



PLANNING
COLLECTIVE

Form 5

Submission on a notified proposal for policy statement or plan, change or variation

Clause 6 of Schedule 1, Resource Management Act 1991

To: Far North District Council

Name of Submitter: Turnstone Trust

This is a submission is made on behalf of Turnstone Trust to Far North District Council on the Proposed District Plan 27 July 2022

Turnstone Trust could not gain an advantage in trade competition through this submission.

The specific parts of the Request that the submission relates to are:

- The zoning of land at 126B Kerikeri Road and related landholdings.
- Section 32 Report documents that informed the extent and location of Mixed Use zoning in the Proposed District Plan as notified – 27 July 2022.
- The definition of Far North District Council as a Tier 3 local authority as defined in the National Policy Statement – Urban Development (updated May 2022) (“NPS-UD”).
- The Council response to the requirements of the NPS-UD.

Description of the Site:

The land to which this submission relates is approximately 29 hectares in area. The land adjoins the public access to Fairy Pools (via Fairy Pools Lane). It is bordered to the north and west by Kerikeri river.

The site is accessed from Kerikeri Road and there is sealed vehicle crossing / access stub from Twin Coast Discovery Highway (Heritage Bypass) that connects directly to Part Lot 2 DP 33905.

There is also informal pedestrian access into the site from Fairy Pools Lane, the end of King Street and Clark Road. The land is of varying contour and is almost entirely covered in mature Gum trees and Redwoods.



Figure 1: Land Parcels Subject to this Submission

The Site is colloquially referred to as the Bing land. The land is held in Record of Title reference NA55B/1036 which encompasses the following parcels:

- Part Lot 2 DP 33905 – 3.1474 hectares
- Part Lot 5 DP 33905 – 11.9285 hectares
- Part Lot 8 DP 33905 – 4.0421 hectares
- Part Lot 9 DP 33905 – 4.5481 hectares
- Part Lot 10 DP 33905 – 511.6 m²

The parcels and their location are shown on the map below. Part Lot 6 no longer forms part of the land as it was acquired for the Heritage Bypass Road connection.

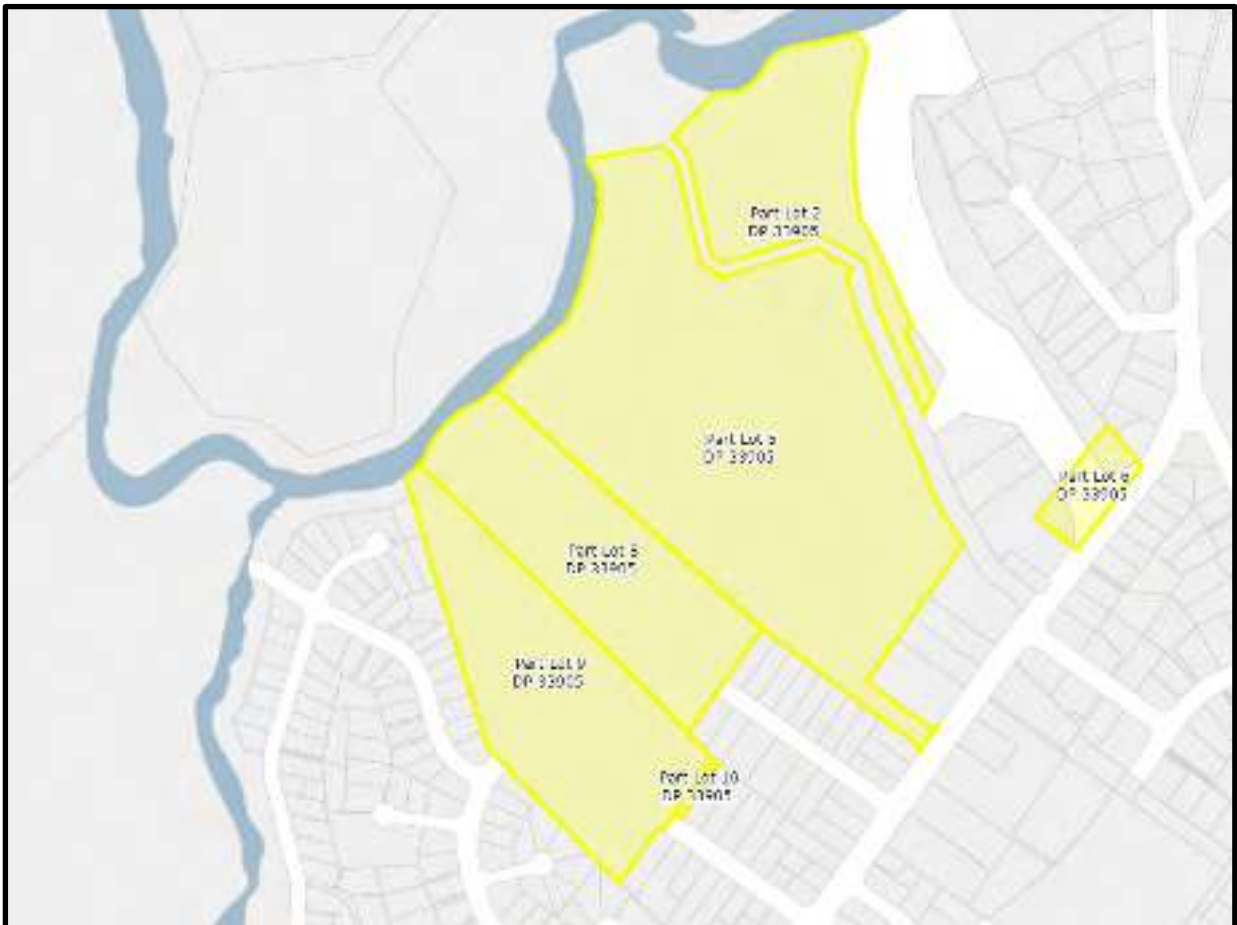


Figure 2: Legal Descriptions of Land Subject to this Submission

The Submission:

Statutory Context – National Policy Statement – Urban Development:

The NPS-UD (2020) contains objectives and policies that Councils must give effect to in their resource management decisions. The NPS-UD requires councils to plan well for growth and ensure a well-functioning urban environment for all people, communities, and future generations. The objectives and high-level policies of the NPS-UD 2020 apply to all councils that have all or part of an urban environment within their district or region. However, some policies apply only to Tier 1 or Tier 2 councils.

Under the NPS-UD, an ‘**Urban Environment**’ is defined as:

“Any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that: (a) is, or is intended to be, predominantly urban in character; and (b) is, or is intended to be, part of a housing and labour market of at least 10,000 people.

The submission is that Far North District Council is a Tier 3 territorial authority because it has all of an urban environment in its district. Kerikeri-Waipapa is considered to be an urban environment **now** because it is predominantly urban in character and **is or is** intended to be part of a housing and labour market of at least 10,000 people. This is evident from the Infometrics population forecasts which indicates a population in 2021 of over 10,000 people – Refer Table 5– *Population projections for Kerikeri-Waipapa, structure plan area*, page 25.

At page 25 of the Infometrics report the Kerikeri-Waipapa area forecast population is addressed. The report states *The Kerikeri-Waipapa area is expected to continue accommodating the lion's share of Far North District growth over the next 50-years.... The Kerikeri-Waipapa structure plan area,..... is estimated to accommodate 19% of the far North's population in 2021. This is projected to grow to 25% by 2073, as growth in the area outpaces the district overall.... Growth is projected to be concentrated in the urban area, particularly Kerikeri Central and Kerikeri South and to a lesser extent Riverview and Waipapa*".

The report acknowledges that horticultural zones will constrain peri-urban residential development on the periphery of Kerikeri and also states the wastewater plant upgrade will enable residential development at a higher density than has occurred in the past two decades.

Section 3.2.2 of the Section 32 Assessment on Urban Environments, prepared by the Far North District Council notes that based on the population forecasts under the low, medium, and high growth scenarios, the Council considers that none of its towns will reach the required threshold of 10,000 people to be considered an 'urban environment' as defined by the NPS-UD. The Council therefore concludes that the NPS-UD does not apply to the Far North District.

As the Infometrics report states the population is projected to increase by a further 1,048 people using the medium projection for the 2021 – 2034 time period, Kerikeri-Waipapa is considered to be an urban environment now. This is because the area is predominantly urban in character and **is or is** intended to be part of a housing and labour market of at least 10,000 people.

The NPS-UD strongly encourages Tier 3 local authorities to do the things that Tier 1 and Tier 2 local authorities are required to do under the Policy Statement.

Potential Future Demand for Commercial Land Far North District, February 2017:

The BERL report - *Potential future demand for commercial land – Far North District (2017)*, BERL – Making Sense of the Numbers, states that under the Business as Usual ("BAU") projection scenario an additional 6.4 hectares of commercial land would be required in the Far North by 2045. Under a higher growth scenario 77.2 hectares of additional commercial land would be required for the Far North district. The report identifies 1.6 hectares of vacant commercial land in Kerikeri and states "... *our observation is that this land may not be located in the right area or may not have access to come infrastructure such as roading. There could also be other barriers that are preventing the further development of this land*¹".

At Section 3.3.6 the report addresses mixed use and other uses for commercial land. The report states Kerikeri has the largest amount of commercial mixed use at 5.7-hectares².

Population growth and Māori economic development initiatives were highlighted as reasons that may precipitate a demand for more commercial and / or Mixed Use land to be provided. The need to provide more land would be related to an increased need for services. This outcome of the higher growth scenario set out in the report.

The BERL report was prepared in 2017. Since then, there have been further changes in population growth rates and the global pandemic created a significant change in terms of how people work, where

¹ BERL report, February 2017, Section 3.3.3, page 9.

² BERL report, February 2017, Section 3.3.6, page 11.

they work, and the flexibility offered with respect to lifestyle. It is now more possible than ever to live in a lifestyle destination and retain a city job.

Kerikeri is considered to be a desirable lifestyle destination for living. Population growth rates are anticipated to be greater than predicted by Infometrics. This will require a corresponding increase in land for business / employment activities associated with increased demand for services.

Proposed Plan – Mixed Use Zoned Land:

The notified Proposed Plan proposes to extend the Kerikeri Town Centre commercial zoning. The Operative Plan zones the town centre business area Commercial. The proposed plan uses Mixed Use zoning and seeks to extend the Mixed Use zone further north east along Kerikeri Road and also on the opposite side of Kerikeri Road over the retirement village land (Kerikeri Retirement Village Limited) and also over other established residential areas extending south to the Domain on Cobham Road. Comparative Operative and Proposed Plan zoning maps are shown below:



Figure 3: Proposed Zone Map



Figure 4: Proposed Zone Map

The Proposed Plan uses only three main business zones – Heavy Industrial, Light Industrial and Mixed Use. There are other Special Purpose zones such as the Ngawha Innovation and Enterprise Park, Carrington Estate and Horticulture Processing Facilities. The range of zones is limited and in terms of commercial land uses the Mixed Use zone is a blunt tool. There is no Local Centre or Town Centre zoning.

We are aware of other zonings being sought through the District Plan process. Zoning of the Brownlie land seeks a portion of Mixed Use zoning for business purposes. In my opinion, if Mixed Use is the only commercial business zoning to be provided in the Plan, it would be appropriate to zone the land sought in the Brownlie submission and the extension to the Mixed Use zoning sought in this submission. This is because the subject land is more likely to fulfil a town centre commercial role, and the Brownlie Mixed Use land is more likely to fulfil larger format retail or activities with synergies or of similar character to the existing nature of Waipapa.

The location of the Mixed Use zone extension proposed for Kerikeri town centre will not facilitate or enable expansion of business activities to support an increasing population. The sites that the zone has been extended over appear to be already developed or being developed.

The location of the proposed Mixed Use extension will also not facilitate any betterment for the community.

Turnstone propose to extend the Mixed Use onto their land as shown on the proposed zone map – **Attachment 1**. This proposal is supported by civil engineering assessment in **Attachment 2**.

The Turnstone proposal will facilitate and open up greater roading connections to ease traffic congestion that exists in the town centre. This will not be achieved by the current proposed Mixed Use zone extensions.

The Turnstone proposal is located in a position that provide greater cohesion to the town centre, will improve circulation in and around the town centre, will better align with interfaces between existing residential areas and has a high level of amenity. A copy of the Turnstone proposal to extend the Mixed Use zone is shown below:

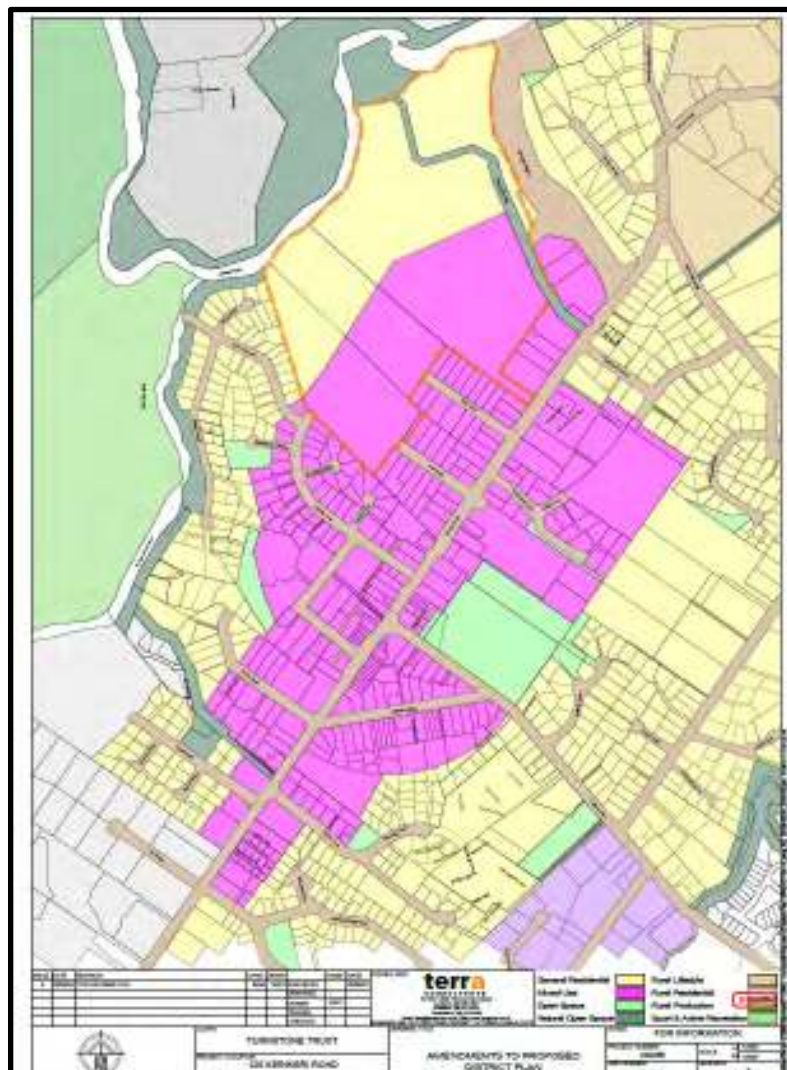


Figure 5: Proposed Extension of Mixed Use on Turnstone land

Discussion:

The NPS-UD classifies the Mixed Use zone as a business zone *to the extent it allows business uses*.

The Mixed Use zone in the Proposed Plan enables the following business uses:

- Service stations
- Offices not exceeding a gross floor area of 200m²
- Healthcare activities
- Commercial service activity
- Light industrial activities (discretionary)
- Large Format retail (discretionary)
- Drive-through activity (discretionary)

The proposed objectives for the zone seek:

- *That the Mixed Use zone is the focal point for the District's commercial, community and civil activities and provides for residential development where it complements and is not incompatible with these activities.*
- *That development in the zone contributes positively to the vibrancy, safety and amenity of the zone.*

The associated policies seek:

- *To require development in the zone to contribute positively to:*
 - *High quality streetscapes,*
 - *Pedestrian amenity,*
 - *Safe movement of people of all ages and abilities*
 - *Community well-being, health and safety; and*
 - *Traffic, parking and access needs.*

The location of extension to the Mixed Use zone proposed by Turnstone better achieves the objectives and policies than the zoning in the Proposed Plan. Turnstone also submits that, if necessary, a broader suite of zones could be employed to secure business land requirements for the Kerikeri Waipapa area for example consideration could be given to use of a Town Centre zoning.

The National Planning Standards – Section 8 Zone Framework describes the Town Centre zone as *Areas used predominantly for:*

- *In smaller urban areas, a range of commercial, community, recreational and residential activities.*
- *In larger urban areas, a range of commercial, community, recreational and residential activities that service the needs of the immediate and neighbouring suburbs.*

The location and extent of Mixed Use zoning for Kerikeri town centre proposed by Turnstone better fulfils the requirements of the NPS-UD with respect to providing business capacity for the forecast population growth over the short and medium term. This is a legal requirement as per s31(1) (aa) and s74 of the Resource Management Act.

The land has access to the required infrastructure and can assist in solving traffic circulation issues in Kerikeri town centre.

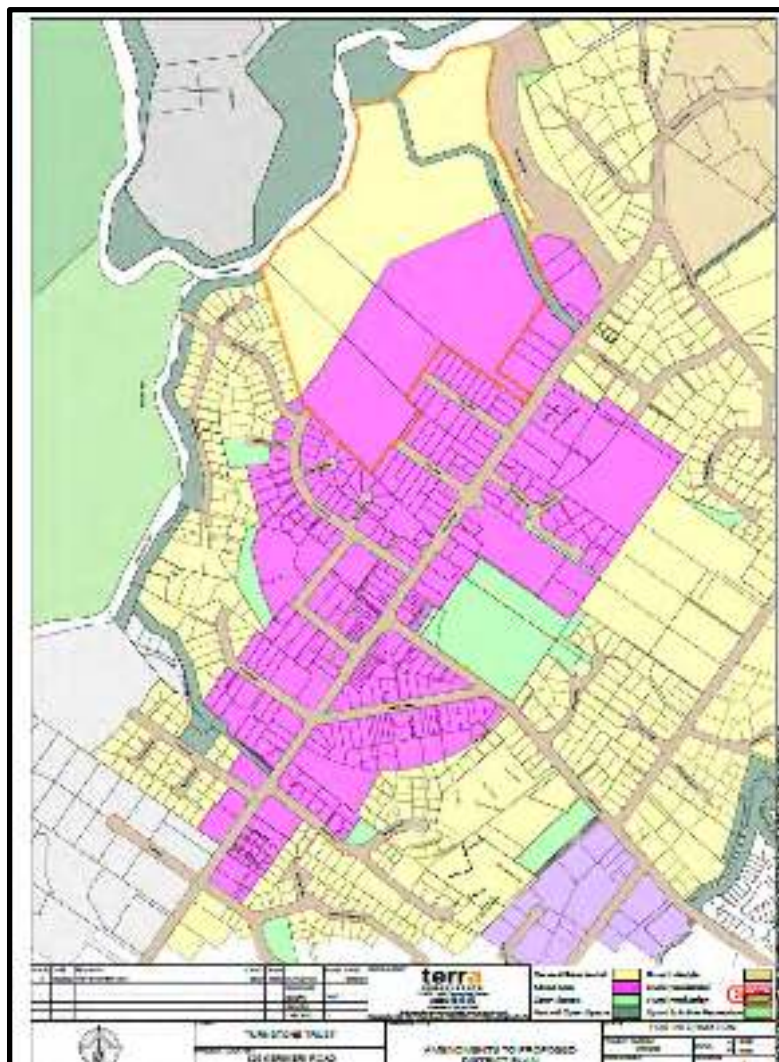
When the alternatives are evaluated as required by s32 of the Resource Management Act the Turnstone proposal is the most appropriate way to achieve the objectives for the zone and also the NPS-UD.

Submission – Relief sought:

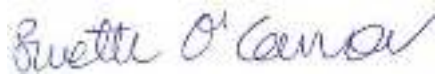
Turnstone supports the Proposed District Plan zoning **in Part** but seeks changes to reflect the outcomes sought in the submission or such other relief as necessary to provide a business zoning to the area of land identified in the Submission.

The submission seeks that Turnstone land and the land identified on the proposed zone map at Fairway Drive / Homestead Road be zoned with Mixed Use as shown on the Proposed Zoning Plan lodged with the submission and / or any other relief required to achieve the outcomes sought in the submission.

Turnstone Trust seeks that the subject land be zoned as sought in the submission – Proposed Zoning Map below:



Turnstone Trust do wish to be heard in support of its submission. If other parties' make a similar submission, we will consider presenting in a joint case with them at a hearing.



Burnette O'Connor
Planner / Director
The Planning Collective Limited
(person authorised to sign on behalf of submitter)

Date 21 October 2022

Address for Service:

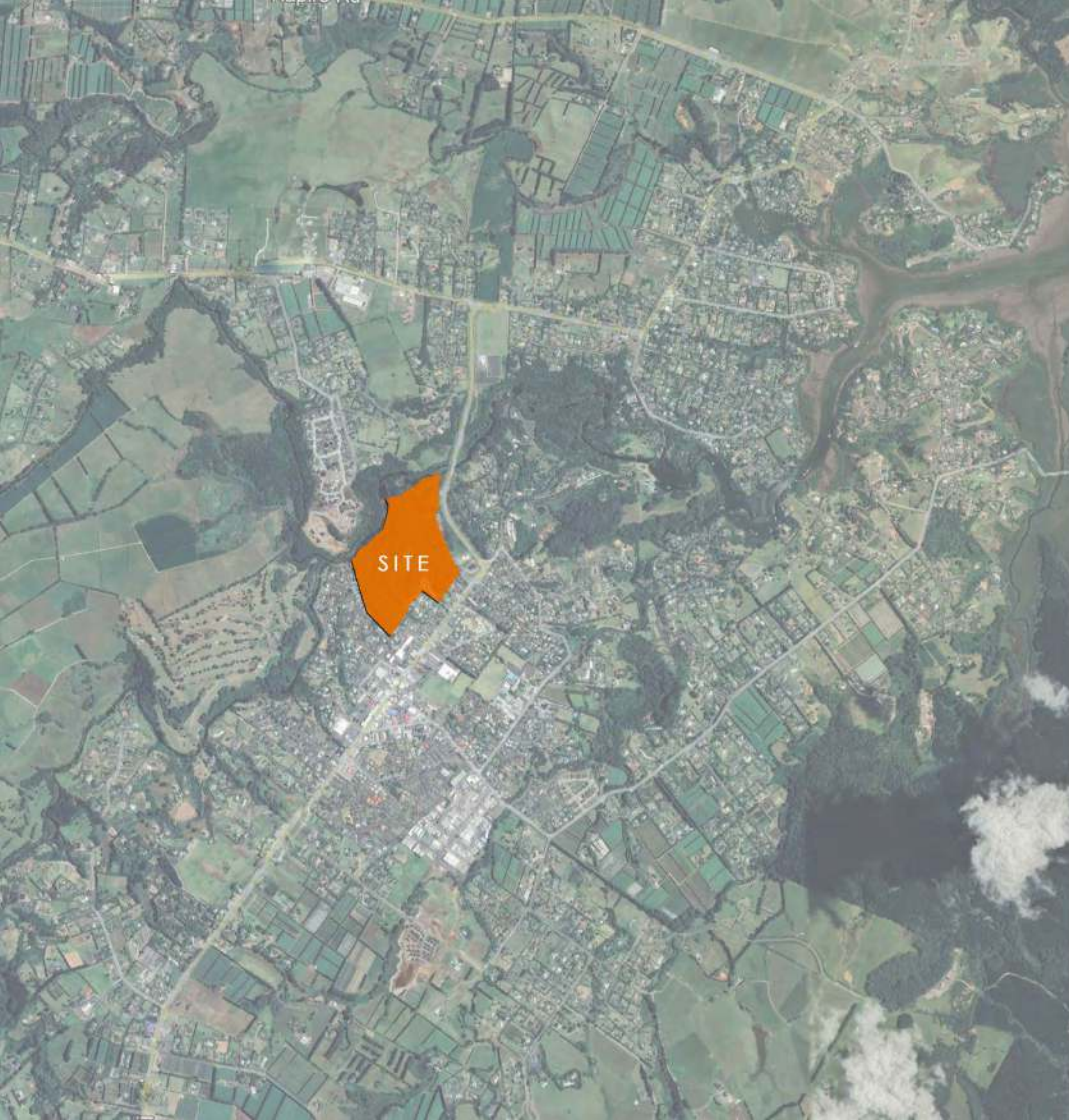
The Planning Collective Limited
PO Box 591
Warkworth 0941
Attn: Burnette O'Connor
Email: burnette@thepec.co.nz
Ph: 021-422-346

Attachments:

- A. Proposed Structure Planning and Zoning Maps, prepared by Terra Consultants
- B. Civil Engineering Servicing Report, prepared by Terra Consultants

Appendix A:

Proposed Structure Planning and Zoning Maps, prepared by
Terra Consultant



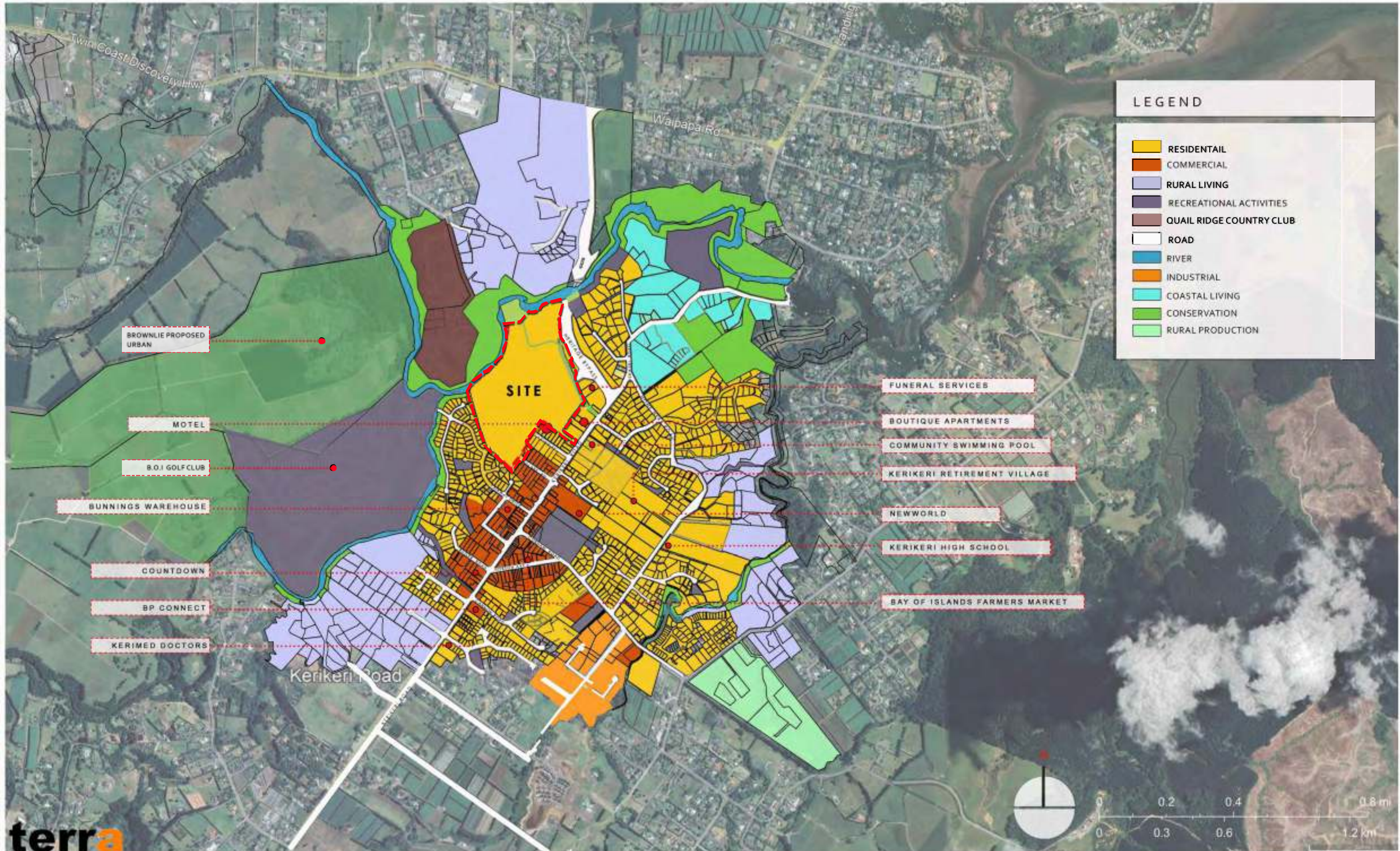
BING LAND

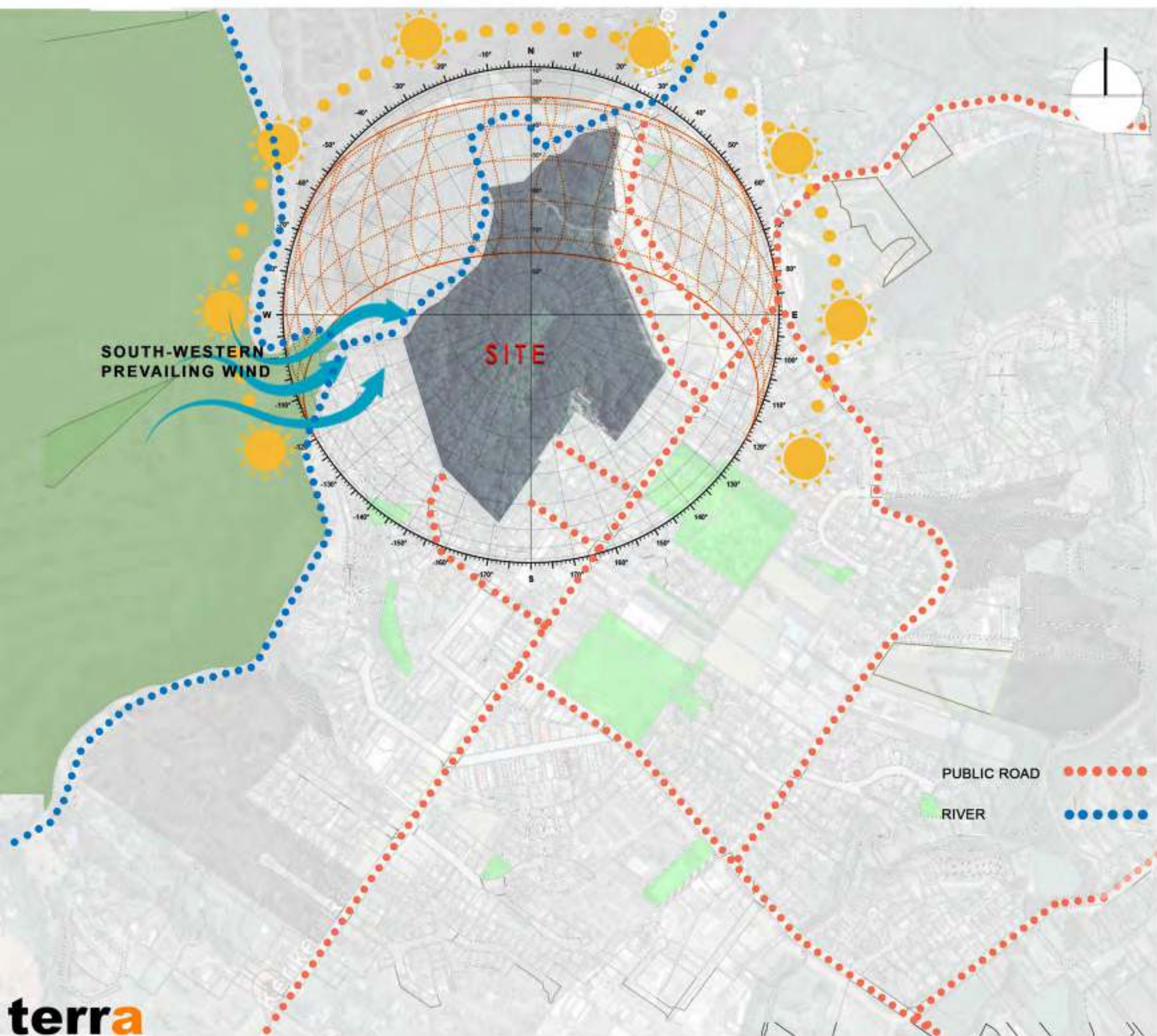
STRUCTURE PLAN

SUBMISSION ON FNDC DISTRICT PLAN

126 KERIKERI ROAD, KERI KERI

CLIENT : TURNSTONE TRUST | DATE : 19/10/2022





MEAN ANNUAL WIND FREQUENCIES OF SURFACE WIND DIRECTIONS

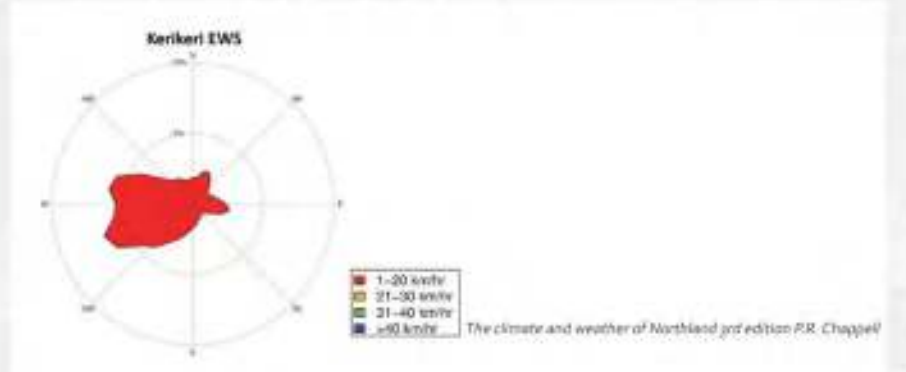


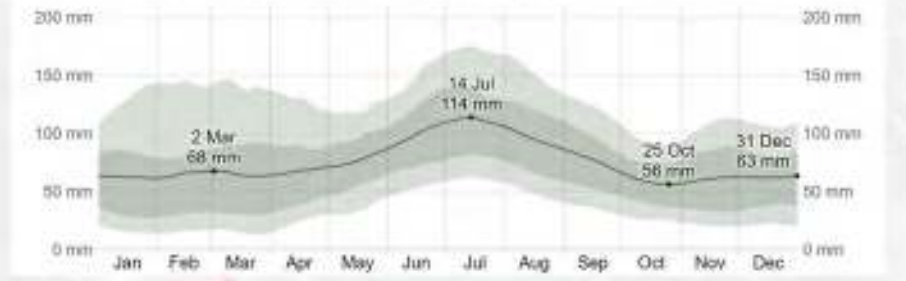
Table 1. Mean monthly and annual wind speed (km/hr)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Kerikeri EWS	7	7	6	6	6	7	7	7	7	8	8	7	7

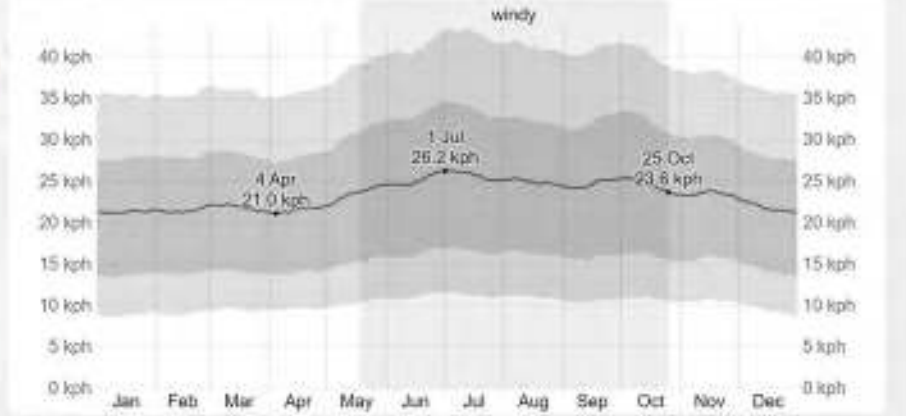
CLIMATE IN KERIKERI

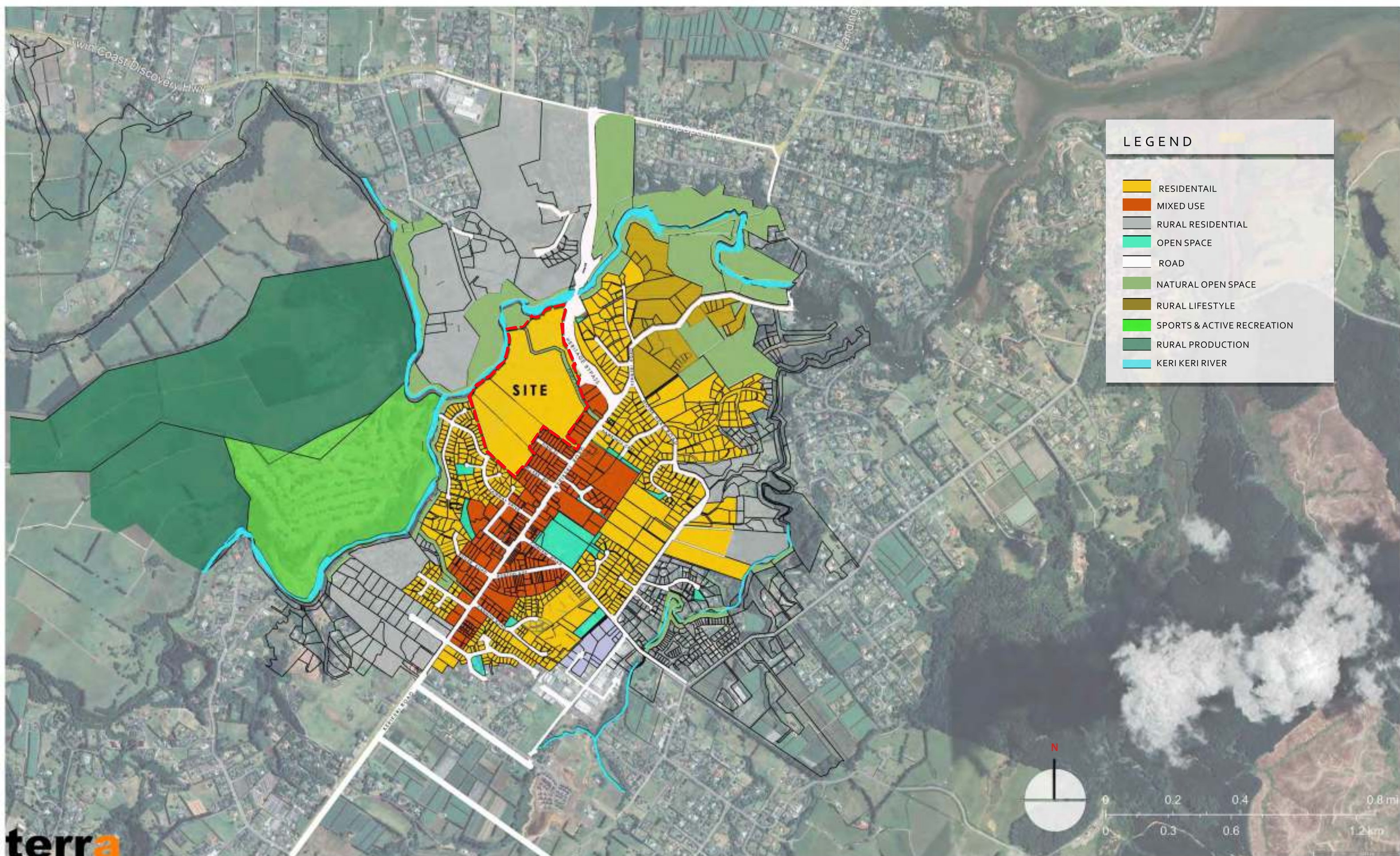


AVERAGE MONTHLY RAINFALL IN KERIKERI



AVERAGE WIND SPEED IN KERIKERI



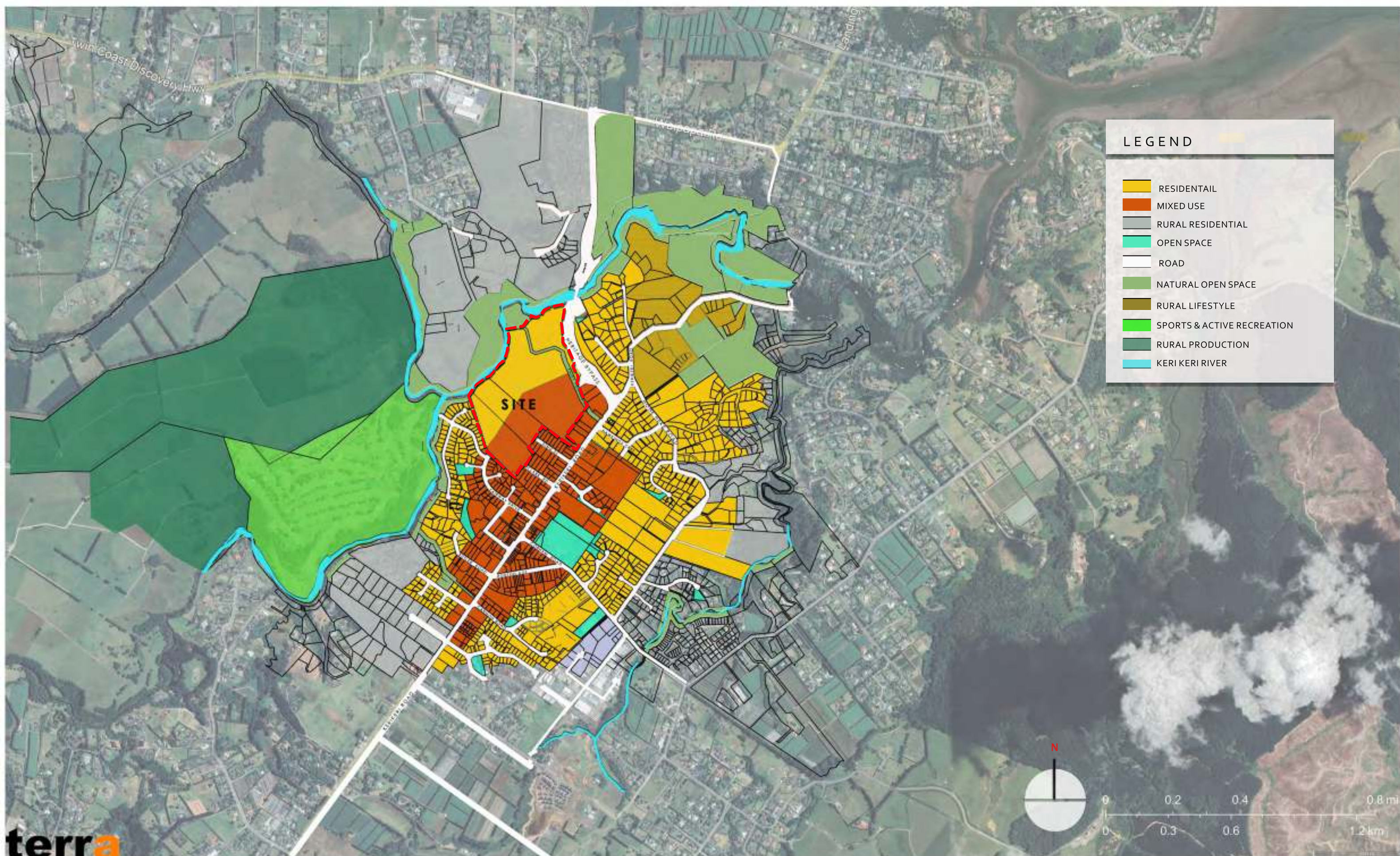


LEGEND

- RESIDENTIAL
- MIXED USE
- RURAL RESIDENTIAL
- OPEN SPACE
- ROAD
- NATURAL OPEN SPACE
- RURAL LIFESTYLE
- SPORTS & ACTIVE RECREATION
- RURAL PRODUCTION
- KERI KERI RIVER

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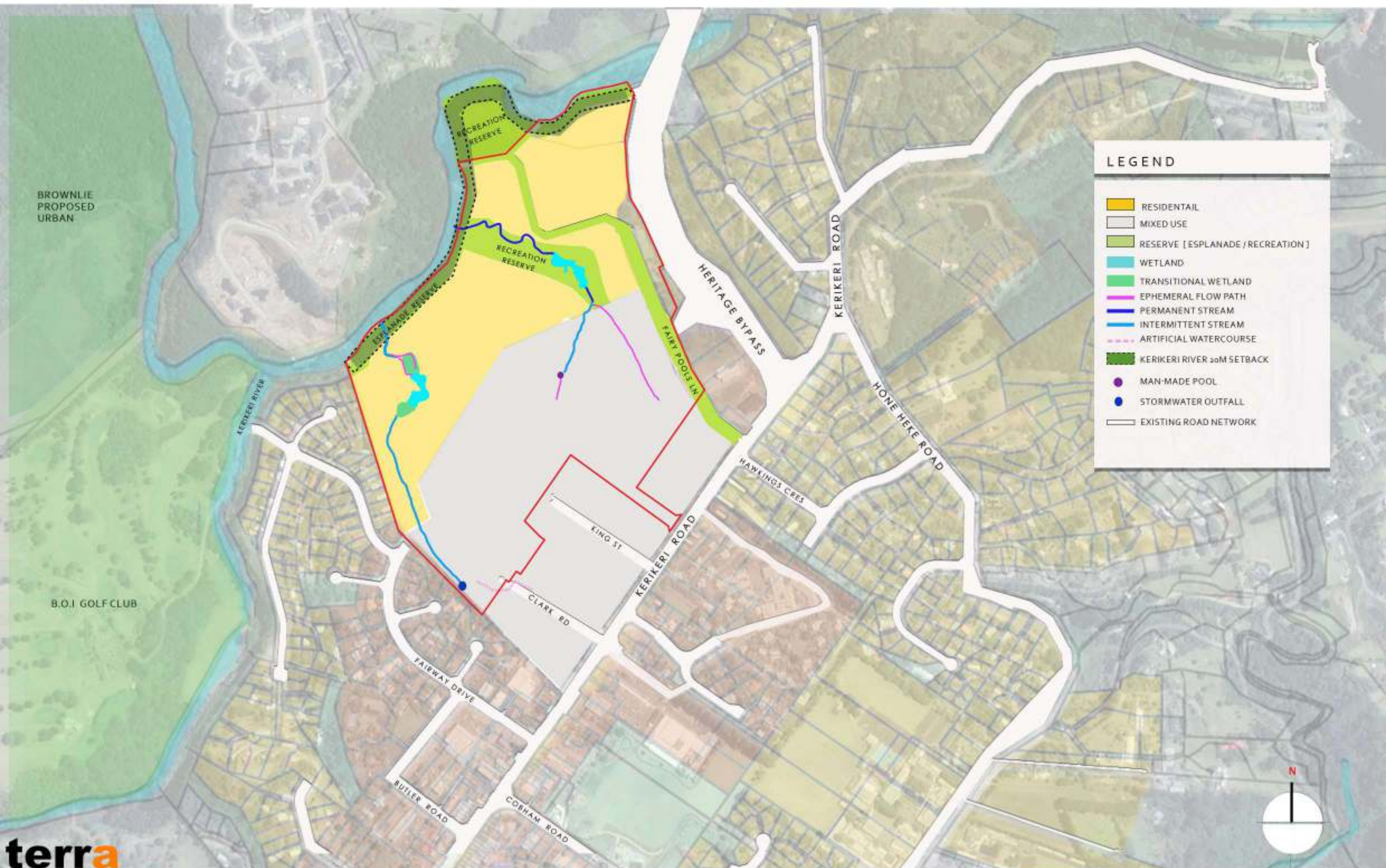
0 0.2 0.4 0.8 mi
0 0.3 0.6 1.2 km



LEGEND

- RESIDENTIAL
- MIXED USE
- RURAL RESIDENTIAL
- OPEN SPACE
- ROAD
- NATURAL OPEN SPACE
- RURAL LIFESTYLE
- SPORTS & ACTIVE RECREATION
- RURAL PRODUCTION
- KERI KERI RIVER



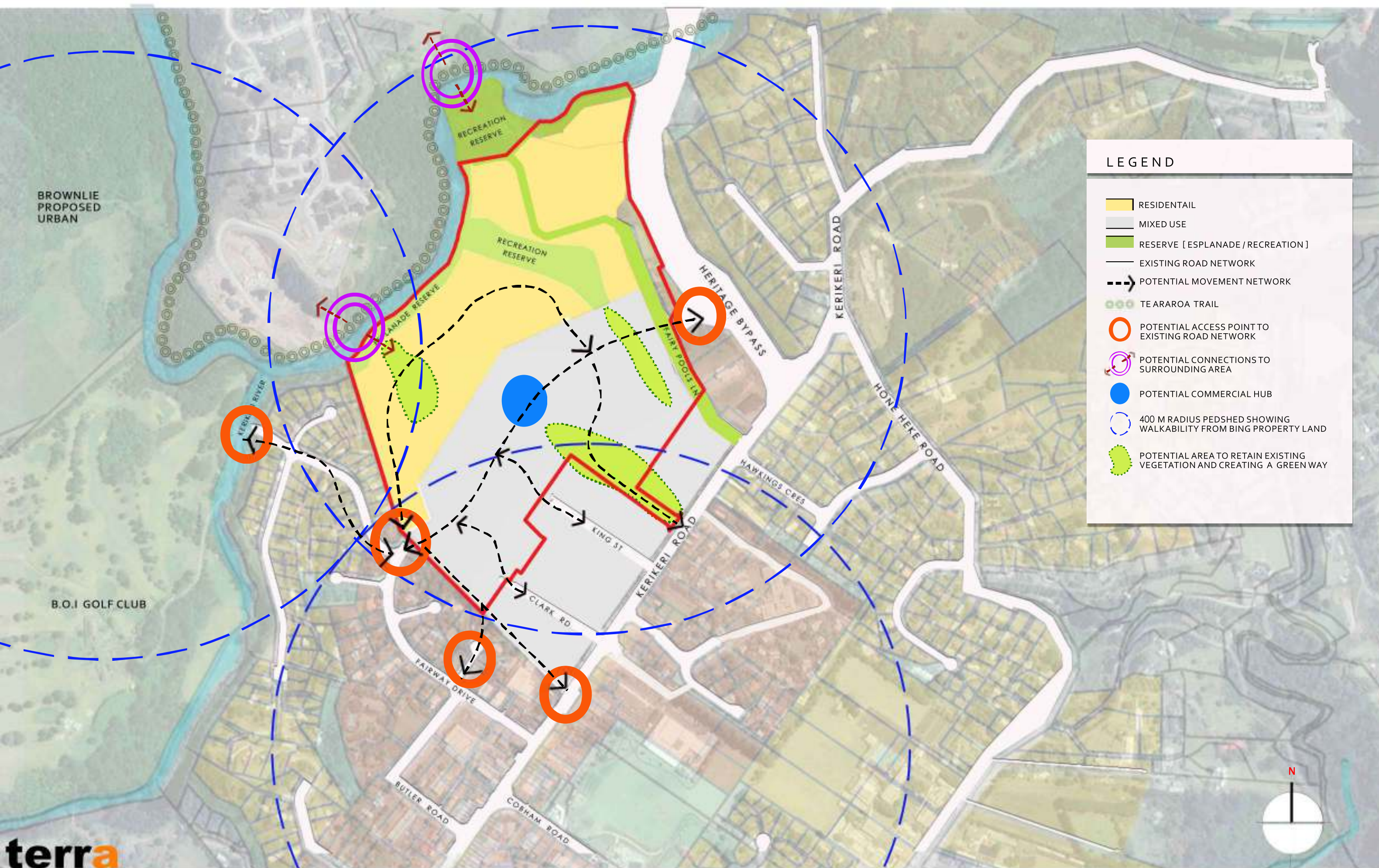


LEGEND

- RESIDENTIAL
- MIXED USE
- RESERVE [ESPLANADE / RECREATION]
- WETLAND
- TRANSITIONAL WETLAND
- EPHEMERAL FLOW PATH
- PERMANENT STREAM
- INTERMITTENT STREAM
- ARTIFICIAL WATERCOURSE
- KERIKERI RIVER 30M SETBACK
- MAN-MADE POOL
- STORMWATER OUTFALL
- EXISTING ROAD NETWORK

BROWNIE
PROPOSED
URBAN

B.O.I GOLF CLUB

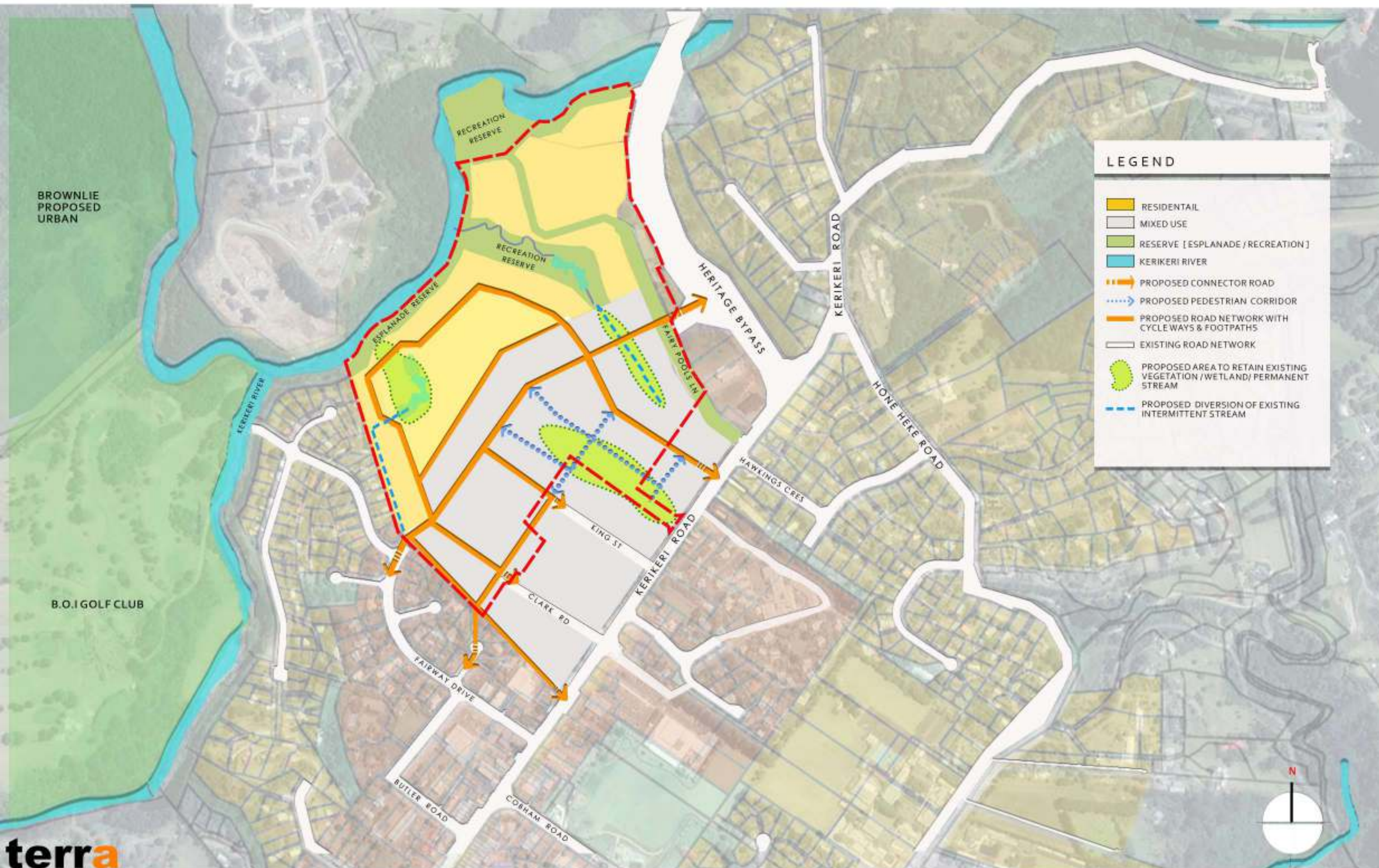


LEGEND

- RESIDENTIAL
- MIXED USE
- RESERVE [ESPLANADE / RECREATION]
- EXISTING ROAD NETWORK
- POTENTIAL MOVEMENT NETWORK
- TE ARAROA TRAIL
- POTENTIAL ACCESS POINT TO EXISTING ROAD NETWORK
- POTENTIAL CONNECTIONS TO SURROUNDING AREA
- POTENTIAL COMMERCIAL HUB
- 400 M RADIUS PEDSHED SHOWING WALKABILITY FROM BING PROPERTY LAND
- POTENTIAL AREA TO RETAIN EXISTING VEGETATION AND CREATING A GREEN WAY

BROWNIE PROPOSED URBAN

B.O.I GOLF CLUB



LEGEND

- RESIDENTIAL
- MIXED USE
- RESERVE [ESPLANADE / RECREATION]
- KERIKERI RIVER
- PROPOSED CONNECTOR ROAD
- PROPOSED PEDESTRIAN CORRIDOR
- PROPOSED ROAD NETWORK WITH CYCLE WAYS & FOOTPATHS
- EXISTING ROAD NETWORK
- PROPOSED AREA TO RETAIN EXISTING VEGETATION / WETLAND / PERMANENT STREAM
- PROPOSED DIVERSION OF EXISTING INTERMITTENT STREAM

Appendix B:

Civil Engineering Servicing Report, prepared by Terra
Consultants



126 Kerikeri Road – Zone Change Submission: Proposed District Plan Engineering Assessment Report

Prepared for

Turnstone Trust

126 Kerikeri Road, Kerikeri

Prepared by

Terra Group NZ Ltd.

October 2022

PROJECT MANAGEMENT: RESOURCE MANAGEMENT: CIVIL & ENVIRONMENTAL ENGINEERING

DOCUMENT CONTROL RECORD

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1.1	21/10/2022

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1 INTRODUCTION

Terra Consultants have been engaged by **Turnstone Trust** to carry out an Engineering Assessment Report in support of the proposal to extend Mixed Use zoning over the land and adjacent areas through a submission to the Proposed Far North District Council (FNDC) Proposed District Plan (PDP) at 126 Kerikeri Road in Kerikeri.

The proposal seeks to change the proposed zoning of the property from General Residential Zone (as per PDP) to Mixed use and General Residential Zone.

1.1 SITE DESCRIPTION

The site is located north of Kerikeri town – business centre area. The site is located approximately 4.2kms north-east from the intersection of State Highway 10 and Kerikeri Road.

The northern portion of the site is bounded by Kerikeri River. To the west, east and south, the site is bounded by the existing residential dwellings. Most of the site area is undeveloped with dense trees and bushes area. An existing motel business (Woodlands Motel) is established at the southern area and has a direct access via Kerikeri Road.



Figure 1 – Site Locality Plan, source Google Map, viewed 05/08/2022

The site has an irregular shape with an area of **23.792ha** comprised of separate parcels Pt Lots 2, 5, 6, 8, 9 and 10 DP33905.

The present zoning of the land is Residential under the Operative District Plan and General Residential Zone under the Proposed version of the District Plan.

The site is generally sloping from the south toward the north area. The existing slope varies between 10% to 20% within the site. The ground levels vary between RL70.00m

to RL25.00m. Levels within the report are to Auckland Vertical Datum 1946 unless noted otherwise.

Currently the main access to the site is via Kerikeri Road. However, the site can be serviced by extension of existing public roads as such Fairway Drive, Clark Road and King Street.

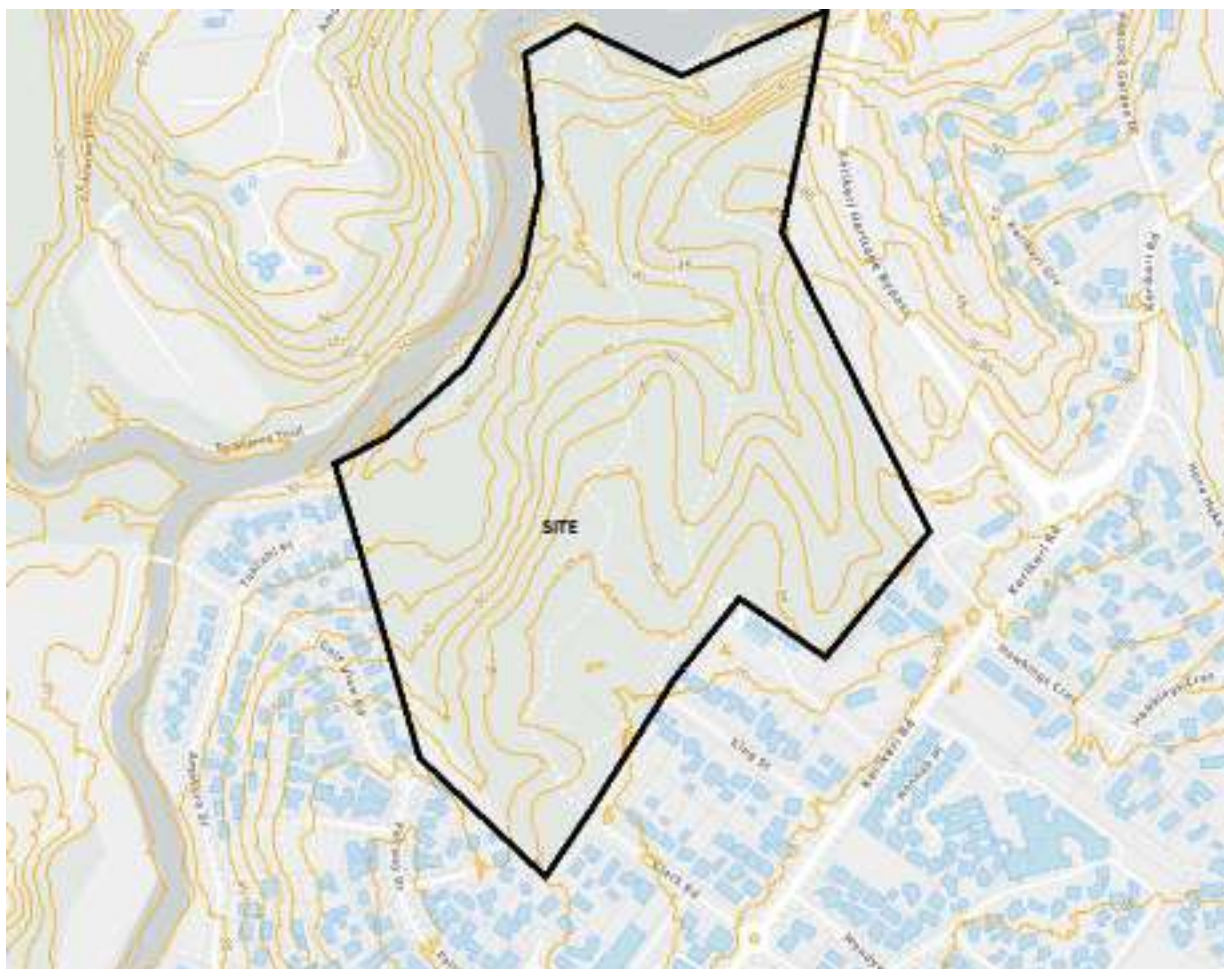


Figure 2 – Existing ground contours, source FNDC Maps service, viewed 05/08/2022

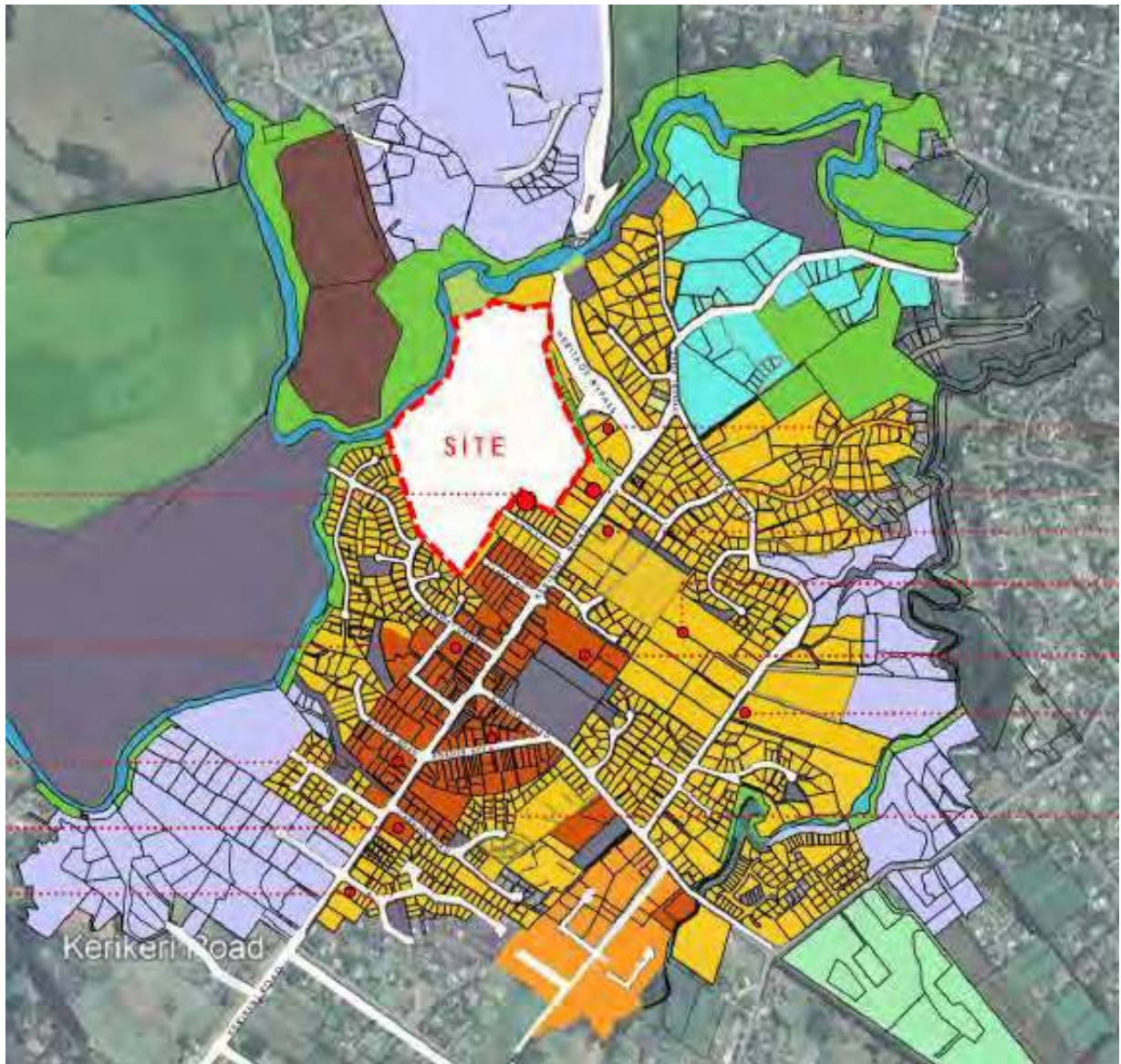


Figure 3 – Site Location to the surrounding Landuse under the Operative DP

1.2 DEVELOPMENT PROPOSAL

It is proposed to extend the Mixed-Use Zone from the PDP from the southern part of the site and also in the Homestead Road / Fairway Drive area. The residential area will remain at the northern part. The proposed change is shown in Figure 4 below.

More information on the proposal, please refer to the Form 5 Submission Planning Report, prepared by The Planning Collective.



Figure 4 – Proposed zone change submission within the site area

2 EARTHWORKS

At the conceptual stage, no earthworks have been designed for the proposed rezoning. Earthworks will be expected for levelling the building platforms and road construction.

General recommendations are provided below.

- Geotechnical investigation is required to confirm the suitability of the existing ground condition for future development.
- Erosion and Sediment Control Guidelines to be adopted for the detailed design stage and to be followed.
- Identified and allow minimum offset from the existing wetland or other ecological significant areas during the earthwork's operations,

With the earthworks management and appropriate methodologies in place, the earthwork operation within the development will not create more than minor affects to the surrounding network.

3 STORMWATER

3.1 EXISTING STORMWATER NETWORK

The surrounding area is currently serviced by underground pipe networks and open drainage. The existing motel is discharging the stormwater to the land.

From the FNDP Maps, the residential area to west is discharging on to the river and to the subject site here are three outlets from the upstream catchment that are discharge onto the existing overland flowpath within the subject site.

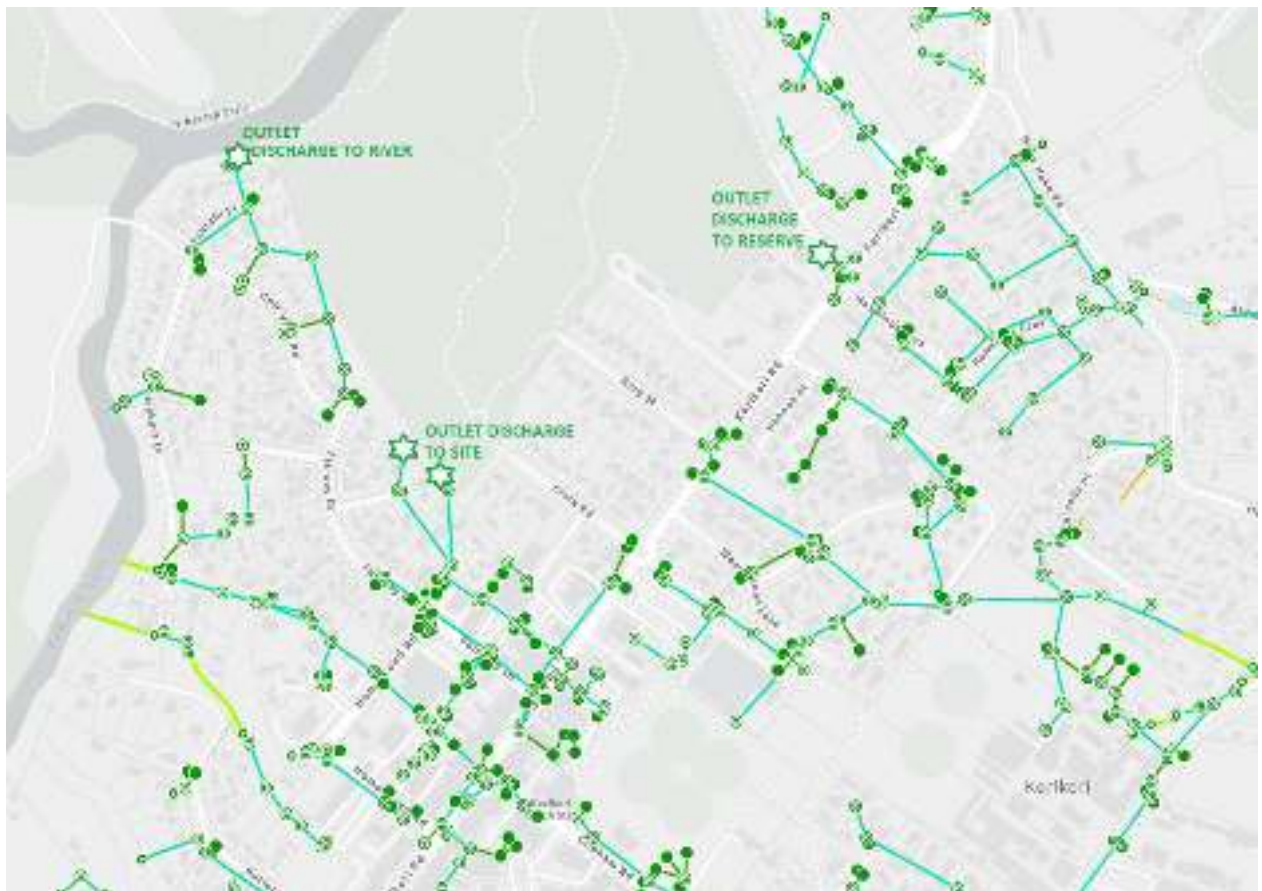


Figure 5 – Existing Stormwater underground network

3.2 CONCEPTUAL STORMWATER MANAGEMENT

The stormwater management concept for the site involves linking the area to be serviced by the underground network and discharge to the new treatment devices prior discharging on to the river.

10YR Stormwater flow will be conveyed via new public underground network. During the larger storm events, overland flow to be conveyed via public roads, or overland flowpath channels and discharge to the wetland and/or Kerikeri river.

The stormwater discharge from the proposed rezoning area can be mitigated to pre-development flow by stormwater detention devices via retention tank, raingardens and stormwater ponds.

3.2.1 Stormwater Treatment

At this conceptual stage, options for stormwater treatment are considered below:

- Public road runoff treatment via road raingarden/ tree pits, water quality pond or wetlands.
- Each residential site, business and Commercial area may require providing an on-site stormwater quality and/or quantity treatment system to align with the stormwater management plan in the area.
- There is the potential for each site to collect and store stormwater runoff from the roof areas for non-potable uses which would reduce the discharge to the downstream environment and the demand for town water supply.

4 FLOODING AND OVERLAND FLOW

4.1 EXISTING FLOOD PLAIN

Information of flood plain was derived from the FNDC Maps. The information indicates the site is not fully affected by flooding when a significant flooding event occurs.

As per the Flood Modelling (GHD 2007) information, the summary of the expected Flood levels (MPD + CC) is below. Existing ground levels adjacent to the river bank taken from LiDAR indicate levels between RL27m and RL32m. Estimated flood water depth up to 1.6m could occur along the river bank and be largely contained within the esplanade reserve that will be vested.

Table 1 – Flood levels (River level) adjacent to the site.

ARI	RL (m)
5 YR ARI level	28.381
10 YR ARI level	28.425
100 YR ARI level	28.629

It is recommended that any dwellings that will be established adjacent to the river edge, should have a minimum 500mm freeboard to the maximum flood level (MPD +CC).

Further assessment to confirm the flood levels along the river, stream and overland flowpath shall be carried out during the detailed design.



Figure 6 – Extents of flood plain¹



Figure 7 – Existing overland flowpath captured in FNDC Maps

¹ https://fndc.maps.arcgis.com/flood_map



Figure 8 – Existing overland flowpath/stream identified by Ecologist Bioresearches

4.2 FLOOD AND OVERLAND FLOWPATH MANAGEMENT

The site is not subject to flood plain except for some areas close to the River that will likely be incorporated into the future esplanade reserve that will be required to be vested adjacent to the Kerikeri River. However, permanent streams and Intermittent streams have been identified within the site by the Ecologist. The development shall allow the streams to remain as close to the existing condition or to be enhanced. Relocation or removal of the intermittent stream, overland flowpath and artificial watercourse may be proposed to increase the developable area.

Further study to establish the maximum water level within the stream is required for the next stage. The minimum freeboard of 500mm shall be achieved for the dwellings or businesses adjacent to the stream and overland flowpath.

4.3 EXISTING WETLAND

There are two indicative wetlands identified by the Ecologist as shown in Figure 8 above. Further assessment will be required to verify the location and extent of the wetland prior to any development works being proposed. This is to ensure the provisions of the National Policy Statement for Fresh Water Management and the National Environmental Standard for Freshwater are taken into consideration and addressed in any development proposal.

The wetlands can be retained and enhanced within the development area. 10m offset has been recommended from the Ecologist. The existing wetland areas are proposed for recreation area, and stormwater treatment area.

5 TRANSPORTATION

5.1 CONCEPTUAL TRAFFIC CORRIDORS

The main access to the site will be from Kerikeri Road as well as via the existing King Street, Clark Road and Fairway Drive.

The internal road network has not been confirmed at this stage, however, the proposed transportation corridor could be as demonstrated in Figure 9 to Figure 11 below.

In Option 1 – Two main traffic movement corridors are proposed from Clark Road and a new intersection on Kerikeri Road. This option provides many connections between the zone and Kerikeri wider township area. With two main corridors, the traffic movements will be distributed to both intersections. This option is aligned with the Proposed Structure Plan.

In Option 2 - The main traffic corridor is proposed to extend Clarke Road and Fairview Drive through the site.

In Option 3 – It is demonstrated the main traffic movement corridor to be in the centre of the proposed mixed-use area. The existing intersection of Kerikeri Road and the main corridor is most likely to be upgraded to cater for future traffic.

All options allow the future connection from the town centre to the Brownlie Land site on the northern side of Kerikeri River. These connections are shown to provide future options and to protect these options should they be required to manage the effects of urban growth in and around Kerikeri.

A new intersection to Heritage Bypass (Twin Coast Discovery Hwy) is proposed though the site. The proposed connection from Heritage Bypass to Fairview Drive will allow a bypass to the main street. The connection to Heritage Bypass will be discussed and confirmed with FNDC in the next stage of design.

Potentially the new road network can link onto Fairly Pool Lane (private access) to allow alternative routes connecting to Kerikeri Road and the Heritage Bypass. Fairy Pool Lane is Recreation Reserve owned by Council and it is possible for easements or legal road to be created over it.

Fairy Pools Lane is formed as a concrete private road. The concrete driveway is currently servicing a church and a funeral parlour. Fairy Pools Lane could potentially be upgraded to meet the public road standard in order to provide the traffic movement linkage through the site if that was deemed desirable and appropriate.

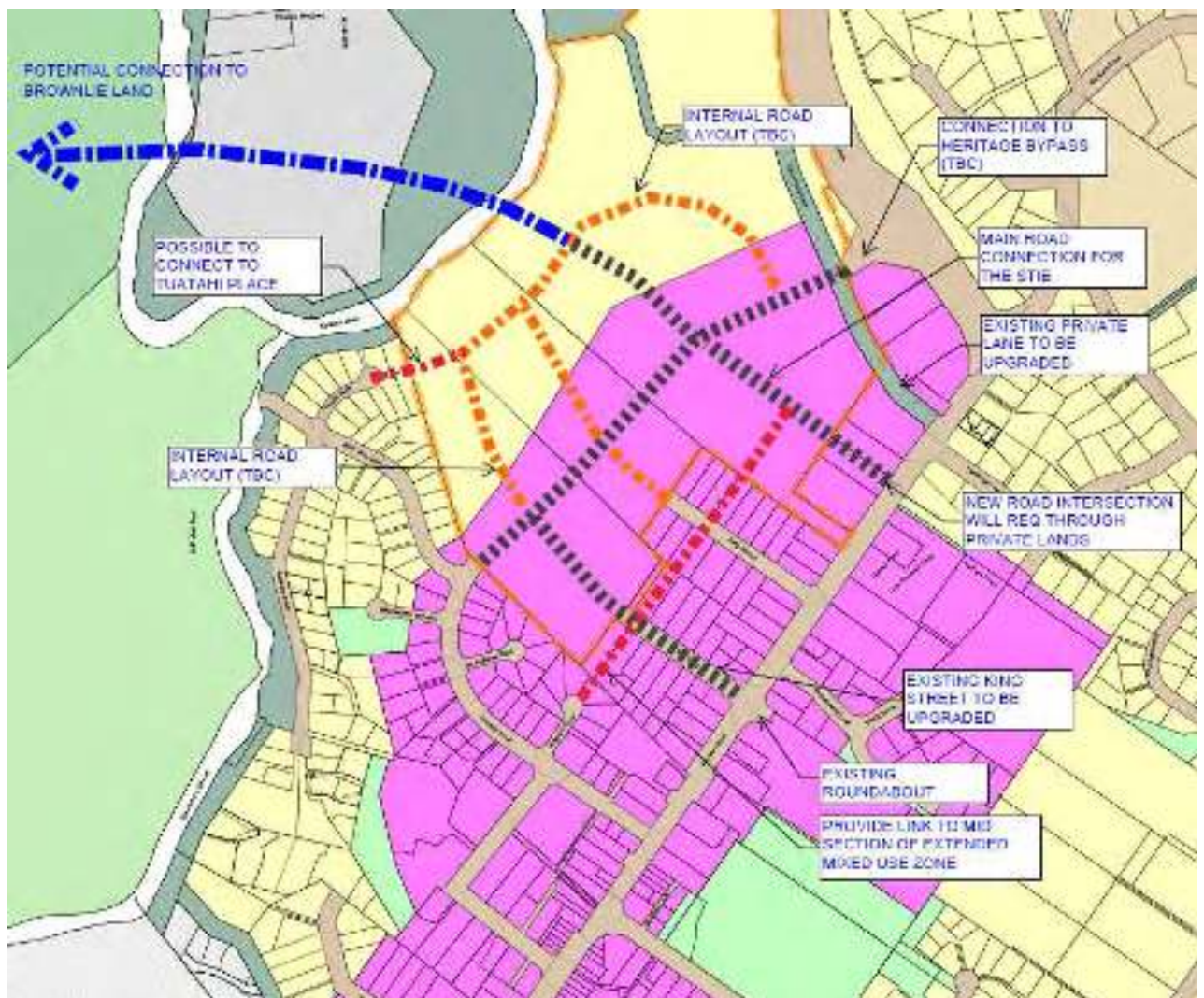


Figure 9 – Option 1: Traffic Movement Corridor and potential road network

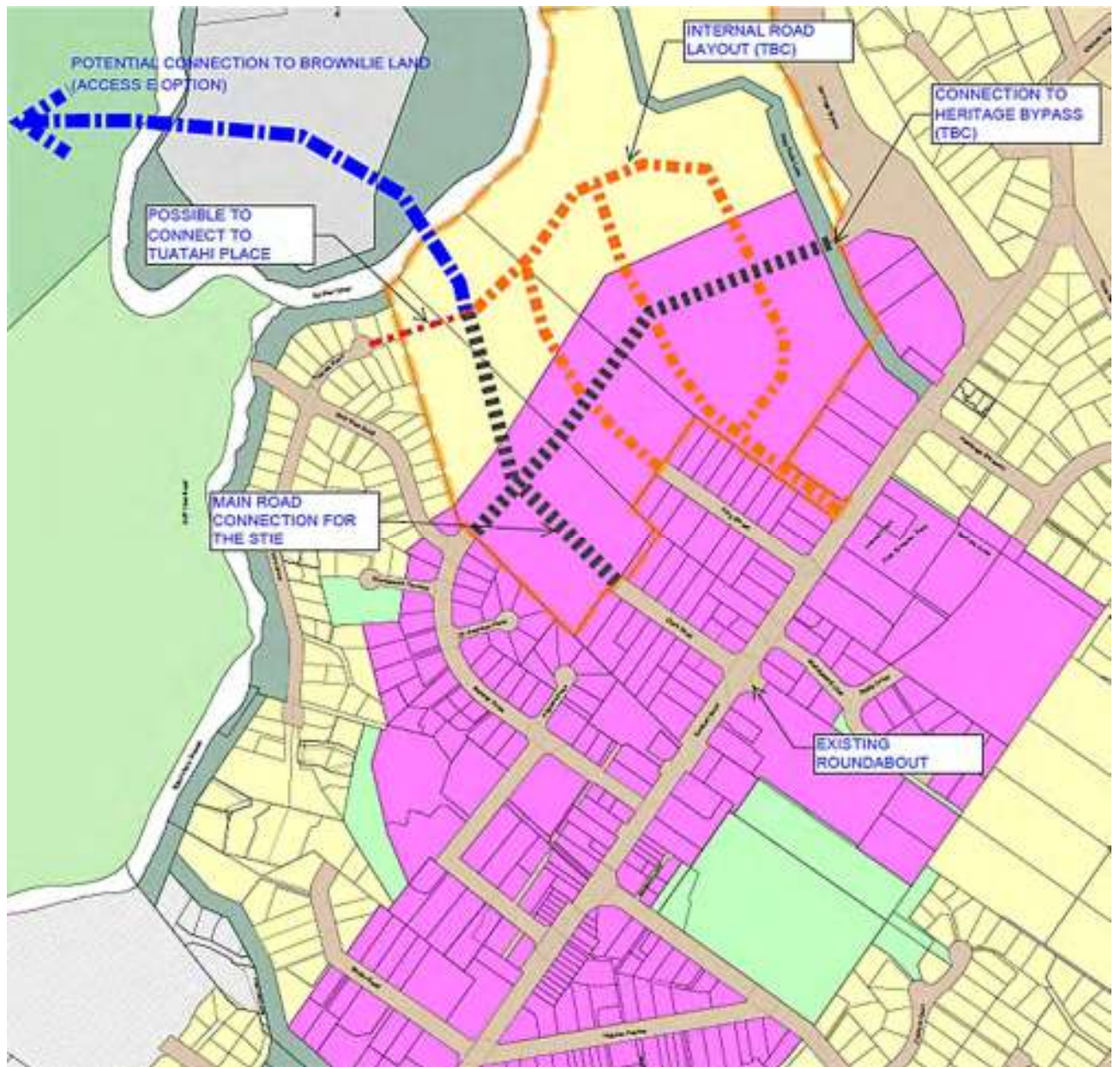


Figure 10 – Option 2: Traffic Movement Corridor and potential road network

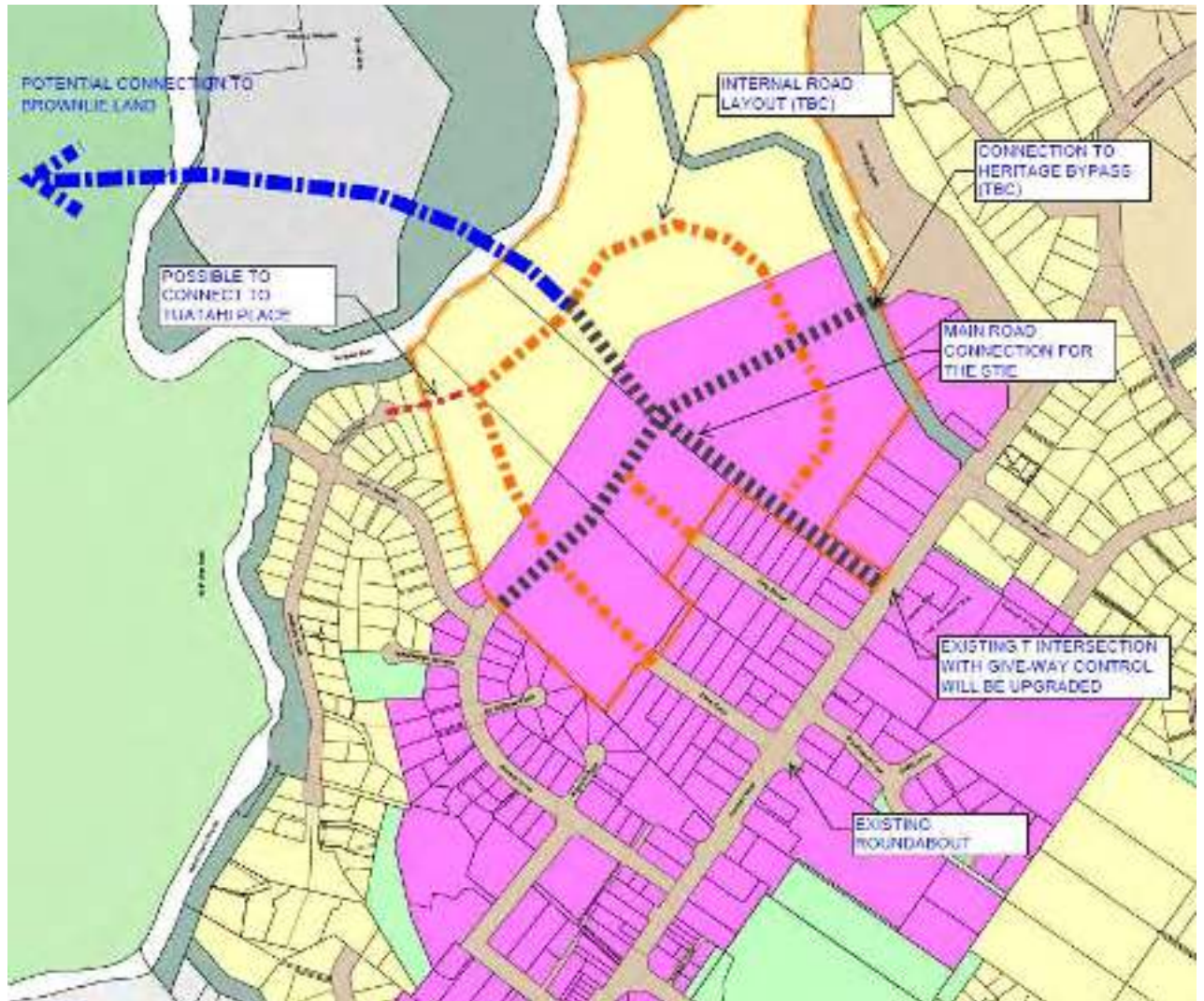


Figure 11 – Option 3: Traffic Movement Corridor and potential road network

5.2 PUBLIC ROAD STANDARD

The new public roads shall meet the minimum requirement as per FNDC Engineering Standard Chapter 3 Transportation².

The main road corridor shall have a minimum legal width of 25m, road carriage way width is 14.6m, with cycle lane, on street parking facility, and separate footpath on both sides.

The local roads shall have a minimum legal width of 20m, road carriage way width is 10.5m, with cycle lane, on street parking facility, and separate footpath on both sides.

² <https://www.fndc.govt.nz/infrastructure-developmentf.pdf>

Table 3-2: Urban Road Design Criteria

Classifications	Average Daily Traffic (ADT) ¹	Maximum Legal Road Width ²	Carrageway Requirements				Berm ³ Requirements	
			Overall Width ³	Movement Lane Width ⁴	On-Street parking	Cyclists	Pedestrians	Utility Service Corridor
Low Volume Access	< 200	18.0m	8.25m	2 x 3.0m	1 x 2.25m	cycling shared in movement lane on road	2 x 1.8m wide footpath, both sides	1.725m both sides
Access	200 - 1,000	20.0m	10.5m	2 x 3.0m	2 x 2.25m	cycling shared in movement lane on road	2 x 1.8m wide footpath, both sides	1.60m both sides
Secondary Collector	1,001 - 3,000	24.0m	14.0m	2 x 3.5m marked	2 x 2.0m	2 x 1.5m wide marked cycle lane, both sides on road	2 x 1.8m wide footpath, both sides	1.85m both sides
Primary Collector	3,001 - 5,000	25.0m	14.8m	2 x 3.5m marked	2 x 2.0m	2 x 1.8m wide marked cycle lane, both sides on road	2 x 1.8m wide footpath, both sides	1.05m both sides
Industrial	N/A	22.0m ⁵	13.0m	2 x 3.5m marked	2 x 3.0m	See Note 6 below	2 x 1.8m wide footpath, both sides	1.35m both sides
Arterial	5,001 - 15,000	Specific Design						
Regional	15,001 - 25,000	Specific Design						
National	> 25,000	Specific Design						

Figure 12 – Table 3-2 from FNDC Engineering Standard

Speed management shall be provided where suitable to achieve the target speed of 30km/hr urban area and 40km/hr for main corridor and align with the Speed management guide³ (NZTA, 2022).

5.3 PROMOTION OF ACTIVE MODES OF TRANSPORT

To align with FNDC Transport strategy⁴ (2020), active modes for walking and cycling are to be considered for the extended township area of the stie. Keys transport solutions for active modes are below:

- Walking and cycling hubs in townships
- Motor vehicle separation from active modes
- Town entrance adjustments → slow speeds
- Pedestrianize Kerikeri Road
- Footpath policy – add shared use within distance of CBD + width / widen
- Walking buses for schools and alternative drop off zone
- Prioritise Road Cycle Network
- Destination facilities → Bike parks • Accessibility – distance to parking

³ <https://www.nzta.govt.nz/speed-management-guide.pdf>

⁴ <https://www.fndc.govt.nz/transport-planning/fndc-transport-strategy.pdf>

6 WASTEWATER

6.1 EXISTING WASTEWATER

The site is located within the Area of Benefit of the Kerikeri township public network. The Kerikeri public wastewater system consists of a of low-pressure network as well as conventional gravity reticulation and pump stations.

Currently the existing motel accommodation is serviced by a private low pressured system and connecting on to the town low pressure underground network within Kerikeri Road. The stie drains naturally to the north western area of the property.

The existing wastewater network adjacent to the site is reticulated to the north western boundary conner where a pump station at Tuatahi Place is located. This pump station and associated rising main are considered to be operating near capacity at present.

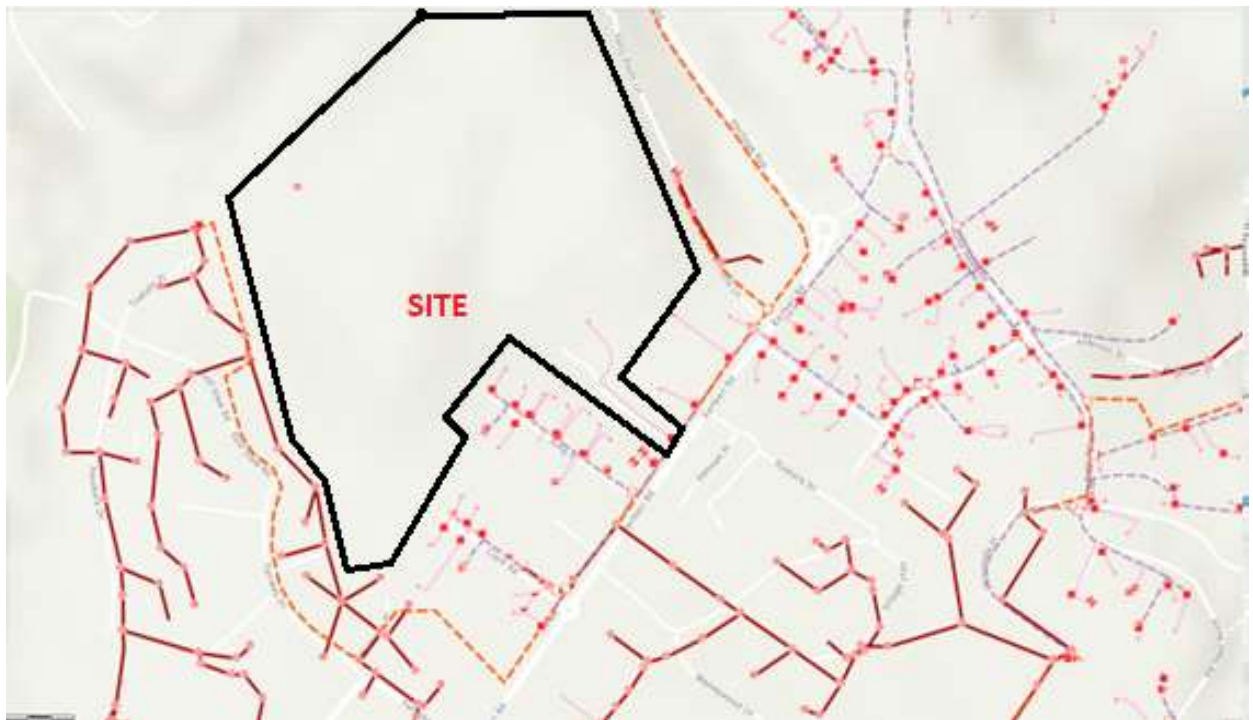


Figure 13 – Kerikeri Wastewater Map, Source from FNDC⁵

6.2 KERIKERI WASTEWATER TREATMENT PLANT

The Kerikeri wastewater treatment plant is located at Okura Drive, approximately 3km east of Kerikeri. Ownership of the treatment plant is with FNDC, and the operation and maintenance are with Ventia. The plant has completed in October 2020. The plant is

⁵ <https://www.arcgis.com/apps/mapviewer/wastewater>

processing 1000m³ of wastewater per day and current service 1,400 properties⁶ in Kerikeri. The subject site is entirely within the Kerikeri Wastewater Area of Benefit as shown in Figure 14.

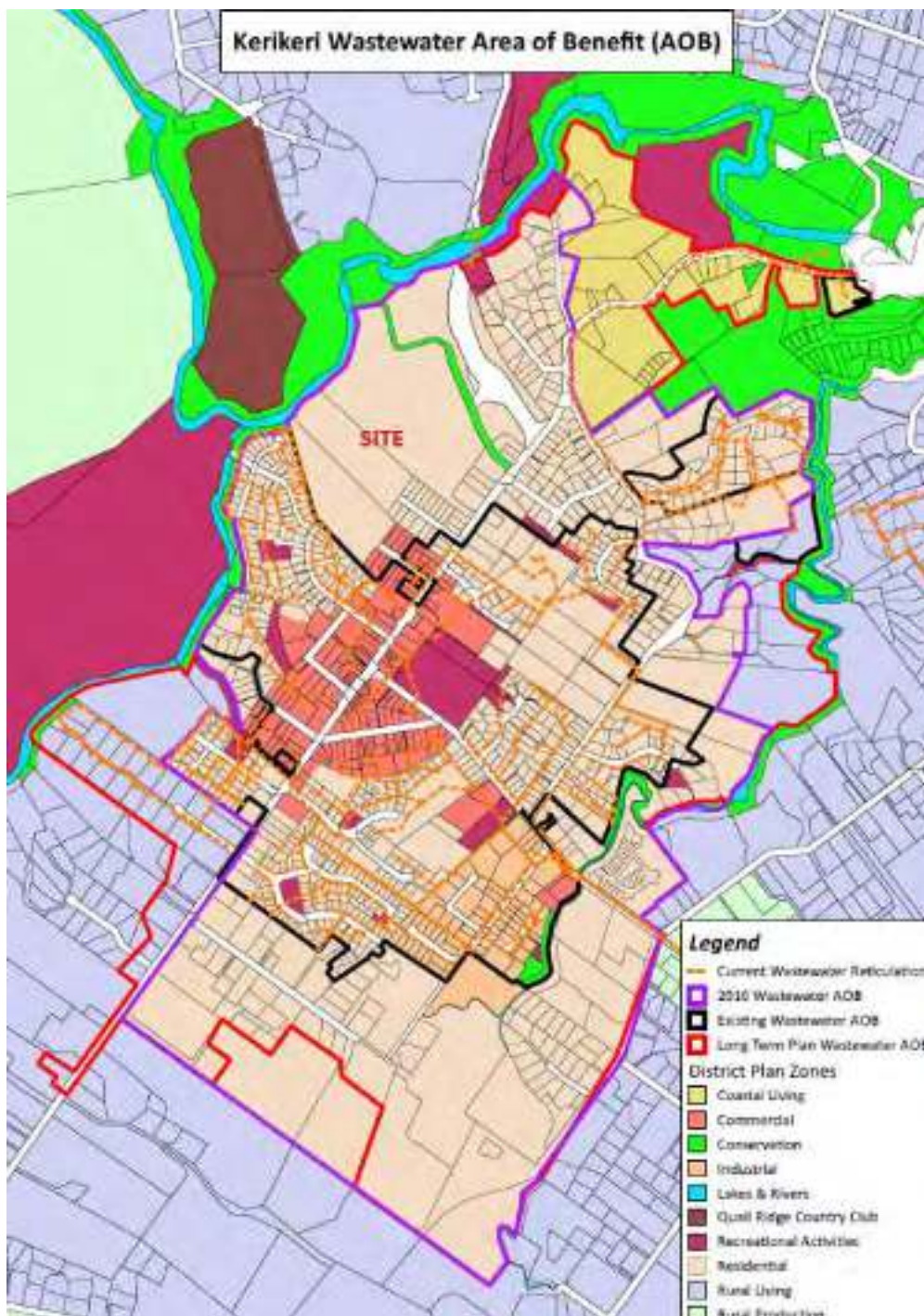


Figure 14 – Kerikeri Wastewater Area of Benefit, Source from FNDC

⁶ <https://www.ventia.co.nz/projects/modernising-wastewater-treatment-at-kerikeri>

6.3 PROPOSED WASTEWATER

It is proposed that the site will be serviced by a new gravity wastewater reticulation network within the site and will connect to the existing pump station at the end of Tuatahi Place. From Tuatahi Place pumpstation, a rising main of 150mm dia is discharging the wastewater from the pumpstation to a gravity network within Kerikeri Road. The gravity network is conveying the wastewater to the Jacaranda Place pump station.



6.4 DEVELOPMENT WASTEWATER FLOW

Two study cases of the expected wastewater flows have been provided below.

Case Study 1, the design flow is calculated at the full development of the site based on the current land use area – Residential zone.

Assumptions and parameters:

- The site is serviced by city sewer network (total site area = 23.79ha)
- 70% of the total site will be residential development area (16.65ha)
- Allow 30% of the site to be construction of road, stormwater treatment, wastewater treatment, and reserves.
- Assume 100% of the residential area to be subdivided to 600m²
- 4 people per dwelling, 200l/p/day ADWF, PF 2.5, PWWF 1000l/p/day

Table 2 – Design wastewater flow at full development based on the current Operative District Plan

No. Lot	ADWF(l/s)	PDWF (l/s)	PWWF(l/s)	Average Volume (m ³ /day)
278	2.57	7.71	12.85	222

Case Study 2, the design flow is based on the proposed change of land use area for this submission – extended of Mixed-Use zone.

Assumptions and parameters:

- The site is serviced by city sewer network (total site area = 23.79ha)
- Total area of the proposed Mixed-Use area is 10.4ha
- Total area of the residential zone is 13.4ha
- Allow 30% of the site to be construction of road, stormwater treatment, wastewater treatment, and reserves.
- Assume 100% of the residential area to be subdivided to 600m²
- Assumption of land use distribution shown in the Table 3 below.
- Residential wastewater parameter⁷ = 4 people per dwelling, 200l/p/day ADWF, PF 2.5, PWWF 1000l/p/day
- Industrial and Commercial effluent flows: Light 0.4L/s/ha, Medium 0.7L/s/ha, Heavy 1.3L/s/ha

Table 3 – Summary of land use distribution area for wastewater demand calculation

Zone	Area (ha)	Assumed developable area (70%) ha	Land use	Land use distribution %	Wastewater demand calculation (ha)	No. Lots
Residential area	13.4	9.37	Residential (600m ² per lot)	100%	9.37	156
Mixed use area	10.4	7.28	Light Industry/commercial	50%	3.64	n/a
			Medium Industry/commercial	30%	2.184	n/a
			Heavy Industry/commercial	10%	0.728	n/a
			Residential (600m ² per lot)	10%	0.73	12
Total	23.8	16.65			16.65	168

⁷ <https://www.fndc.govt.nz/engineering-standards-revised-mar-2009.pdf>

Table 4 – Designed Flow of residential development as per proposed change to the PDP

No. Lot	ADWF(l/s)	PDWF (l/s)	PWWF(l/s)	Average Volume (m ³ /day)
168	1.56	4.68	7.79	134.7

Table 5 – Designed Flow of industrial and commercial site development as per proposed change to the PDP

Activity / Land use	Designed Flow (l/s)	Average Volume (m ³ /day)
Light Industry/ commercial	1.46	125.80
Medium Industry/ commercial	1.53	132.09
Heavy Industry/ commercial	0.95	81.77
Total	3.93	339.67

Table 6 – Total Wastewater designed Flow and volumes at Full Development level

Design Flow (l/s)	Average Volume (m ³ /day)
5.79	474.34

As per the calculation of wastewater flow at full development level above, the proposed change to the PDP would potentially generate the additional of wastewater flow on to the Council network of **2.92l/s and 252m³/day.**

6.5 OPTIONS TO INCREASE THE WASTEWATER NETWORK CAPACITY

As per a discussion with FNDC Development engineers, there are options to increase the existing capacity of the town wastewater infrastructure. The options are list below and to be discussed further for the next stage. Few of the options or all could be chosen together if suitable.

Table 7 – Wastewater Network improvement and management Options

Options	Description
<p style="text-align: center;">1 Staging the development</p>	<p>The development will be carried out in stages. The first stage of the development will limit the wastewater flow to the acceptable discharge flow to the council network.</p> <p>It is expected 50 – 100 dwellings could be proposed for the first stage.</p> <p>Once the council successfully upgrade the local network, further development can be carried out.</p>
<p style="text-align: center;">2 Onsite Wastewater management</p>	<p>A partial of the development may require to temporarily adopt the onsite wastewater management if the soil capacity is suitable.</p> <p>The onsite wastewater management and irrigation filed will be privately owned and operate by the owner of the site.</p>
<p style="text-align: center;">3 Upgrade Tuatahi Place Pump station</p>	<p>Upgrade the existing pump station and rising main (150mm dia) at Tuatahi Place to allow the larger flow to be discharge to the pump station.</p>
<p style="text-align: center;">4 Upgrade Jacaranda Place Pump station</p>	<p>The existing gravity network from Kerikeri Road is currently connecting to the Jacaranda Place pump station. Upgrading this pump station may be an option to allow the site to discharge more flow to the network.</p>
<p style="text-align: center;">5 Increase the storage tank at Cobham Rd Pump station</p>	<p>The existing storage tank at Cobham Rd pump station has potential to be increased to improve the capacity of the town network.</p>
<p style="text-align: center;">6 Developer contribution</p>	<p>FNDC to review the capacity and preferred options to upgrade existing wastewater infrastructure and to allow the proposed development to connect to the public infrastructure. The developer shall provide staged contributions for upgrades during the proposed development and upgrading process.</p>

The options outlined above are indicative only and specific wastewater disposal strategies should be determined at the design phase the development and agreed with FNDC.

7 WATER SUPPLY

7.1 EXISTING WATER SUPPLY

Based on FNDC record, it confirms that the existing business is connected to public water reticulation. There is an existing 150mm diameter FNDC watermain running along the Kerikeri Road frontage of the site.

There FNDC water supply network is present on both sides of all public roads adjacent to the site.

As per the Council website⁸, 65% Kerikeri are water supplied by Kerikeri Irrigation Company from The Waingaro Reservoir, and 35% are from raw water take from Puketotara Stream via the Council water treatment plant.

The treatment plant is located approximately 1.8km south-west of the site and on Kerikeri Road.

7.1.1 Proposed Water Supply

The existing town water supply has a limited capacity, options below are proposed for water supply of the development of the site. The options shall be discussed, further investigated, and agreed with FNDC for the next stage of development. Few of the options or all could be chosen together if suitable.

Table 8 – Water Supply Options

Options	Description
1 Staging the development	The development will be carried out in stages. The number of lots for the first stage of the development is to agree with FNDC and the to allow connection to the town water supply reticulation. It is expected 50 – 100 dwellings could be proposed for the first stage.
2 Onsite water supply Bore water and Rain tank	Proposed bored water take for the development if feasible and use the combination of rainwater tank to reduce the water demand from town supply.
3 Onsite Rain tank	Proposed the use the combination of rainwater tank and town water supply for the development. The rain tank will reduce the water demand from town supply. Top up the rain tank with town supply can be timed at off peak.

⁸ <https://www.fndc.govt.nz/Our-services/Water/Council-water-supplies/Kerikeri-Waipapa>

<p>4 Direct supply from Kerikeri Irrigation Company</p>	<p>The development can investigate to directly source water supply from the Kerikeri Irrigation Company.</p>
<p>4 Developer contribution</p>	<p>The option that the developer financially contributes to FNDC to build a new water treatment plant or upgrade the existing infrastructure and to allow the development to connection to the city water supply.</p>

The options outlined above are indicative only and specific water supply strategies should be determined at the design phase the development and agreed with FNDC.

8 UTILITY SERVICES

8.1 POWER

It is most likely a new Transformer/s will be required for the development area. Once the conceptual master plan has been developed further, service provider will be consulted.

8.2 TELECOMMUNICATIONS

Telecommunication and internet cable will be provided for the development area. Once the conceptual master plan has been developed further, service provider will be consulted.

9 CONCLUSION

The proposal is feasible within the presently residential zoned land. Infrastructure for roads, stormwater, wastewater, water supply and services are available locally.

The differences in infrastructure capacity between the existing residential and the proposed residential / mixed use can be accommodated by upgrading infrastructure.

Conceptual design of road network has been provided and demonstrates the site can provide a well-connected road network and the alternative route for road users to bypass the main street. The increase in traffic volume can be accommodated by existing road network.

Stormwater flooding can be managed on site as the extents of the flood plain is identified only within the river edge (riparian yard) area.

Stormwater discharge from the site will be quality and quantity mitigated accordingly to the FNDC standard and guidelines to ensure the receiving environment will not be worsen by the development. Discharge from the site can be mitigated by onsite detention and retention.

Wastewater gravity reticulation network will be proposed and connect to the existing pump station at Tuatahi Place. Options to improve the existing town infrastructures are discussed in the report. The wastewater can be mitigated by upgrading the area pumpstations and rising mains.

Town water supply (from the Kerikeri Road plant) may be needed for an upgrade; the assessment of water supply will be discussed with FNDC further. The water supply can be mitigated by reuse onsite bored water and upgrading the town supply.

Power and communication services will be made available for the development, the service provider will be consulted.

We consider that the proposed development is feasible through the provision of accessibility, stormwater management, upgrading the existing wastewater and water supply service, and connecting to the utility services. With good engineering practices, the proposed development will not create more than minor effects to the wider environment.

End of Report

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