

TE KOWHAI WEST STRUCTURE PLAN

702 and 730A Horotiu Road, Te Kowhai

13/06/2023 [FINAL - REVISION C]





REPORT QUALITY CONFIRMATION

STUDIO SW | 2023, *TE KOWHAI WEST STRUCTURE PLAN*. REPORT by STUDIO SW & CKL for 702 TE KOWHAI LP

REFERENCED DOCUMENTATION

- AECOM STRUCTURE PLAN GEOTECHNICAL SUITABILITY ASSESSMENT (3 FEB 2017)
- TE AWA ECOLOGY HIGH-LEVEL OPPORTUNITY AND CONSTRAINTS ECOLOGICAL ASSESSMENT (20 MAR 2023)
- CKL STORMWATER MEMO (15 MAR 2023)
- CKL INTEGRATED TRANSPORT ASSESSMENT (20 FEB 2023)
- BTW 3 WATERS (17 OCT 2022)
- HD GEO PRELIMINARY SITE INVESTIGATION (24 NOV 2022)

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CONTENTS

INTRODUCTION	3
DESIGN PRINCIPLES	3
DEVELOPMENT PLAN	4
ROAD TYPOLOGY & WALKING / CYCLING STRATEGY PLAN	5
ROAD TYPOLOGY CONCEPT	6
OPENSOURCE FRAMEWORK & BLUE/GREEN NETWORK PLAN	7
PUBLIC OPEN SPACES - PLANS	8
STAGING PLAN	9
PLANTING PALETTES	10

INTRODUCTION

BACKGROUND

This Structure Plan will guide development of the Te Kowhai West growth cell, a greenfield area of some 68.2 ha held in two allotments adjoining Te Kowhai Village and bound by Horotiu Road, Richards Road and Woolrich Road.

The Te Kowhai West Structure Plan provides a strategic and spatial framework for future land uses, open space, transport and utility networks. This structure plan has been prepared to facilitate the rezoning of the land and will guide subsequent subdivision applications.

LOCAL CONTEXT AND FEATURES

Te Kowhai is located approximately 12 minutes’ drive north-west of Te Rapa and about 10 minutes drive south west of Ngaaruawaahia. It presently has a country village identity and comprises a full primary school, community hall, church, fruit and vegetable store, dairy and takeaways, vehicle repair workshop, retirement village, and a large recreation park with a skate bowl and playground. At the northern end of the village a new retail hub is being developed which includes a café and superette. Te Kowhai Airfield is situated on the southern periphery of the villa ge and has been enabled for aviation and residential development. Te Otamanui Lagoon is a key landscape feature and is accessible from the village via a shared trail.

Other than a small reticulated wastewater network servicing around 12 dwellings, there are no reticulated water and wastewater services at Te Kowhai. These are proposed to be extended from Horotiu, some 6km to the north-east of Te Kowhai.

EXISTING LANDSCAPE

The typography of the Te Kowhai West growth cell is described as ‘Lowlands’ and ‘Rolling Hills’ with the lowlands being level with gradual undulation featuring river and stream gully systems. The rolling hills have an elevation of up to 20.0 meters high above the alluvial terraces of the lowlands.

A prominent tributary gully system runs east to west through the site, with a series of open man made waterbodies present across the site and is connected to the routes of the water courses.

Vegetation within the site is predominantly rural grassland with mature stands of trees appearing in patches over the site with the sites entry (702 Horotiu Road) featuring a mature avenue of Platanus trees (Plane trees).

DEVELOPMENT PROPOSAL

The development of Te Kowhai West will comprise of residential allotments, a stormwater and drainage network and a series of proposed public roads. The Lot layout and lot sizes will be determined at the time of subdivision and are expected to be strongly influenced by topography. For the purposes of this Structure Plan lot sizes are anticipated to range between 450m2 and 800m2, on the basis that 60% of the site is developable once primary and local roads, open space and stormwater devices have been excluded, a net density of 12-15 dwellings per hectare is anticipated. Applying an average lot size of 650m2 would for example result in a yield of approximately 640 lots. Final lot yields will be confirmed once detailed planning has been completed as part of a future subdivision application process.

The proposed open space network has been designed to celebrate the natural landscape characteristics of the site while achieving an open space network that maximises walkability through the prominent tributary gully system connecting to the Te Kowhai Village and the Te Otamanui Lagoon.

DESIGN PRINCIPLES

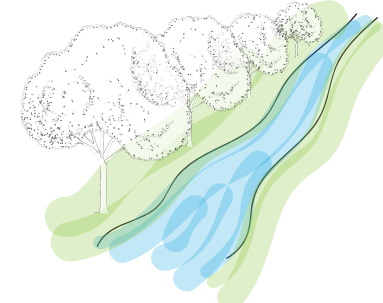
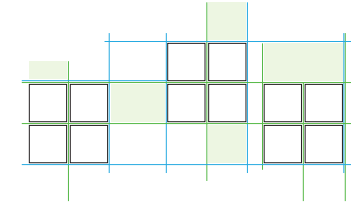
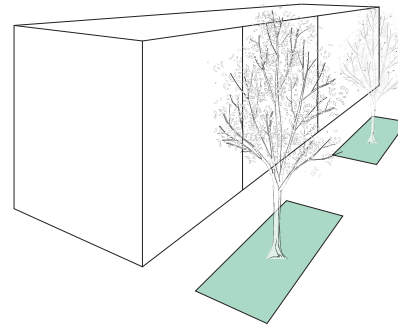
A SECURE WALKING & CYCLING NETWORK

By providing a secure, accessible walking and cycling network along important corridors and through public open space, users can promote active recreation and transport modes.



POSITIVE STREETS

A well-planned street takes into account more than just the smooth movement of vehicles. Streets that improve the experience of people and the feeling of place and identity of the neighbourhood are made possible by the incorporation of vegetation, materiality, footpath widths, and accessible crossing locations. Positive streets support biodiversity, have an ecological response to the surroundings and link to a larger network of parks and other natural areas.

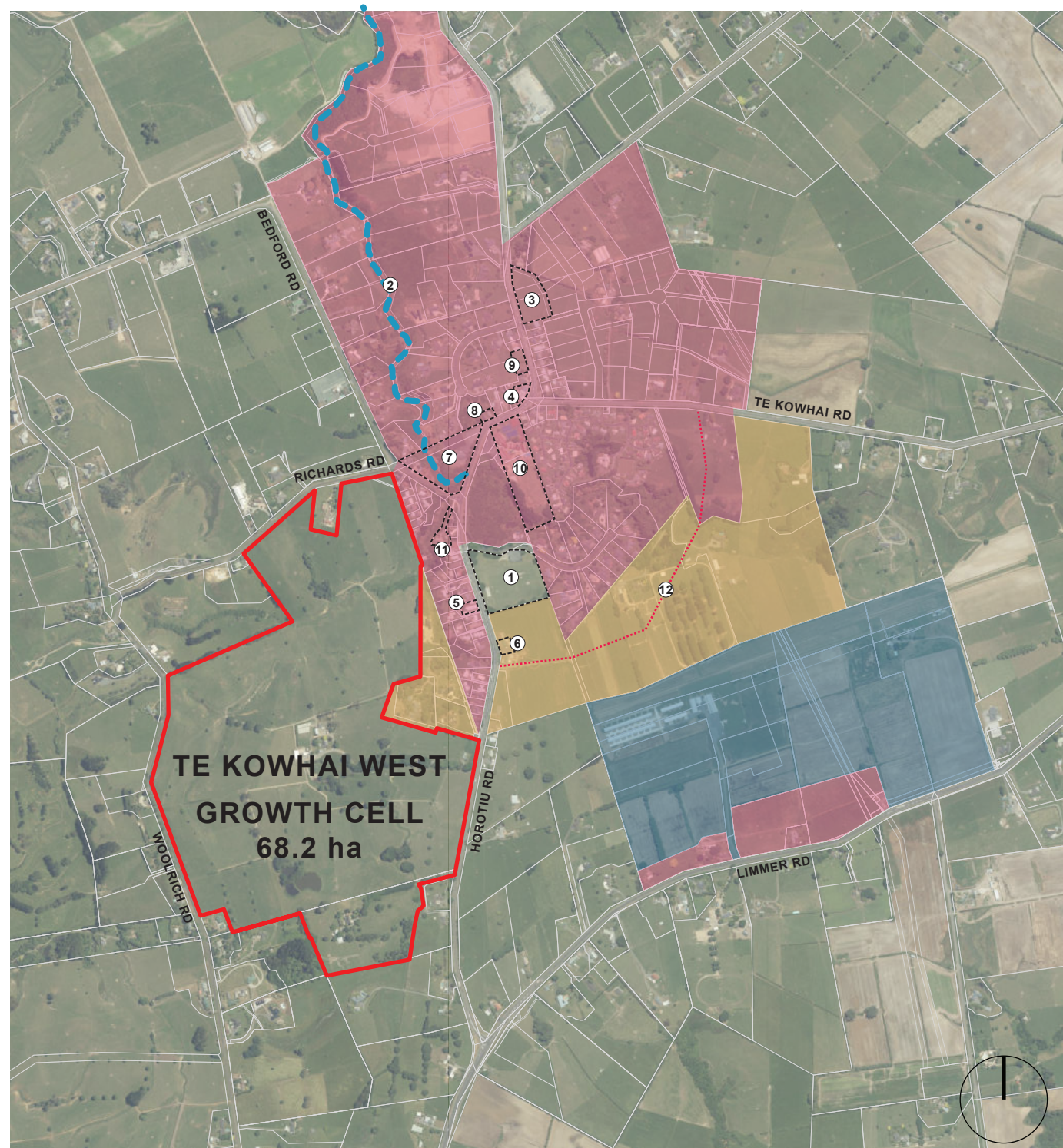


COMMUNITY CONNECTION

Individuals, and the community as a whole, need access to a range of outdoor areas near their homes. The connected open space network enhances access to a variety of passive experiences that respond to the requirements of the community while also strengthening the environment and how we interact with it.

BLUE / GREEN INFRASTRUCTURE

A unified and bio-diverse ecosystem benefits from blue green infrastructure. Streams, rivers, lakes, wetland habitats, and isolated bush remnants are all connected by blue green infrastructure. The improvement and promotion the natural occurring systems contributes to the local character, improves amenity and enhances diverse recreational opportunities making the neighbourhood more resilient and sustainable.



CONTEXT MAP

KEY

① Willow Brook Park

② Te Otamanui Lagoon

③ Northern Retail Centre & Cafe

④ Garage

⑤ General Store

⑥ Cafe & Produce Store

⑦ Hall & Kindergarten

⑧ Church

⑨ Church

⑩ School

⑪ Wastewater Plant

⑫ Indicative Future Road

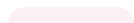
Future Growth Cells

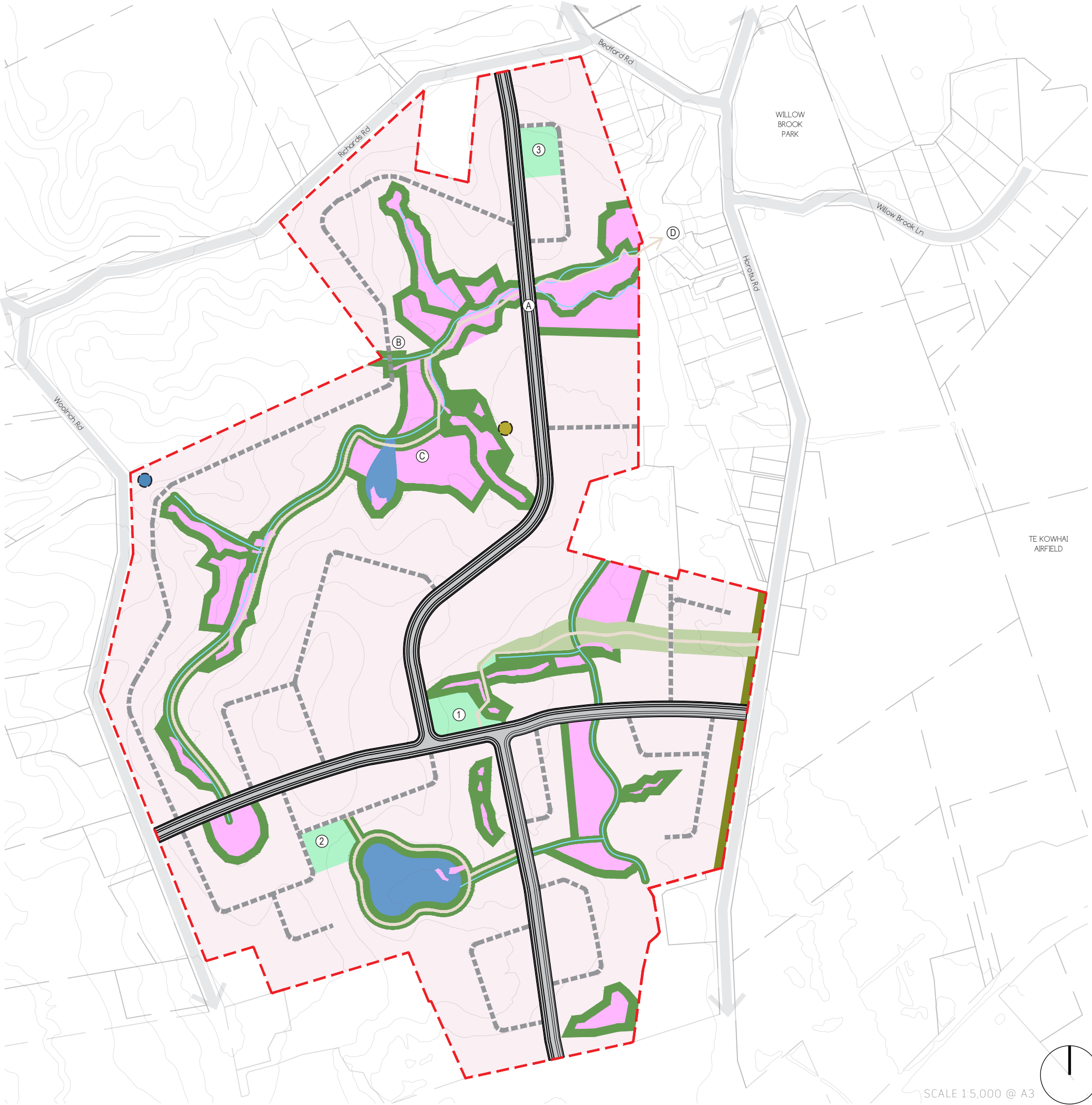
Te Kowhai Airpark

Existing Village (Residential, Large Lot Residential or Rural Residential Zone)

DEVELOPMENT PLAN

KEY

-  SITE BOUNDARY
-  DEVELOPMENT AREA (SUBDIVIDED LOTS)
-  PRIMARY ROAD - 20.0m ROAD RESERVE
-  LOCAL ROAD (INDICATIVE LOCATION) - 16.0m ROAD RESERVE
-  SHARED PATH (3.0m WIDE)
-  PARK, RECREATION, PUBLIC OPEN SPACE
-  ENTRY AVENUE PLANTING
-  NATIVE REVEGETATION PLANTING
-  NATIVE HOROTIU ROAD BUFFER PLANTING
-  STORMWATER RESERVES, WETLANDS, STREAMS & DEVICES
-  ARTIFICIAL WATER BODIES
-  RESERVOIR (INDICATIVE LOCATION)
-  PROPOSED TE KOWHAI TERMINAL WASTEWATER PUMP STATION - Refer to BTW 3 WATERS Report 17/10/2022
-  CROSSINGS SUBJECT TO APPROVAL UNDER S45c OF NES FOR FRESHWATER
-  POTENTIAL CONNECTION POINT FOR FUTURE EXTENSION OF TE OTAMANUI LAGOON SHARED PATHWAY
-  PUBLIC OPEN SPACE
 - Area = 3050m²
 - Area = 3060m²
 - Area = 3000m²



ROAD TYPOLOGY & WALKING / CYCLING STRATEGY PLAN

KEY

SITE BOUNDARY

PRIMARY ROAD (50 KM / HR)

LOCAL ROAD (40 KM / HR)

3.0m WIDE SHARED PATH

1.8m WIDE PEDESTRIAN FOOT PATH

PEDESTRIAN & COMMON SHARED PATH (3.0m WIDE)

BUS ROUTE (INDICATIVE)

TE OTAMANUI LAGOON & SHARED PATHWAY

RICHARDS RD VISIBILITY - 97.0m (ASSUME 50 KM / HR EXTENDED)

HOROTIU RD VISIBILITY - 181.0m (80 KM / HR RETAINED)

WOOLRICH RD VISIBILITY - 181.0m (80 KM / HR RETAINED)

WAYFINDING ELEMENTS

PUBLIC OPENSOURCE & STORMWATER DEVICES

POTENTIAL CONNECTION POINT FOR FUTURE EXTENSION OF TE OTAMANUI LAGOON SHARED PATHWAY

WALKING AND CYCLING STRATEGY

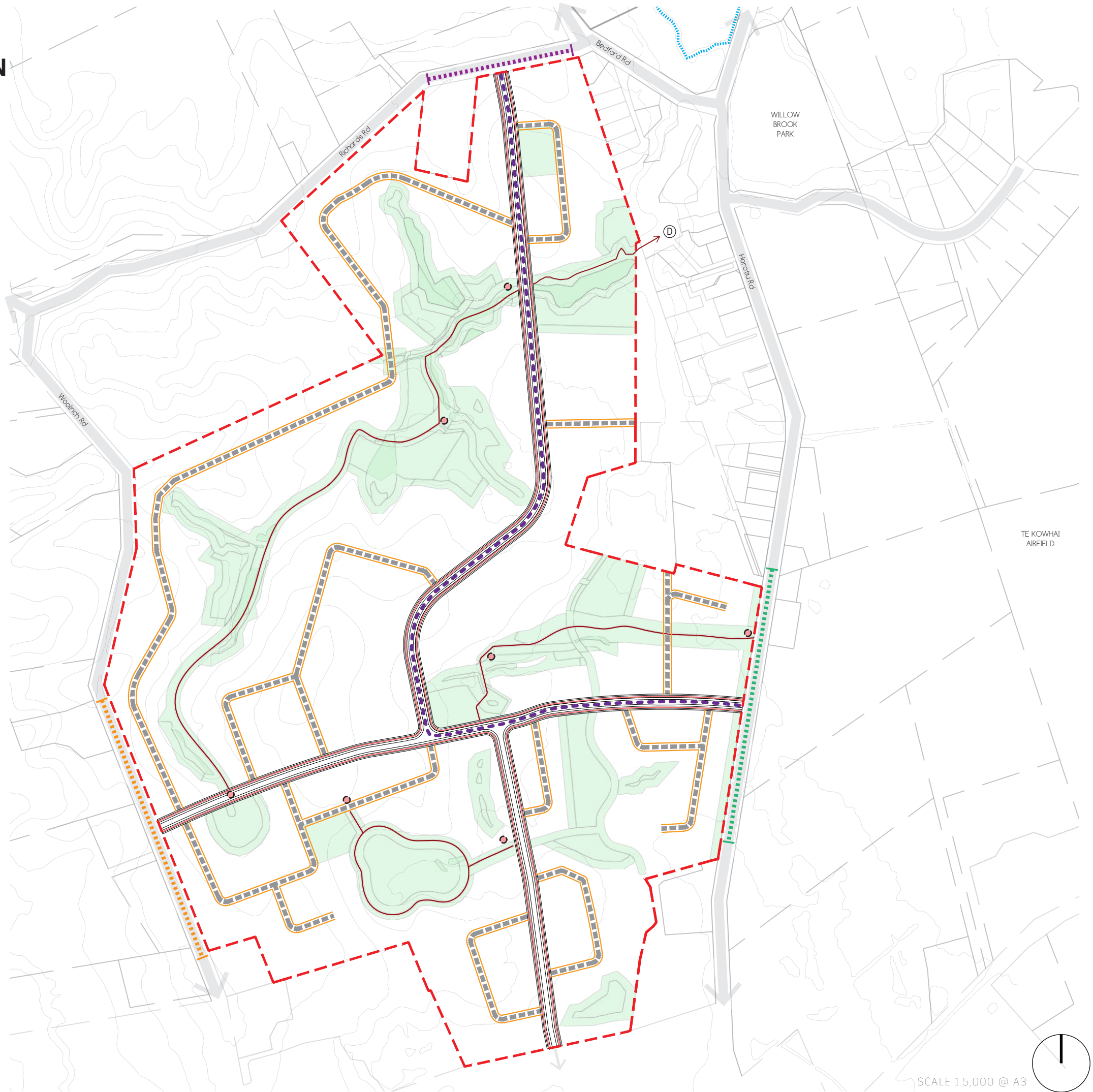
1. A shared path (pedestrian and cycling)is provided on both sides of the Primary Rd.

2. Walking and cycling connections are provided to & around the stormwater reserves allowing for passive/active recreation, connection throughout the site, providing route choice and circulation connecting development areas.

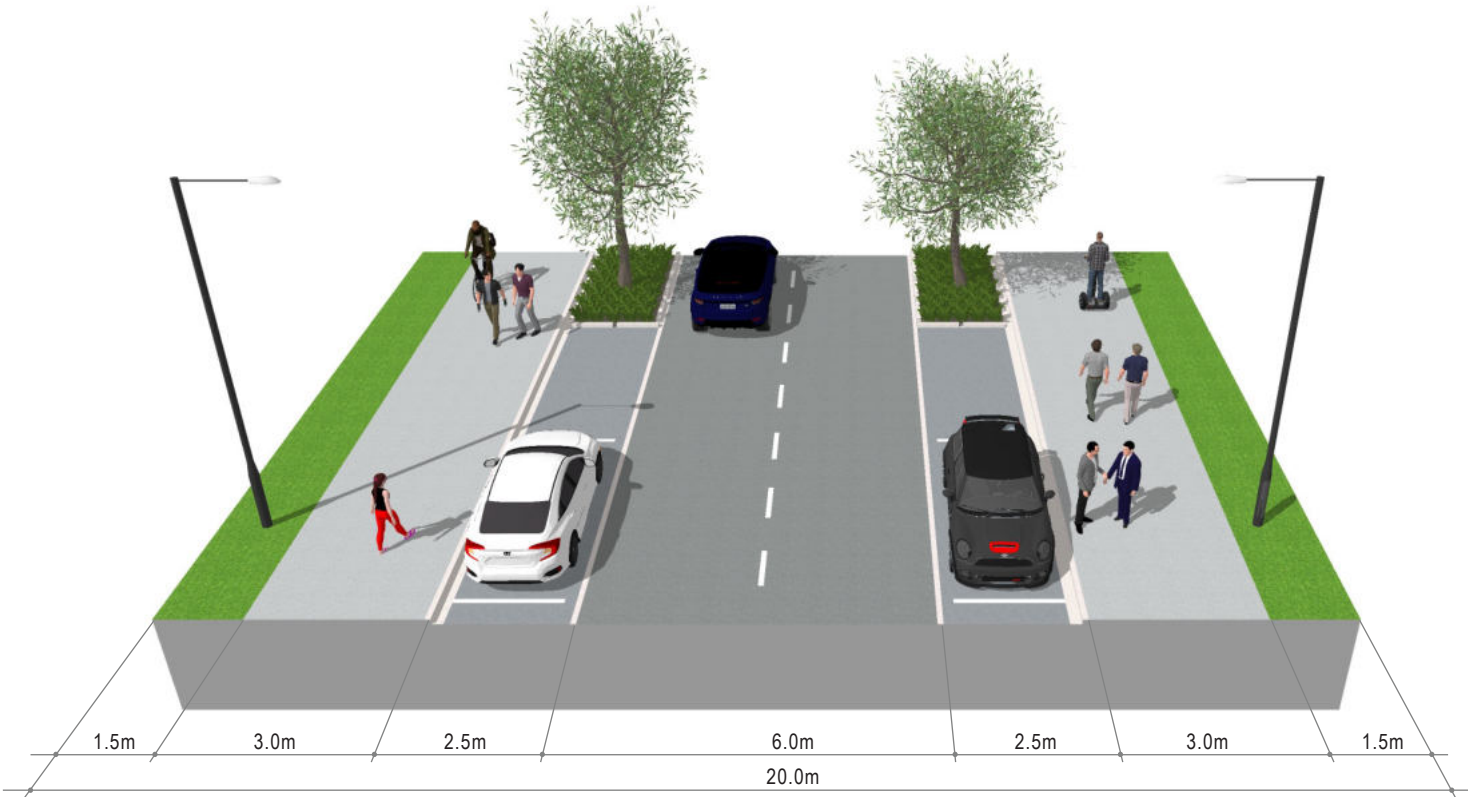
3. Road connection south to potential future development.

4. Future pedestrian and cycle connection to existing Te Otamanui Lagoon shared pathway.

5. The two street types combine to create a network of footpaths and designated cycle paths providing connections to community spaces and local destinations.

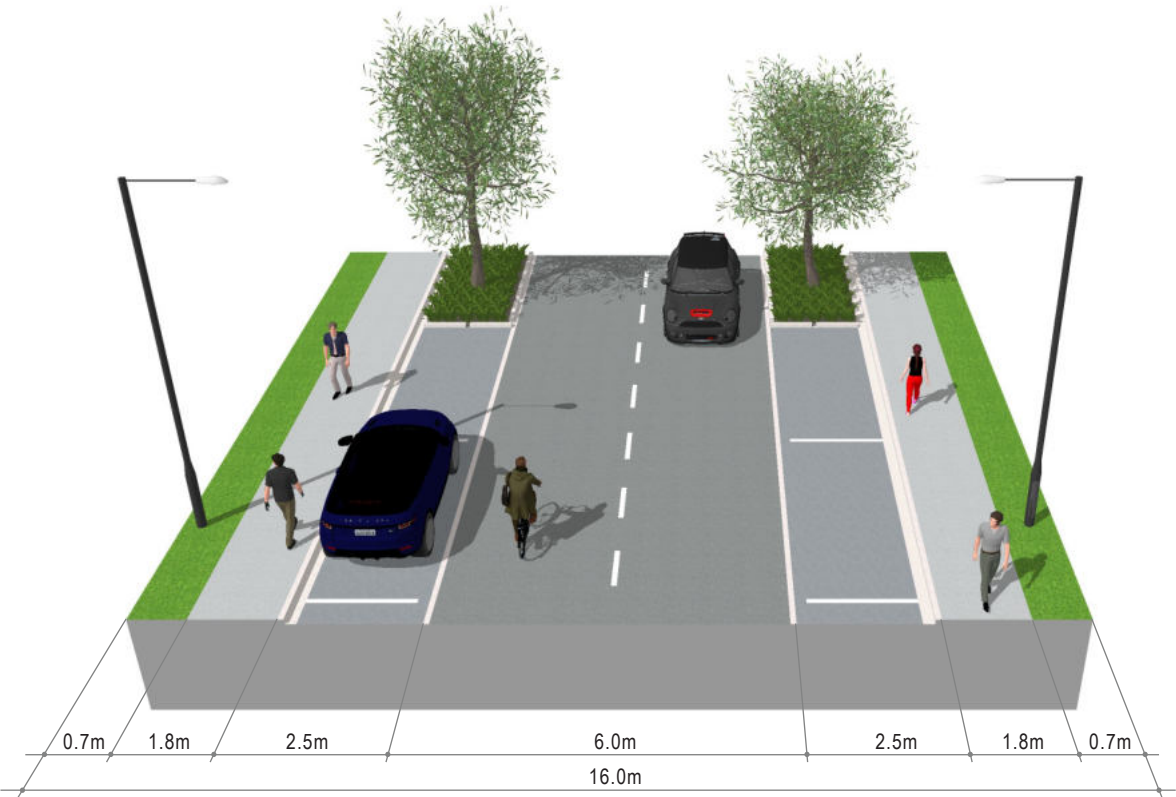


ROAD TYPOLOGY CONCEPT



PRIMARY ROAD

- ROAD RESERVE - 20.0m.
- CARRIAGEWAY TOTAL - 11.0m (Double-sided).
- ROAD DESCRIPTION
 - Sealed 6.0m.
 - 50kph design speed limit.
- PARKING
 - Defined bays.
 - Permeable surface.
- PEDESTRIAN
 - Shared pedestrian / cycle paths.
 - 3.0m wide sealed pavement.
- LANDSCAPE ELEMENTS
 - Designated rain gardens where possible.
 - Clear stemmed trees with under-plantings of low grasses and native species.
 - 1.5m wide berm with low planting or lawn separating property boundary and shared path.



LOCAL ROAD

- ROAD RESERVE - 16.0m.
- CARRIAGEWAY TOTAL - 11.0m (Double-sided).
- ROAD DESCRIPTION
 - Sealed 6.0m.
 - 30kph design speed limit.
 - Flush kerbs where possible.
- PARKING
 - Defined bays.
 - Permeable surface.
- PEDESTRIAN
 - Shared pedestrian / cycle paths.
 - 1.8m wide sealed pavement.
- LANDSCAPE ELEMENTS
 - Designated rain gardens where possible
 - Clear stemmed trees with under-plantings of low grasses and native species.
 - 0.7m wide berm with low planting or lawn separating property boundary and shared path.

OPENSOURCE FRAMEWORK & BLUE/GREEN NETWORK PLAN

KEY

SITE BOUNDARY

PRIMARY ROAD TREE & PLANTING MIX

LOCAL ROAD TREE & PLANTING MIX

PATH WAY BUFFER PLANTING

HOROTIU RD BUFFER PLANTING

ENTRY AVENUE PLANTING

NATIVE REVEGETATION / 10m OFFSET PLANTING

PUBLIC OPEN SPACE

STREAMS (INDICATIVE LOCATIONS)

ARTIFICIAL PONDS

STORMWATER TREATMENT DEVICES (1-6, 8, 9, 11 & 12) - Refer to CKL Stormwater Memo

BIO-RETENTION (7, 10, 13 & 14) - Refer to CKL Stormwater Memo

CAREX WETLAND - Refer to CKL Stormwater Memo

WILLOW WETLAND - Refer to CKL Stormwater Memo

SEEPAGE WETLAND - Refer to CKL Stormwater Memo

10

CATCHMENT AREAS - Refer to CKL Stormwater Memo

EXISTING AVENUE TREES (TO REMAIN)

VEGETATION STRATEGY

1. Planting is designed to align with Mana Whenua guidance with species that reflect history of the area.

2. Green spaces within the Primary and Local Road reserves include street trees creating a green avenue to the development, utilising native species, promoting a visual wayfinding aid and creating shade to pedestrians and cyclists.

3. Existing avenue tree (off Horotiu Rd) to remain and creates a green entrance to the development.

4. Areas of planting in the stormwater reserves are to promote a natural ecosystem and stormwater treatment.

5. Buffer planting on Horotiu Rd is to utilise native species and selected for their ability to provide a buffer from Horotiu Rd and the Te Kowhai airfield. Tree selection and maintenance will need to ensure comply with Te Kowhai Airpark Obstacle Limitation Surface.



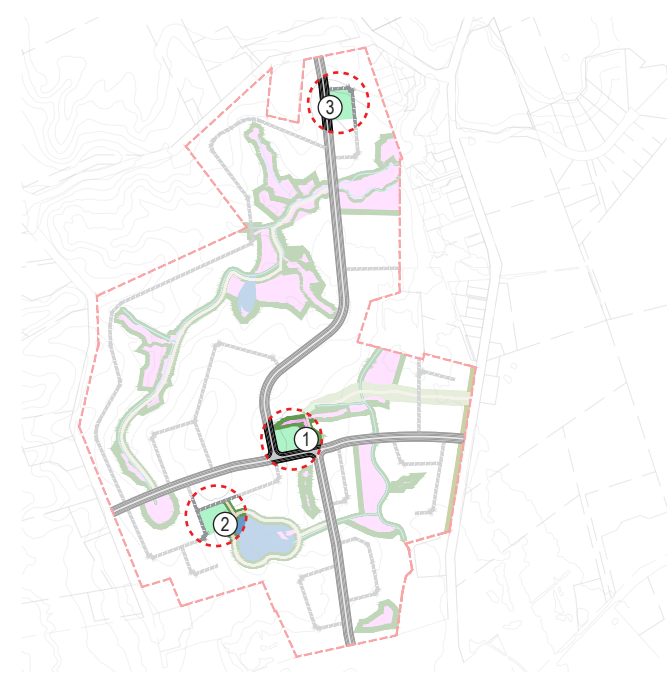
PUBLIC OPEN SPACES - PLANS

KEY

PUBLIC OPEN SPACE BOUNDARY

MAJOR CONTOUR - 1.0m Increments

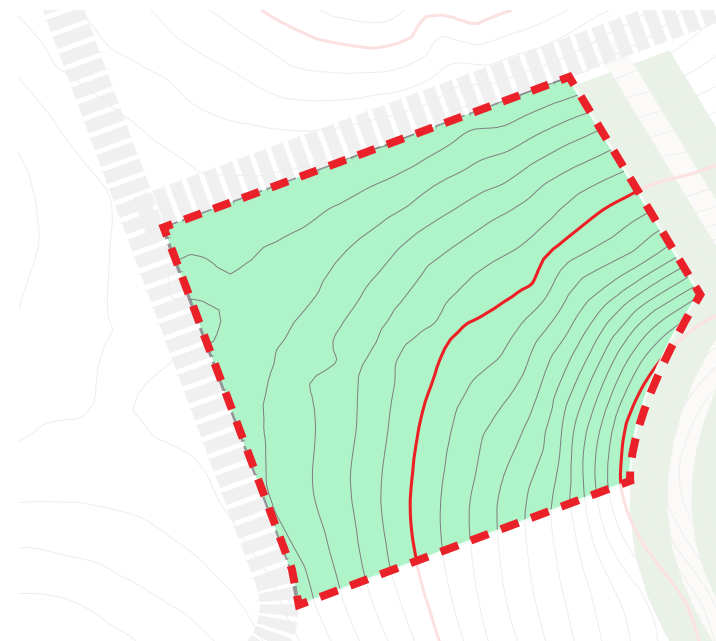
MINOR CONTOUR - 0.1m Increments



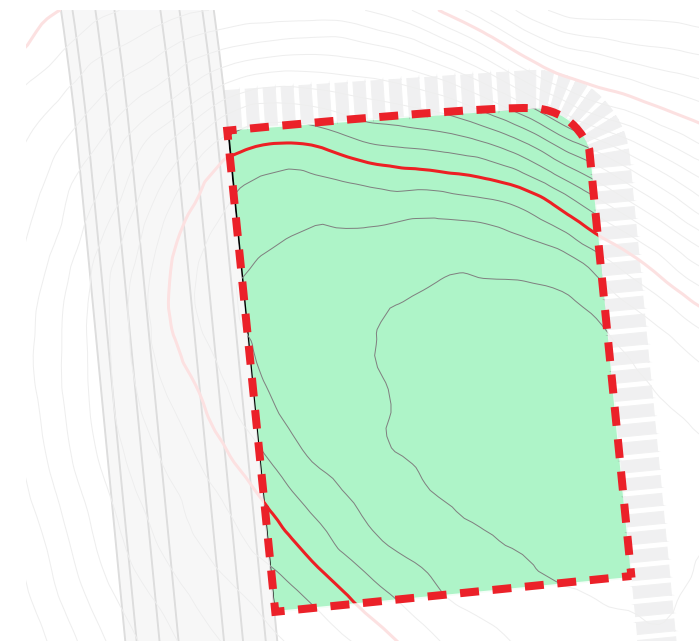
LOCATION PLAN - NTS



1.
AREA = 3050m2



2.
AREA = 3060m2



3.
AREA = 3000m2

INDICATIVE STAGING PLAN

KEY

SITE BOUNDARY

STAGE ONE

STAGE TWO

STAGE THREE

STAGE FOUR

STAGE FIVE

STAGE SIX

STAGE SEVEN

STAGE EIGHT

STAGING STRATEGY

1. Final order of stages to be confirmed as part of subdivision application process.
2. First stage is expected to be developed concurrently with service connection with WDC asset.
3. Early development expected to border Horotiu and/or Richards Road for access of access, services and land management.
4. Staging the development is to protect Te Kowhai community, without compromising the existing services that small rural towns possess. This will promote more local services & business, and to ensure they thrive longterm.

The map illustrates an indicative staging plan for a development project. The site boundary is marked by a red dashed line. The land is divided into eight colored zones representing different development stages: Stage One (red), Stage Two (purple), Stage Three (light blue), Stage Four (dark blue), Stage Five (yellow), Stage Six (teal), Stage Seven (orange), and Stage Eight (green). The map includes topographic contour lines and labels for surrounding roads: Richards Rd, Bedford Rd, Horotiu Rd, and Weirich Rd. Willow Brook Park is located to the northeast, and Te Kowhai Airfield is to the east. A north arrow is positioned in the bottom right corner.

SCALE 1:5,000 @ A3

9

PLANTING PALETTES

PRIMARY & LOCAL ROADS



Alectryon excelsus |
tītoki



Metrosideros excelsa ‘Maori
Princess’ | pohutukawa



Sophora microphylla |
kōwhai



Arthropodium cirratum |
rengarenga



Carex testacea |
orange sedge



Carex virgata | purei



Dianella nigra | turutu



Libertia grandiflora |
mīkoikoi



Machaerina sinclarii |
pepepe



Phormium cookianum |
wharariki

PUBLIC OPEN SPACE & ENTRY AVENUE



Knightia excelsa | rewarewa



Podocarpus totara |
totara



Quercus robur |
English oak



Rhopalostylis sapida | nīkau



Vitex lucens | pūriri



Anemanthele lessoniana |
haumata



Chionochloa flavicans |
haumata



Coprosma acerosa |
tātaraheke



Corokia v. virgata ‘Emerald and
Jade’ | Emerald and Jade Corokia



Leptospermum scoparium |
manuka



muehlenbeckia astonii |
mingimingi



Pseudopanax lessonii ‘Cyril
Watson’ | houpara

HOROTIU ROAD BUFFER



Alectryon excelsus |
tītoki (6.0m high)



Knightia excelsa |
rewarewa (18.0m High)



Melicytus ramiflorus |
mahoe (8.0m High)



Pittosporum eugenoides |
tarata (4.0m High)



Plagianthus regius |
mānatu (12.0m High)



Podocarpus totara |
totara (10.0m High)



Aristotelia serrulata |
makomako



Austroderia fulvida |
toe toe



Coprosma robusta |
karamu



Leptospermum scoparium |
manuka



Machaerina sinclarii |
pepepe



Phormium tenax |
harakeke



Piper excelsum |
kawakawa