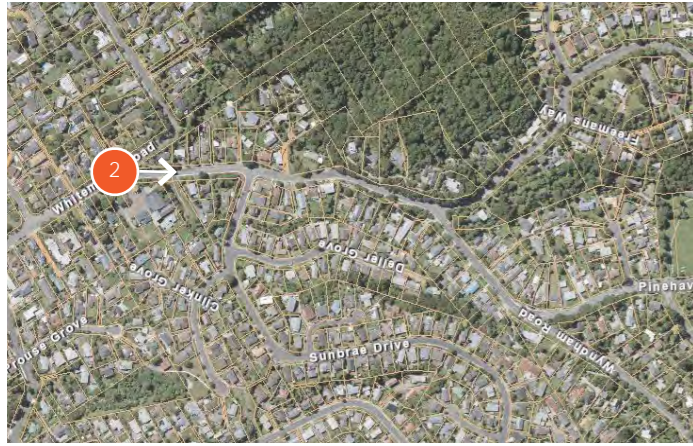


1. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

1 VP1 - VIEW NORTHWEST - 52-52A WHITEMANS ROAD

Image captured on iPhone 6
Focal length of 29mm.
Date: 16th May 2017 at 10:33 am.
Height of 1.7 metres
NORTHING EASTING 41°9'1.67"S 175°0'51.53"E
Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

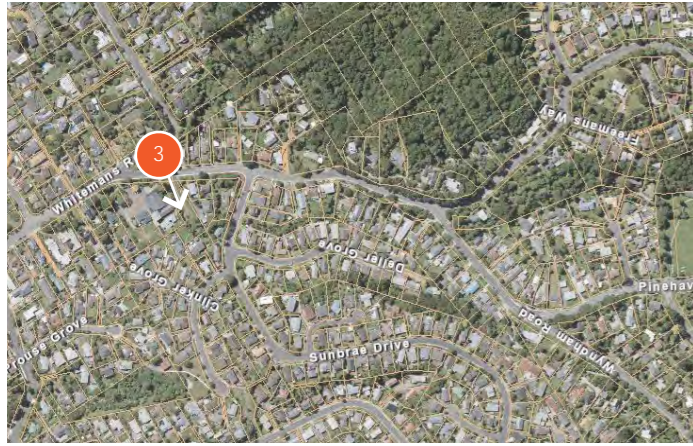


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

2 VP2 - VIEW SOUTH - SILVERSTREAM REFORMED CHURCH

Image captured on SONY Alpha A7 II
 Focal length of 50mm.
 Date: 27th September 2018 at 11:43 am.
 Height of 1.7 metres
 NORTHING EASTING
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

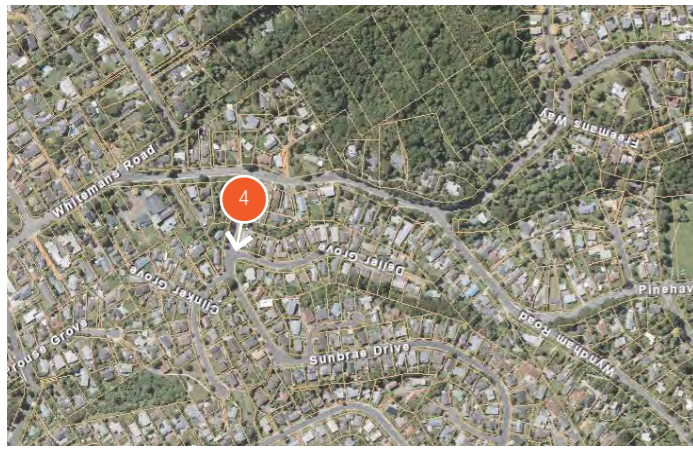


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

3 VP3 - VIEW WEST - WILLOW PARK ENTRANCE

Image captured on iPhone XS MAX
 Focal length of 26mm.
 Date: 4th July 2019 at 2:52 pm.
 Height of 1.7 metres
 NORTHING EASTING 41°9'6.02"S 175°0'53.23"E
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

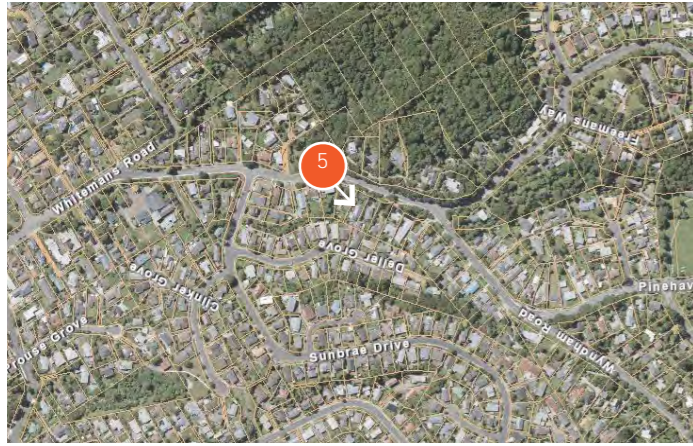


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

4 VP4 - VIEW WEST - SUNBRAE DRIVE

Image captured on iPhone XS MAX
 Focal length of 26mm.
 Date: 4th July 2019 at 2:48 pm.
 Height of 1.7 metres
 NORTHING EASTING 41°9'9.41"S 175°0'51.64"E
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

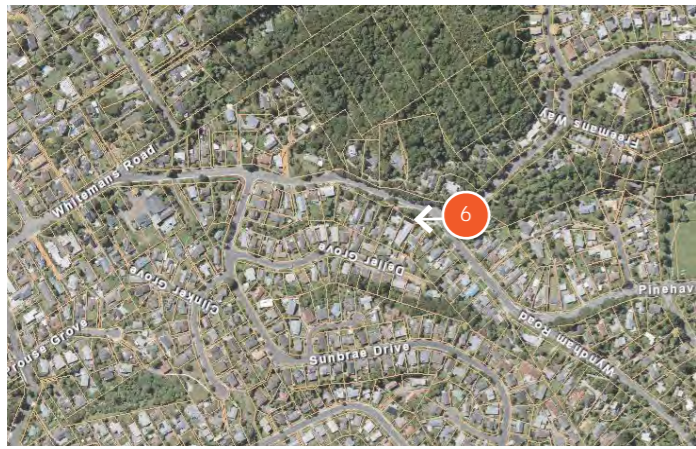


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

5 VP5 - VIEW WEST -28 BLUE MOUNTAINS ROAD

Image captured on iPhone XS MAX
Focal length of 26mm.
Date: 4th July 2019 at 2:41 pm.
Height of 1.7 metres
NORTHING EASTING 41°9'14.29"S 175°0'53.17"E
Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

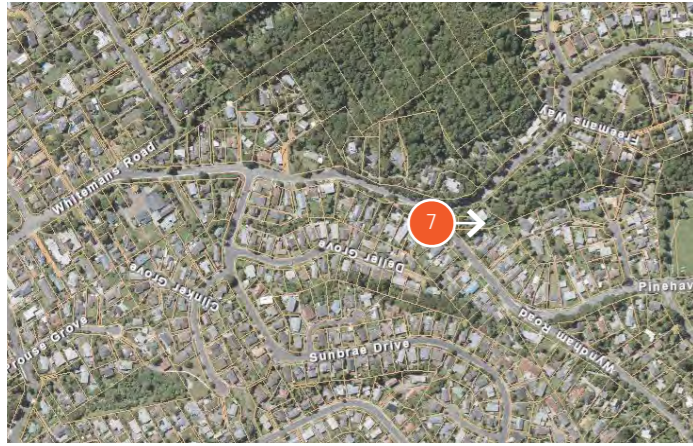


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

6 VP6 - VIEW NORTH - 40 BLUE MOUNTAINS ROAD

Image captured on iPhone XS MAX
 Focal length of 26mm.
 Date: 4th July 2019 at 2:39 pm.
 Height of 1.7 metres
 NORTHING EASTING 41°9'18.26"S 175°0'51.19"E
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION

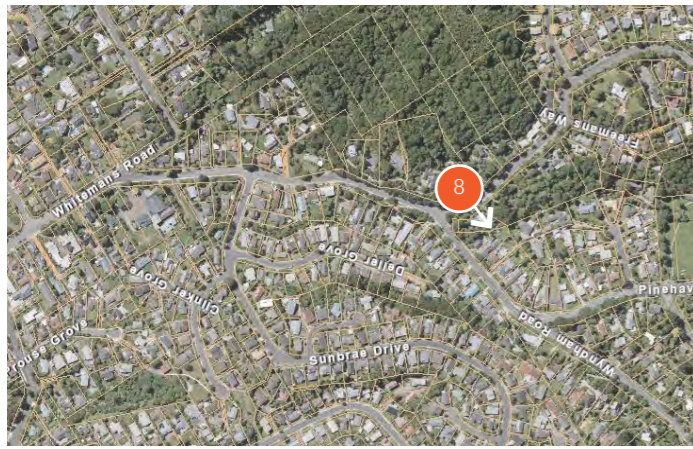


B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

7 VP7 - VIEW SOUTH - CORNER BLUE MOUNTAINS AND PINEHAVEN ROADS

Image captured on iPhone XS MAX
 Focal length of 26mm.
 Date: 4th July 2018 at 2:39 pm.
 Height of 1.7 metres
 NORTHING EASTING 41°9'18.01"S 175°0'51.53"E
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION



B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

8 VP8 - VIEW SOUTHWEST - 48 WHITEMANS ROAD

Image captured on iPhone XS MAX
 Focal length of 26mm.
 Date: 4th July 2019 at 2:43 pm.
 Height of 1.7 metres
 NORTHING EASTING 41°9'9.42"S 175°0'52.08"E
 Photos merged in Photoshop CS to create panorama



A. IMAGE LOCATION



B. EXISTING VIEW

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

9 VP9 - VIEW NORTH - PINEHAVEN RESERVE

Image captured on iPhone 6
 Focal length of 29mm.
 Date: 16th May 2017 at 10:33 am.
 Height of 1.7 metres
 NORTHING EASTING 41°9'1.67"S 175°0'51.53"E
 Photos merged in Photoshop CS to create panorama

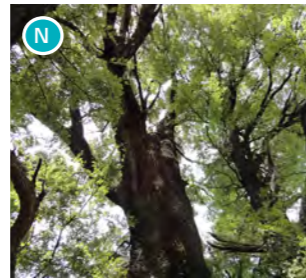
L1 - SPECIMEN TREES



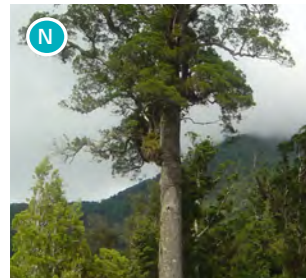
Wheki
(*Dicksonia squarrosa*)



Podocarpus totara
Totara



Black beech
(*Fuscospora solandri*)



Kahikatea
(*Dacrycarpus dacrydioides*)



Rimu
(*Dacrydium cupressium*)



Kowhai
(*Sophora microphylla*)



Salix babylonica
(Weeping willow)



Pin oak
(*Quercus palustris*)

L2 - RIPARIAN 1 - PARTIALLY WET



Apodasmia similis
Oioi



Carex secta
Purei



Ficinia nodosa
Knobby club rush



Phormium cookianum
Mountain Flax



Uncinia uncinata
Hook sedge



Carex dissita
Forest sedge

L3 - RIPARIAN 2 - RARELY WET



Astelia banksii
Wharawhara



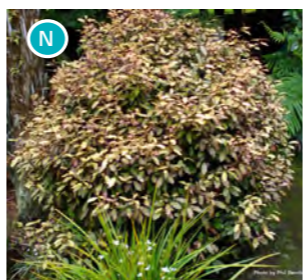
Astroderia fulvida
Small toetoe



Carex testacea
Orange sedge



Carex secta
Purei



Pseudowintera colorata
pepper tree



Ficinia nodosa
Knobby club rush



Libertia peregrinans
NZ Iris



Pohuehue
(*Muehlenbeckia axillaris*)



Phormium cookianum
Mountain Flax



Koromiko
(*Hebe stricta* var. *atkinsonii*)

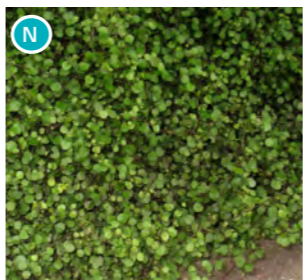
L5 - CLIMBER



Puawhananga
(*Clematis paniculata*)



Metrosideros carminea
Climbing rata



Pohuehue
(*Muehlenbeckia axillaris*)

L4 - BUFFER



Astroderia fulvida
Small toetoe



Fuchsia excorticata
Tree fuchsia



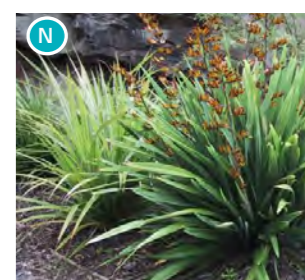
Griselinia littoralis
Broadleaf, Kapuka



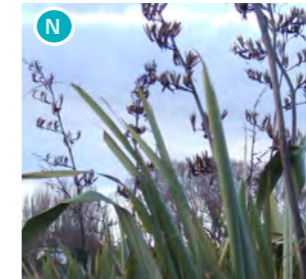
Meliclytus ramiflorus
Mahoe



Pittosporum eugenioides
Lemonwood



Phormium cookianum
Mountain Flax



Phormium tenax
NZ Flax



Podocarpus totara
Totara



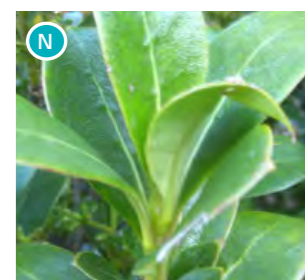
Pseudopanax arboreus
Five finger



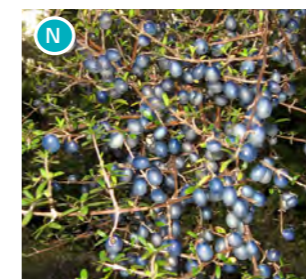
Weinmannia racenosa
Kamahi



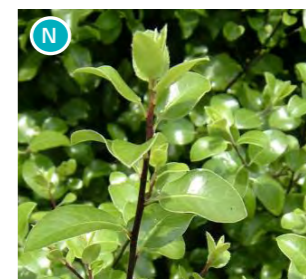
Rangiora
(*Brachyglottis repanda*)



Shiny karamu
(*Coprosma lucida*)



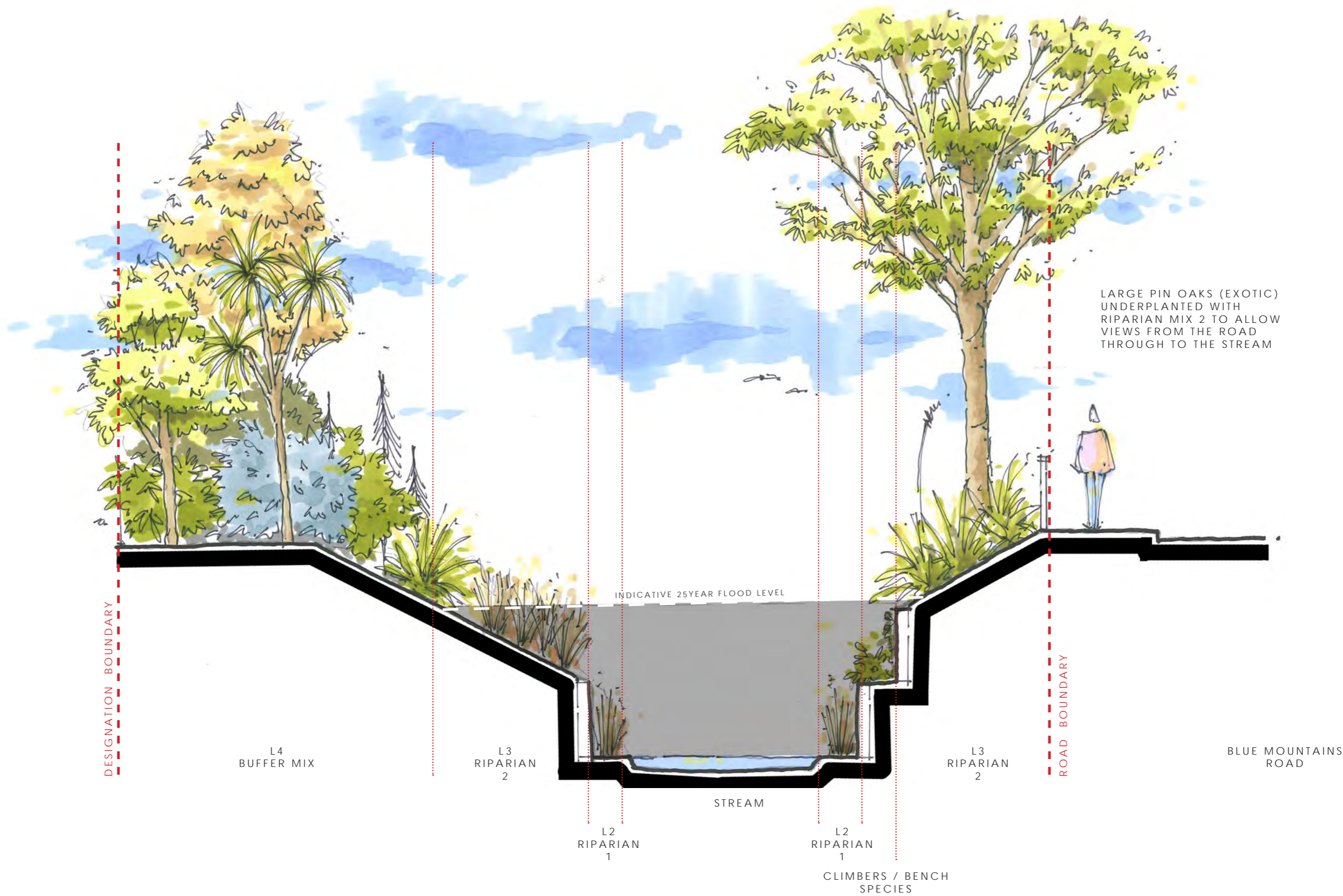
Coprosma propinqua
(Mingimingi)



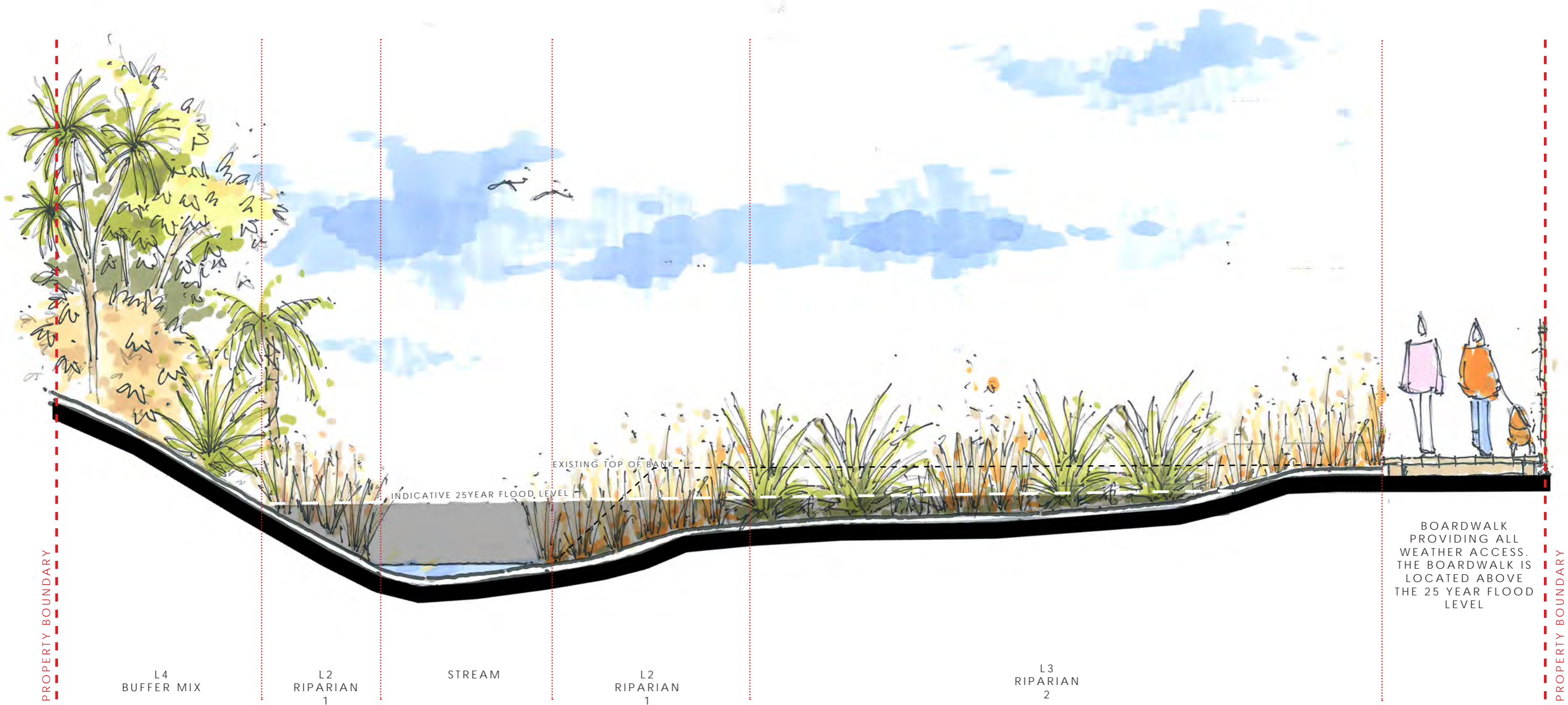
Kohuhu
(*Pittosporum tenuifolium*)



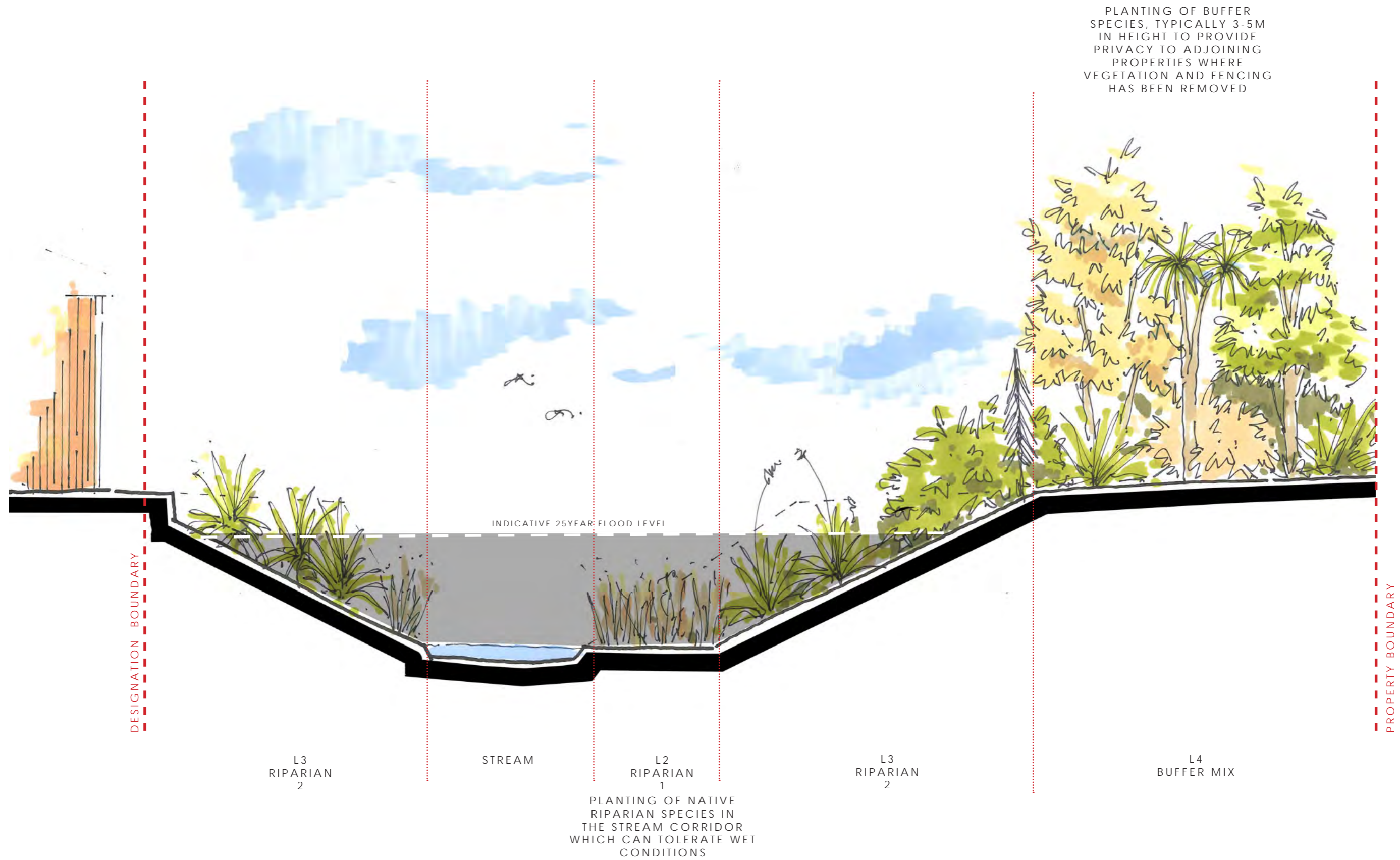
Schefflera digitata
(Pate)



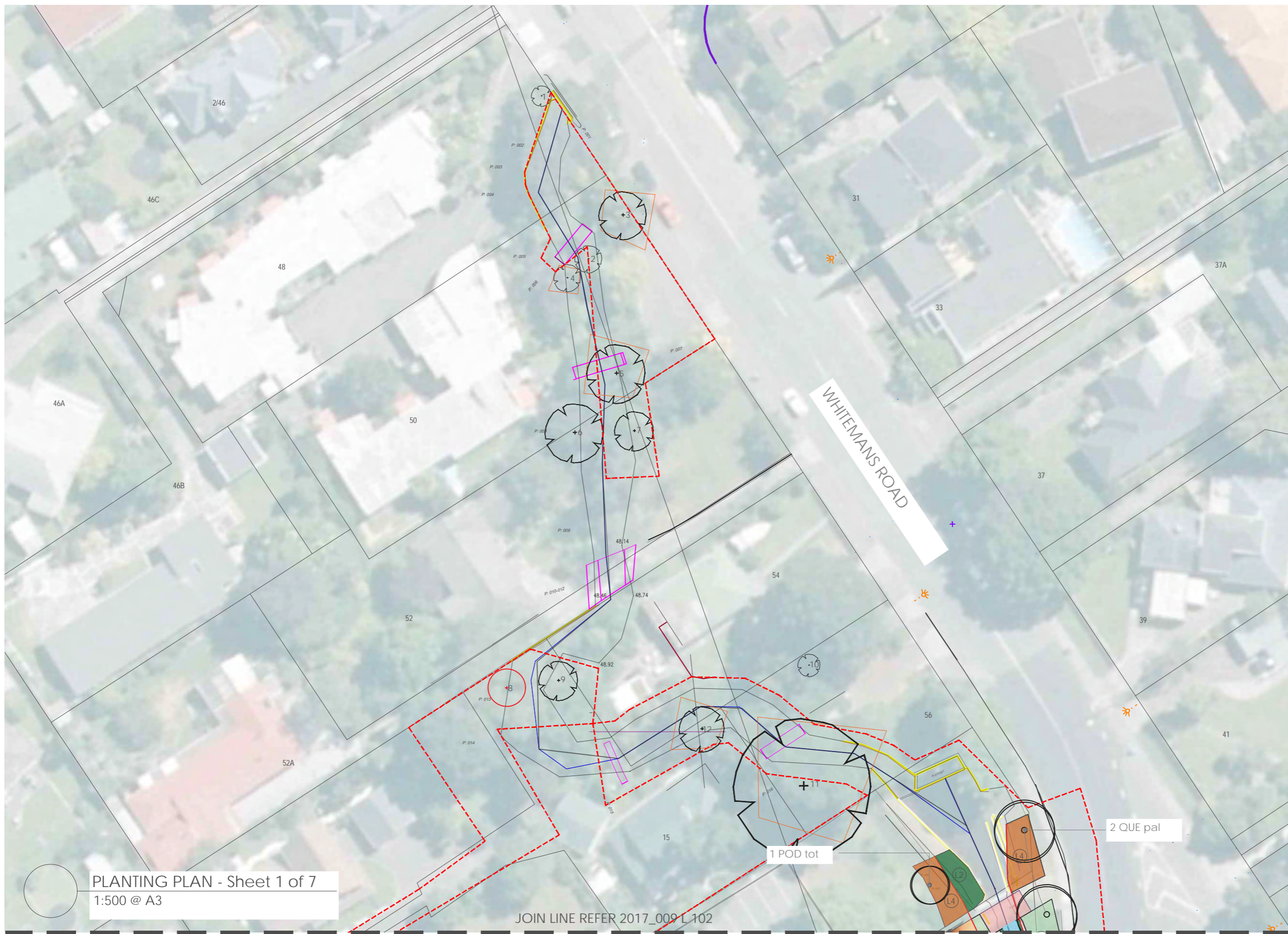
LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES
 MITIGATION MEASURES - LANDSCAPE CROSS SECTION (1)



EXISTING GRASS AREAS ARE REPLACED WITH RIPARIAN PLANTINGS WHICH TOLERATE BEING OCCASSIONALLY WET. REMOVAL OF THE GRASS WILL REDUCE MAINTENANCE REQUIREMENTS AS WELL AS PROVIDE ADDITIONAL ECOLOGICAL BENEFIT.



LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES
 MITIGATION MEASURES - LANDSCAPE CROSS SECTION (3)



PLANTING PLAN - Sheet 1 of 7
1:500 @ A3

JOIN LINE REFER 2017_009 L 102

1 POD tot

2 QUE pal

- legend:
- Tree to be Retained
Refer to tree survey
 - Tree to be Removed
 - L1 Specimen Tree
 - L2 Riparian 1 - Partially Wet
 - L3 Riparian 2 - Rarely Wet
 - L4 Buffer
 - L5 Climber
 - Existing Retaining Wall
 - Existing Bridge Deck
 - Proposed Bridge Deck
 - Proposed Timber Boardwall
 - Concrete Pathway
 - Gravel Pathway TBC
 - Turf
 - Designation Boundary

revision:

rev no.	date	description	approved
0	26/09/2017	Client Approval	DCM
1	27/09/2017	Boundary alignment	DCM
2	07/08/2019	Draft for comment	DCM
3	16/09/2019	For Resource Consent	DCM
4	18/09/2019	For Resource Consent	DCM

note:
Contractors to verify all dimensions on site prior to commencing work. Contractors are responsible for confirming the location of all underground services on site prior to commencing work. Figured dimensions to be taken in preference to scaled dimensions

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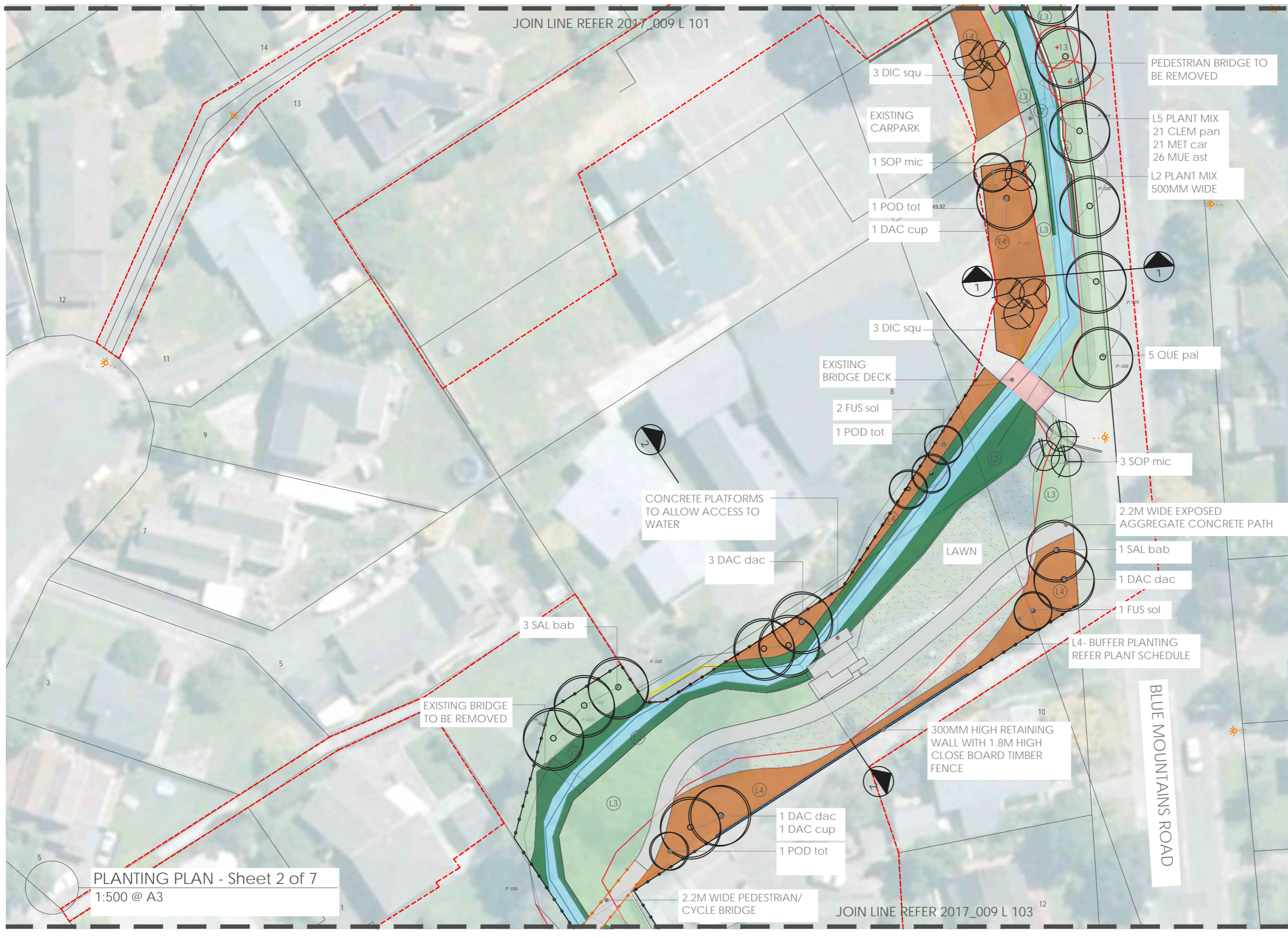
client / project name:
PINEHAVEN STREAM
IMPROVEMENTS

drawing name:
LANDSCAPE WORKS
PLANTING PLAN

drawing sheet:
Sheet 1 of 7

original issue date : 26 SEPT 17
designed by : DCM
drawn by : BD
scale : 1:500 @ A3

project no / drawing no / revision:
2017_009 / L 101 / 4



- legend:
- Tree to be Retained
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client / project name:
PINEHAVEN STREAM IMPROVEMENTS

JACOBS

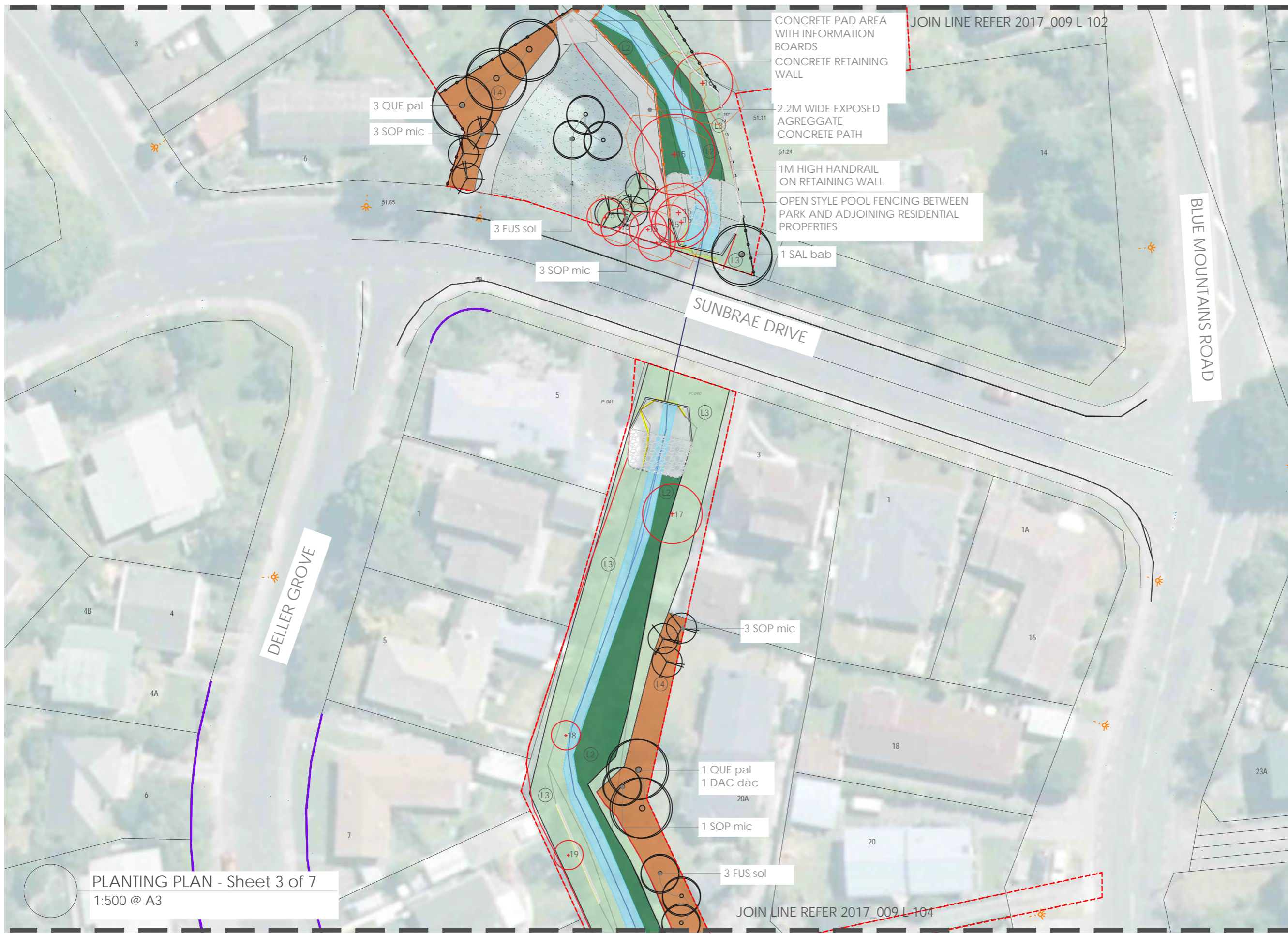
drawing name:
LANDSCAPE WORKS PLANTING PLAN

drawing sheet:
Sheet 2 of 7

original issue date : 26 SEPT 17
designed by : DCM
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scale : 1:500 @ A3

project no / drawing no / revision:
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PLANTING PLAN - Sheet 2 of 7
1:500 @ A3



- legend:
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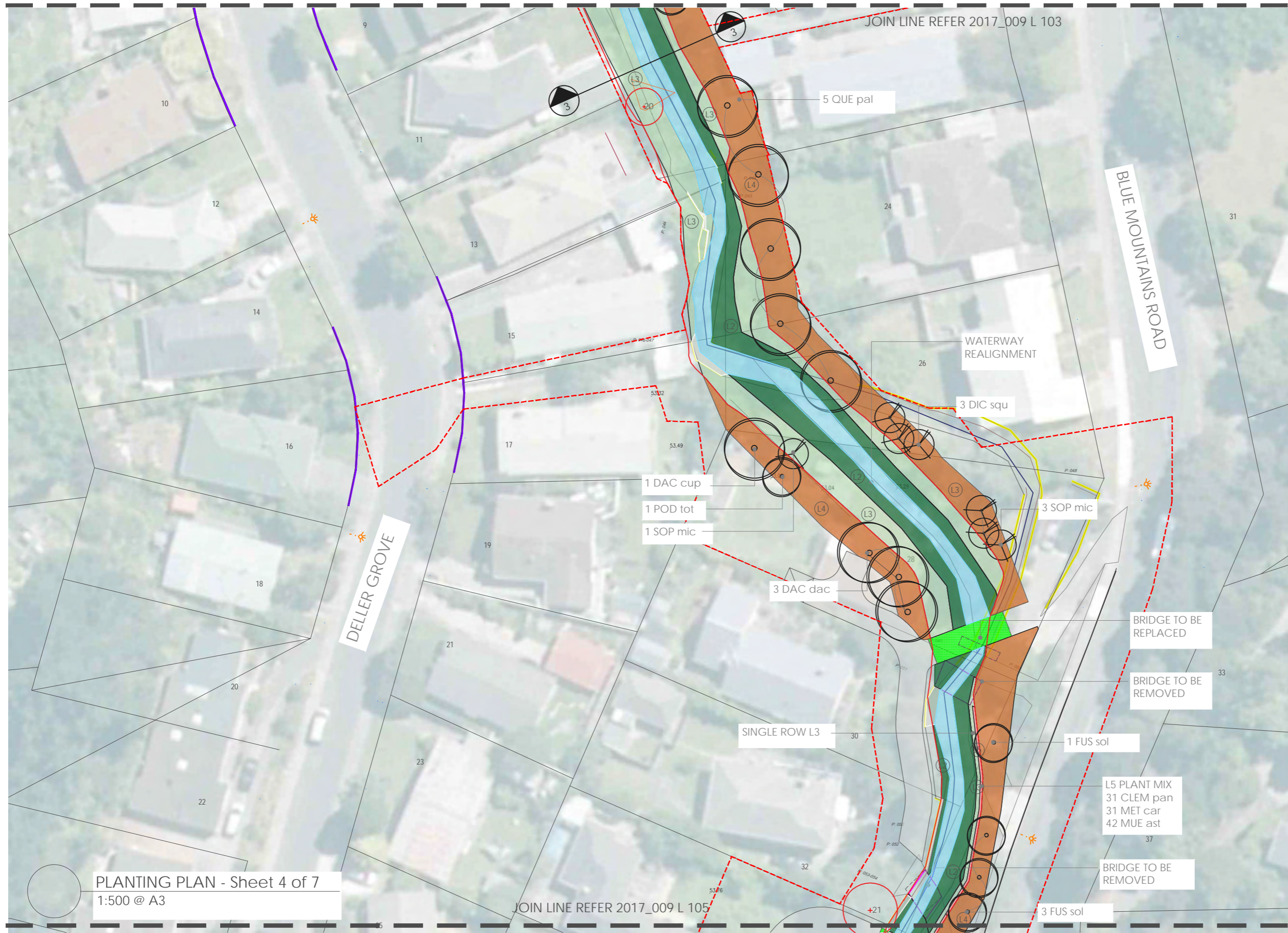
drawing name:
LANDSCAPE WORKS
PLANTING PLAN

drawing sheet:
Sheet 3 of 7

original issue date : 26 SEPT 17
designed by : DCM
drawn by : BD
scale : 1:500 @ A3

project no / drawing no / revision:
2017_009 / L 103 / 5

PLANTING PLAN - Sheet 3 of 7
1:500 @ A3



- legend:
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PINEHAVEN STREAM IMPROVEMENTS

drawing name:
LANDSCAPE WORKS PLANTING PLAN

drawing sheet:
Sheet 4 of 7

original issue date : 26 SEPT 17
designed by : DCM
drawn by : BD
scale : 1:500 @ A3

project no / drawing no / revision:
2017_009 / L 104 / 4

PLANTING PLAN - Sheet 4 of 7
1:500 @ A3

JOIN LINE REFER 2017_009 L 105

JOIN LINE REFER 2017_009 L 103



PLANTING PLAN - Sheet 5 of 7
1:500 @ A3

- legend:
- Tree to be Retained Refer to tree survey
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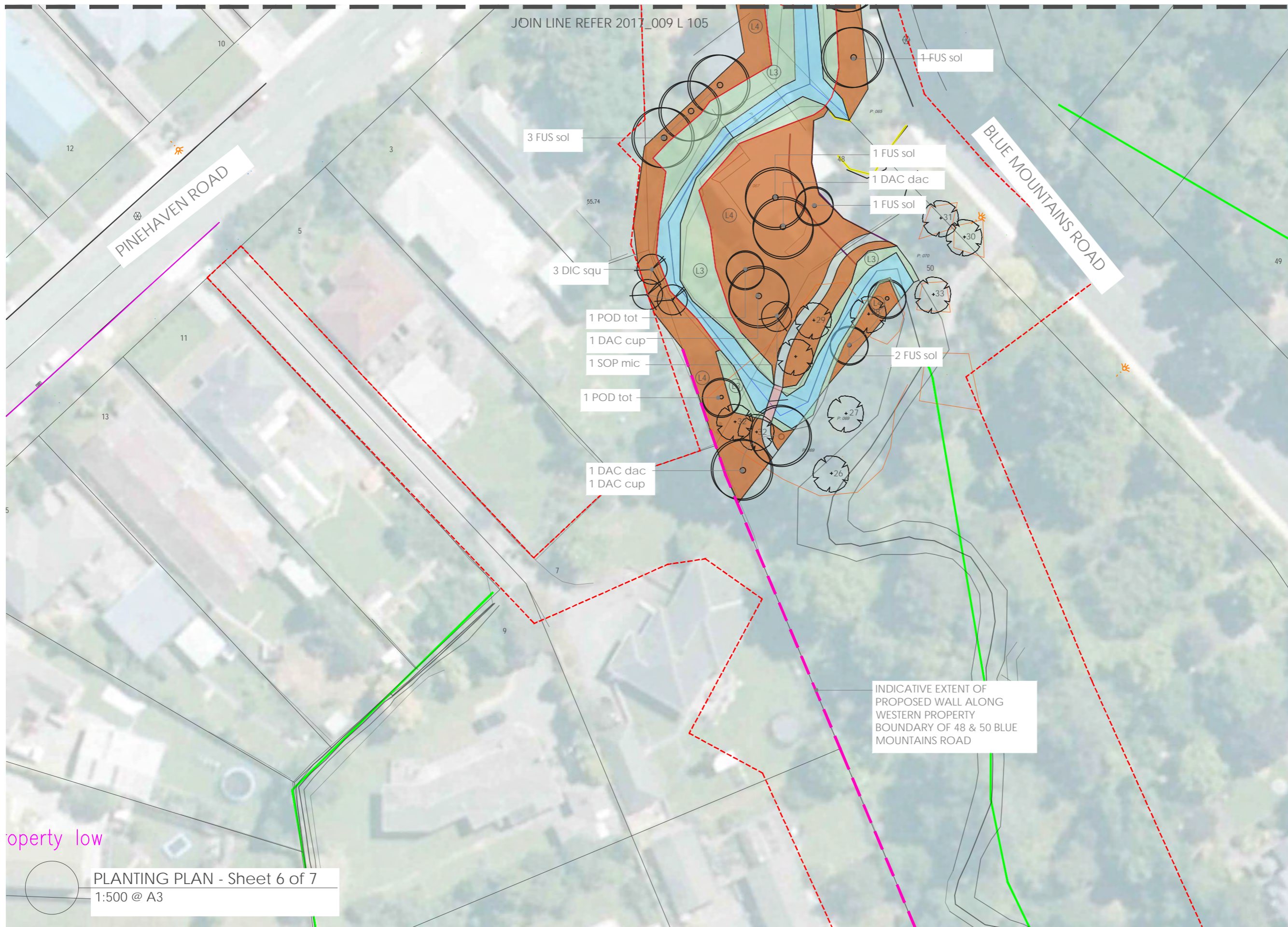
client / project name:
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IMPROVEMENTS

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LANDSCAPE WORKS
PLANTING PLAN

drawing sheet:
Sheet 5 of 7

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0	26/09/2017	Client Approval	DCM
1	27/09/2017	Boundary alignment	DCM
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DCM URBAN DESIGN LIMITED
LEVEL 3, 329 DURHAM STREET NORTH
CHRISTCHURCH, NZ
WWW.DCMURBAN.COM

client / project name:
PINEHAVEN STREAM IMPROVEMENTS

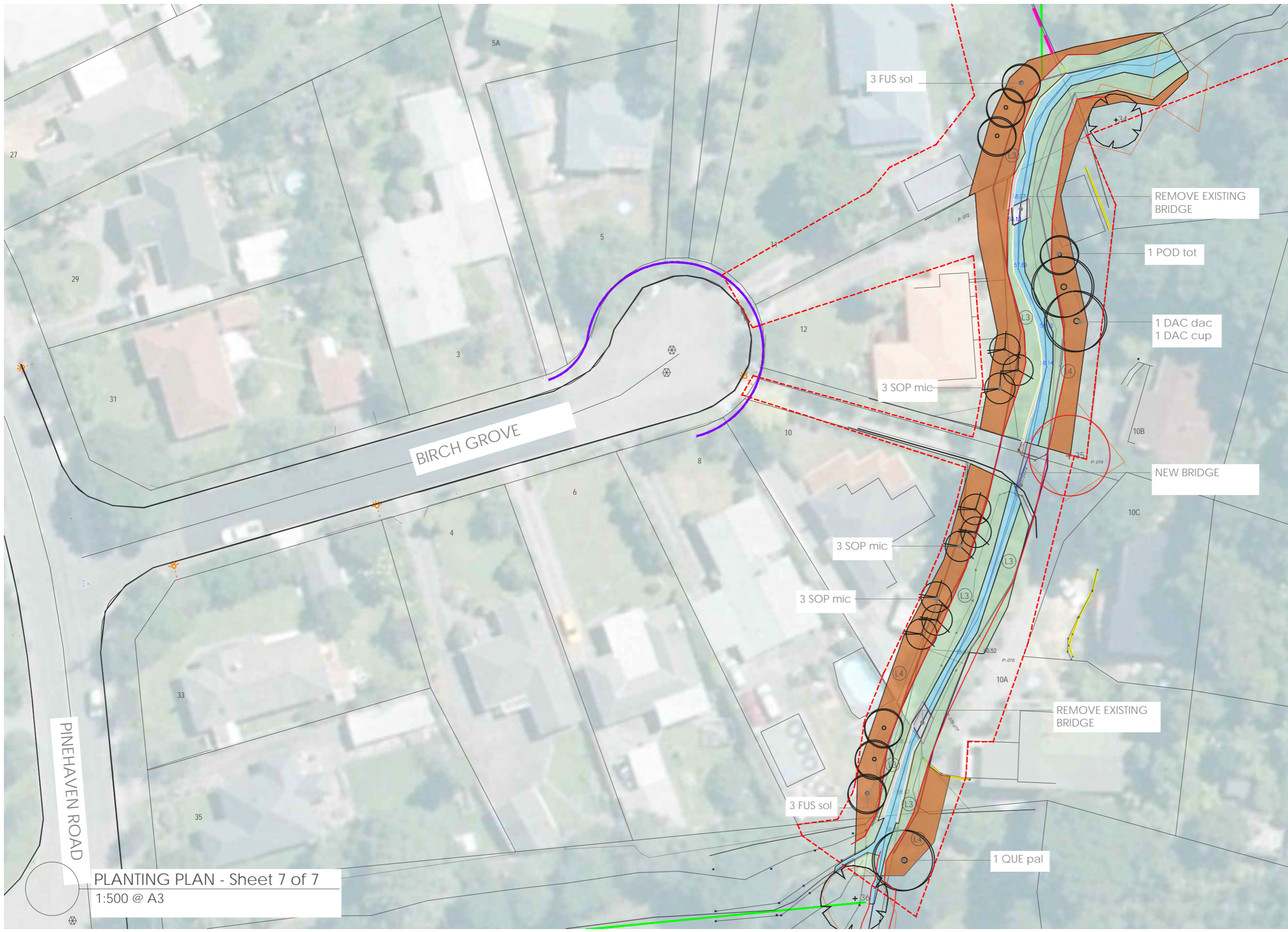
drawing name:
LANDSCAPE WORKS PLANTING PLAN

drawing sheet:
Sheet 6 of 7

original issue date : 26 SEPT 17
designed by : DCM
drawn by : BD
scale : 1:500 @ A3

project no / drawing no / revision:
2017_009 / L 106 / 5

PLANTING PLAN - Sheet 6 of 7
1:500 @ A3



- legend:
- Tree to be Retained
Refer to tree survey
 - Tree to be Removed
 - L1 Specimen Tree
 - L2 Riparian 1 - Partially Wet
 - L3 Riparian 2 - Rarely Wet
 - L4 Buffer
 - L5 Climber
 - Existing Retaining Wall
 - Existing Bridge Deck
 - Proposed Bridge Deck
 - Proposed Timber Boardwalk
 - Concrete Pathway
 - Gravel Pathway TBC
 - Turf
 - Designation Boundary

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PLANTING PLAN - Sheet 7 of 7
1:500 @ A3

PINEHAVEN STREAM IMPROVEMENT WORKS - LANDSCAPE PLANTING SCHEDULE REV 4

L1 Specimen Trees							
Code	Botanical name	Common name	Habitat (Low, Medium, High)	Size	Spacing	Percentage of Mix	Quantity
DAC.dac	<i>Dacrydium dacrydioides</i>	Kahikatea	High	45L	as shown	n/a	12
DAC.cup	<i>Dacrydium cupressium</i>	Rimu	High	45L	as shown	n/a	6
DIC.squ	<i>Dicksonia squarrosa</i>	Wheki	Medium	1m high	as shown	n/a	18
FUS.sol	<i>Fuscospora solandri</i>	Black Beech	High	45L	as shown	n/a	30
POD.tot	<i>Podocarpus totara</i>	Totara	High	45L	as shown	n/a	10
QUE.pal	<i>Quercus palustris</i>	Pin Oak	High	45L	as shown	n/a	28
SAL.bab	<i>Salix babylonica</i>	Weeping Willow	High	45L	as shown	n/a	5
SOP.mic	<i>Sophora microphylla</i>	SI Kowhai	Medium	45L	as shown	n/a	28
				Area (m2)			1147
L2 Riparian 1 - Partially Wet							
Code	Botanical name	Common name		Size	Spacing (mm)	Percentage of Mix	Quantity
APO.sim	<i>Apodasmia similis</i>	Oioi	Low	0.5L	0.7	15%	344
CAR.dis	<i>Carex dissita</i>	Forest sedge	Low	0.5L	0.7	15%	344
CAR.sec	<i>Carex secta</i>	purei	Low	0.5L	0.7	15%	344
FIN.nod	<i>Ficinia nodosa</i>	Knobby club rush	Low	0.5L	0.7	15%	344
PHO.coo	<i>Phormium cookianum</i>	Mountain flax	Low	0.5L	0.7	15%	344
UNC.unc	<i>Uncinia uncinata</i>	Hook sedge	Low	0.5L	0.7	25%	574
				Area (m2)			2896
L3 Riparian 2 - Rarely wet							
Code	Botanical name	Common name		Size	Spacing (mm)	Percentage of Mix	Quantity
AST.ban	<i>Astelia banksii</i>	whara whara	Low	0.5L	0.7	10%	579
AUS.ful	<i>Austroderia fulvida</i>	Toetoe	Low	0.5L	0.7	10%	579
CAR.tec	<i>Carex testacea</i>	Orange sedge	Low	0.5L	0.7	15%	869
CAR.sec	<i>Carex secta</i>	purei	Low	0.5L	0.7	5%	290
FIC.nod	<i>Ficinia nodosa</i>	Knobby club rush	Low	0.5L	0.7	15%	869
HEB.str	<i>Hebe stricta</i> var. <i>atkinsonii</i>	Koromiko	Low	0.5L	0.7	5%	290
LIB.per	<i>Libertia perigennans</i>	NZ Iris	Low	0.5L	0.7	10%	579
MUE.ast	<i>Muehlenbeckia astonii</i>	Shrubby Tororaro	Low	0.5L	0.7	15%	869
PHO.coo	<i>Phormium cookianum</i>	Mountain flax	Low	0.5L	0.7	15%	869

PLANT SCHEDULE

L4 Buffer							
Code	Botanical name	Common name		Size	Spacing (mm)	Percentage of Mix	Quantity
AUS.ful	<i>Austroderia fulvida</i>	Small toetoe	Medium	0.5L	1500	10%	335
BRA.rep	<i>Brachyglottis repanda</i>	Rangiora	Medium	0.5L	1500	5%	167
COP.luc	<i>Coprosma lucida</i>	Shiny Karamu	Medium	0.5L	1500	5%	167
COP.pro	<i>Corposma propinqua</i>	Mingiming	Medium	0.5L	1500	5%	167
FUC.exc	<i>Fuchsia excorticata</i>	Tree Fuchsia	Medium	0.5L	1500	5%	167
GRI.lit	<i>Griselinia littoralis</i>	Broadleaf	Medium	0.5L	1500	10%	335
ELA.hoo	<i>Elaeocarpus hookerianus</i>	Pokaka	Medium	0.5L	1500	5%	167
MEL.ram	<i>Meliccytus ramiflorus</i>	Mahoe	Medium	0.5L	1500	5%	167
PIT.eug	<i>Pittosporum eugenioides</i>	Lemonwood	Medium	0.5L	1500	5%	167
PIT.ten	<i>Pittosporum tenuifolium</i>	Kohuhu	Medium	0.5L	1500	5%	167
PHO.coo	<i>Phormium cookianum</i>	Mountain flax	Low	0.5L	1500	5%	167
PHO.ten	<i>Phormium tenax</i>	Flax	Medium	0.5L	1500	15%	502
POD.tot	<i>Podocarpus totara</i>	Totara	High	0.5L	1500	5%	167
PSE.arb	<i>Pseudopanax arboreus</i>	Five finger, Puahou	Medium	0.5L	1500	5%	167
SCH.dig	<i>Schefflera digitata</i>	Pate	Medium	0.5L	1500	5%	167
WEI.rac	<i>Weinmannia racemosa</i>	Kamahi	Medium	0.5L	1500	5%	167
				Area (m)			3347
L5 Climber / Bench							
Code	Botanical name	Common name		Size	Spacing (mm)	Percentage of Mix	Quantity
CAR	<i>Clematis paniculata</i>	Puawhananga	Medium	0.5L	As shown	30%	52
MC	<i>Metrosideros caminea</i>	Climbing rata	Medium	0.5L	As shown	30%	52
MUE.ast	<i>Muehlenbeckia australis</i>	Pohuehue	Low	0.5L	0.7	40%	68

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PINEHAVEN STREAM IMPROVEMENTS
JACOBS Wellington Water

drawing name:
LANDSCAPE WORKS PLANT SCHEDULE

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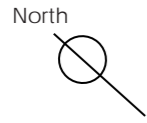
LOCATION MAP



EXISTING PHOTO



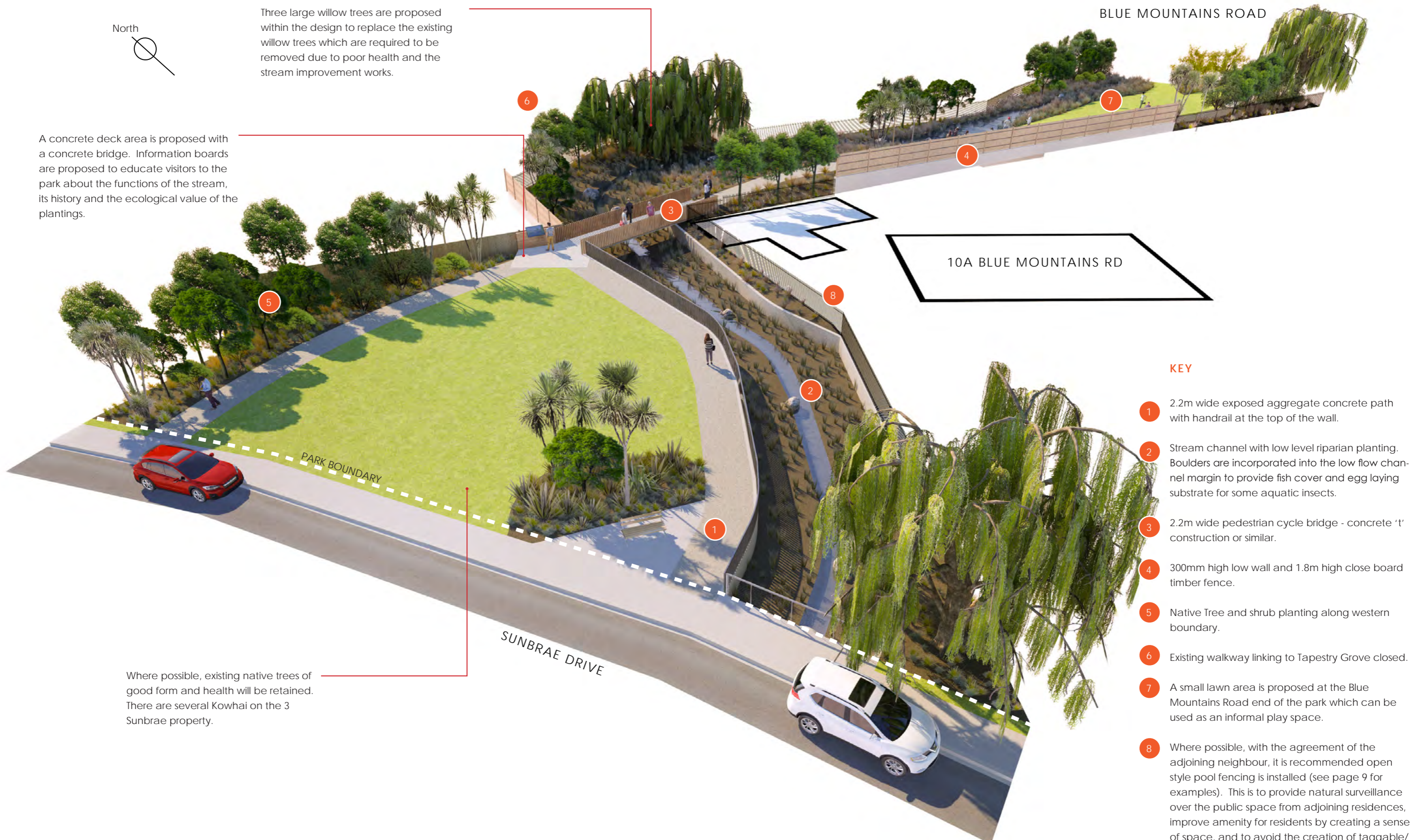
10 YEARS AFTER CONSTRUCTION IS COMPLETED



Three large willow trees are proposed within the design to replace the existing willow trees which are required to be removed due to poor health and the stream improvement works.

A concrete deck area is proposed with a concrete bridge. Information boards are proposed to educate visitors to the park about the functions of the stream, its history and the ecological value of the plantings.

Where possible, existing native trees of good form and health will be retained. There are several Kowhai on the 3 Sunbrae property.



BLUE MOUNTAINS ROAD

10A BLUE MOUNTAINS RD

SUNBRAE DRIVE

PARK BOUNDARY

KEY

- 1 2.2m wide exposed aggregate concrete path with handrail at the top of the wall.
- 2 Stream channel with low level riparian planting. Boulders are incorporated into the low flow channel margin to provide fish cover and egg laying substrate for some aquatic insects.
- 3 2.2m wide pedestrian cycle bridge - concrete 't' construction or similar.
- 4 300mm high low wall and 1.8m high close board timber fence.
- 5 Native Tree and shrub planting along western boundary.
- 6 Existing walkway linking to Tapestry Grove closed.
- 7 A small lawn area is proposed at the Blue Mountains Road end of the park which can be used as an informal play space.
- 8 Where possible, with the agreement of the adjoining neighbour, it is recommended open style pool fencing is installed (see page 9 for examples). This is to provide natural surveillance over the public space from adjoining residences, improve amenity for residents by creating a sense of space, and to avoid the creation of taggable/blank walls.

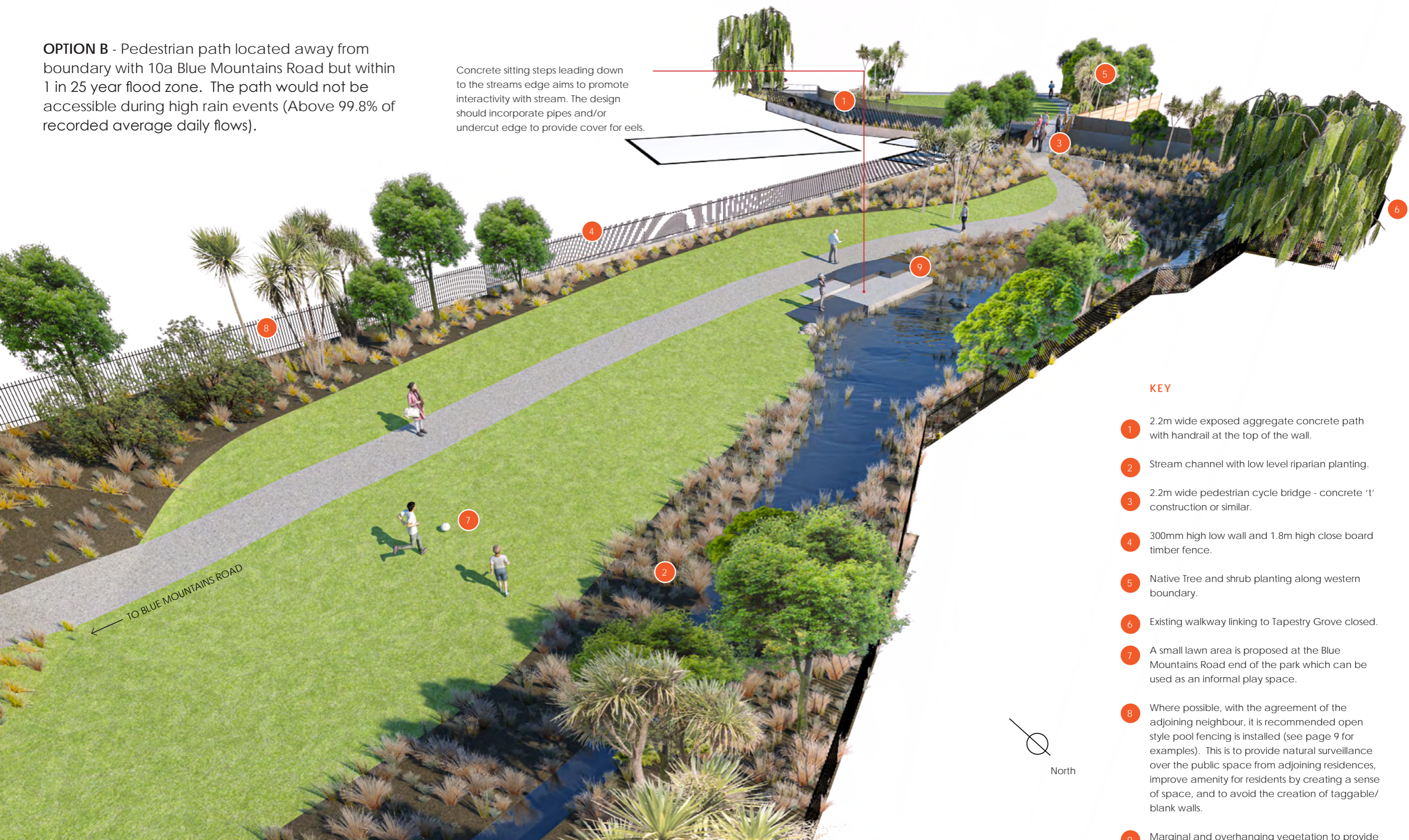
A. LANDSCAPE CONCEPT - SUNBRAE DRIVE FRONTAGE

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

WILLOW PARK CONCEPT ILLUSTRATION

OPTION B - Pedestrian path located away from boundary with 10a Blue Mountains Road but within 1 in 25 year flood zone. The path would not be accessible during high rain events (Above 99.8% of recorded average daily flows).

Concrete sitting steps leading down to the streams edge aims to promote interactivity with stream. The design should incorporate pipes and/or undercut edge to provide cover for eels.

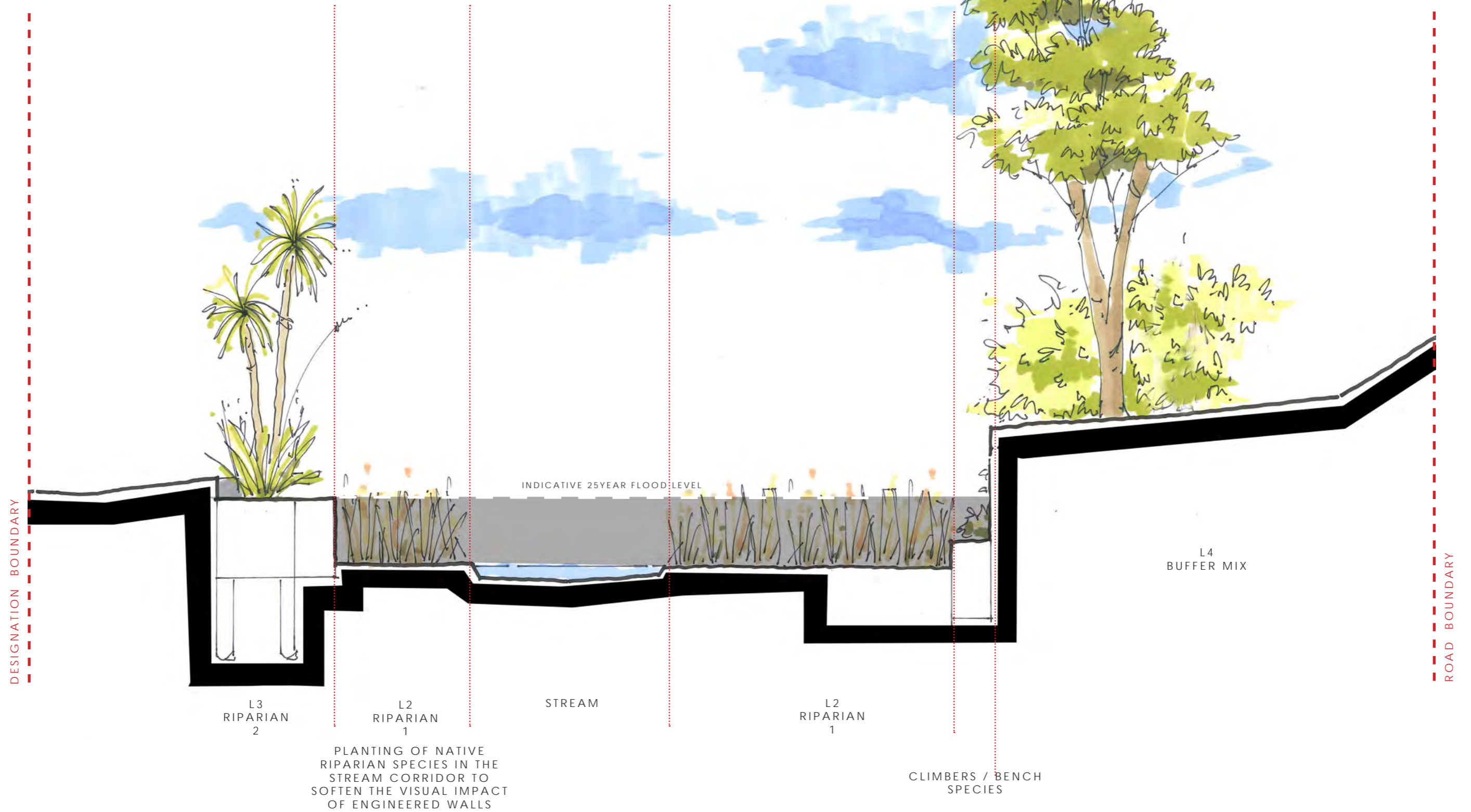


KEY

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- 9 Marginal and overhanging vegetation to provide cover for freshwater animals.

A. LANDSCAPE CONCEPT - BLUE MOUNTAINS ROAD FRONTAGE - OPTION B

PLANTING OF LARGER TREES TO PROVIDE SHADE AND PRIVACY FOR HOUSES FROM THE ELEVATED ROAD



LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES
MITIGATION MEASURES - LANDSCAPE CROSS SECTION (4)



LOCATION MAP



EXISTING PHOTO



DAY 1 AFTER CONSTRUCTION IS COMPLETED



LOCATION MAP



EXISTING PHOTO





LOCATION MAP



EXISTING PHOTO



10 YEARS AFTER CONSTRUCTION IS COMPLETED