Elizabeth Street.
Linear Park.
Concept Design. Final Draft.

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Project Brief.

To revitalise Elizabeth Street as a green, pedestrian & cycle friendly, slow-speed street, establishing a coast-to-coast recreation connection between Takitimu Drive and The Strand.

The project area extends from The Strand along Elizabeth Street to the intersection with Cameron Road. Connecting to an associated project - The Strand Extension that includes Tunks Reserve and access down the coastal cliff to The Strand.

The brief calls for delivery of two of the key moves identified within the Tauranga City Centre Spatial Framework. The first, the ‘Green Necklace’, which places Elizabeth Street as the southern part of the 7km green walking and cycling circuit; the second, reinforcing the ‘harbour-to-harbour’ connections across the peninsula. It supports two other key moves - A Connected City, and A City Centre for Living.

The aim is to deliver the upgraded streetscape alongside the redevelopment (private) of the Farmers site at Devonport Road, and to be in to proposed bus routes and station upgrades within the wider city.

The revitalisation is to deliver on public expectations (see word cloud adjacent) for a pedestrian and cycle friendly street, with trees and green space, seating and places to relax, improved street lighting, less parking, and stronger connections to the wider street network.

Anticipated design outcomes from the brief are:

- Provide a setting that can be used by pedestrians, cycles and slow-speed vehicular traffic safely.
- Provide a green street with street trees, raingardens and other gardens with places to sit and engage with others. Anticipating events occurring in nearby linked fine grain spaces during the day and evening.
- Provide a setting that is unique to Tauranga and recognises the site’s history through discussions with mana whenua and local historians, reinforcing sense of place within the city.
- Respond contextually to street frontages taking into consideration that this is a Pedestrian Environment Street (TCC City Plan: Chapter 17-17A. 11.2) Ensuring that people of all abilities can safely access footpaths and adjacent properties.
- Align with the Tauranga City Centre Spatial Framework that identifies the strategies and typologies for the city centre and the streets and public spaces within in.
- Retain and enhance views, visual and physical links with other streets, and be a destination for visitors to the city.
- Adopt best practice LID to treat stormwater and flood mitigation, ecology and energy consumption.
- Identify opportunities for public art, which could be integrated into either infrastructure or stand-alone works.
City Centre Spatial Framework.
Context.

The draft City Centre Spatial Framework identifies eight
Key Moves to strengthen the city centre. Elizabeth Street
offers the potential to deliver on four of these key moves
highlighted below.

The Green Necklace - extending around the peninsula, and
connecting along Elizabeth Street.
Harbour to Harbour - one of a series of connections across
the peninsula.
A Connected City - delivering a network of recreation
connections throughout the city.
A City Centre for Living - supporting inner city living
through the provision of healthy outdoor spaces for
residents.

1. The Green Necklace
2. A Civic Heart
3. Access to Water
4. A Connected City
5. Avenues to Headland
6. Harbour to Harbour
7. Fine Grain Spaces
8. A City Centre for Living
Elizabeth Street is one of the east-west aligned coast-to-coast connections across the Tauranga peninsula, extending from Takitimu Drive at the Waikareao Estuary in the west to The Strand and harbour in the east.

With a very generous width of 30m, the street is currently a vehicle dominated environment, with relatively narrow footpaths to either side. Street trees are limited to recently planted fastigiate trees in proximity to intersections, mature Queensland Box trees within the median, and minimal underplanting. There are no stormwater quality management systems in place within the street.

Vehicle movement is accommodated in a single lane each in east and west bound directions, opening up to multiple lanes at intersections, with angle parking and wide backing zones along the length of the street. Intersections are a combination of signalised - at Devonport and Cameron Roads, and roundabouts at Grey and Durham Streets.

Pavings are a mix of small unit clay paving and asphalt, with concrete kerb units. Street furniture items are minimal, with limited seating provided within the streetscape. Street lighting is predominantly functional - tall 'oct' columns at wide spacings, reinforcing the vehicle dominant character of the street.

Positive attributes:
- Ample street width to support a shift to a pedestrian and cycle friendly environment.
- Established retail businesses, with a mix of offerings along the street.
- Proposed redevelopment of the key site at corner of Devonport Street.
- Scope for further redevelopment to include finer grain of retail units.
- Existing mature trees within street.

Negative attributes:
- Vehicle dominated street.
- Wide carriageway width to negotiate when crossing.
- Difficulty for pedestrians to cross at intersections with roundabouts.
- Discontinuous building frontage to south side of street.
- Lack of amenity for pedestrians - narrow footpaths, no seating, etc.
- Minimal green within the street.
Elizabeth Street runs from Takitimu Drive at the Waikareao Estuary in the west, up through Cameron Road and beyond Devonport to the coastal cliff in the east, dropping down to the harbour edge.

A stream wound its way down to the harbour from the Elizabeth - Grey Street junction.

The rising land at the east end of the street at the harbour front was locally known as Mareanui.

The current street name is in reference to Mrs Elizabeth Tunks, who with her Tauranga born husband lived in a house on the street. Captain Thomas Tunks was a retired Imperial Army Officer from India and later Mayor of Tauranga (1933-35).

An early mention of Elizabeth Street’s formation occurs in 1883 when a Mr Hamilton, is engaged in ploughing the area that would become the Street (Bellany, 1982 p. 53).

In 1782 the Otumoetai Catholic mission built a chapel on the corner of First Ave and Elizabeth Street. A timber church was built in 1888, and relocated to Bethlehem College in 1990.

(source: http://tauranga.kete.net.nz/tauranga_local_history/topics/show/2738-elizabeth-street-tauranga)

View looking along the coastal edge, high point in foreground is vicinity of Elizabeth Street east c. 1864
Elizabeth Street

Linear Park.

Elizabeth Street is boldly re-envisioned as a linear park extending from The Strand in the east, to Cameron Street at the centre of the peninsula, and in the future west to the Waikareao estuary, establishing a recreation connection between the two coastal edges.

Half of the existing generous street width is repurposed to create the linear park. Increasing the cities green space and creating a pedestrian and cycle priority street, while facilitating vehicular movement and parking.

The linear park comprises of a sequence of paved plaza and green spaces along its length. Tree and shrub plantings and grass areas green the street providing shade and amenity for pedestrians. Raingardens along the length manage and improve the quality of stormwater entering the harbour.

Generous footpaths adjacent to retail businesses provide space for outdoor dining and public seating. Play-along-the-way welcomes children into the city centre environment.
Conceived of as a Green Necklace in the City Centre Spatial Framework. Elizabeth Street is the coast-to-coast connection across the peninsula. Conceptually the notion of a ‘necklace’ is represented as a linear composition of spaces, with the opportunity for a ribbon of play and activation to form a vibrant connection along the length.

Expression of the topography of the peninsula is an opportunity within the street, tracing the movement from harbour to estuary up the escarpment from The Strand down to a low point at Grey Street, rising again to Cameron Road and gently descending to Takitimu Drive. Overlaid across the topography, and responding to it, is a vegetation structure that explores the former vegetation of the peninsula within this new urban environment. Recreation - shopping, dining, walking, cycling - and play activate the street. Supporting the creation of a thriving retail environment, and linking to the surrounding street and laneway network.
**Express vegetation - inland ridge to coastal edge transect**

Express former vegetation structure within street context
- Street trees - Puriri, Kohekohe, Nikau, Manatu, Karaka, Pohutukawa

**Express coast to coast landform - raise & recess**

A series of raised and recessed lawn, planting, paved areas along the street providing a sequence of urban green and plaza spaces.
- Raised - along slopes and at high points
- Recessed - at low point in vicinity of Grey Street

**Activate street through use**

Provide spaces for urban activities
- Walking, cycling
- Shopping, outdoor dining
- Play-along-the-way, picnic, rest
Street Programming Options.

A. Planted Median

A generous width tree and shrub planted median located to centre of street.
- Widened footpaths for outdoor dining, seating and tree planting
- Separated east and west bound traffic lanes
- Parallel car parking
- Cycle lanes accommodated within carriageway
- Additional street trees to both footpaths
- Existing centrally located trees supplemented to provide strong street tree structure

B. Planted Median & Raingardens

Stormwater treatment raingardens to road sides, with a generous width tree and shrub planted median.
- Widened footpaths for outdoor dining, seating and tree planting
- Separated east and west bound traffic lanes
- Parallel car parking indented between raingardens
- Raingardens along both sides of street to manage and treat stormwater
- Additional street trees to both footpaths
- Existing centrally located trees supplemented to provide strong street tree structure

C. Linear Park

A linear park extending full length of street providing recreation and amenity for the community. Raingardens to north side to treat stormwater run-off.
- Linear park achieved by locating median directly adjacent to the south footpath
- Buildouts and street trees on north side increase width of footpath in key locations
- East and west bound traffic lanes adjacent
- Parallel car parking both sides, indented between raingardens on the north side
- Raingardens to manage and treat carriageway stormwater run-off
- Linear park provides lawn, planted tree and paved areas for outdoor dining, recreation and amenity

* selected preferred scenario

Indicative street axonometrics.
A reduction in hard surface areas minimises stormwater run-off allowing stormwater to permeate through planted areas. Hard surface area run-off is treated through raingardens along the northern kerb edge.
Linear Park Precedents.

Linear park precedent images opposite illustrate the potential in Elizabeth Street’s existing wide road reserve. The volume of ‘green’ possible to be integrated into an urban street is evident, with increased amenity provided through generous footpaths, plaza spaces, garden and lawn areas.

Clarity between areas for pedestrians and cyclists and vehicle movement provides a legible street, supporting a thriving retail environment.

Local examples include the recently completed linear park at Wynyard Quarter in Auckland, serving the inner city population of 45,000. Established green road reserves - linear parks of varying forms around New Zealand include Tauranga’s ‘avenues’ - particularly Fourth Avenue, and in towns across New Zealand including Piahiatua where a generous green central median acts as a linear park within the town’s main street hosting regular market days, and complete with play areas, open lawn areas, trees, footpaths and a playground.
Concept Plan.

Scale: NTS @ A3
Concept Plan.

Scale 1500 @ A3

Key:
1. Footpath
2. Shared path
3. Plaza
4. Carriageway
5. Bus lane
6. Car park
7. Vehicle crossing
8. Lawn
9. Planting
10. Play - halfcourt
11. Rain garden
12. Existing trees
Concept Plan.

Scale 1:500 @ A3

Key:
1. Footpath
2. Shared path
3. Plaza
4. Carriageway
5. Water feature
6. Car park
7. Vehicle crossing
8. Play elements
9. Planting
10. Lawn
11. Rain garden
12. Existing trees
13. Super crossing
Concept Plan.

Scale 1:500 @ A3

Key:
1. Footpath
2. Shared path
3. Plaza
4. Carriageway
5. Water feature
6. Car park
7. Vehicle crossing
8. Play elements
9. Planting
10. Lawn
11. Rain garden
12. Existing trees
13. Super crossing
Spatial Studies.

View 1.
Looking west along the linear park from Devonport Road.
Native tree and shrub planting provides shade, shelter and amenity along the street.

View 2.
Looking south-east across Elizabeth Street toward Devonport Road.
The shared path, adjacent to the carriageway, connects with seating areas and plaza spaces. Parallel parking is located to both sides of the carriageway.
Spatial Studies.

View 3.
Looking south-east across Elizabeth Street toward Devonport Road.

Lawn and planting areas layer up along the street providing places for people to occupy. Smaller scale connections link between the shared path and pedestrian areas. Raised edgels provide for informal seating.

View 4.
Looking west along the linear park from Devonport Road.

Generous volumes of native planting bring colour and texture to the street. A mix of native tree species enable flexibility in location in relation to vehicle movement, sunlight access and areas welcoming shade.
Spatial Studies.

View 5.
Looking south-east across Elizabeth Street toward Devonport Road.

The mid-block crossing connects between the cinema and Farmers development. Opening onto a plaza space suitable for small gatherings. Seat benches are located within small groves of trees off-line from the main pedestrian movement.

View 6.
Looking west along the linear park from Devonport Road.

Raised edges to lawn areas layer up along the street, expressing the natural contour, and providing seating opportunities. Planting areas 'cut-out' from the footpath level further amplify the topography.
Paving & Surface finishes:

- Kerbs & edgings
  - Concrete units
  - Sandblast surface finish

- Insitu concrete paving
  - Mix 1: Tuscan mix
    - 100% 10mm Allied Tuscan
    - 50kg/m³ shell
    - No oxide, no additional chip
    - Light exposure, sandblast and honed finishes
    - TBC through sampling process

- Insitu concrete paving
  - Mix 2: Andesite mix
    - 100% 10mm Andesite
    - 50kg/m³ shell
    - No oxide, no additional chip
    - Light exposure, sandblast and honed finishes
    - TBC through sampling process

- Insitu concrete paving
  - Mix 3: Andesite+Tuscan mix
    - 80% 10mm Andesite
    - 20% 10mm Allied Tuscan
    - 100kg/m³ shell
    - Black oxide 4kg/m³
    - Light exposure, sandblast and honed finishes
    - TBC through sampling process

- Lawn grass

- Play surface
  - Numat

Street Furniture:

- Raised lawn edging
  - Concrete units

- Raised lawn edging
  - Concrete random modules

- Lawn edging
  - Steel

- Timber seat bench
  - Bespoke design
  - Hardwood timber with armrests

- Bike rack
  - Walkspace BN_02 Stainless Steel

- Drinking fountain
  - Walkspace [DF_02 Stainless St. Brushed finish]

- Twin bin
  - Walkspace BN_02 Double

- Buly boy bollard
  - S8 static 203.2mm dia

- Luminaire
  - We-e FLC240-CC
  - CBD Light pole

- Carriageway lighting
  - We-e VFL 530 SE (CBD suite)

- Light pole
  - 8.5m high
  - 165 dia HD galvanised
  - Resene Blast Grey (CBD suite)

- Inground point light
  - Megabay Omnyx MXLO

- Tree uplight
  - We-e ETC 300 - FS

Materials Palette.

- Concrete units
- Stainless Steel
- Walkspace BR_01
- Bike rack
- Drinking fountain
- Twin bin
- Carriageway lighting
- Light pole
- Tree uplight
- Luminaire
- Inground point light
- Timed Light pole

COSTS

- LOW INSTALLATION
  - Pneumatic System:
    - No hydraulics to be purged or maintained, “touched up” and re-applied.
    - Sealed Assembly:
      - BULLBOY automatic cassette ram design (where all in road items are substantially sealed to prevent ingress of dirt, silt and mechanics in the bollard assembly. Such items are prone to tampering, vandalism and moisture/dirt)
      - Replacement process:
        - Annual service:
          - An annual service is offered.
          - Due to the patented design ensures minimal maintenance requirements.
        - Emergency Close (optional):
          - A dedicated emergency close input enables high speed rise of the automatic bollards. Optional safety devices (loop detectors and obstruction detection) which would normally prevent the bollards from rising vehicle can be available in NZ.
          - Emergency Close (optional): a bollard ram can be removed as one) a bollard ram can be removed and replaced quickly minimising down time.
          - Fail Secure Configuration:
            - In the automatic mode, a bollard ram is not normally closed unless a signal is received from a sensor or other input. In the event of loss of mains power or loss of battery backup power supply.. the bollards raised in the event of loss of mains power and very well proven. Unlike most bollards a BULLBOY bollard assembly does not need to be “cleaned out”. This involves checking road seals, checking lighting and mechanics in the bollard assembly. Such items are prone to tampering, vandalism and moisture/dirt.
          - There is no requirement for manual override locks and maintenance. All parts (if required) are NZ based manufacturing means NZ based servicing, issue resolution, Local technicians:
            - TBC through sampling process
            - TBC through sampling process

- LOW MAINTENANCE
  - Stainless Steel Finish:
    - BULLBOY does not employ paints or similar coatings which would typically need to be maintained, “touched up” and re-applied.

- SERVICE & SAFETY
  - Replacement process:
    - Due to the patented design ensures minimal maintenance requirements.
    - An annual service is offered.
    - Emergency Close (optional):
      - A dedicated emergency close input enables high speed rise of the automatic bollards. Optional safety devices (loop detectors and obstruction detection) which would normally prevent the bollards from rising vehicle can be available in NZ.
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      - There is no requirement for manual override locks and maintenance. All parts (if required) are NZ based manufacturing means NZ based servicing, issue resolution, Local technicians:
        - TBC through sampling process
        - TBC through sampling process

Elizabeth Street | Tauranga Streetscapes Project | 19 October 2018 | Final Draft
Planting Palette.

Street trees:

- Lophostemon confertus (Queensland box trees) [existing]
- Knightia excelsa (Rewa Rewa) [existing + new]
- Metrosideros excelsa (Pohutukawa)
- Dysoxylum spectabile (Kohekohe)
- Corynocarpus laevigatus (Karaka)
- Vitex lucens (Puriri)
- Hoheria populnea (Houhere)
- Plagianthus regius (Coastal ribbonwood)

Palms, shrubs & groundcovers: *plants suitable for raingarden*

- Rhopalostylis sapida (Nikau •)
- Lophomyrtus obcordata (Rohutu)
- Plagianthus divaricatus (Makaka •)
- Manuka sp. prostrate form
- Hebe ‘Wiri Splash’
- Hebe hulkeana (NZ lilac)
- Carpodetus serratus ‘Prostrata’
- Blechnum penna-manna

- Coprosma repens ‘Poor Knights’
- Phormium cookianum (Coastal flax)
- Chionochloa flavescens (Haumata •)
- Carex virgata (Purei •)
- Libertia grandiflora (Mikokoi)
- Fuchsia procumbens (Creeping fuchsia •)
- Geranium solanderi var. solanderi (Solander’s geranium)
- Pimelea prostrata (NZ Daphne)
Recreation.
Play-along-the-way.

Recreation.
Passive and active recreation opportunities are created along the length of the linear park. The shared path provides a recreational cycle route across the peninsula from harbour to estuary, connecting to shared paths tracing the edge of the peninsula.

Lawn and plaza areas with a range of seating opportunities - seat benches, share picnic tables - provide places off-line from main movement routes to pause, have lunch and enjoy the city.

Play-along-the-way.
Children and young people are welcomed into the city centre with a variety of play elements; including integrated elements - seat walls and edges for balancing and running along, and designed spatial elements - half-court, water feature and interlinked path networks for scootering.

An overlay of specific play furniture provides another layer, which could be implemented at a later date including, pavement tramolines, balance beams, ping-pong tables.

A further layer could be achieved through a programme of activation - placement of bean bags, management of small activities along the street.

Key
- Passive and active play
- Water feature / water play
- Shared path
Green infrastructure

Rain gardens are introduced along the length of the street to treat the carriageway stormwater catchment. The rain gardens combined with the reduction in hard surface area together contribute to improved water quality.

A suite of new street trees - all native species, and suitable for an urban environment, complement the retained existing street trees. Creating a significant volume of vegetation canopy along the street. Providing for shade and improved air quality.

Areas of native planting provide another layer of colour, texture and interest. Modulating the street and spaces, and providing an understory for particular tree species.

Stormwater is directed to planting and lawn grass areas to slow and reduce runoff to the piped network, and support the growth of the green infrastructure.
Transport

The carriageway width is reduced and located within the northern half of the street. Vehicle movement lanes comprise of one-lane in each direction, with parallel car parking to either side. Lanes increase at intersections. Bus routes are accommodated in east and west directions, with a dedicated bus lane heading west from Durham Street. This de-tuning of the street to vehicles enables the introduction of the linear park to the southern half of the street, while still meeting required car movement numbers and frequency.

Car parking is provided along the length of the street, parallel to the kerb, in reduced numbers from existing. Additional car parking is provided in adjacent development car parks off-setting the loss of on-street space.

Proposed:

- **66** car parking spaces, evenly spread along both sides of Elizabeth Street, including
  - 2 mobility spaces (at eastern end)
  - 3 loading areas of varying length 6-10m

In addition to the parking spaces provided within Elizabeth Street, an additional 2 loading spaces and 8 parking spaces are proposed along Devonport Road adjacent to Farmers. Replacing **107** existing angle/parallel parking spaces (loss of 41 spaces). Note: there are no existing designated loading areas, 2 taxi and 2 mobility spaces.
Kiosk & Food trucks.
Options for location of a kiosk(s) within the linear park are identified in the area between Durham and Grey Streets. Near to the half-court, and drawing on the activity that this feature brings, with generous paved and lawn areas nearby. Food trucks could occupy the adjacent car park spaces, providing a buzz of programmed and non-programmed activity.

Market space.
Potential exists for the programmed closure of the section of street between Grey and Devonport Streets for monthly / seasonal market day. Market stalls could occupy car park spaces, pedestrian flow along carriageway, with space to eat, drink and relax along the linear park adjacent. An alternative location would be the dead-end block east of Devonport Street, but access to residential could present difficulties to manage.

Memorial.
Part of the Strand Extension project is the identification of suitable locations for a potential memorial to those who lost their lives crossing the rail bridge on foot prior to the pedestrian pathway being implemented.

Key
- kiosk within linear park, options for location
- food truck
- market stall within market space
- Memorial location options
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<th>Design Principle</th>
<th>Design Team Response</th>
<th>Opportunity</th>
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<td>Mana Rangatiratanga Authority</td>
<td>The design team recognise and respect the status of iwi and hapu as mana whenua and seek to positively engage with mana whenua for the benefit of the place, environment, people and community.</td>
<td>What are the potential opportunities that can enhance the mana and authority of mana whenua within the Elizabeth Street project?</td>
</tr>
<tr>
<td>Whakapapa Names &amp; Naming</td>
<td>The design team welcome the opportunity to express maori names, naming and narrative within the project.</td>
<td>Potential to develop a name for the linear park, as a whole &amp;/or components of. Naming of the waterfeature, potentially in reference to the former spring source or its use.</td>
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<tr>
<td>Taiao The Natural Environment</td>
<td>The selection of native street tree and groundcover species appropriate to the site conditions, is integral to the design response. Selection of species that encourage bird life and express wider connections across the peninsula and district.</td>
<td>Potential to express the peninsulas coast to ridge to estuary landform, and past vegetation cover in the selection and arrangement of plant species. Locally sourced. Opportunity to reflect the site history in a contemporary manner through the integration of a water feature in the vicinity of the former spring source. Proposed as jets in the ground, these could be on a timer to reflect wider environmental conditions, seasons, wind condition, tide etc...to reflect this history.</td>
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<tr>
<td>Mauri Tu Environmental Health</td>
<td>Focus on improving water quality entering the harbour from the stormwater network. Robust and cost effective predominantly concrete pavement materials utilising local aggregates are proposed for longevity and sustainability.</td>
<td>Significant reduction in the hard surfaced areas, through the reduction in carriageway width enable introduction of permeable surfaces, slowing and reducing stormwater run off. Integration of raingardens &amp;/or proprietary stormwater filters to improve water quality. Locally sourced paving materials, including concretes and their aggregates, as an expression of the local environment. Minimising maintenance requirements.</td>
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<tr>
<td>Mahi Toi Creative Expression</td>
<td>Opportunities exist for creative expression of iwi / hapu narratives in the overall conceptual approach and within specific elements and features. Mana Whenua narratives to be creatively expressed.</td>
<td>The waterfeature presents an opportunity for creative expression, with opportunities to reveal the geology, flora and fauna that would have been associated with this feature. The sequence of gardens proposed along the length of the linear park has the potential to express the former traditional garden land use of the area through design, species selection and arrangement and interpretation graphics or panels. Street lighting, in particular the pedestrian lighting within the linear park, could be designed to reflect the seasons, the passage of the moon and the relationship of this to the gardening use.</td>
</tr>
<tr>
<td>Tohu The Wider Cultural Landscape</td>
<td>Recognition of the location of Elizabeth Street spanning the Tauranga peninsula connecting Waikareao estuary and inner harbour, the connection to Mauao.</td>
<td>Opportunity to express the connection to specific wider cultural landscape elements through markers and the integration of art features. Potential memorial site for those who lost their lives crossing the rail bridge.</td>
</tr>
<tr>
<td>Ahi Ka The Living Presence</td>
<td>The development of pedestrian priority streets and spaces encourages community use.</td>
<td>Community wellbeing is enhanced through the provision of a pedestrian priority street, that encourages life and activity. The design works for all stages of life - pepe / tamariki / rangatahi / pakeke / koroua / kuia, and as whānau / whanui.</td>
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Appendix.