APPENDIX B - LOCATION PLAN

Fig 1.0 - LOCATION PLAN

Fig 1.1 - AERIAL VIEW OF EXISTING SITE

APPENDIX C - ZONE OF THEORETICAL VISIBILITY (ZTV) PLAN

APPENDIX D - PHOTO LOCATION PLAN AND REPRESENTATIVE VIEW POINT LOCATIONS (MONTAGES)

Fig 3.1 - PHOTO LOCATION PLAN

Photo 1.0 - View of Project site and heritage water tower

Photo 2.0 - View of existing open space and trees

Photo 3.0 - View from corner of Clarence St and Ruakiwi Road looking towards the proposed Project

Photo 4.0 - View looking south across the Project site

Photo 5.0 - View towards residential property on Ruakiwi Road, overlooking the Project site

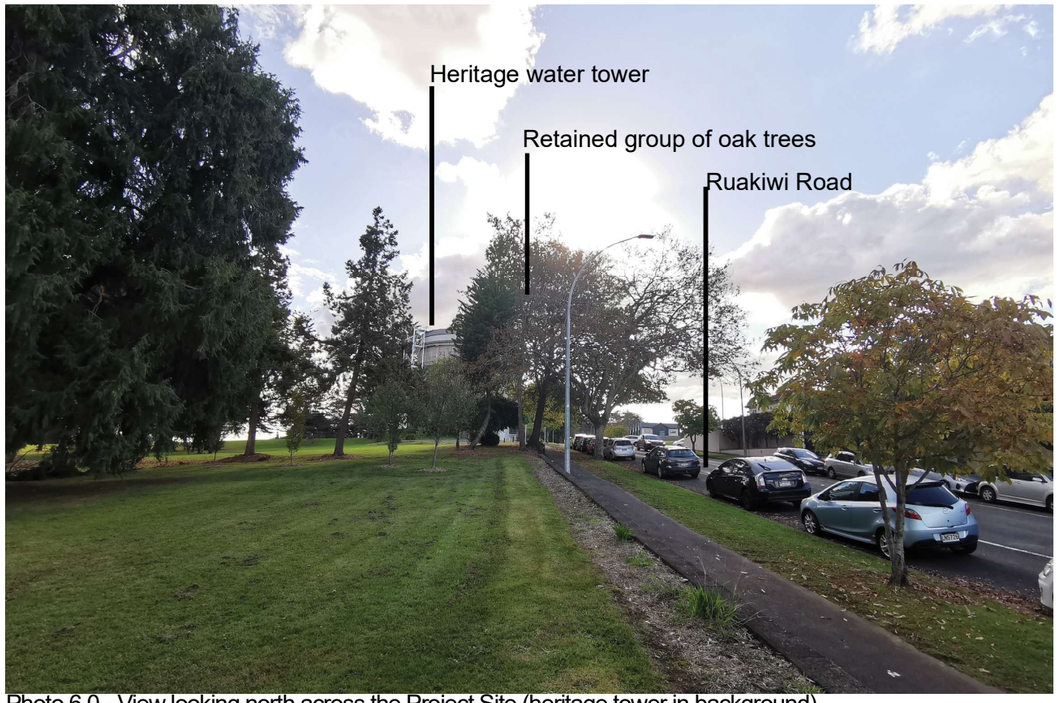


Photo 6.0 - View looking north across the Project Site (heritage tower in background)

Photo 7.0 - View from within the Project site looking east (trees in view retained)

Photo 8.0 - View of macrocarpa trees (staged removal)

Photo 9.0 - View south across lower Project site (Stage 2 reservoir area)

Photo 10.0 - View southwest from Reservoir 2 location across Hamilton Lake

Photo 11.0 - View looking west from Reservoir 2 across open space

Photo 12.0 - View looking across the Domain's open space (westerly direction)

Photo 13.0 - View looking from the Domain's open space toward the heritage water tower

Photo 14.0 - View from near the Verandah Cafe & Function Centre

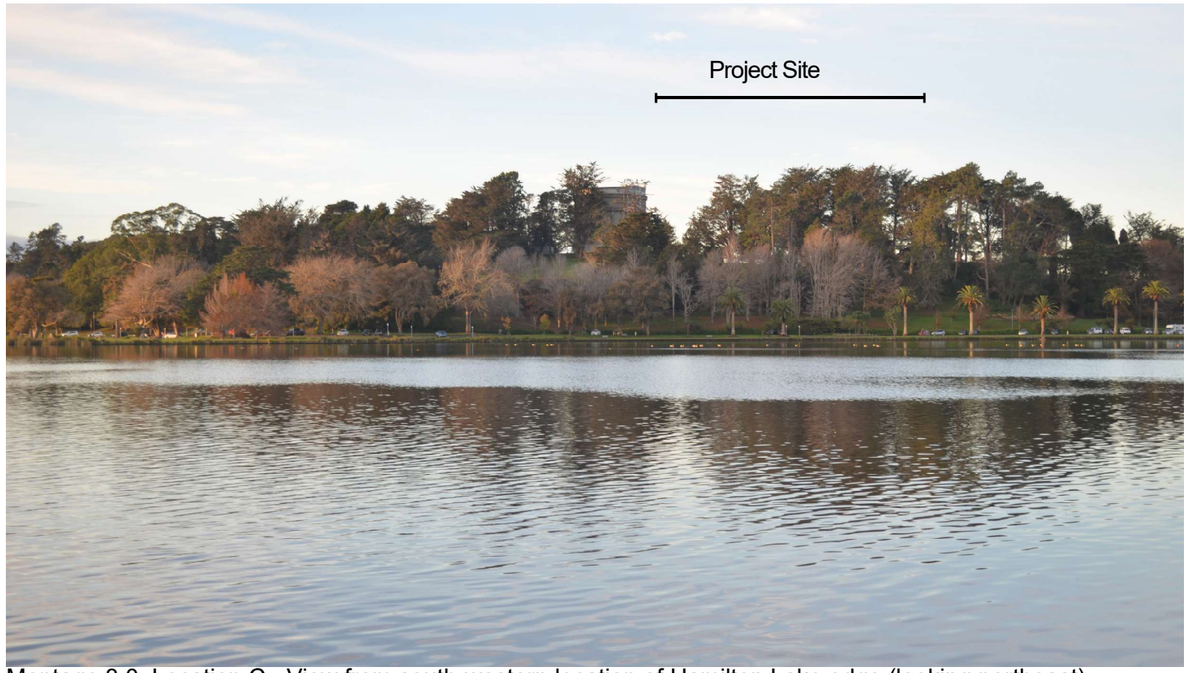
Photo 15.0 - View from BBO offices towards Project Site

Montage 1.0, Location A - View from south location of Hamilton Lake edge (looking north)

Montage 1.1, Location A - View from south location of Hamilton Lake edge (looking north) with both reservoirs completed

Montage 2.0, Location B - View from south-western location of Hamilton Lake edge

Montage 2.1, Location B - View from south-western location of Hamilton Lake edge with both reservoirs completed



Montage 3.0, Location C - View from south-western location of Hamilton Lake edge (looking northeast)

Montage 3.1, Location C - View from south-western location of Hamilton Lake edge with both reservoirs completed

Montage 4.0, Location D - View from western location of Hamilton Lake edge (looking east)

Montage 4.1, Location D - View from western location of Hamilton Lake edge with both reservoirs completed

Montage 5.0, Location E - View western location of Hamilton Lake edge (opposite Killarney Road, looking east)

Montage 5.0, Location E - View of Project from western location of Hamilton Lake edge (opposite Killarney Road, looking east)

Montage 6.0, Location F - View west of Hamilton Lake edge at top of Fowlers Ave (looking east)

Montage 6.1, Location F - View of Project from west of Hamilton Lake edge at top of Fowlers Ave (looking east)

Montage 7.0, Location G - View from adjacent to 13 Ruakiwi Road (view looking south)

Montage 7.1, Location G - View from adjacent to 13 Ruakiwi Road (view looking south)

Montage 8.0, Location H - View from adjacent to 22 Ruakiwi Road (view looking north)

Montage 8.1, Location H - View from adjacent to 22 Ruakiwi Road (view looking north)

Montage 9.0, Location I - View from road adjacent to 146 Clarence Street (view looking west)

Montage 9.1, Location I - View of Project from road adjacent to 146 Clarence Street (view looking west)

Montage 10.0, Location J - View from access drive adjacent to 106 Pembroke Road (view looking north)

Montage 10.0, Location J - View of Project from access drive adjacent to 106 Pembroke Road (view looking north) (No Change)

BHW STUDIO

EDWARDSWHITE
REGISTERED ARCHITECTS

Ruakiwi Reservoirs
Hamilton Lake Domain

ARCHITECTURE +
LANDSCAPE
PRELIMINARY DESIGN

PRELIMINARY DESIGN
25 JULY 2025
REVISION D

1.0

Key Design Moves

MOMENTS + VIEWS

Celebrating the site's significant as one of the highest points in central Hamilton, the project is an opportunity to celebrate existing views and reveal new ones via the path around the reservoirs.

The series of paths traverses various heights and positions, creating 2 - 3 key moments where the public can look out to the Lake Domain below and the landscape beyond, including the maunga of the west (Pirongia, Karioi, Kakepuku and Te Kawa).

The space between the old and new reservoirs creates a view from Clarence St through to the Park. Opportunities also exist to obtain views into the Valve Chamber and reveal the inner workings of Reservoirs and around the site to provide points of interest and respond to the site.

NETWORK OF PATHS

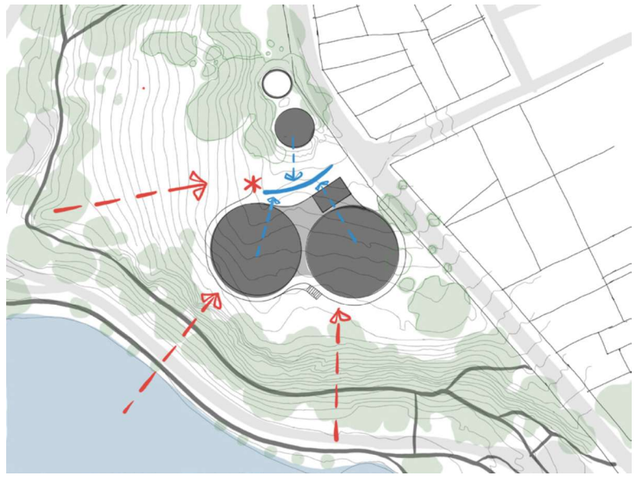
Creating multiple pathways linked with a consistent and cohesive expression of materials, identity and sense of place.

The reservoir path is the key move to tie the massive reservoirs to the park. It anchors the new built form to the site. From this, the new path network extends into and across the site to connect to the exiting path network of the wider Lake Domain. Pathways link the key destination points, integrating the new structures with the Lake Domain and Ruakiwi Road/Central city.

WEAVE + INTEGRATE

The new reservoirs continue to the story of water reservoirs along this ridge line. The landscaping presents an opportunity to weave the old and new together, while softening the hard edges and mass of the new buildings and reinserting the human scale into the site.

Materiality will integrate the new buildings with the landscape.



REVEAL

Elegantly integrating art, interpretation and way finding elements into the built form and landscaping to reveal the stories and narratives of the site and it's history, as well as the function and purpose of the reservoirs.

(e.g. water feature, windows into building, interpretive, wayfinding features of the site itself as well as the views beyond (e.g. maunga).

Preliminary Design

SITE PLAN

Preliminary Design

STAGING

STAGE ONE

STAGE TWO

Preliminary Design

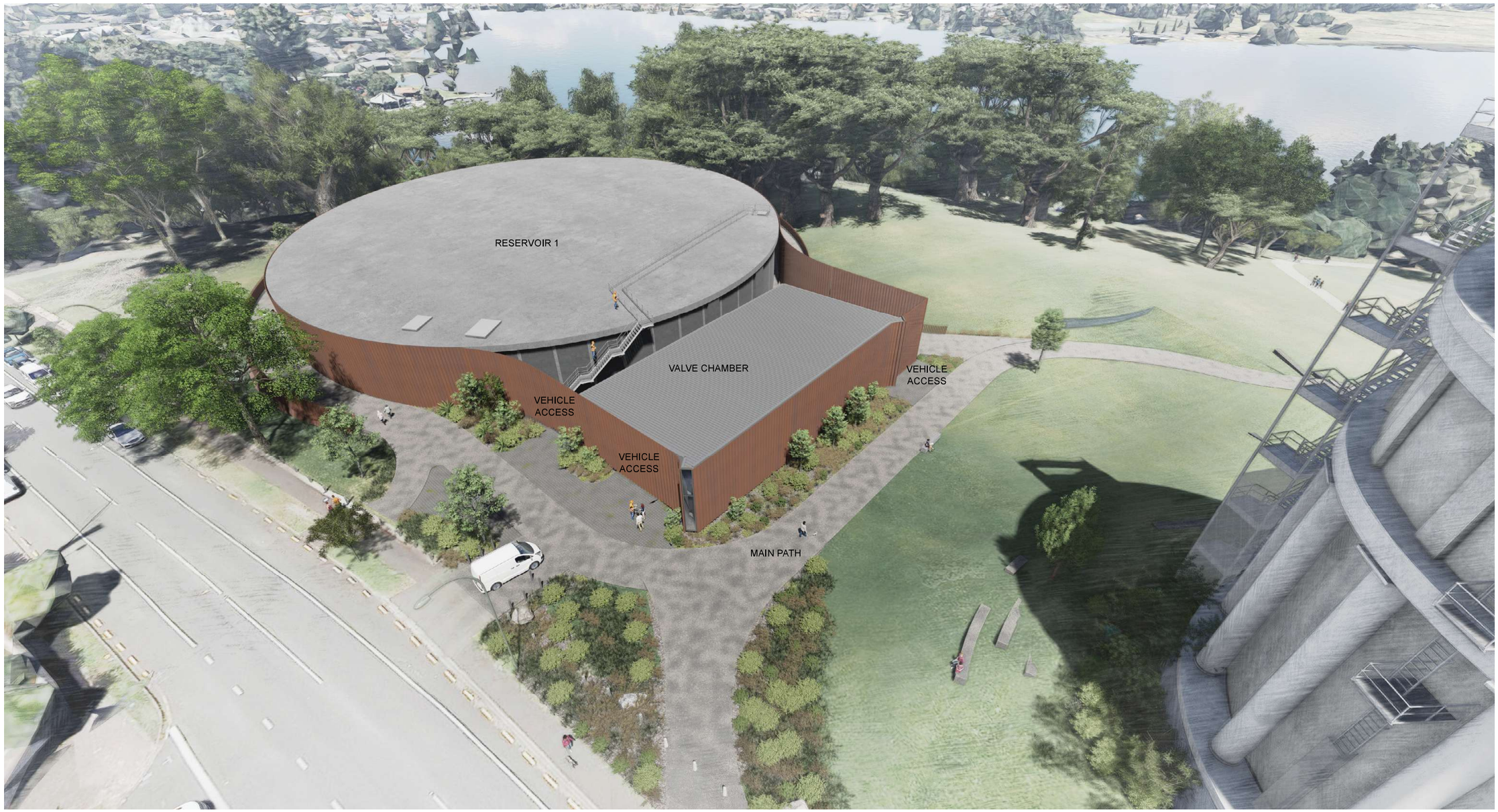
PLAN

Preliminary Design

PLAN - TRACK OPTIONS

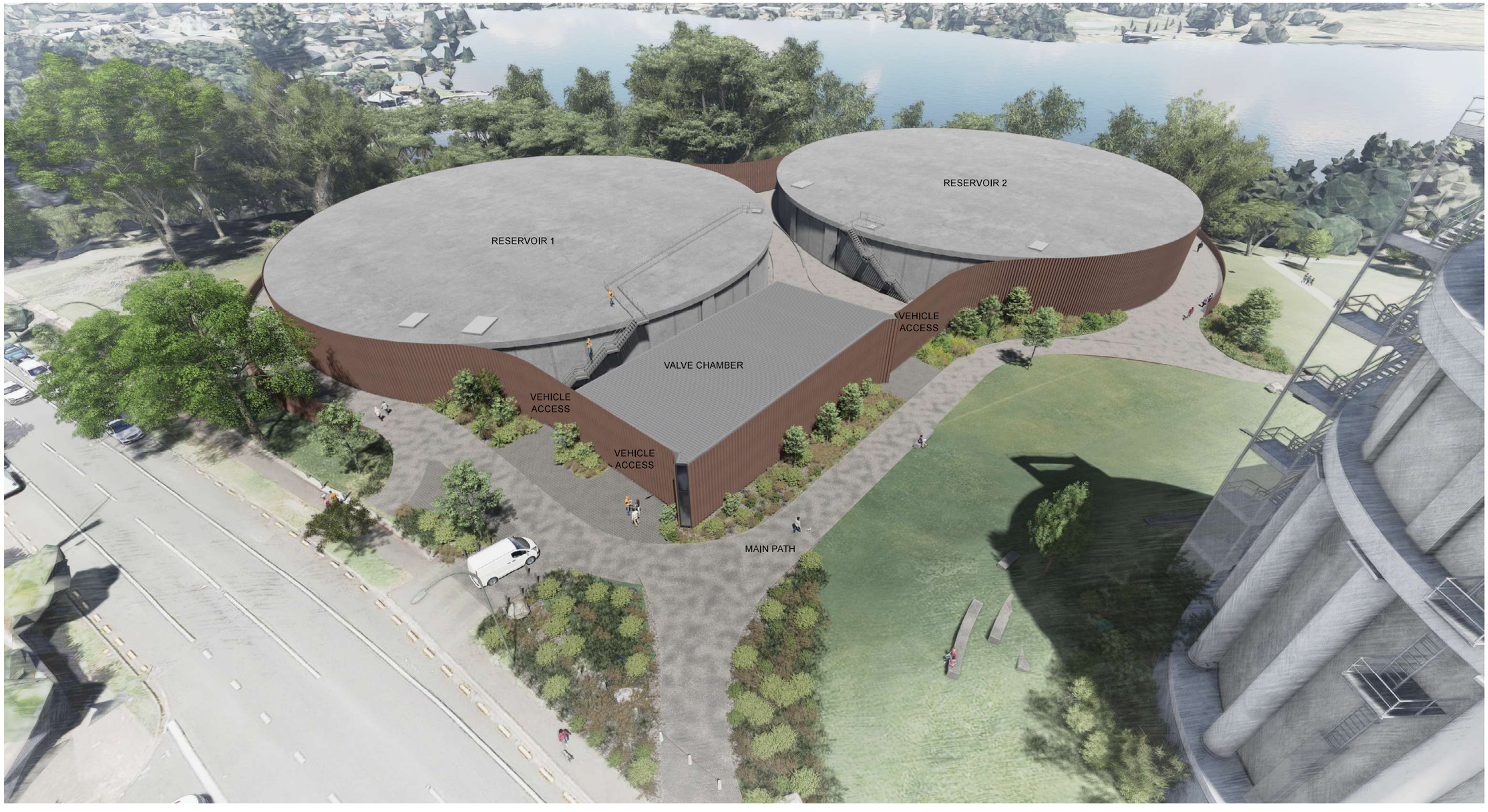
Preliminary Design

AERIAL VIEW, SOUTH WEST - STAGE ONE



Preliminary Design

AERIAL VIEW, SOUTH WEST - STAGE TWO



Preliminary Design

VIEW SOUTH WEST FROM CLARENCE ST

Preliminary Design

VIEW WEST FROM CLARENCE ST

STAGE ONE

STAGE TWO

2.0

Preliminary Design

AERIAL VIEW NORTH

STAGE ONE

STAGE TWO

Preliminary Design

LAKE EDGE VIEW EAST

Preliminary Design

NORTH WEST ELEVATION - STAGE ONE

Preliminary Design

SOUTH WEST ELEVATION - STAGE ONE

Preliminary Design

SOUTH EAST ELEVATION - STAGE ONE

Preliminary Design

NORTH EAST ELEVATION - STAGE ONE

Preliminary Design

NORTH WEST ELEVATION - FINAL

Preliminary Design

SOUTH WEST ELEVATION - FINAL

Preliminary Design

SOUTH EAST ELEVATION - FINAL

Preliminary Design

NORTH EAST ELEVATION - FINAL

Preliminary Design

SECTION - FINAL

BHW

Ruakiwi Reservoirs

Hamilton Lake Domain

LANDSCAPE
CONCEPT DESIGN

28 JULY 2025

REVISION C

Site

The two new reservoirs and valve chamber will be situated in the Hamilton Lake Domain, next to the existing water tower.

The existing water tower is located within the current designation.

KEY

Existing Designation

Proposed Designation

Key site changes proposed

- Introduction of new built form in two stages:
  - Stage 1: First reservoir (62.5m dia.), 1 x valve chamber, 5m wide elevated walkway wrapping around reservoir with retaining wall to base, hardstand for access and maintenance
  - Stage 2: Second reservoir (62.5m dia.), 5m wide elevated walkway wrapping around reservoir with stair access point - retaining wall to base, hardstand for access and maintenance
- Existing heritage tower and tower base to remain
- Introduction of new pathways to connect with existing paths
- Removal of trees (mostly exotic) (noticeable from long distances across the city)
- Altered land form
- New views to the wider landscape (predominantly west/south west)
- Visual impact on existing event space/open space
- New scour/pipe outlet into lake and treatment of storm water runoff from

1.1

Design Principles

Based on principles outlined in the cultural response report. These are to be confirmed through further mana whenua engagement.

PRINCIPLES	APPLICATION
COMMUNITY AND MANA WHENUA INVOLVEMENT	• Collaborative Design Process: Involve mana whenua and the local community in the design and implementation of the landscape, ensuring their voices and perspectives are central to the project. • Cultural Stewardship Programs: Develop programs that empower local iwi and community members to take an active role in the stewardship and ongoing care of the landscape.
ENVIRONMENTAL HARMONY	• Eco-cultural Design: Align landscape design with principles of kaitiakitanga (guardianship) and sustainability, ensuring that the reservoir and its surroundings support diverse ecosystems and cultural practices. • Habitat Restoration: Restore and protect habitats for native species, including birds, fish, and insects, and incorporate traditional ecological knowledge into the management of these areas.
PATHWAYS AND CONNECTIVITY	• Whaanau Walkways: Create pathways that follow traditional trails and connect significant cultural sites, enabling visitors to walk in the footsteps of ancestors. • Wayfinding with Cultural Symbols: Use traditional Maaori symbols and motifs for wayfinding, guiding visitors through the landscape and highlighting important cultural elements.
CULTURAL HERITAGE AND IDENTITY	• Incorporate Maaori Narratives: Integrate stories and legends of Ngaati Wairere and THaWK into the landscape design, using art, sculptures, and interpretive panels that share these narratives with manuwhiri/visitors. • Traditional Plantings: Use native plants significant to mana whenua, such as harakeke (flax), kawakawa, and rongoaa species (medicinal plants), to enhance the cultural and ecological value of the landscape.

PRINCIPLES	APPLICATION
CULTURAL MARKERS AND ART	• Wāhi Toi (Art Spaces): Designate areas within the landscape for Maaori artists to create and display works that reflect the cultural heritage and contemporary expressions of mana whenua. • Pouwhenua and Carvings: Install pouwhenua (carved posts) and other traditional carvings at key locations around the reservoir to mark significant sites and tell stories of the land.
EDUCATIONAL AND INTERPRETIVE ELEMENTS	• Interactive Displays: Create interactive exhibits that educate visitors about the cultural significance of the reservoir and the surrounding landscape, including digital kiosks and augmented reality experiences. • Bilingual Signage: Ensure all informational and interpretive signage is bilingual, using both English and te reo Maaori, to promote the language and cultural understanding.

Design Objectives

The Landscape Strategy for the Proposal has been developed to assist integrating the completed reservoirs within the existing vegetated open space context of the Domain. The resultant landscape treatment should addressed as an integral part of the project in accordance with the following objectives:

• Create a final landform that supports a smooth integration with adjacent areas of topography,

• Establish native vegetation, amenity trees and areas of grass which assist the final landform becoming assimilated within its surrounding open space setting and maintains a wider ‘green’ vegetated backdrop, and

• Maintain and enhance recreation opportunities, including recreation tracks, lookout opportunities and natural play opportunities.

Key Design Moves

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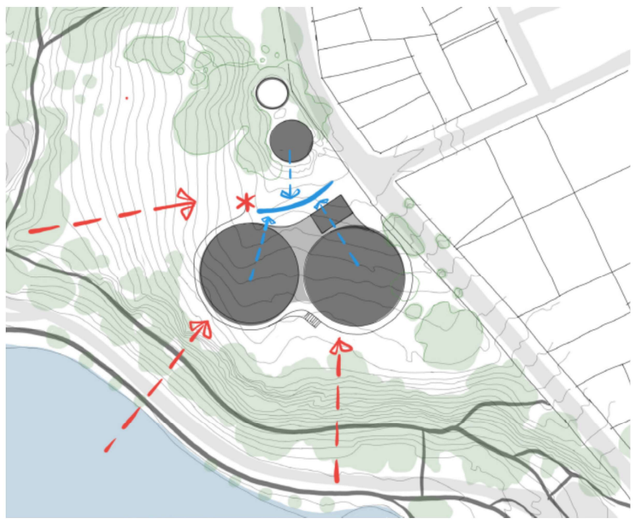

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(e.g. water feature, windows into building, interp, wayfinding features of the site itself as well as the views beyond (e.g. maunga).

Regional and City Features

REGIONAL

A rare vantage point for observation of the Hamilton basin and wider Waikato region.

A visual connection to the land and surrounding mountains.

CITY

The highest point in Hamilton/Kirikiriroa, seen from afar.

An important ridgeline for mana whenua.

Built form of residential areas and central city.

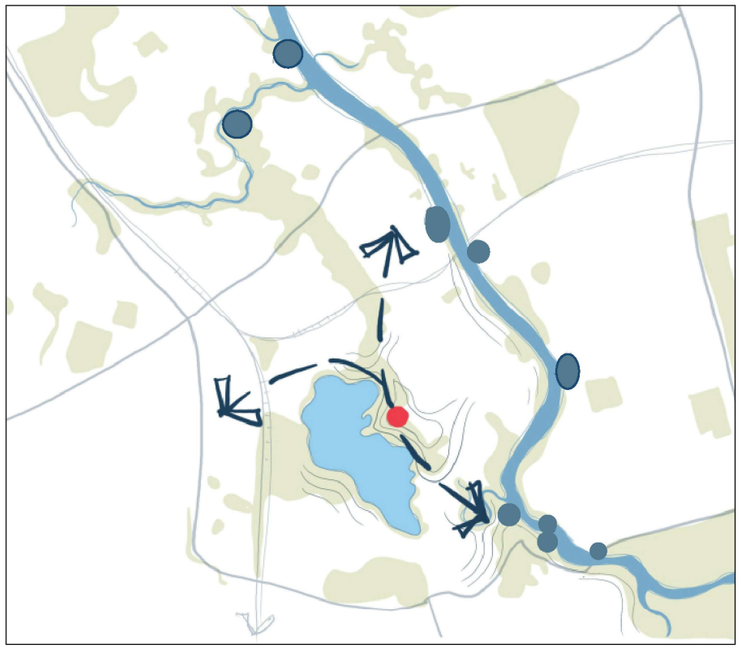
Hamilton Lake Domain open space.

Hamilton Lake (Rotoroa)

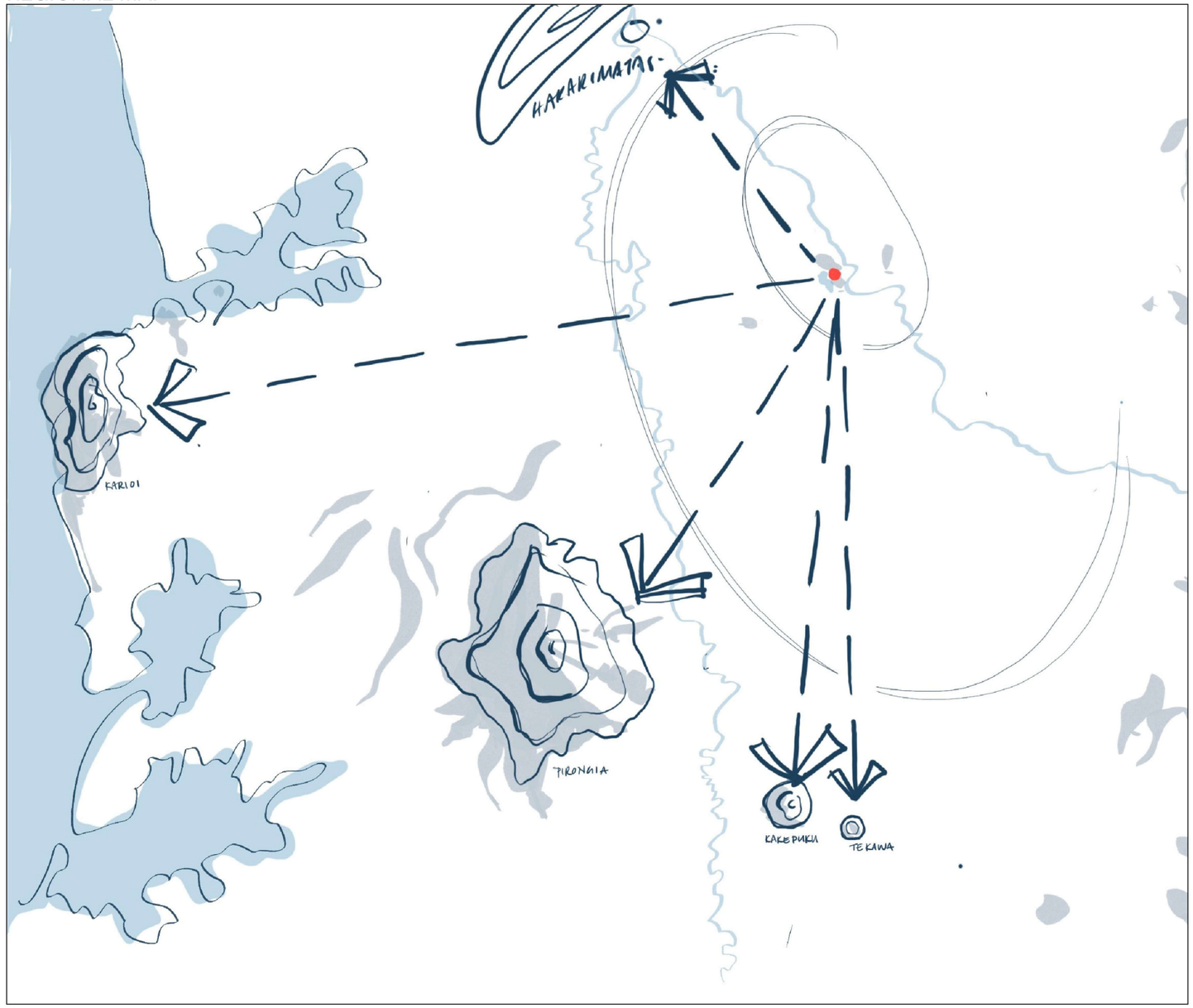
KEY

- Reservoir site
- Paa site
- Urapaa
- Connection

CITY MAP



REGIONAL MAP



Concept Design

SITE PLAN

The plan shows the final landscaping outcome, with both new reservoirs in place.

The plan will be further developed with input from mana whenua and feedback from community consultation.

The design aims to:

- Reduce the visual impact of the new built forms.
- Maintain view shafts from the intersection of Ruakiwi Road and Clarence Street.
- Create and enhance views to and from the existing water tower and elevated walkway around the new reservoirs.
- Provide a network of connecting paths.
- Provide mitigation planting for the loss of vegetation required to for the new built form.

KEY

- New built form
- Hard surface (100% concrete paving)
- Hard surface (50% permeable paving 50% Concrete paving)
- Garden bed and/or Storm water treatment
- Existing Trees and Vegetation
- Trees to be kept and protected during construction
- New Trees

Concept Render

AERIAL VIEW

Concept Design

STAGING

Construction will be staged.

Stage 1 will see the Reservoir 1 built along with the valve chamber, access paths and mitigation planting. Further landscaping and tree planting will be installed after the construction of Reservoir 2.

RESERVOIR 1

FINAL

Look + Feel

MATERIALS PALETTE

The materials palette has, so far*, been influenced by the ridgeline and the visual connections to the surrounding volcanic cones, the concrete heritage tower and the new reservoirs, sleeved in corten and situated on a textured mass block, and of water - the purpose of the entire project.

* Subject to mana whenua engagement and consultation

GEOLOGY + ROCK

CONCRETE

CORTEN STEEL

WATER FEATURES

Park Elements

PARK FURNITURE

Using the same material as the reservoir bases, terraced seating will follow the contours of the landscape and link the heritage tower with the new reservoirs.

Other furniture includes seating, lighting, cycle racks, drinking fountains and signage (wayfinding and interpretive). Significant opportunities for mana whenua input.

PURPOSE

- Enhance the area for visitors using the space in a multiple ways eg. Passive or active recreation
- Provide places to rest, admire views and have places for gathering eg. Picnics
- Provide amenities for park users such as drinking fountains and bike racks.

PREFERABLE FURNITURE MATERIAL CHARACTERISTICS

- Accessible
- Low maintenance
- Durable lifespan
- Relatively cost effective
- Able to recede into the natural environment
- Ability to incorporate mana whenua input

Terraced seating

In-situ seating
(pebbles and rock exposed)

Wayfinding signage

Sculptural drinking fountain
(Lake Pupuke form in basalt)

Accessible Picnic Tables

Rubbish bins

Natural wood seating

Cycle rack

Paths and Access

Provide a harmonious mix of paving typologies to respond to the contrasting needs of the site, including concrete, pavers and gobi block.

Along the street frontage, these will be thoughtfully integrated so that the site continues to appear and function as an open space used by pedestrians, while simultaneously ensuring that maintenance vehicles have safe, direct and practical access into the Valve Chamber and 'back of house' areas.

PURPOSE

- Provide pedestrian and vehicle access to the Reservoirs and Park
- Create a hierarchy of paths for the different uses that are safe and accessible
- Provide points of fun and sensory interest
- Add to the network of exercise routes within the Lake Domain

PREFERABLE PATH MATERIAL CHARACTERISTICS

- Accessible
- Low maintenance
- Durable lifespan
- Relatively cost effective
- Able to recede into the natural environment
- Ability to incorporate mana whenua input

PATH OPTIONS

Exposed pebble aggregate concrete - coloured

Exposed pebble aggregate concrete

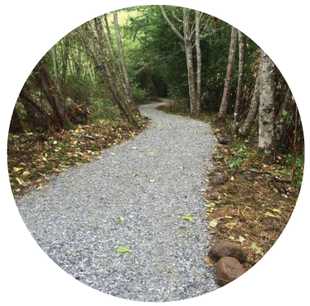
Exposed chip aggregate concrete

Plain concrete

Gobi block

Staggered pavers

Hoggin



Gravel

PATH TREATMENT OPTIONS

Painted patterns

Blasted Pattern

Textural areas

Natural stone pavers

Concept Design

CULTURAL LAYERS

TBC following direction from mana whenua. To date, concepts relating to water, whakapapa, connection to the wider landscape etc have been raised. Irrespective of the narrative/s selected, they will be embedded into the site design to create an authentic, engaging and immersive public realm experience.

Precedent images below.

Indicative areas for cultural expression

Play and Recreation

The proposed landscape plan is to create open areas, that value the existing views, protect and enhance the plantings, along with improving recreation opportunities.

This project also presents an opportunity to provide educational and non-structured play along the network of paths.

PURPOSE

- Provide a fun, engaging and educational experience for visitors
- Add to the existing network of recreation activities at the Lake Domain
- Ability to tell the narrative of the Reservoirs and Lake Domain

PREFERABLE CHARACTERISTICS

- Accessible components
- Provide a space for educational material
- Ability to incorporate mana whenua input

See precedent images on the following page.

Indicative areas for recreation and play

Play and Recreation

PLAY AND SENSORY

Playful sculpture

Creative Lighting

Interactive water feature

Water play

Nature Play

Challenging play/exercise opportunities

Formal Exercise Equipment

Educational water play

LEARNING OPPORTUNITIES

Engaging signage

Interactive signage

Educational signs

Playful signage

Planting Strategy + Palette

STRATEGY

The soft landscaping performs an important role in telling the stories of the landscape and history, and integrating the dominant built form into site.

The overall planting approach is strongly informed by the Design Principles and will perform the following functions:

- Direct and frame views across the site and beyond
- Soften and integrate: Visually break up the mass and bulk of built form, introduce soft forms and textures to balance the hard surfaces and integrate changes to the surrounding landform.
- Promote public safety: Use of low height vegetation in areas of high foot traffic and where clear sight lines are required.
- Enhance biodiversity: Predominantly native species will be used to reflect the site's cultural context and enhance biodiversity. Noted that some areas may require exotic tree species to help integrate with the existing park.
- Easy/Low maintenance: All species will be easy for Council teams to maintain.

IMMEDIATE SITE PLANTING

- Simple palette of low height, hardy plants that offer a variety of textures
- Columnar-shaped trees to frame the views along the narrow channel

Rewarewa
Knightia excelsa

REGENERATIVE PLANTING AREAS

- A mix of native species typically found in the Hamilton Ecological District.
- Columnar-shaped trees to frame the views along the narrow channel

PARK TREES

- A range of large tree species, predominantly native.
- Large grades to be used as much as possible to mitigate loss of existing mature trees.

Tootara
Podocarpus totara

Northern rata
Metrosideros robusta

Tawa
Beilschmiedia tawa

Tree Removal Strategy

The Project will require a moderate amount of tree removal to enable the construction of the reservoirs and ancillary valve chamber building.

Based on the arborist report the macrocarpas have reach maturity with most having canker disease, which although is not fatal, affects their long-term vitality and potential of retention. The position of the reservoirs and construction access areas has been adjusted to minimise the potential effects on tree root zones and to avoid tree removal where possible.
The tree removal will be staged and will be co-ordinated to align with the construction of each of the reservoirs, which will also assist in reducing the visual effects of the tree loss across two separate periods.

Although there are a moderate number of trees that will be removed, the strategy to retain as many as possible (by adjusting the reservoir and construction access) and implementing a staged removal will assist in reducing the overall change in landscape and visual amenity.

To accommodate the first reservoir, the removal of 58 trees is proposed. This includes:

- 12 native trees – 9 will be transplanted within the Hamilton Lake Domain, 1 is in poor health, and 2 are Pittosporum trees that are too large to transplant.
- 46 exotic trees – all of which will be removed, 21 will be transplanted. 18 of these are in below-average or poor health. One tree, a Cupressus lusitanica, is protected under the Hamilton District Plan. It is too large to transplant and will require removal as part of the designation process.

When the second reservoir is constructed in 2040, a further 14 trees are proposed to be removed.

Refer to Plan on page 18.

PROTECTING EXISTING TREES

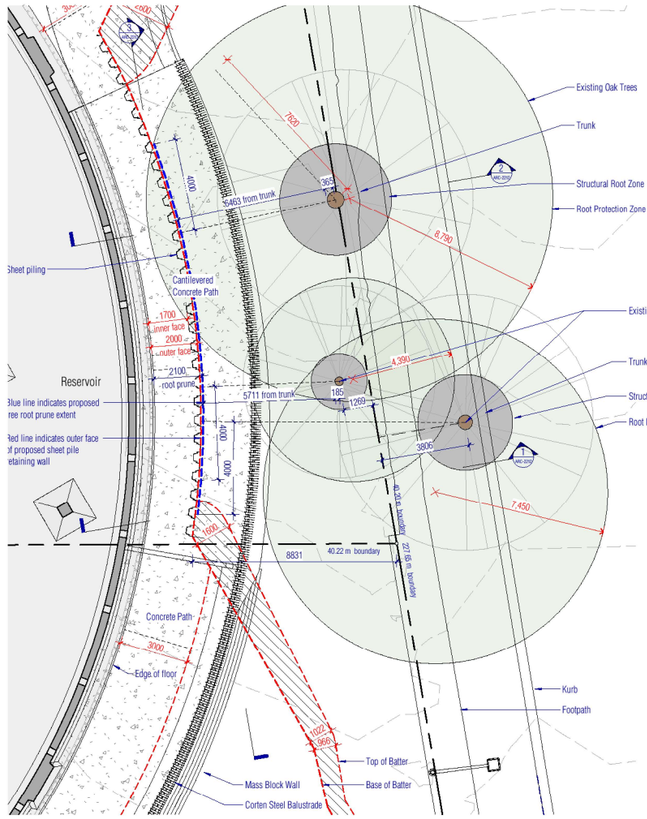
Its proposed to retain four existing trees at the edge of the construction zone as they contribute positively to the amenity and character of the site and surrounding area.

The trees provide established greenery that enhances the streetscape, create a visual buffer between the built form and neighbouring properties, and help to soften the built form within the urban context. One tree also provides excellent habitat for bats.

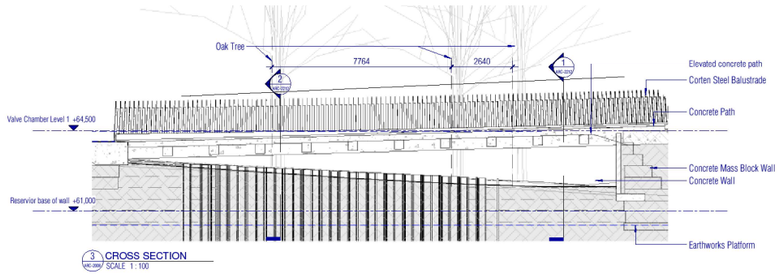
Their retention aligns with good urban design principles and supports a more integrated and sensitive development outcome.

The construction methodology has been adjusted in this area to minimise the impact on the trees. See proposed plan.

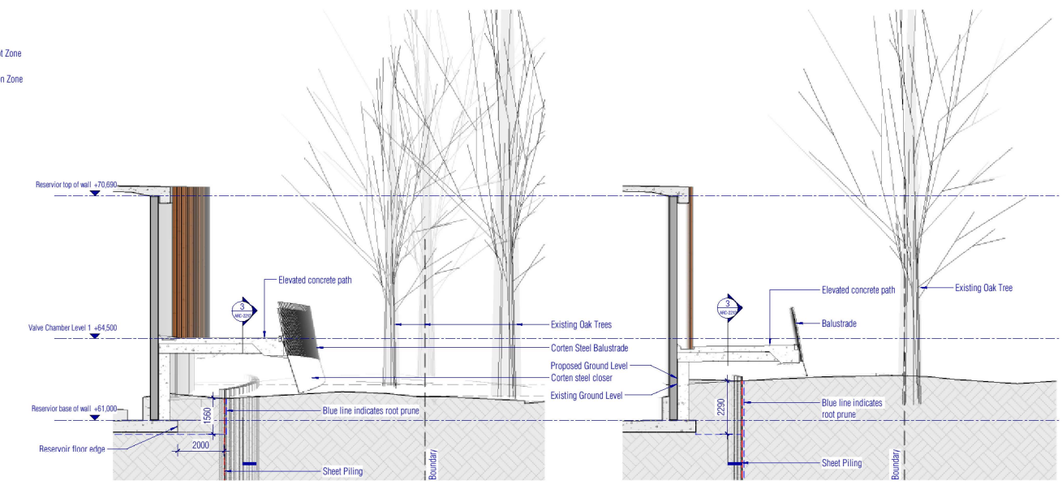
The trees health will be monitored during and after construction. In the case of serious decline, the trees will be replaced with large grade specimens of the same variety.



PLAN - OAK TREE PROTECTION
SCALE 1 : 100



3 CROSS SECTION
SCALE 1 : 100



1 CROSS SECTION
SCALE 1 : 100

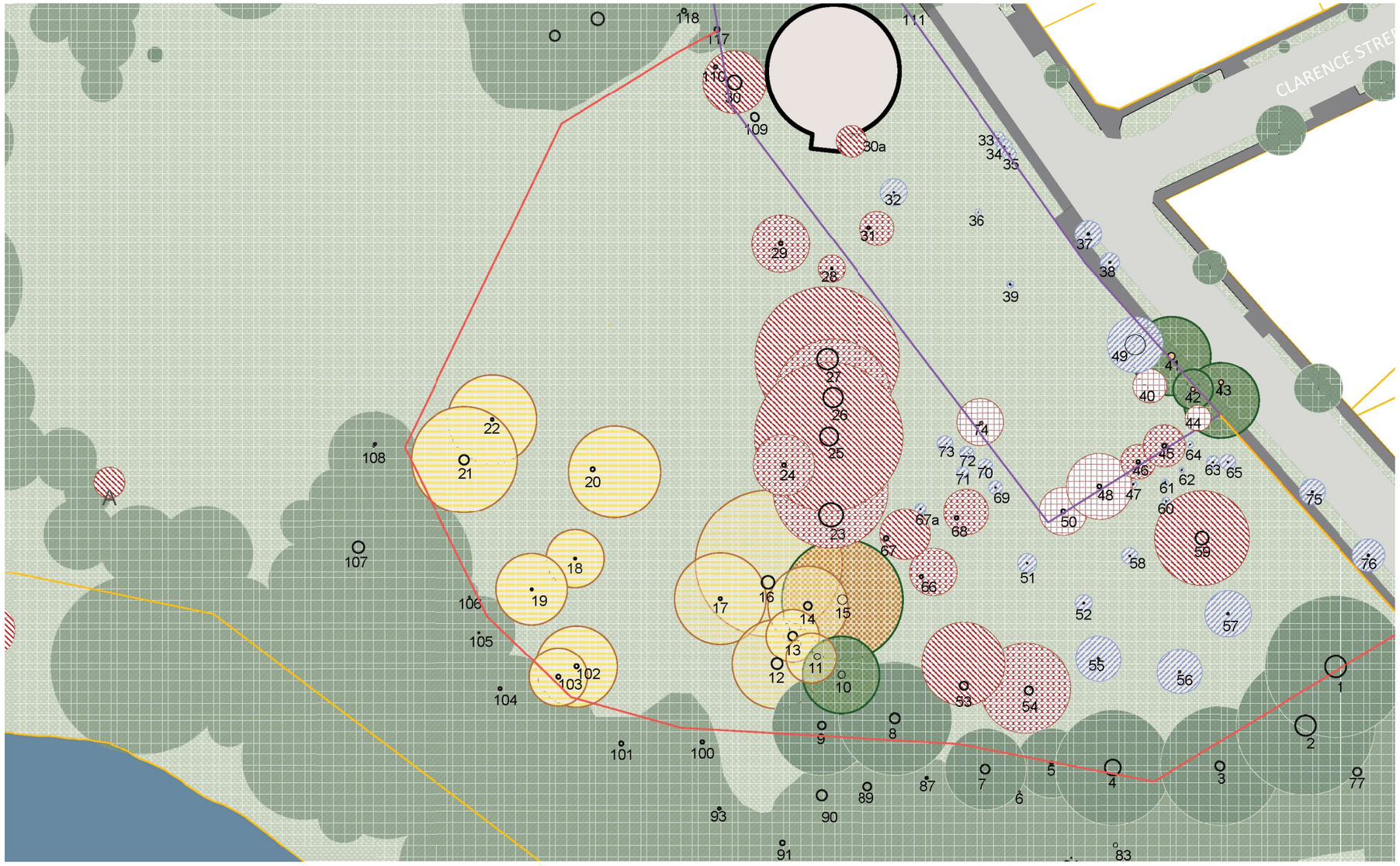
2 CROSS SECTION
SCALE 1 : 100

Existing Trees to be removed

KEY

- Existing tree
- Tree to be kept and protected
- New tree
- Transplant
- Stage 1 removals
- Protect during Stage 1 - Remove Stage 2
- Stage 2 removals

Please refer to the following page for details of the tree types.



Existing Trees to be removed

Tree Number	Tree name	Height (metres)	Root Protection Zone (RPZ)	Structural Root Zone (SRZ)	Transplant	Ecological Habiat	Keep/ Remove/ Transplant	Notes
10	*Cupressus macrocarpa*	26	17.95	4.95		Yes	Protect	Average health. Very good habitat.
41	*Quercus robur*	15	8.79	2.42			Protect	Good health
42	*Quercus robur*	15	4.39	1.21			Protect	Suppressed upright tree in good health
43	*Quercus robur*	14	7.45	2.05			Protect	Good health
32	*Pyrus calleryana 'Aristocrat'*	6	2.67	0.74	Yes		Transplant	Excellent health
33	*Sophora microphylla*	3	1.34	0.37	Yes		Transplant	Good health
34	*Sophora microphylla*	3	1.53	0.42	Yes		Transplant	
35	*Sophora microphylla*	3	1.34	0.37	Yes		Transplant	Good health
36	*Magnolia × soulangeana*	2.5	0.69	0.19	Yes		Transplant	Good health
37	*Aesculus hippocastanum*	4	2.67	0.74	Yes		Transplant	Good health
38	*Aesculus hippocastanum*	4	1.91	0.53	Yes		Transplant	Good health
39	*Magnolia × soulangeana*	2	0.69	0.19	Yes		Transplant	Good health
47	*Vitex lucens*	2.5	0.61	0.17	Yes		Transplant	Excellent health
49	*Camellia japonica*	3	0.00	0.00			Transplant	Multiple trunks in good health
51	*Fraxinus sp*	3	1.60	0.44	Yes		Transplant	Excellent health
52	*Fraxinus sp*	3	1.45	0.40	Yes		Transplant	Excellent health
55	*Quercus palustris*	5	2.67	0.74	Yes		Transplant	Good health
56	*Quercus palustris*	7.5	2.29	0.63	yes		Transplant	Excellent health
57	*Quercus palustris*	7	2.29	0.63	Yes		Transplant	Excellent health
58	*Fraxinus sp*	3	1.15	0.32	Yes		Transplant	Excellent health
60	*Carpinus betulus*	2.5	0.65	0.18	Yes		Transplant	Excellent health
61	*Carpinus betulus*	2.5	0.65	0.18	Yes		Transplant	Excellent health
62	*Carpinus betulus*	3	0.65	0.18	Yes		Transplant	Excellent health
63	*Pyrus calleryana 'Aristocrat'*	3	0.95	0.26	Yes		Transplant	Excellent health
64	*Carpinus betulus*	3	0.65	0.18	Yes		Transplant	Excellent health
65	*Pyrus calleryana 'Aristocrat'*	3.5	1.03	0.28	Yes		Transplant	Excellent health
67a	*Dacrycarpus dacrydioides*	4	1.15	0.32	Yes		Transplant	Good health
69	*Dacrycarpus dacrydioides*	4	1.15	0.32	Yes		Transplant	Good health
70	*Dacrycarpus dacrydioides*	4.5	1.22	0.34	Yes		Transplant	Good health
71	*Dacrycarpus dacrydioides*	4.5	1.18	0.33	Yes		Transplant	Good health
72	*Dacrycarpus dacrydioides*	4	0.76	0.21	Yes		Transplant	Good health
73	*Dacrycarpus dacrydioides*	4	0.76	0.21	Yes		Transplant	Good health
75	*Aesculus hippocastanum*	4	2.86	0.79	Yes		Transplant	Good health
76	*Aesculus hippocastanum*	5	2.10	0.58	Yes		Transplant	Good health
23	*Cupressus macrocarpa*	30	32.09	8.85			Remove Stage1	Average health
24	*Pinus sp*	12	6.49	1.79			Remove Stage 1	Leaning trunk and supressed growth
25	*Cupressus macrocarpa*	30	26.74	7.38			Remove Stage 1	Average health
26	*Cupressus macrocarpa*	30	27.88	7.69			Remove Stage1	Average health
27	*Cupressus macrocarpa*	30	27.12	7.48			Remove Stage1	Poor health
28	*Pinus sp*	5.5	2.48	0.68			Remove Stage1	Good health
29	*Pinus sp*	10	5.92	1.63			Remove Stage1	Good health
31	*Pinus sp*	8	4.77	1.32			Remove Stage1	Good health
30	*Cupressus macrocarpa*	28	30.18	8.32			Remove Stage 1	Average health
30a	*Cupressus macrocarpa*						Remove Stage 1	
40	*Sophora microphylla*	5	2.48	0.68	Yes		Remove Stage 1	Good health. Poor form.
44	*Araucaria sp*	10	4.20	1.16			Remove Stage 1	Poor form in good health
45	*Cryptomeria japonica*	10	5.65	1.56			Remove Stage 1	Good health
46	*Cryptomeria japonica*	10	6.11	1.69			Remove Stage 1	Good health
48	*Liquidambar styraciflua*	10	6.88	1.90			Remove Stage 1	Good health
50	*Pittosporum eugenioides*	8	7.64	2.11			Remove Stage 1	Average health
53	*Cupressus macrocarpa*	26	27.88	7.69		Yes	Remove Stage 1	Average health
54	*Cupressus macrocarpa*	24	20.44	5.64			Remove Stage 1	Average health
59	*Cupressus lusitanica*		18.14	5.00			Remove Stage 1	Poor form in good health (Tree is protected)

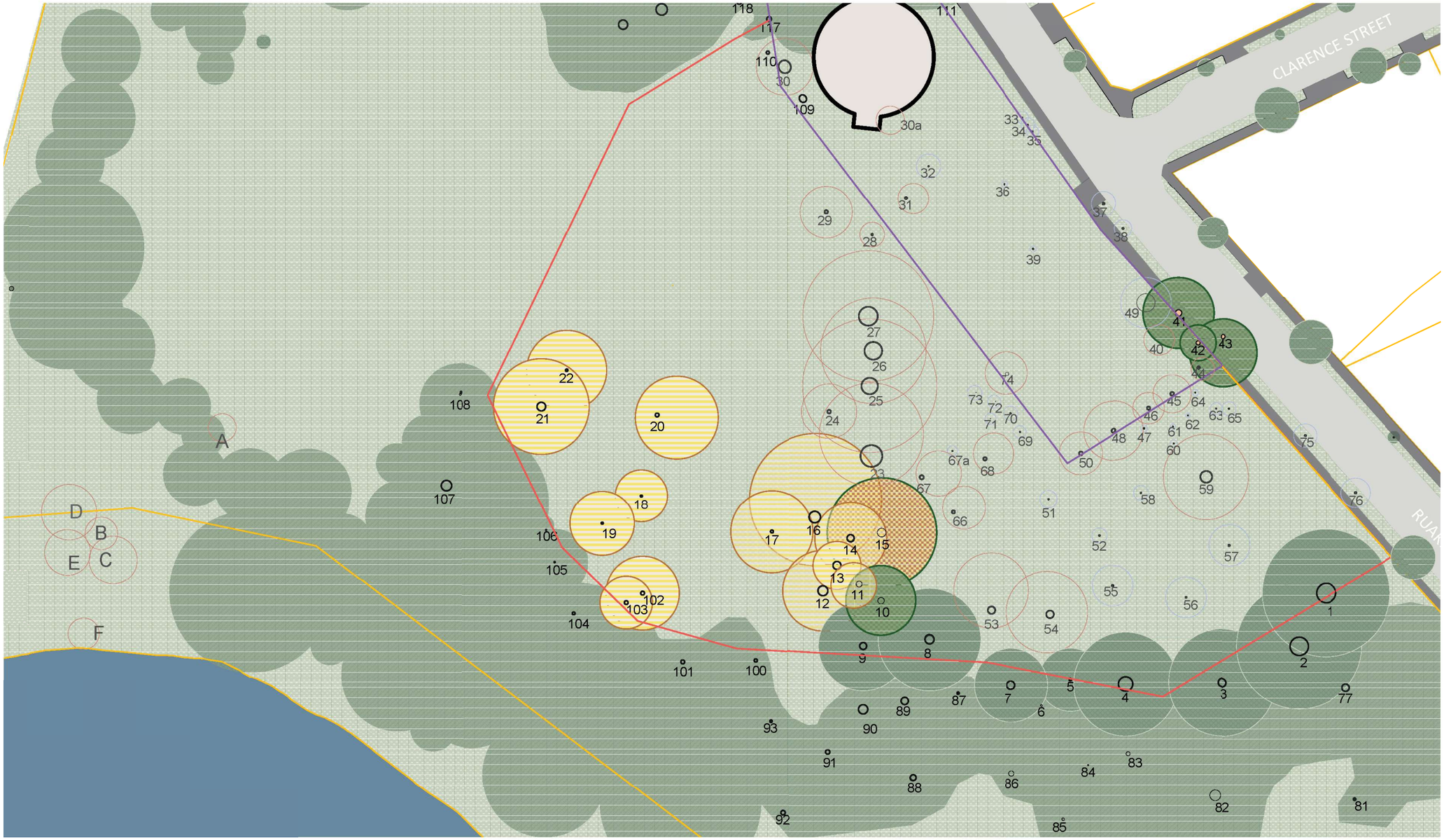
Tree Number	Tree name	Height (metres)	Root Protection Zone (RPZ)	Structural Root Zone (SRZ)	Transplant	Ecological Habiat	Keep/ Remove /Transplant	Notes
66	*Pinus sp*	10	5.35	1.48			Remove Stage 1	Good health
67	*Pinus sp*	26	8.40	2.32		Yes	Remove Stage 1	Good health
68	*Pinus sp*	12	4.97	1.37			Remove Stage 1	Good health
74	*Pittosporum eugenioides*	6	5.35	1.48			Remove Stage 1	Good health
A	*Picea sp.*						Remove Stage 1	Average health
B	*Tillia cordata*						Remove Stage 1	
C	*Tillia cordata*						Remove Stage 1	
E	*Tillia cordata*						Remove Stage 1	
F	*Tillia cordata*						Remove Stage 1	
11	*Cupressus macrocarpa*	29	14.67	4.05		Yes	Remove Stage 2	Average health
12	*Cupressus macrocarpa*	30	22.15	6.11		Yes	Remove Stage 2	
13	*Cupressus macrocarpa*	29	17.72	4.89		Yes	Remove Stage 2	Average health
14	*Cupressus macrocarpa*	30	20.05	5.53			Remove Stage 2	Average health
15	*Cupressus macrocarpa*	30	24.83	6.85		Yes	Protect Stage 1 -	Average health
16	*Cupressus macrocarpa*	30	31.13	8.59		Yes	Remove Stage 2	Average health
17	*Pinus sp*	11	4.20	1.16			Remove Stage 2	Suppressed lean in good health
18	*Betula pendula*	8	3.63	1.00			Remove Stage 2	Good health
19	*Betula pendula*	7	3.82	1.05			Remove Stage 2	Good health
20	*Juniper sp*	10	9.36	2.58			Remove Stage 2	Good health
21	*Pinus sp*	20	21.01	5.79			Remove Stage 2	Average health
22	*Pseudotsuga menziesii*	18	6.88	1.90			Remove Stage 2	Good health
102	*Pinus sp*	20	9.17	2.53			Remove Stage 2	Good health
103	*Pinus sp*	15	5.92	1.63			Remove Stage 2	Average health

Hamilton Lake Domain - existing trees

4.4

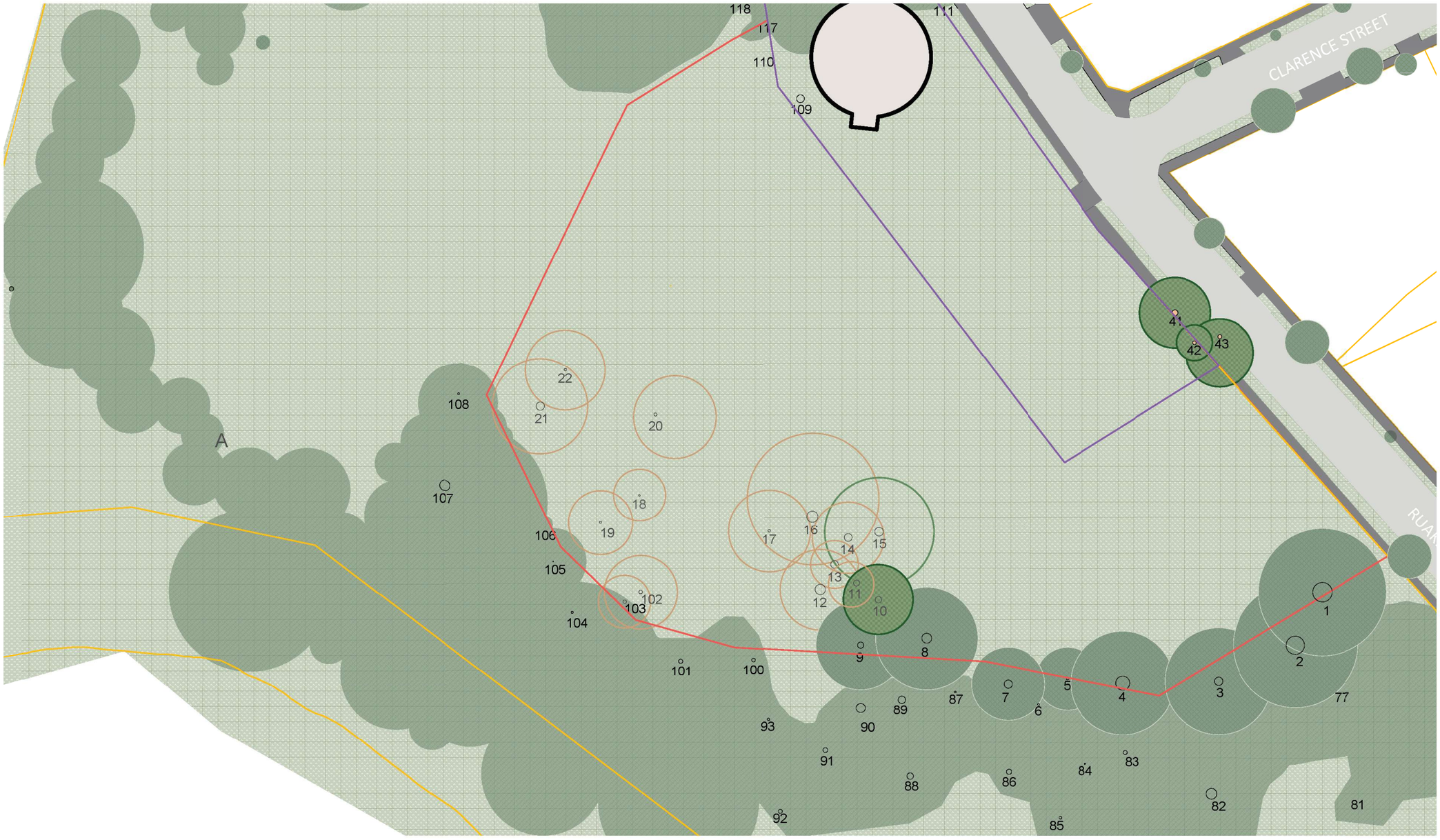
Tree Removal Strategy

SITE AFTER STAGE 1 TREES REMOVED



Tree Removal Strategy

SITE AFTER STAGE 2 TREES REMOVED



New Tree Planting and Vegetation

TREES

We are proposing to plant 144 replacement trees.

Of these, 35 large trees are proposed to be planted onsite:

- 8 trees will be approximately 4.5-6m tall when planted.
- 27 trees will be approximately 2-4.5m tall when planted.

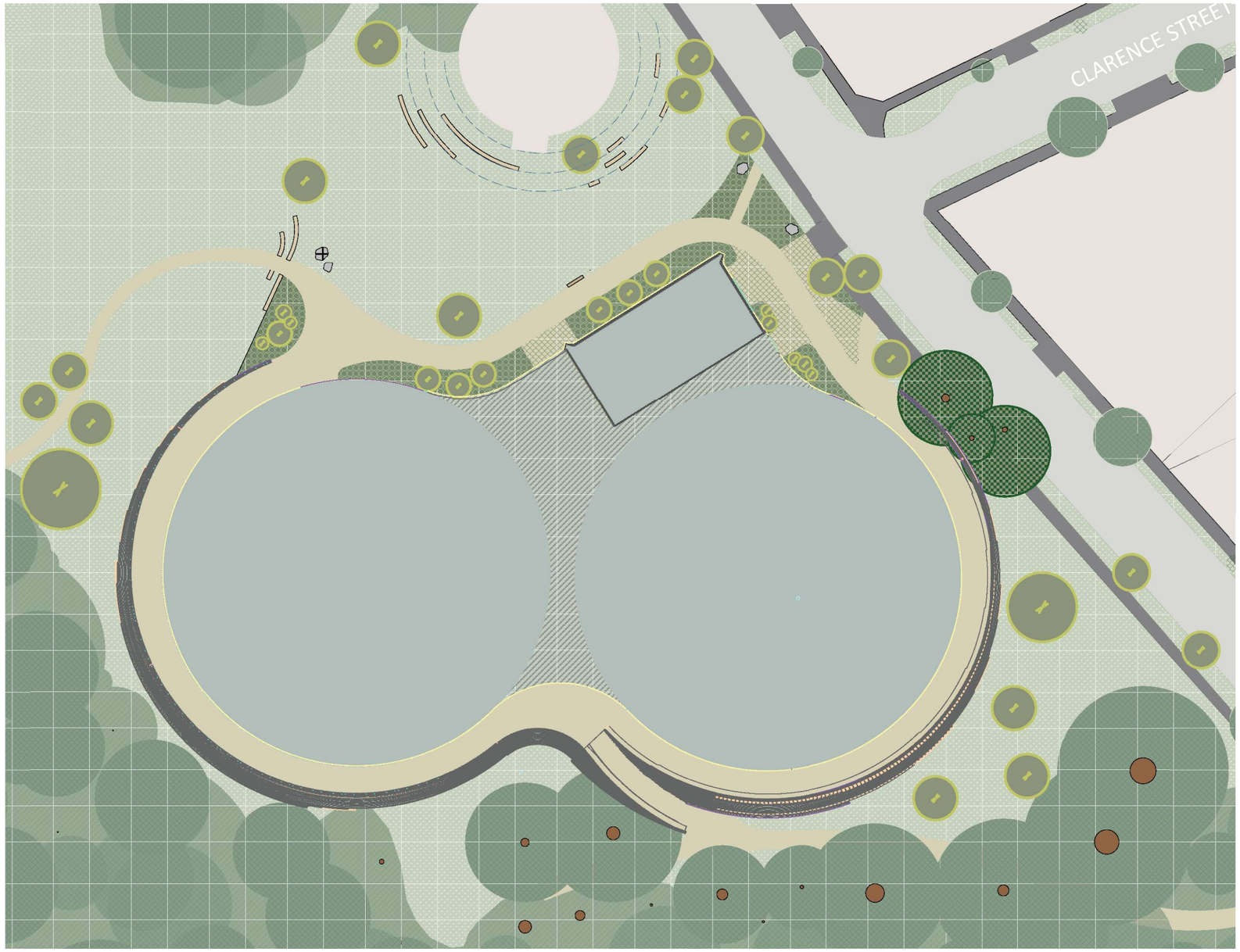
A further 109 trees, ranging from 1.5m to 4.5m in height, will be planted throughout the wider Hamilton Lake Domain and surrounding reserves network.

GARDENS AND STORM WATER TREATMENT

We are proposing to plant 500m2 of gardens and/or storm water treatment areas around the proposed reservoirs.

KEY

- New built form
- Hard surface (100% concrete paving)
- Hard surface (50% permeable paving 50% Concrete paving)
- Garden bed and/or Storm water treatment
- Existing Trees and Vegetation
- Trees to be kept and protected during construction
- New Trees



Mitigation Planting and enhanced ecology

TREES

Replacement tree species will be selected to replicate the forms and habitats currenlty on the site.

Trees will be a mix of native and exoctic species and will be selected to provide; screening, shade and habitat.

See a proposed selection on the following page.

GARDENS AND STORM WATER TREATMENT

Garden areas around the reservoirs will be native, low growing species. Some areas may also function as storm water treatment for the proposed reservoirs.

Further mitigation planting will be completed throughout the surround banks along the ridgeline of the Hamilton lake Domain. The purpose of this planting is to improve the health and main longevity of a green ridgeline visible throughout the city.

The improved planting will need to go hand in hand with a comprehensive pest management plan to improve fauna habitat.

PURPOSE

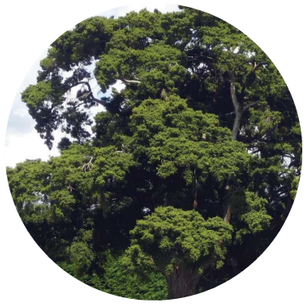
- Enhance the existing Significant Natural Area (SNA) (green lines)
- Provide habitat for native fauna (yellow areas)
- Provide storm water filtration
- Add amenity value to the Lake Domain, by providing natural shade and screening

PREFERABLE PLANT MATERIAL CHARACTERISTICS

- Predominately Native
- Ability to incorporate mana whenua input
- Low native planting to comply with CPTED

Planting species

NATIVE TREES



Tootara
Podocarpus totara

Northern rata
Metrosideros robusta

Tawa
Beilschmiedia tawa

Kowhai
Sophora microphylla

Kaikawaka
Libocedrus plumosa

Nikau
Rhopastylis sapida

EXOTIC TREES

English Oak
Quercus robur

Red maple
Acer rubrum

Gum tree
Eucalyptus TBC

Pine tree
Pinus TBC

STORM WATER OPTIONS

Formal rain garden

Naturalised swale

Combination structure/natural rain garden

Sculptural water course

BAT HABITAT OPTIONS

Natural artificial bat roosts

Artificial bat roosts