REPORT

DESK-BASED HISTORIC HERITAGE ASSESSMENT OF TE ARA TIPUNA, GISBORNE AND ŌPŌTIKI DISTRICTS

Insitu
ARCHAEOLOGICAL HERITAGE

DESK-BASED HISTORIC HERITAGE ASSESSMENT OF TE ARA TIPUNA, GISBORNE AND ŌPŌTIKI DISTRICTS

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Prepared for:

Diana Bell
The Planning Collective

Prepared by:

Dr Andy Brown and Lynda Walter
In Situ Heritage Limited
P O Box 710
WHAKĀTANE 3158

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1. Introduction

Te Ara Tipuna is a project to build and maintain a network of accessways for pedestrians, cyclists, and horse trekkers in Te Tairāwhiti (Gisborne District) and the Ōpōtiki District in Te Moana a Toi (Bay of Plenty). The project is sponsored by Te Runanganui o Ngati Porou with investment and staffing support from Te Puni Kōkiri. The Planning Collective and Civil Project Solutions are preparing the resource consent application for Te Ara Tipuna.

Te Ara Tipuna consists of ~500 km of trails that will connect Tūranganui-a-Kiwa to Ōpōtiki (Figure 1). The main route is divided into daily stages with stop-over points at marae and/or townships. The ara also connects to a number of other trails (e.g., the Cooks Cove track) allowing travellers the opportunity for further sojourns. The whenua over which the ara moves is a rich cultural and historic heritage landscape, which is characterized by archaeological sites, such as storage pits, midden and pā. InSitu Heritage Ltd was engaged to provide an archaeological assessment for Resource Management Act consenting purposes, which identifies areas where there is potential for effects on historic heritage values across the planned trail network.

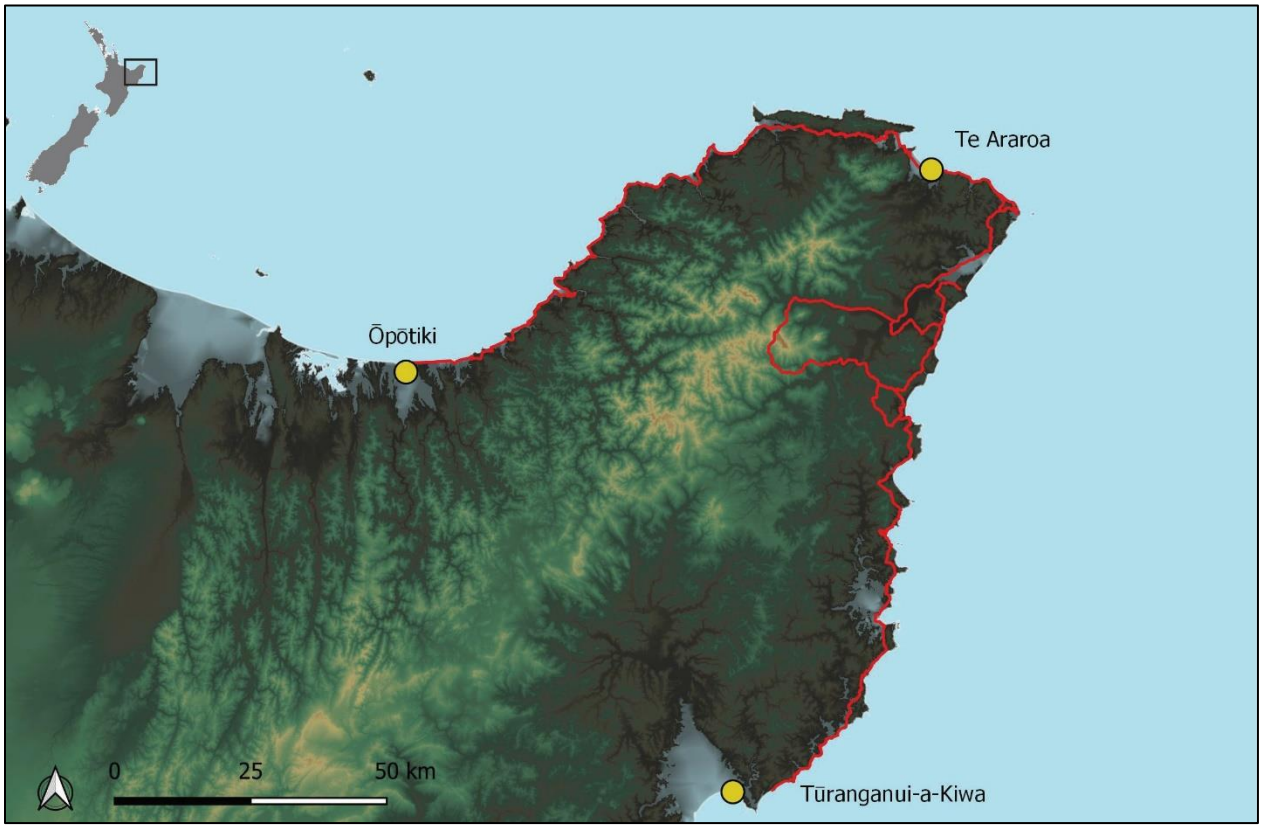

Figure 1 -Te Ara Tipuna (red line) running from Tūranganui-a-Kiwa to Ōpōtiki.

This report provides the methodology and results of a desk-based historic heritage assessment of the three tracks (walking, cycling and horse) proposed for Te Ara Tipuna to determine the probability of effects on historic heritage values. The primary historic heritage places that may be affected are archaeological sites relating to pre-1900 Māori habitation and use of the areas that the proposed trail passes through.

The major output of this work is a shapefile layer identifying: (1) areas where the trails will encounter archaeological sites, (2) areas where there is a reasonable cause to suspect archaeological sites will be encountered, and (3) areas where there is a low probability of encountering archaeological sites.

This report is concerned with physical evidence of past human activity and is not an assessment of cultural values or wāhi tapu. Advice about Māori cultural values can only be provided by tangata whenua.

2. Statutory Requirements

Heritage New Zealand administers the Heritage New Zealand Pouhere Taonga Act 2014 (the Act). The Act makes it unlawful for any person to modify or destroy, or cause to be modified or destroyed, the whole or any part of an archaeological site without the prior authority of Heritage New Zealand. Any work that may affect an archaeological site requires an authority from Heritage New Zealand before commencement.

This process applies regardless of whether the land on which the site is located is designated, or the activity is permitted under the District or Regional Plan or a resource or building consent has been granted. The Act provides for substantial penalties for unauthorised destruction or modification.

An archaeological site is defined in the Heritage New Zealand Pouhere Taonga Act 2014 as any place in New Zealand (including buildings, structures or shipwrecks) that was associated with pre-1900 human activity, where there is evidence relating to the history of New Zealand that can be investigated using archaeological methods.

The archaeological authority process applies to all sites that fit the legal definition, regardless of whether:

- The site is recorded in the NZ Archaeological Association Site Recording Scheme or recorded on the New Zealand Heritage List
- The site is not recorded and only becomes obvious because of ground disturbance
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted.

The Resource Management Act 1991 requires City, District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while safeguarding the options of future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance. Where resource consent is required for any activity, the assessment of effects is required to address historic heritage.

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities. Historic heritage includes:

- Historic sites, structures, places, and areas
- Archaeological sites
- Sites of significance to Māori, including wāhi tapu
- Surroundings associated with the natural and physical resources (RMA section 2).

The primary means by which councils meet the requirements of the RMA is via Regional, District or City Plans. Plans may include inventories of heritage items, rules and incentives for the protection of heritage.

Part C4 of the Tairawhiti Resource Management Plan relates to cultural heritage, recognised as comprising archaeological sites, wāhi tapu and wāhi tapu areas, heritage buildings, places, and precincts. The plan incorporates four heritage overlays, including Archaeological Sites & Areas (Overlay 2) to assist with the protection and management of historic heritage. Overlay 2 includes information from the Heritage New Zealand List, NZAA Site Recording Scheme and archaeological surveys; the sites are also listed in a Schedule in Appendix 1 of the plan. The plan includes rules associated with each heritage overlay.

Ōpōtiki District Council Plan defines heritage resources, as any historic place, wāhi tapu, archaeological site (as defined under the Heritage New Zealand Pouhere Taonga Act) and items including notable trees, objects or features. Chapter 14 of the Plan provides a set of rules for the management of heritage resources, as well as lists of wāhi tapu, heritage items from The Heritage New Zealand List Rārangi Kōrero and notable trees.

3. Project Scope

Te Ara Tipuna is proposed as a mixed-use trail that will accommodate walkers, cyclists and horse trekkers. Across much of the ara the trails will run adjacent to each other in a 4.5m wide footprint (Figures 2 & 3). Single-use trails (e.g., just for cycling) are also proposed; in other areas the trail will run adjacent to, or utilise, existing roads.

A range of construction methodologies are proposed. Gold, Silver and Bronze tier tracks will be constructed of a mixture of raised and ground-level boardwalks and compacted lime or gravel tracks (Figure 2). The standard track will be a 4.5m mown path, which will be augmented to increase stability in areas of unstable ground.

The trail will make use of existing track formations where possible, but ground disturbance associated with track construction will occur. Further ground disturbance is likely during associated construction activities including, but not limited to, facilities installation, the installation of bollards, wayfinding and interpretation signage and planting.

4. Data

The following data were drawn upon for this assessment.

The Tairāwhiti Resource Management Plan heritage overlays, including the GDC Heritage Alert Layer - Overlay 2, were accessed from data.govt.co.nz. Historic heritage site data was accessed from the operative Plans for both Gisborne and Ōpōtiki District via council websites.

Modern aerial photographs and LiDAR data were sourced via LINZ data service.

Historic aerials were accessed via the online portal Retrolens.co.nz.

Historic survey plans were sourced from Premise.

Archaeological site information was sourced from the New Zealand Archaeological Association's (NZAA) ArchSite platform. Locational data for sites was in point form, and it should be noted that the accuracy of these points is variable (discussed further below), therefore all sites within or adjacent to the trail corridor were accurately located using a combination of historic and modern aerial photographs and LiDAR prior to the assessment of impacts.

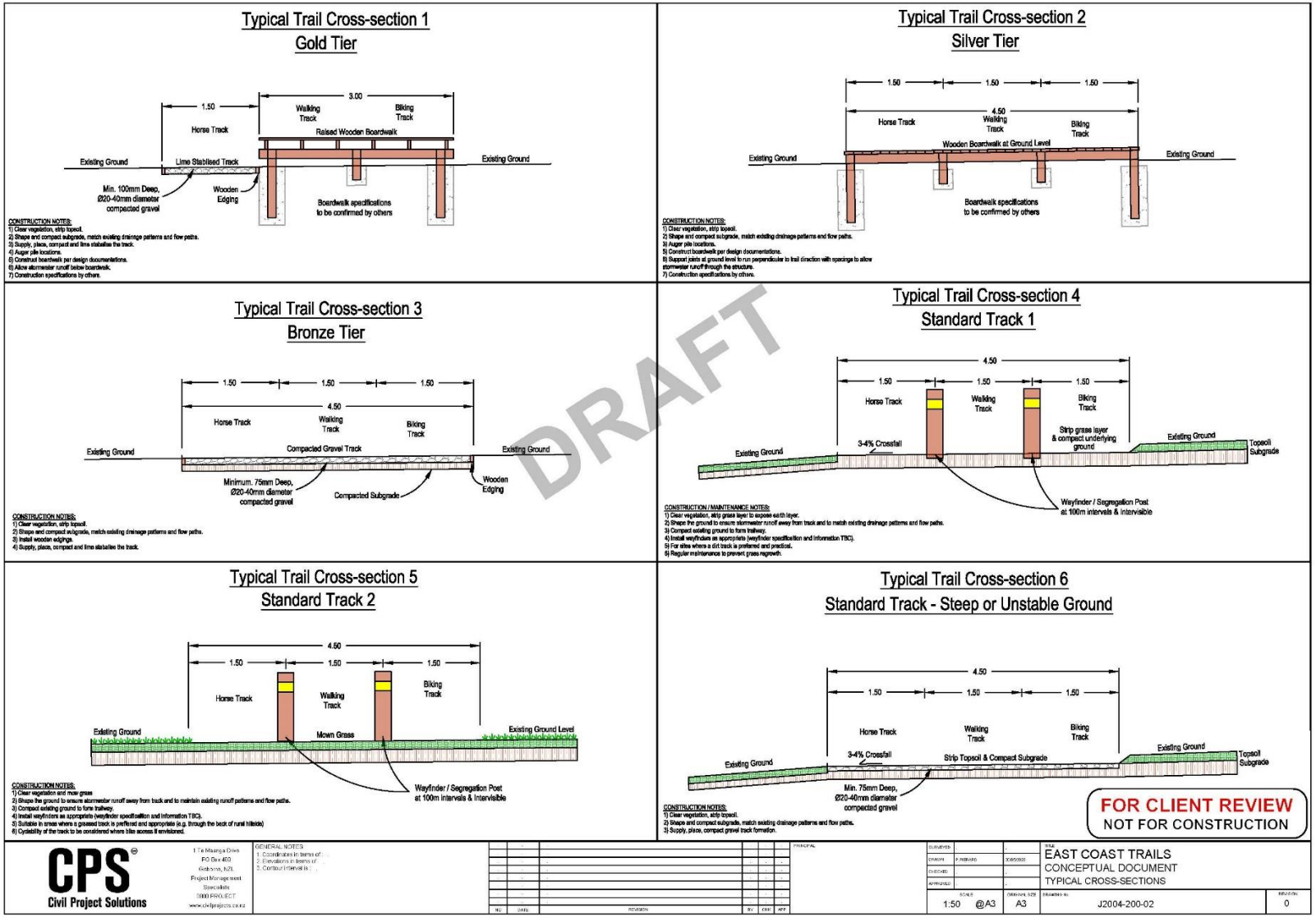

Figure 2 – Concept drawings of the proposed trail tier constructions (Source: Civil Project Solutions).

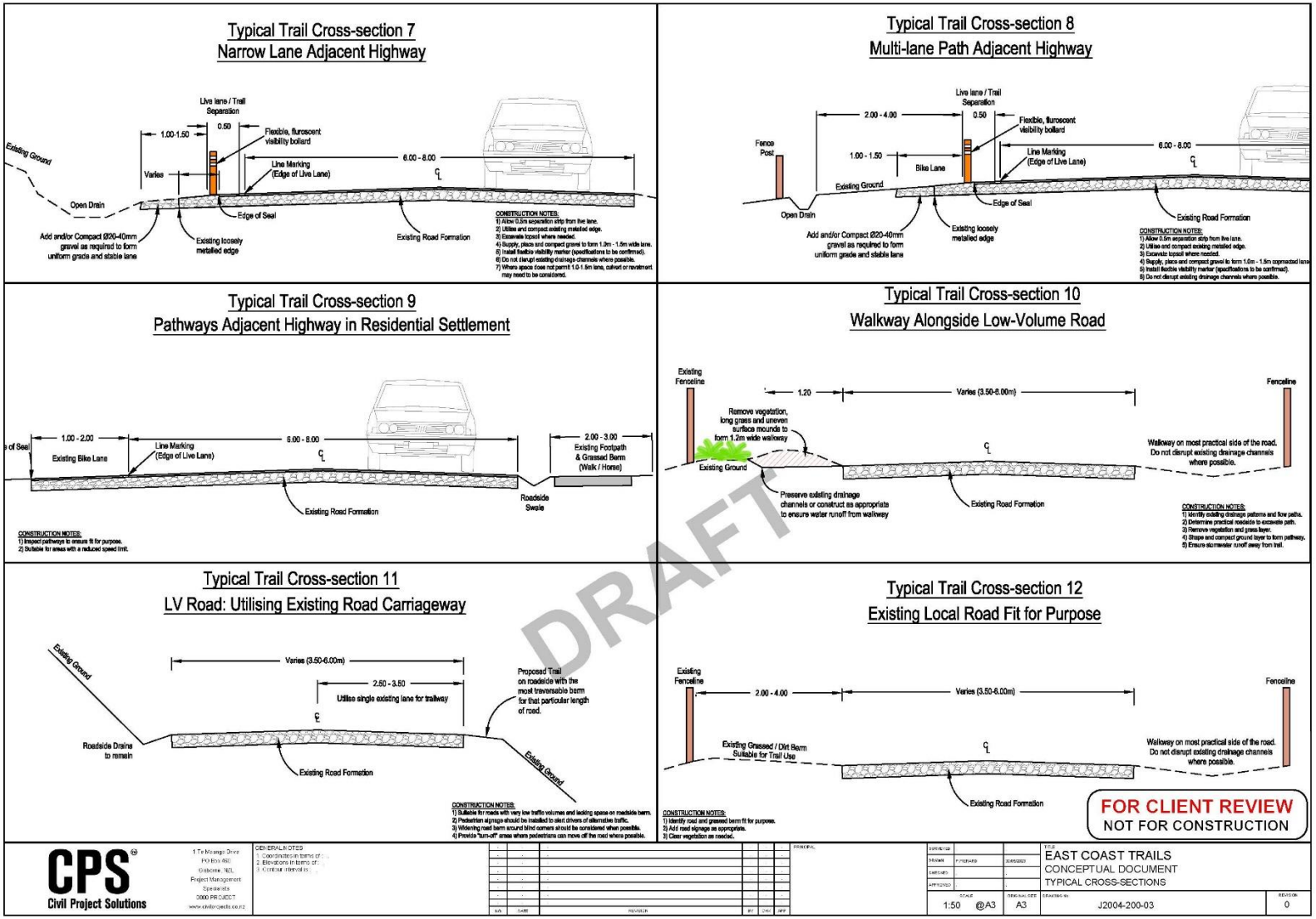

Figure 3 - Concept drawings of the proposed trail tier constructions (Source: Civil Project Solutions).

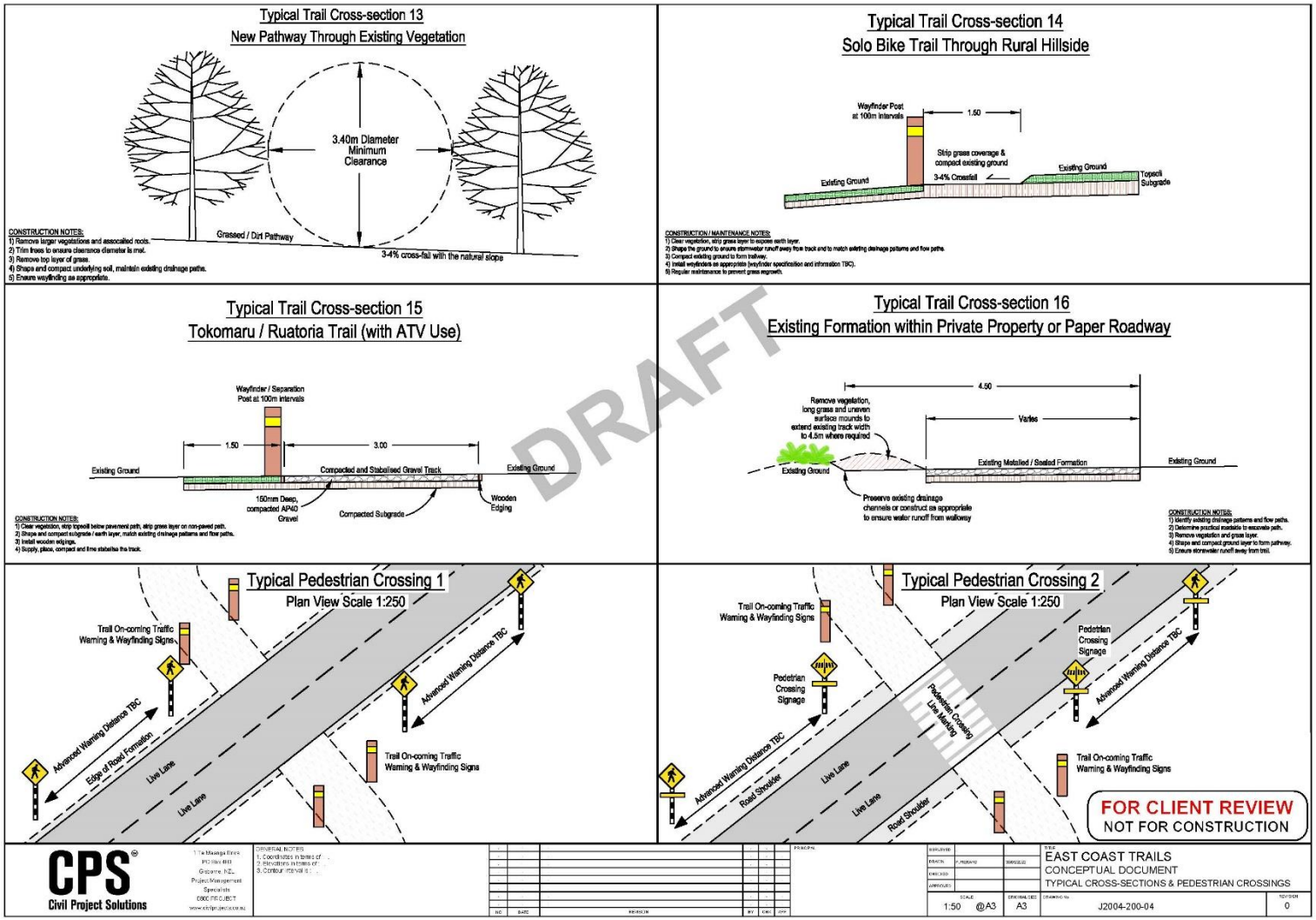

Figure 4 - Concept drawings of the proposed trail tier constructions (Source: Civil Project Solutions).

5. Methodology

The historic heritage and archaeological assessment of Te Ara Tipuna focused on establishing the potential for effects on historic heritage values, primarily archaeological sites. A range of trail design concepts were provided (see above). However, given the early stage of the project, and impacts on the route caused by severe weather events, the specific areas in which different track specifications may be utilised has not yet been fully determined. Therefore, the assessment of effects was made on the basis that the design concept with the greatest earthwork impact was being employed. This is a conservative method but ensures the greatest protection for archaeological sites and other heritage places.

Two levels of methodology are outlined below: (1) the process undertaken to ascribe sections of the ara to categories based on possible effects of track works and, (2) the development and meaning of assessment categories.

5.1 Attribution to Category

The attribution of sections of Te Ara Tipuna to the appropriate potential effects category involved the assessment of multiple lines of evidence.

In the first instance archaeological sites and historic heritage places located within 100m (in either direction) of the trail route were identified using an in-built spatial query in QGIS. However, the inaccuracy of the NZAA dataset (Figure 5) required that sites immediately beyond this buffer were also checked. This process involved assessment of the location of sites based on evidence within NZAA Site Record Forms supplemented by Remote Sensing techniques, for example, the inspection of aerial photographs and LiDAR (Figure 6). When the accurate location of sites was determined their location and extent was plotted in the project GIS.

Recorded archaeological sites represent only the visible portion of the wider archaeological landscape, therefore, the broader distribution of recorded sites together with landscape or natural features (e.g., soil type, aspect) were also used to assess the probability of encountering sites during works.

Remote Sensing techniques including assessment of historic and modern aerial photographs, LiDAR and historic survey plans was also used to identify unrecorded archaeological features and to check the location of other potential historic heritage features (Figure 7). When identified, the location and extent of features was plotted in the project GIS.

The proposed route of Te Ara Tipuna was laid over the spatial extents of recorded sites, unrecorded sites, historic heritage site locations and Gisborne District Heritage Alert Overlay. The location of the trail relative to these layers determined the effects category for specific areas of trail. The effects categories are discussed below.

5.2 Effects Categories

Three categories of potential historic heritage effects (Green, Yellow and Red) are employed in this assessment which has been prepared for Resource Management Act consenting purposes.

- **Green Zones** are those areas where no archaeological or other historic heritage features were observed and where the possibility of encountering intact subterranean features is assessed to be low. The potential for effects on historic heritage values in these areas have been assessed to be less than minor. Works in these areas can proceed under an Archaeological Site Discovery Protocol (ASDP).

- **Yellow Zones** are those where no direct evidence of archaeological sites or historic heritage features was observed, but where subterranean or unidentified sites are considered likely to occur based on landscape context or secondary information (e.g., from historical survey plans). Further archaeological advice must be sought prior to any earthworks being carried out in such areas. This advice will determine whether areas designated yellow in this assessment are reassigned to either the green or red zones and how they will be managed in terms of the Heritage New Zealand Pouhere Taonga Act archaeological authority process.

- **Red Zones** are those where historic heritage places and/or archaeological sites recorded in the NZAA Site Recording Scheme are crossed by the ara, or where remote sensing techniques provided clear evidence that unrecorded sites are present in the construction footprint of the trail. An archaeological authority from Heritage New Zealand must be sought and obtained prior to any earthworks in these areas. Further archaeological assessment, including field visits, and the development of site instructions and/or management plans will be required to support any application for an archaeological authority. The effects on historic heritage places in red zones will be managed by either avoidance, minimisation of effects or mitigation under the Heritage New Zealand Pouhere Taonga Act provisions.

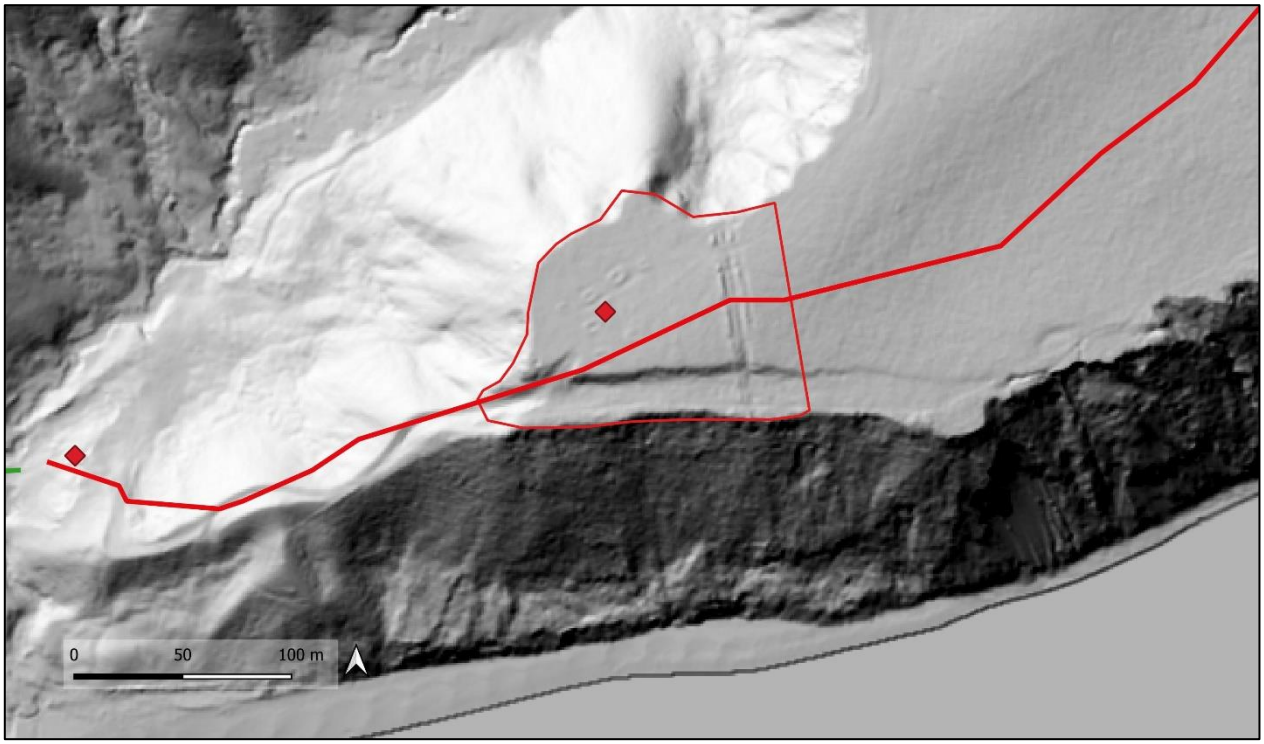

Figure 5 – An example of spatial inaccuracy in site data. The image shows the recorded point location of Y18/15, which is bypassed by the trail. However, the extent of the site (unrecorded) is much larger and is crossed by the proposed trail.

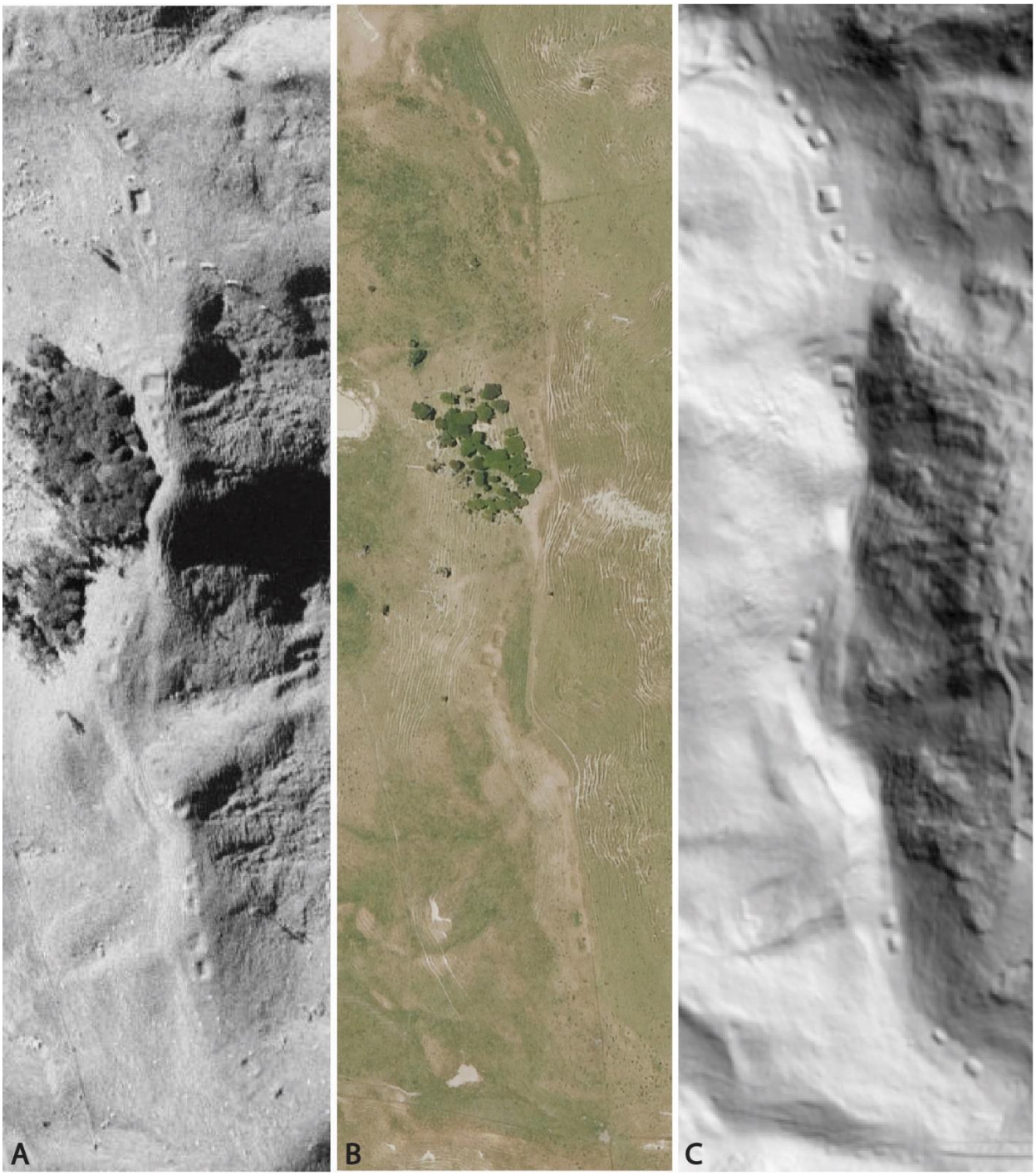

Figure 6 – Examples of site data captured by historical aerials photographs (A), modern aerial photographs (B) and LiDAR (C).

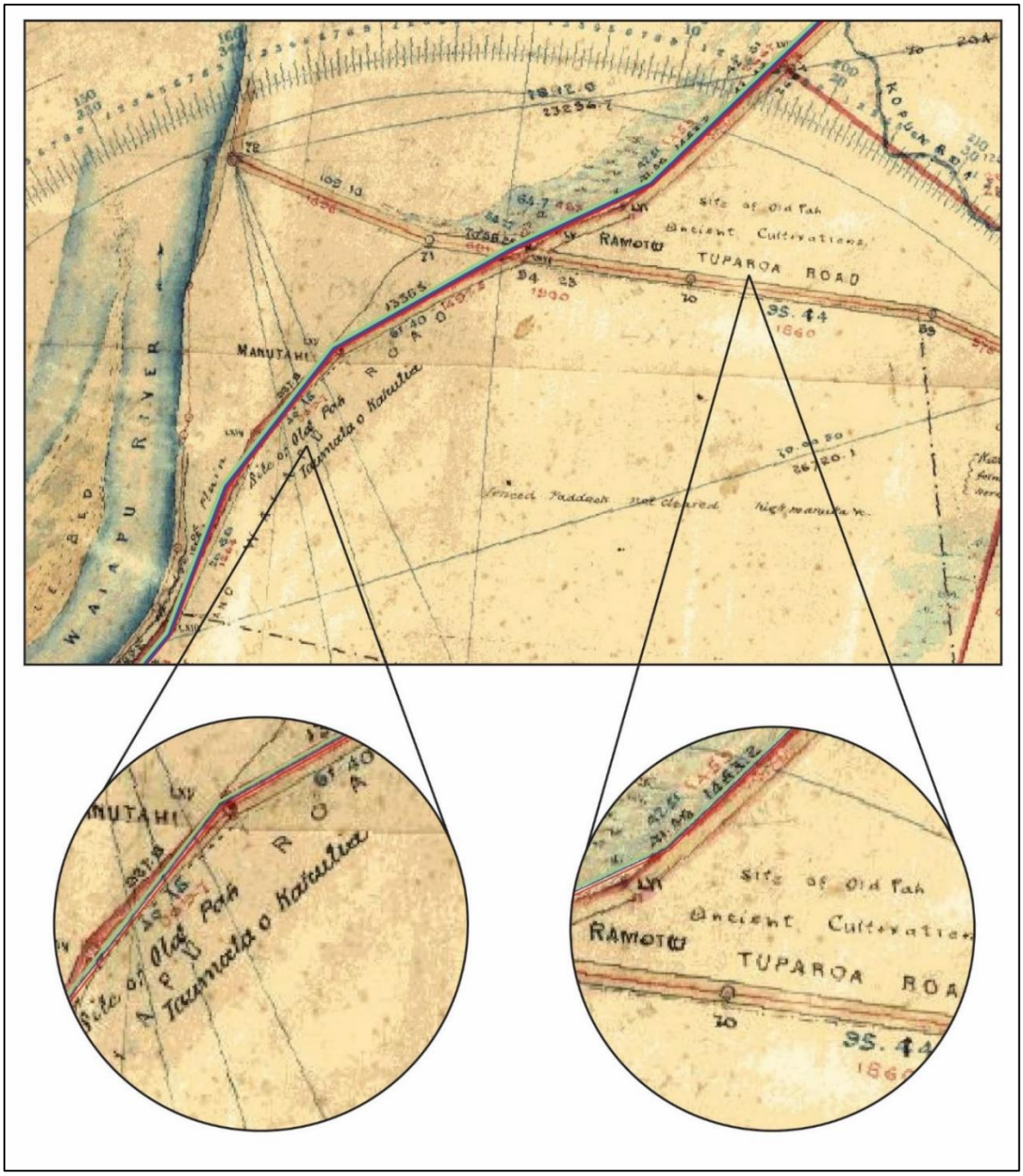

Figure 7 – Example of information gained via historic survey plans.

6. Historic Heritage Setting

Te Ara Tipuna journeys across a vast swathe of the Eastern North Island. The primary type of historic heritage place present in this area is archaeological sites. The area contains a diverse array of environments and landforms matched by a similarly diverse archaeological landscape. For ease, the following brief review of archaeology is segmented into Te Tairāwhiti (Gisborne District) and eastern Te Moana a Toi (eastern Bay of Plenty).

Te Tairāwhiti

Te Tairāwhiti is a rich archaeological landscape, containing evidence from all periods of human history in Aotearoa. The district contains a number of small-scale settlements dating from the initial occupation of Aotearoa around 750 years ago. Sites such as Y18/50 at Wainui Beach and the recently excavated Eastland Port Wharf-side Log yard site in Gisborne (Y18/503), contain evidence of small-scale, transient occupation, exploitation of local resources and the importation of non-local stones for tool-making consistent with early settlement elsewhere in Te Ika-a-Maui (Walter et al. 2006; Walter and Greig 2017). Evidence for early occupation is also present further north along the coast (e.g., at Whangara; Jones and Moore 1985 and Cooks Cove; Walter et al. 2011) and in the form of scatters of typically early artefact forms (see Golson 1959).

The majority of archaeological sites in the region date from the later end of the pre-contact sequence in Aotearoa (post *c.* AD 1500). Pā and pits are numerous, both adjacent to river channels and in the hill country on the margins of river valleys (Jones 1986, 1988, 1989a, 2001). Flat land pā typically utilised bends or confluences of channels and were cut off from the surrounding area by artificial defences (Jones 1988). While in many cases these pā can be clearly identified, there are several instances where large settlements noted by early European visitors have now been lost archaeologically due to land modification. Most notable among these sites is Whakawhitira in the Waiapu Valley, which was recorded as a palisaded settlement, one side of which was paced and reckoned to be a mile in length, making it a truly massive settlement (Jones 2001).

Away from the flats, pā utilise a mixture of natural and artificial defences. Hill-top pā are most concentrated in river valley systems and in the coastal strips, where they overlooked the best land for gardening. East Coast gardens were often remarked upon by Cook and members of his expedition (Edwards 2003). These early accounts provide clear evidence for gardens in coastal valley systems, for instance those noted at Anaura Bay (Jones 1989), which have little or no surface expression. Gardens in valley bottoms appear to be closely correlated to particular soil types that were highly suitable for Māori crops. For instance, in the Waipaoa Valley, gardening and storage sites appear concentrated around Waihirere and Matawhero soils (Jones 1989a, 2001).

The region is also notable as the scene of some of the first contact between Europeans and Māori. While little direct evidence of these first contacts is present in the archaeological record, the period following contact is well represented. This includes industrial sites like sawmills (e.g., Y18/204), historic houses (e.g., Y18/405) and a number of sites relating to conflict between the two groups (e.g., Y17/315, a gunfighter pa).

The Gisborne District archaeological landscape includes impressive visible features from across New Zealand history. Crucially, the region also contains a number of historic sites with little or no surface expression, and those that, despite being noted historically, have since been lost. Thus, the distribution of recorded archaeological sites can only be regarded as indicative of past land use and careful consideration should be given to individual areas prior to earthworks.

Eastern Te Moana a Toi

Like Te Tairāwhiti, the Eastern Bay of Plenty contains a rich and dense concentration of archaeological sites predominantly relating to Māori occupation of the whenua. An extensive survey of the area by Anne Leahy and Wendy Walsh (1978) recorded a number of pā on the hills at the northern and southern extent of bays and in the hinterland behind the coastal strip. The distinctive pā type known as 'block pā', which are defined as distinct enclosures (often multiple) with high inner banks were also recorded nearer the coast often using cliffs as part of the defence (e.g., X14/31). Leahy and Walsh (1978) also record a number of 'open' or undefended settlements, consisting of terraces and areas of food storage. Other elements of Māori life, such as garden systems, were also recorded by Leahy and Walsh (1978). Many of these were ephemeral, but significant and extremely intact gardens systems were recorded, particularly near Whangaparāoa (e.g., Y14/364). Although the area is linked to the arrival of early wāka, no early period sites have been clearly identified in the Te Whānau a Apanui rohe.

Describing the settlement pattern of the Eastern Bay of Plenty in Te Whānau a Apanui rohe, Walter et al. (2010) suggest that individual bays have a similar array of site types; quadrangular pā adjacent to coastal cliffs, terraced pā on the eastern and lateral ridgelines and lower-level occupation and probably gardens on the coastal flats. In their model, each bay served as the basic geographic unit for semi-autonomous communities. While this model is applicable at the broad scale, there is considerable variation between bays and environments within the Te Whānau a Apanui rohe, which cause associated variation in settlement pattern (Coster 2017).

Unlike much of the area further east, the landscape within the rohe of Te Whakatōhea consists of open, sandy beaches and relatively easy country. The archaeological landscape in this area consists primarily of coastal midden and pit, terrace and pā sites on high ground above the coastal strip and river flats. Midden sites are typical of coastal shell midden throughout the Bay of Plenty; however, one cluster of sites on Paerata Ridge (W15/188, W15/191 and W15/114) contain material culture and faunal remains consistent with occupation of the area from the very beginning of human history in New Zealand (Phillips 1998).

Pā make up the greatest number of recorded sites in this landscape. Pā are typically located on the edge of high ground above the river flats with clusters appearing in strategically important locations along the coast and river systems. Much like landscapes elsewhere in the Bay of Plenty, the pre-European contact archaeological record around Ōpōtiki appears patchy. Site distribution is biased toward highly visible sites (pā) and ephemeral sites like gardens or storage pits are underrepresented. Archaeological excavation, survey and historical document searches conducted by the authors has revealed the presence of several unrecorded sites, including sites in the coastal sand dunes over which Te Ara Tipuna will cross.

Historic-era sites are rare in the Whakatōhea rohe. This is largely because of significant impacts of the Ngāpuhi raids during the 'Musket Wars' (Walker 2007) and, the 1865 Crown invasion and

Raupatu, which resulted in large-scale loss of land and subsequent loss of sites through land development.

7. Results

The Tairāwhiti Resource Management Plan includes a Heritage Alert Overlay, which is a predictive model of human settlement in the district and acts as a tool to aid early recognition of heritage places[1]. The majority of Te Ara Tipuna is contained within the Heritage Alert Overlay (Figure 8). However, the granularity of the overlay is low, the following results provide a fine-grained assessment of the potential effects to heritage places along Te Ara Tipuna.

The majority of listed non-archaeological historic heritage sites in Te Tairāwhiti and Ōpōtiki Districts are located away from the planned route of Te Ara Tipuna. Sites on the Post-European Contact Schedule are most often contained within land parcels adjacent to the trail, but features are unlikely to extend, or to exist, in the trail footprint. A great many listed wāhi tapu sites are unaffected by the trail, the notable exception being WY5 at Tatapōuri Point. Community Heritage Reserves at Makorori Point, Pouawa and Waihau Beach are also crossed by Te Ara Tipuna.

Full results of this assessment are provided in Appendix I, which includes a map from each day with sections of trail coded as per the above-described method. Here we present a several examples of high, medium and low potential effect areas along Te Ara Tipuna (Figure 9).

7.1 Red Zones

Areas where there is high potential for effects on historic heritage values are those where there is clear and direct evidence that the ara passes through or very near to an archaeological site. The area around Tatapōuri Point illustrates a high potential environment in two ways. In this section the track divides with the bike track running to the north along a raised ridgeline and the walking and horse tracks (purple and green lines) running along the beach, across the Point and then re-joining the bike track (Figure 10). The bike track passes directly through a large (~1.2km long), ridge-top occupation and food storage site (Y18/68). This site includes visible surface features (Figure 11), but is highly likely to contain further features (e.g., hearths and midden) below the surface. To the south, the walking and horse trails run across Tatapōuri Point utilising existing tracks and not directly within archaeological site extents. However, the density of recorded archaeological sites in this area suggests that any new track formation or development of existing tracks is highly likely to have effects on archaeological sites. In such areas earthworks are highly likely to result in disturbance to the site(s) irrespective of the route taken.

[1] No such overlay is available in the Ōpōtiki District.

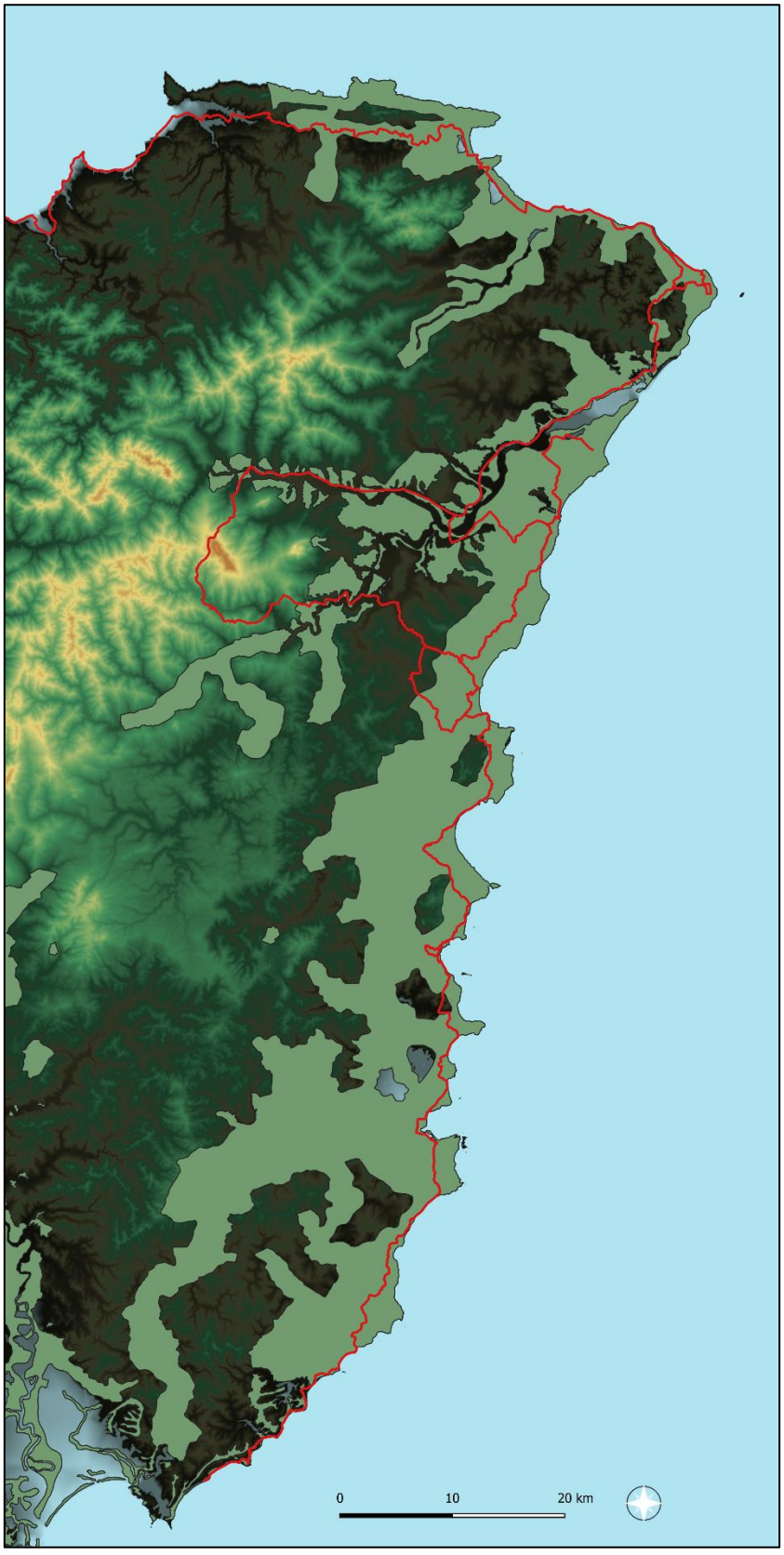

Figure 8 – Te Ara Tipuna (red line) in relation to the Gisborne District Heritage Alert Overlay (green polygon).

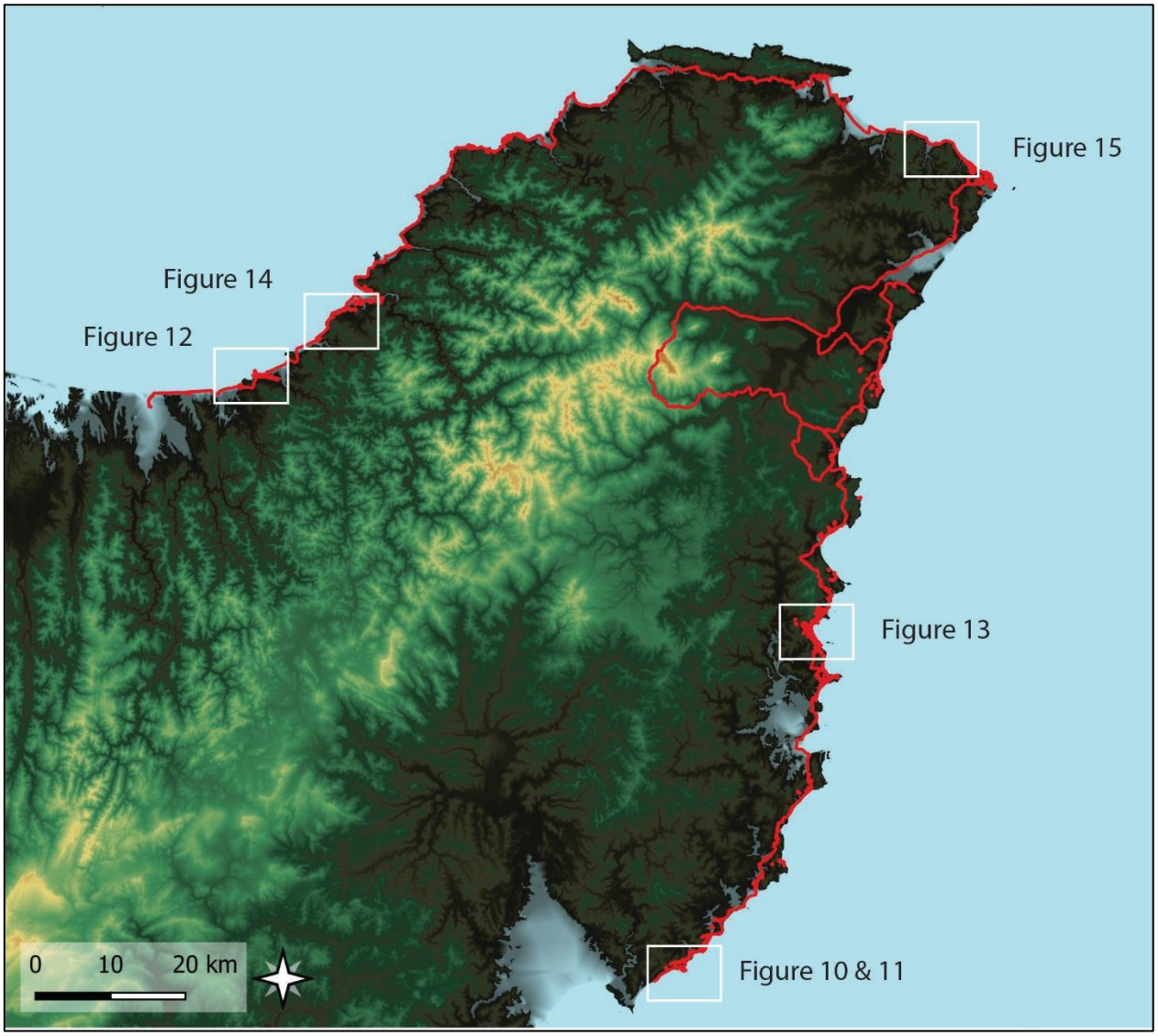

Figure 9 – Location of areas discussed as examples of Red, Yellow and Green Zones for effects on historic heritage values.

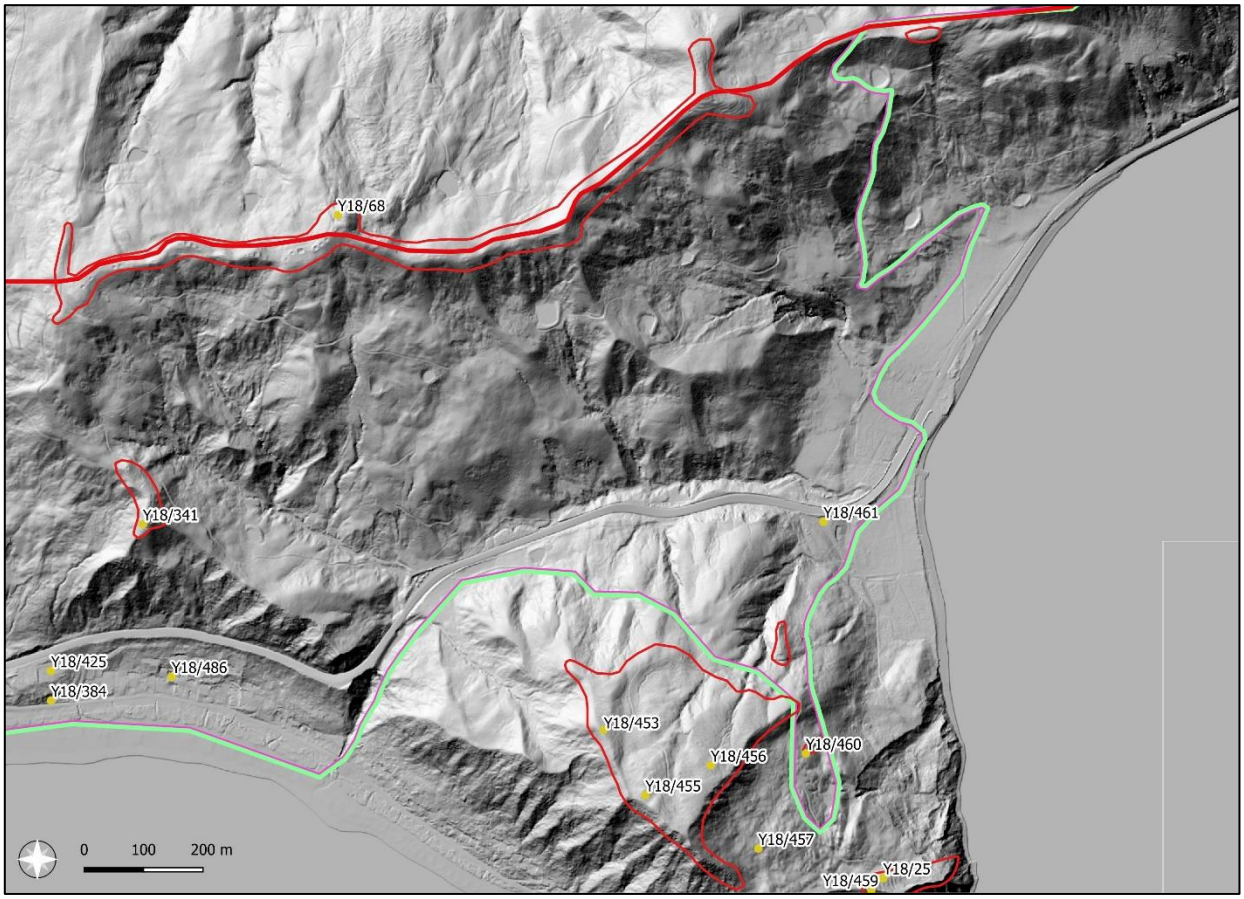

Figure 10 – Te Ara Tipuna around Tatapōuri Point. Thick Red line denotes bike track, green and purple line denotes walking and horse tracks. Archaeological sites are shown by yellow dots and site extents by narrower red polygons.

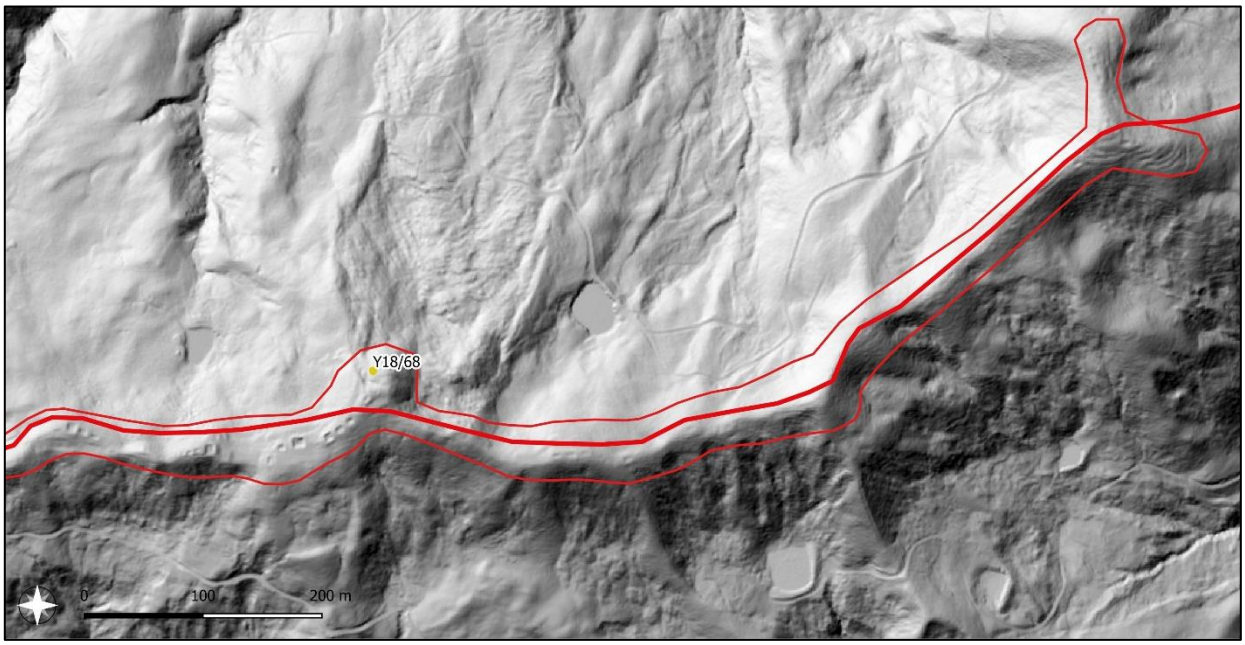

Figure 11 – A close up of Y18/68 showing visible surface features in the form of large food storage pits.

A further example is offered here to display factors that lead to designation as high potential and ways in which these effects can be managed. Figure 12 shows the trail as it runs near Opāpe, east of Ōpōtiki. The trail runs near an urupā, which will clearly be avoided when route finalisation occurs. However, Opāpe is an example of an area where direct impact on archaeological sites cannot be clearly identified, but where the surrounding archaeological and landscape context pushes the area into the high potential category. Such dune environments, particularly near surveyed urupā, have frequently been shown to contain evidence of occupation and kōiwi tangata (human remains).

Where avoidance of effects is not possible, the effect may be minimised by trail construction techniques that reduce the scale and extent of ground disturbance required – such as building up the track surface rather than excavation, and the use of ground screw anchoring techniques rather than conventional hand or mechanical digging.

Mitigation of effects would be provided by appropriate archaeological monitoring, investigation and recording as required by the provisions of the Heritage New Zealand Pouhere Taonga Act 2014.

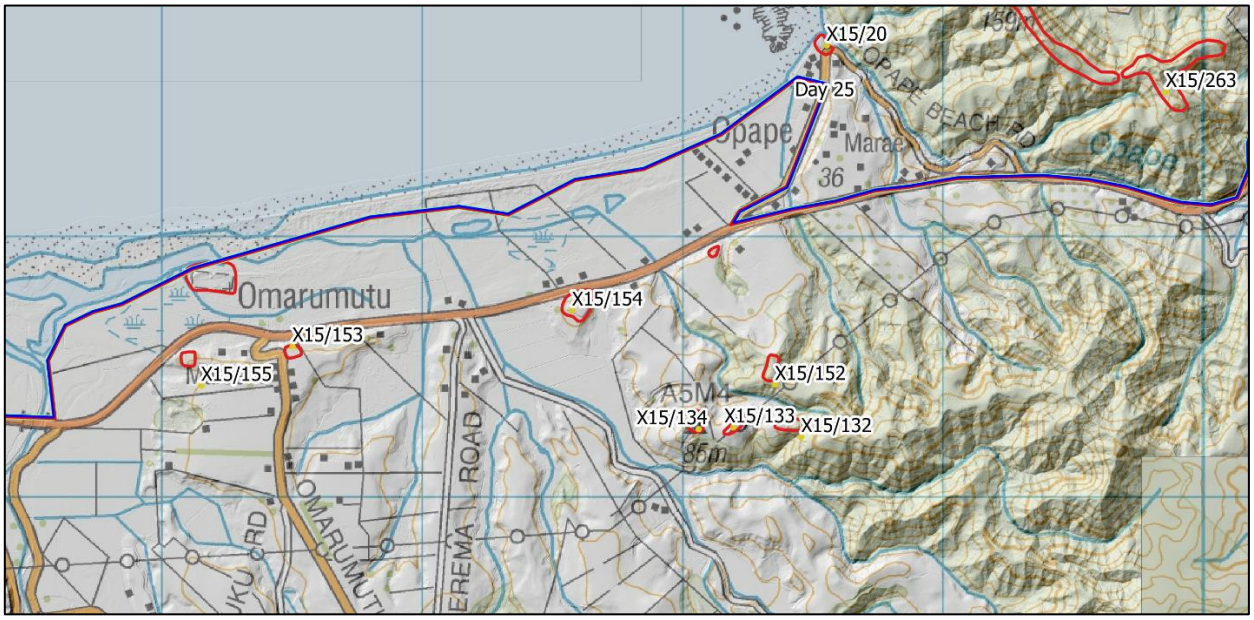

Figure 12 – Near Opāpe the trail passes near a known urupā and across a dune/coastal wetland environment which is likely to contain unrecorded archaeological sites.

7.2 Yellow Zones

In many cases Te Ara Tipuna progresses across landscapes without entering the extent of known historic heritage places or archaeological sites. Nevertheless, in some instances, the presence of secondary evidence for historic occupation or the cultural/landscape context of an area raises the

possibility that sites may be affected by Te Ara Tipuna. The following examples show instances where different data contributed to the designation of sections of tracks as Yellow Zones.

Figure 13 shows the projected extent of Māori gardening in Anaura Bay based on sketches made from the deck of HMS Endeavour in 1769. While these extents are not precise, it is highly likely that the flat coastal strip at Anaura contains extensive evidence of gardening.

Figure 14 shows the ara passing across an area between a large cluster of unrecorded ridge-top pā and recorded coastal pā, terraces and pits at Maraenui. It is possible, based on the site distribution and landscape context, that the trail may encounter unrecorded sites in this area.

Figure 15 is a historic survey plan (ML 1089) from 1895 showing the settlement of Horoera between Te Araroa and East Cape. The plan indicates several buildings and numerous named places connected with traditional occupation by Māori. Moreover, several cultivation areas are located near Hautai Beach where the trail is planned in a corridor separate from the current road.

Yellow zones require additional archaeological assessment and advice when further detail of construction methodology and finalised routes are available. That assessment and advice will be used to determine whether areas categorised as yellow zone can be reassigned to either green or red zones.

7.3 Green Zones

There are numerous instances where Te Ara Tipuna follows existing road or track corridors. In most cases significant earthworks have been carried out to establish the corridors and, as such, these areas are regarded as having a low potential for effects on intact heritage places. The potential for effects on historic heritage are assessed to be less than minor in these areas, therefore an Archaeological Site Discovery Protocol is the appropriate tool to manage effects in these areas.

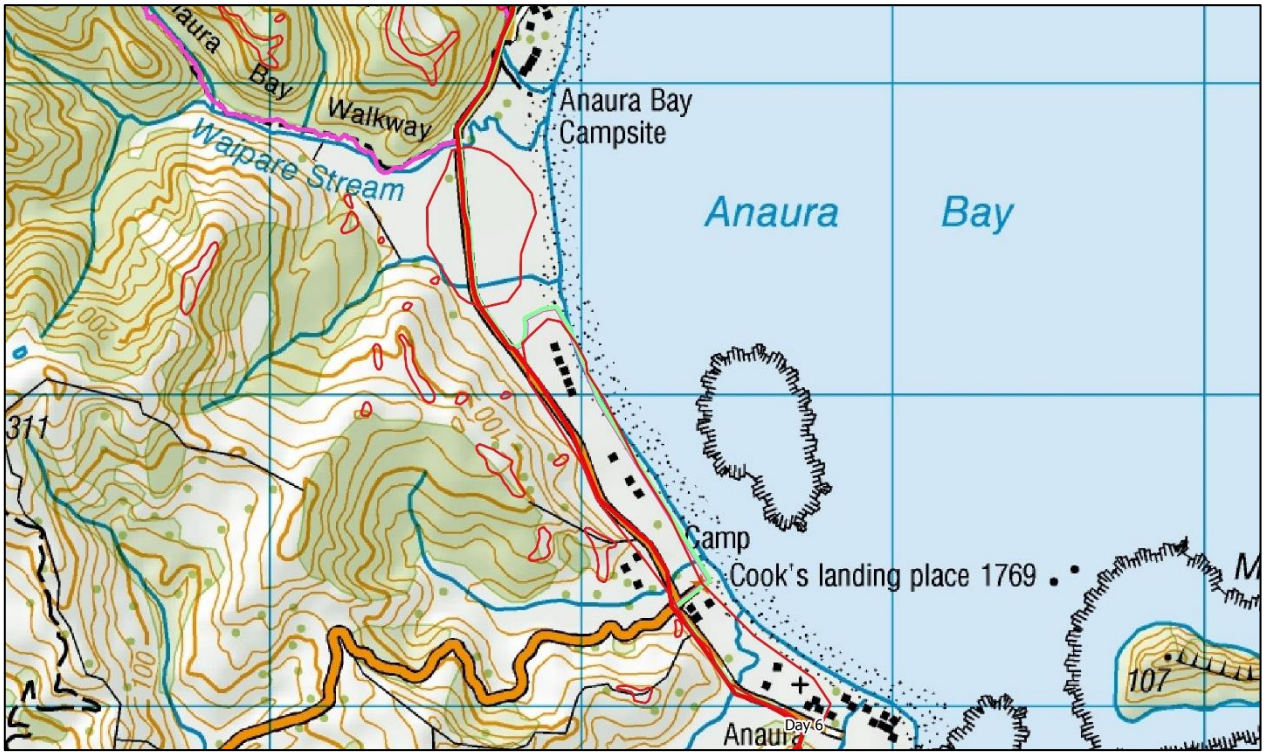

Figure 13 – A topographic map of Anaura Bay showing the probable extent of Māori gardening on the coastal flats. This area is crossed by Te Ara Tipuna.

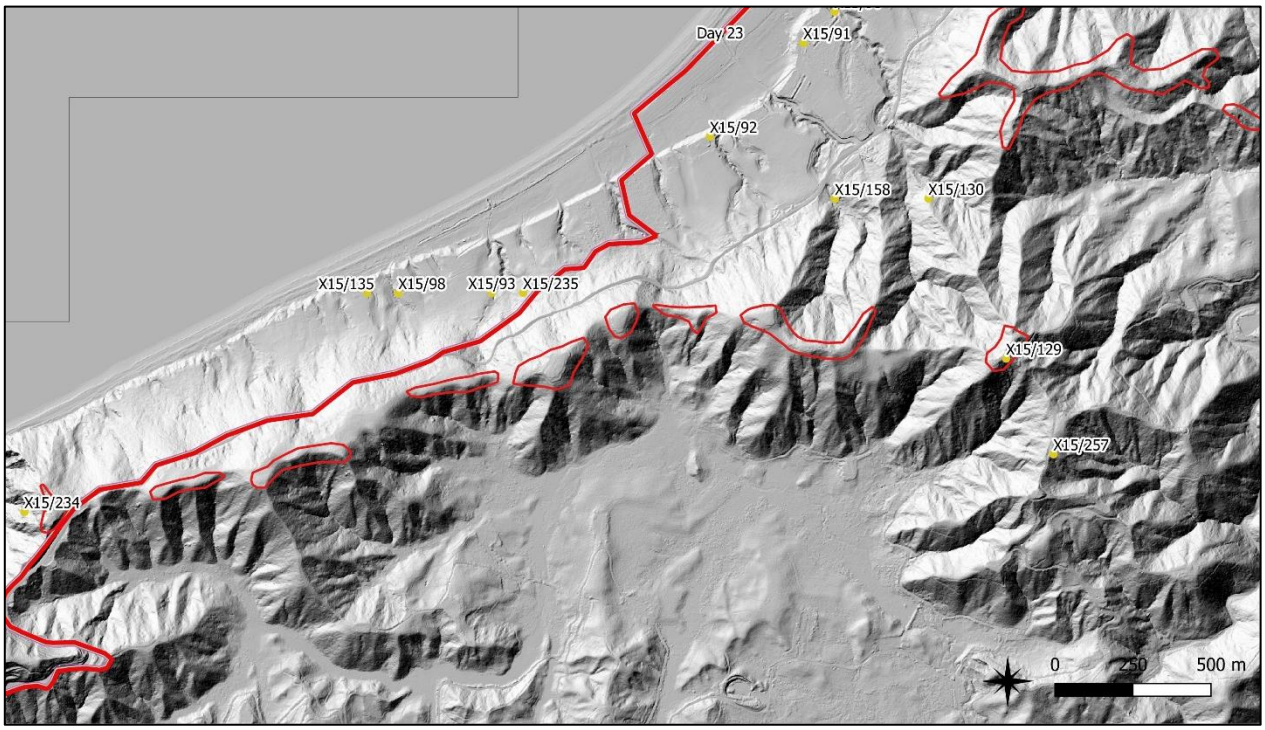

Figure 14 – A LiDAR-derived hillshade model of Maraenui, Bay of Plenty. Here the trails move across a hillside beneath the current road line where it is possible unrecorded archaeological sites are present.

Figure 15 – ML 1089 (1895), a survey plan showing houses and enclosures associated with Horoera. Elsewhere there are a number of named places and cultivations marked.

8. Te Ara Tipuna - Heritage Benefits

As discussed above, Te Ara Tipuna traverses a rich and unique archaeological and cultural landscape. Some places in the landscape are well-known, such as Hikurangi maunga, but many sites remain obscure, or may only be revealed by ground disturbance. Te Ara Tipuna is envisaged as a trail that reconnects people with ancestral landscapes through the ability to visit and physically experience the place.

Te Ara Tipuna also offers a unique opportunity to raise the awareness of the wider visitor population to the people, places and past of Te Tairāwhiti and Te Moana a Toi.

The trail offers the opportunity for the public to access a number of well-preserved archaeological sites, which will enhance the amenity value of many sites. The visitor experience and understanding of places will also be aided through the provision of interpretation. Careful routing of the track in combination with planting and devices to guide movement will in many cases improve the conservation of sites by enhancing site stability and condition.

Mitigation of effects through the provisions of the Heritage New Zealand Pouhere Taonga Act, providing for appropriate archaeological monitoring, investigation and recording will also enhance understanding of the nature and extent of the archaeological resource of Te Tairāwhiti and eastern Te Moana a Toi.

9. Summary and Recommendations

Te Ara Tipuna consists of ~500km of trails linking Tūranganui-a-Kiwa to Ōpōtiki. The ara passes through a rich archaeological and historic heritage landscape. Systematic archaeological surveys in Gisborne and Ōpōtiki Districts have recorded a number of sites primarily related to Māori occupation, but large tracts of land have not been surveyed. Thus, it is highly likely that the observed density of sites is an under-representation of what remains.

This report designates sections of Te Ara Tipuna into zones based on potential effects to archaeological and historic heritage sites (see shapefile provided electronically and attached maps in Appendix I). The conditions of each zone require different measures to ensure the appropriate management of sites. These are outlined below.

- In Green Zones the possibility of effects on archaeological sites and historic heritage places is assessed to be very low. Green Zones are characterised by the use of formed tracks, low-use roads or highly modified areas where it is highly unlikely that archaeological or historic heritage features were present or remain *in situ*. The potential for effects on historic heritage are assessed to be less than minor in these areas, therefore an Archaeological Site Discovery Protocol is the appropriate effects management tool in these areas.

- Yellow Zones represent areas where there is no direct evidence of effects, but where secondary evidence or specific landscape context suggests sites may be present. Yellow zones require further archaeological assessment and advice when further detail of construction methodology and finalised routes are available. That assessment and advice will be used to determine whether areas categorised as yellow zone can be reassigned to either green or red zones.

- Red Zones are those where there is clear evidence that Te Ara Tipuna passes over or through archaeological or historic heritage sites. Like Yellow Zones, further archaeological assessment is required in these areas to identify the specific effects of track construction on sites. This assessment will follow Heritage New Zealand Pouhere Taonga guidelines and will include archaeological field survey and fine-grained desk-based analysis. In areas where the further assessment identifies construction of the ara will have effects on archaeological sites an application will be made under the provisions of the *Heritage New Zealand Pouhere Taonga Act* 2014 for a general authority to modify or damage archaeological sites prior to all ground disturbing works. The effect on sites will be mitigated in a variety of ways including, modification of the route to avoid visible surface features, archaeological monitoring and excavation and construction methodologies that minimise the potential for effects and limit on-going visitor impacts.

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Appendix I – Heritage Zones (red, yellow, green) Across Each Day

DAYS ONE & TWO


Day 3
Waihau Bay
Waihau Beach
Waihau Bay
Puatai Beach
Pakarae
River
Waiharehare Bay
Gable End Foreland
Gable Islet
Te Ikaoraroangamia Bay
Whangara
Day 2
Anaopaikea Point
Whangara Island
Pakarae River
THOMAS RD
WHANGARA ROAD
WAIHAU ROAD
PA ROAD
178°15'
178°20'

DAY 3


Tolaga Bay
Substn
Day 4
Sch
Marae
Hauiti
Marae
HAUITI RD
MAIN ROAD
RANGIUIA RD
WHARF RD
Airstrip
Camp
Hole in the Wall
Mitre Rocks
Cook's Cove
Te Pourewa
Pourewa Island
Cook's landing place 1769
Cooks Cove Walkway
Blow hole
Titirangi
108
Maikaika
Wairere Beach
1279
Titirangi
343m
104
ROAD
SHELTON
Kaiitawa Stream
Whakamarino Stream
35
A8G8
69m
ROAD
246
Waihi Beach
208
Waihau
146
262
190
Mangana Stream
Takirau Stream
Hapenui Stream
202
258
Waihau Stream
Waiharakeke Stream
216
Loisel's
Waihau Beach
Day 3

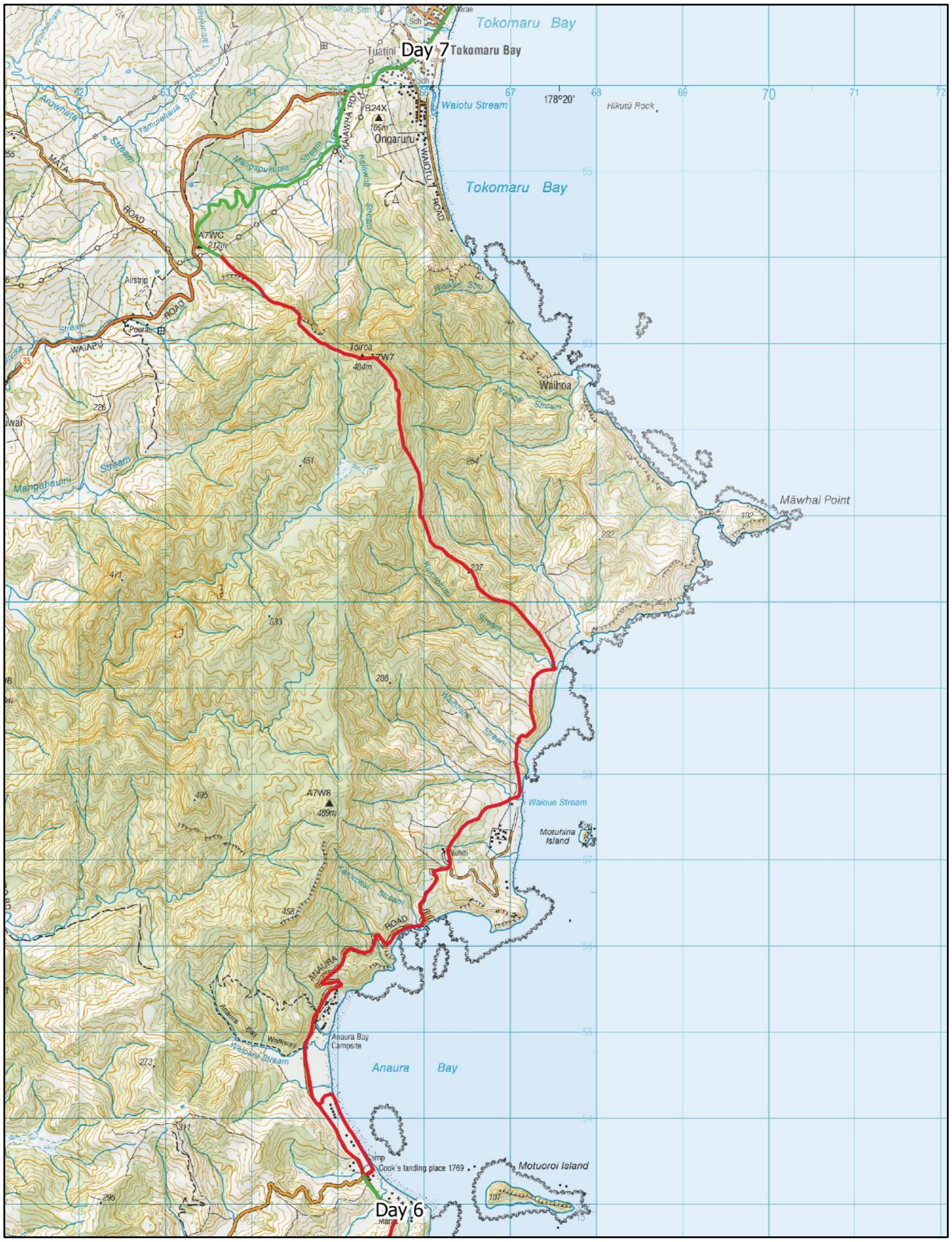
DAY 4


Kaiaua
Bay
Day 5
Waihekura
Stm
Fenlands
ROAD
WHAREKAKA
ROAD
WATSON RD
6
Mangaopeka
Stm
KAIAUA
166
100
Paerau Point
ROAD
Wharekaka
Waikirikiri
Stm
Karaka
Bay
River
Marama
Tāwhaua
144
Puketawai
Marae
Stream
Waitapu
56
162
Te Karaka Point
152
Tatarahake Cliffs
Track
Stream
Ihunui
A8FR
91m
FORSTER ST
Camp
BANKS
STREET
Substn
Tolaga
Bay
Tolaga Bay
Day 4
Sch

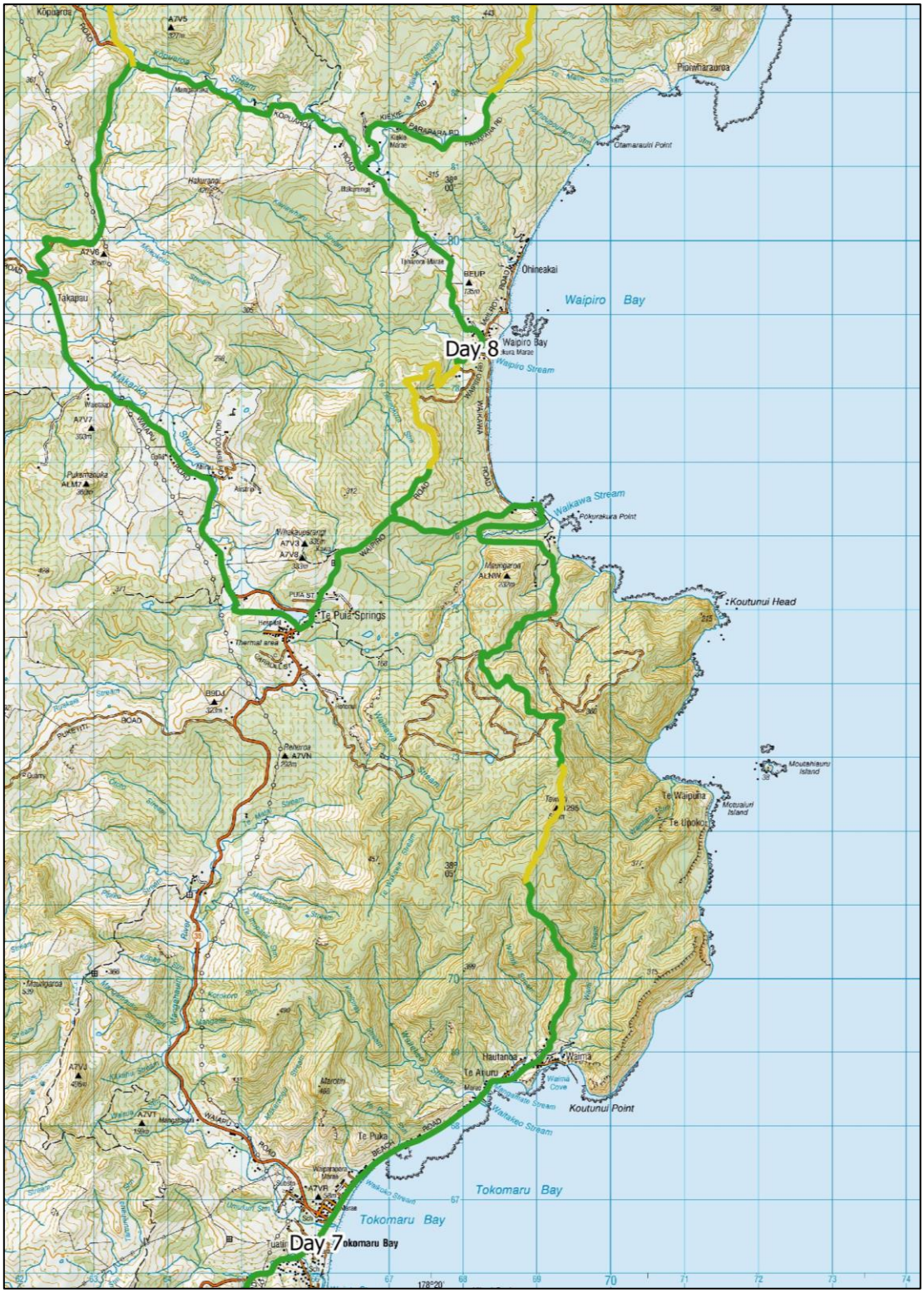
DAY 5


Day 6
Marae
268
282
Stream
Mārau
Beach
Marau Point
70
65
66
67
68
69
Kaiaua
Stream
Mārau
A6AG
277m
257
Kaiaua
Waiokahu
Stream
Tokatea Rocks
Kopuni
Stream
132
Kaiaua
Bay
Day 5
52
51
50
49
47
46
107

DAY 6


Day 7
Tokomaru Bay
Tuatini
Tokomaru Bay
Waiotu Stream
178°20'
Hikutū Rock
Ongaruru
Tokomaru Bay
Waihoa
Māwhai Point
Waioue Stream
Motuhina Island
Anaura Bay Campsite
Anaura Bay
Cook's landing place 1769
Motuoroi Island
Day 6

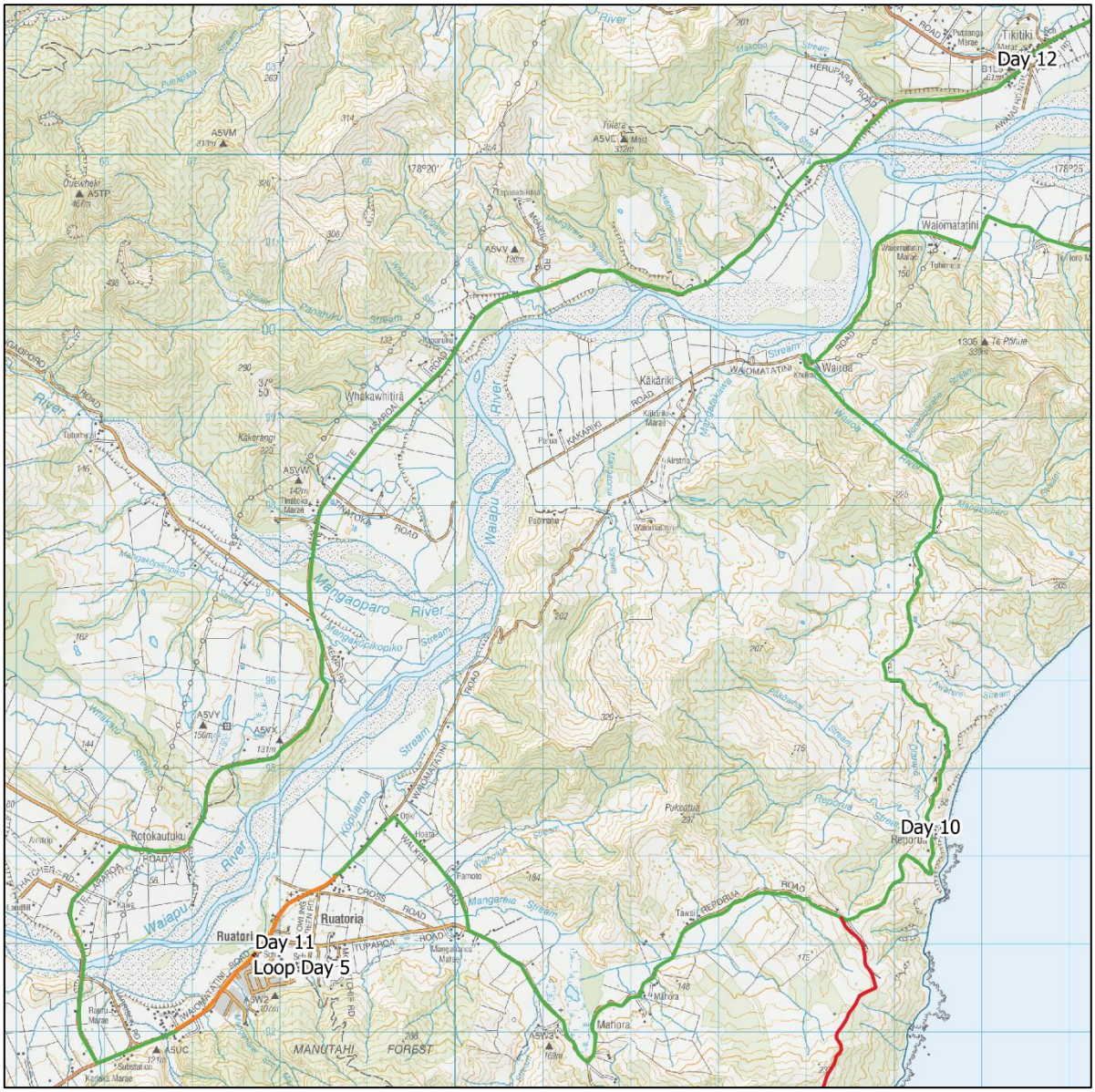
DAY 7


Day 8
Day 7
Waipiro Bay
Tokomaru Bay
Koutunui Point
Koutunui Head
Te Puia Springs
Ohineakai
Takapau
Wakawa Stream
Waipiro Stream
Tokomaru Bay

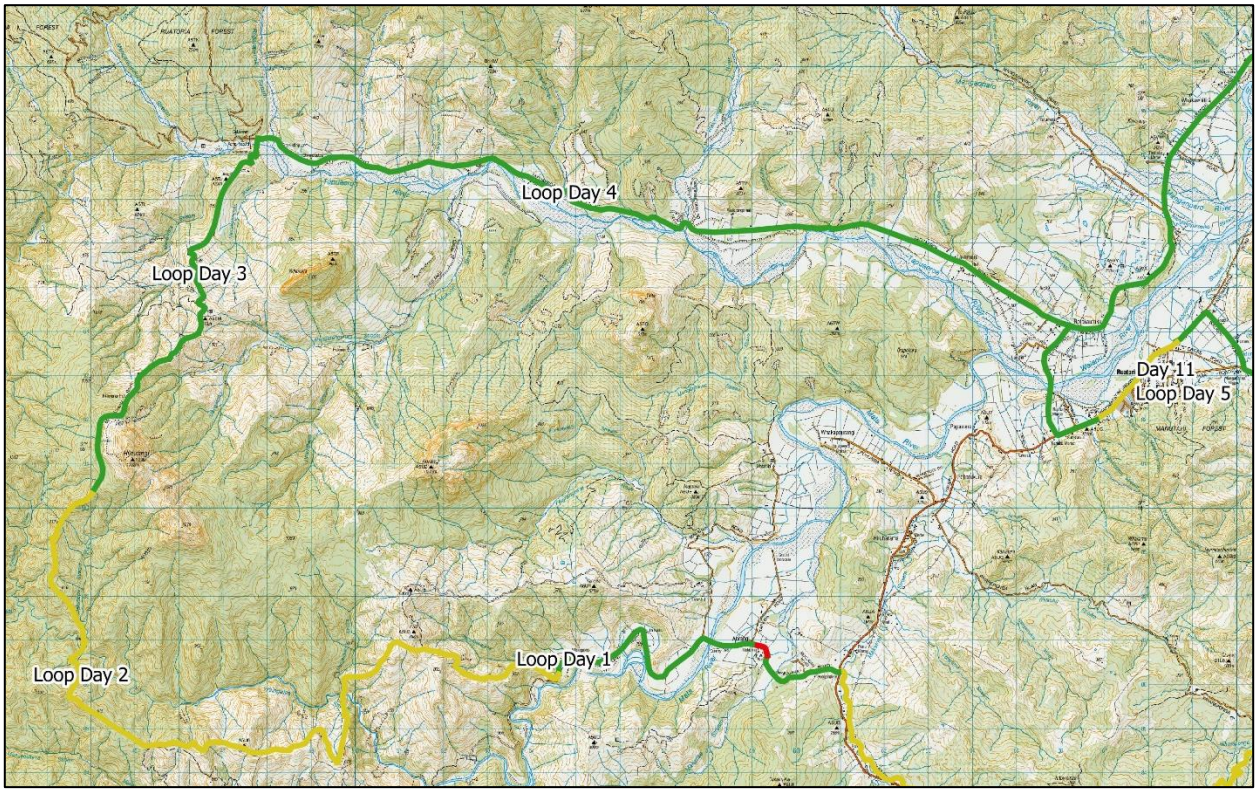
DAY 8


Day 10
Day 11
Loop Day 5
Day 9
Day 8
Ruatoria
Mahora
Tūpāroa
Whareponga
Waipiro Bay
Ohineakai
Kouturamoa Point
Kaimoho Point
Whakanawai Point
Whareponga Bay
Piowharauroa
Otamarauiri Point
MANUTAHI
FOREST

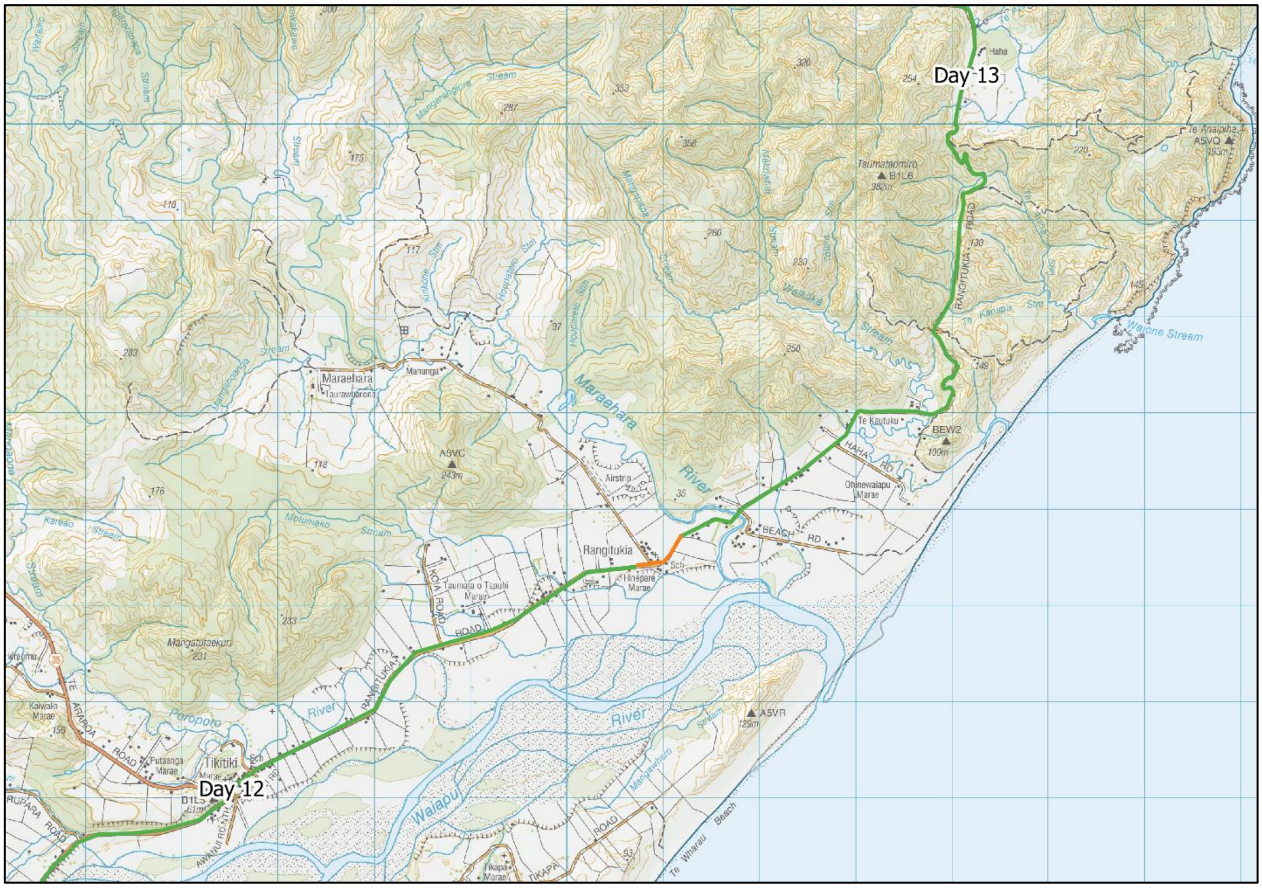
DAY 9, 10 & 11


Day 12
Day 10
Day 11
Loop Day 5
Tikitiki
Waiomatatini
Kākāriki
Whakawhitirā
Wengaoparo River
Waiapu River
Rotokautuku
Ruatoria
Mahora
MANUTAHI FOREST
Reporua

DAY 12



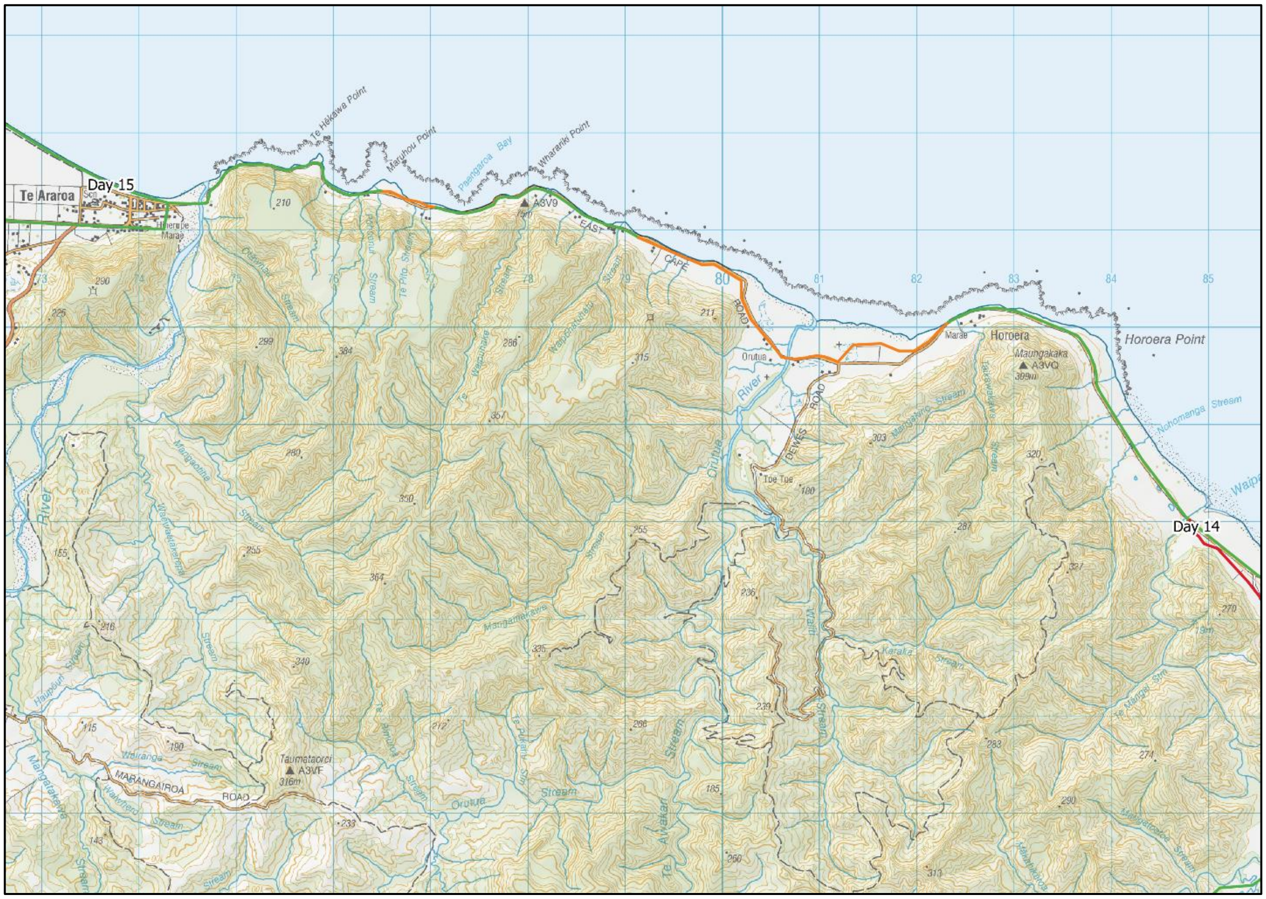
HIKURANGI LOOP


Day 13
Day 12
Haha
Taumataomiro
B1L6
Te Kautuku
BEW2
HAHA RD
Ohinewaiapu
Marae
BEACH RD
Maraehara
Maraehara River
Rangitukia
Hinepare
Marae
A5VC
Airstrip
Tikitiki
Poroporo River
Waiapu River
A5VR
Te Wharau Beach
Waione Stream
RANGITUKIA ROAD

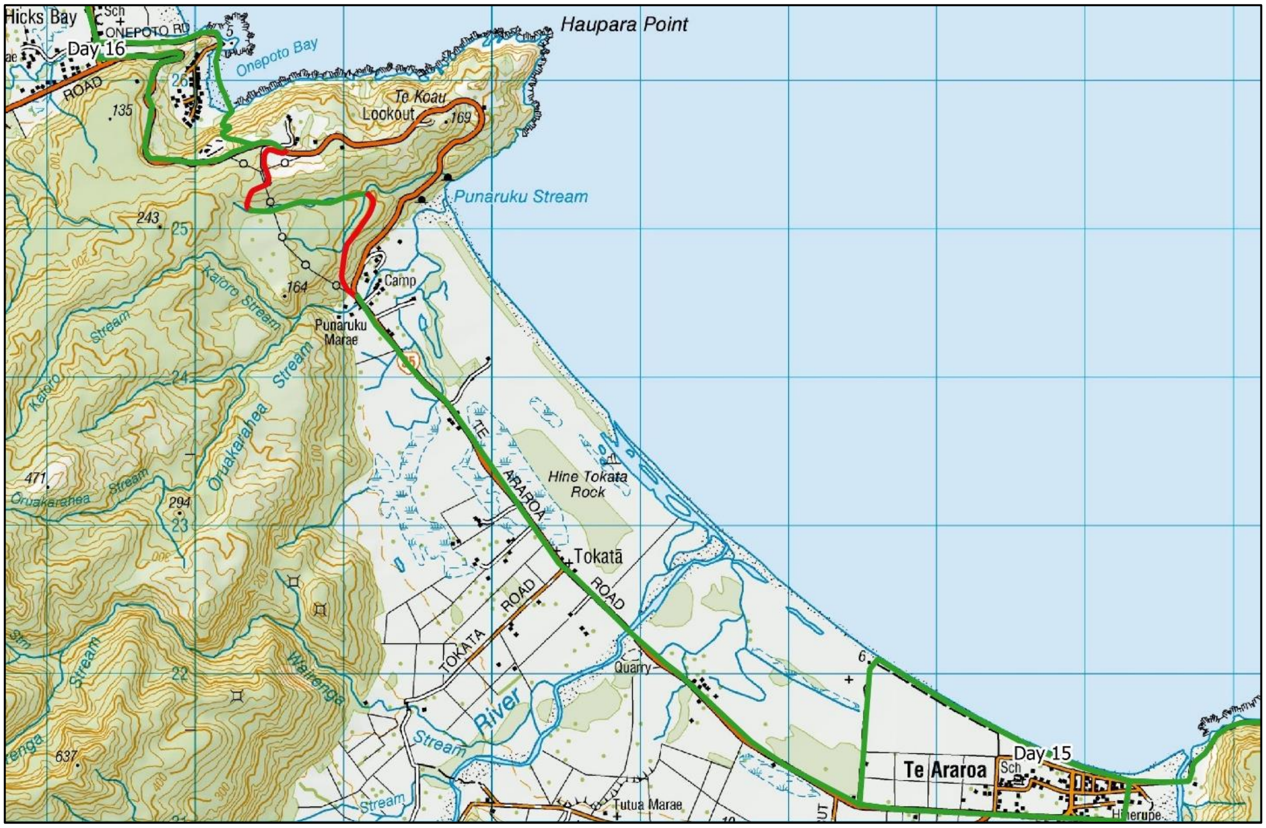
DAY 13


Day 14
Hautai
Beach
Parera
Te Wharenaonao Point
Kokomukataranga
B138
268m
Te Karaka Stm
Te Mangai Stm
Rangiata
East Cape
Otiki
A3VN
144m
Whangao
Tunanui Stream
Pakihi
Waikuta Stream
Tapirau Stm
Waiokarangatau Stm
Maungaroa Stm
Te Piti Stream
Haha
Day 13
Te Pito Stream
Waikori Bluff
Te Waiau Stream
Mangapuia Stream
Mangatuhara Stream
Mangatoetoe Stream
Makahikatoa Stream
Te Parera Stream
Taputu Stream
Te Rotopotekapa Stm
Maungaroa Stream

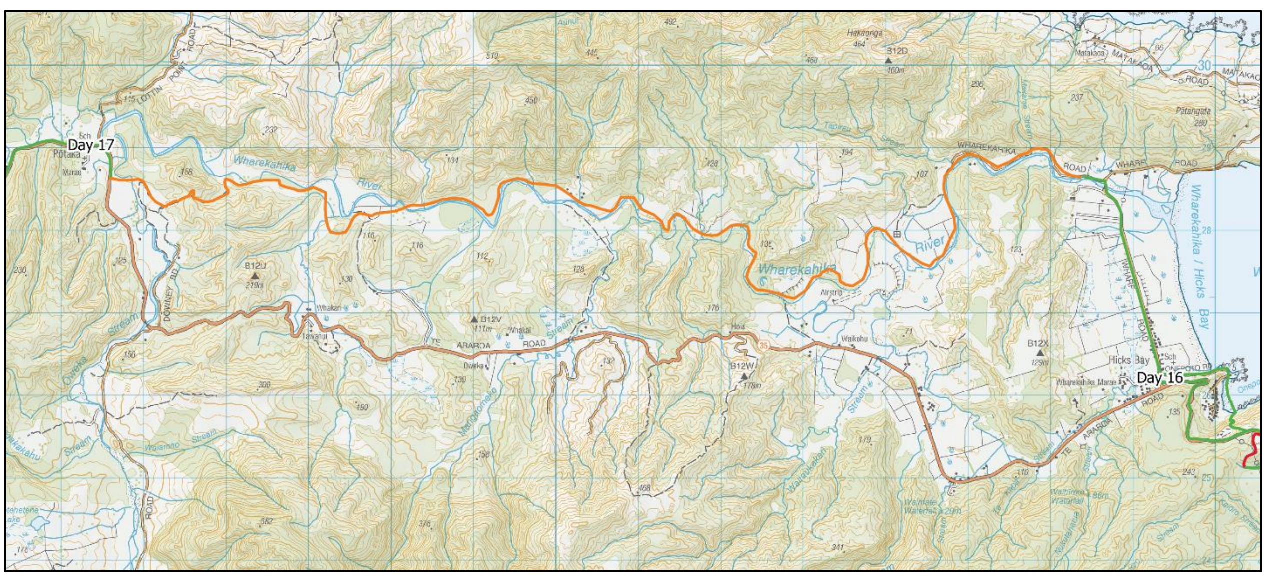
DAY 14


Te Araroa
Day 15
EAST
CAPE
ROAD
Orutua
River
Horoera
Horoera Point
Maungakaka
A3VQ
A3V9
Day 14
MARANGAIROA
ROAD
Taumataorci
A3VF

DAY 15


Hicks Bay
Sch
ONEPOTO RD
Day 16
Onepoto Bay
ROAD
Haupara Point
Te Koau
Lookout
169
135
Punaruku Stream
243
Camp
164
Punaruku
Marae
Kaiparo Stream
Stream
Oruakarehea Stream
471
Oruakarehea
294
Hine Tokata
Rock
TE
ARAROA
ROAD
Tokatā
TOKATA
ROAD
Quarry
Waironga
River
Stream
637
Te Araroa
Day 15
Sch
Tutua Marae
Hinerupe

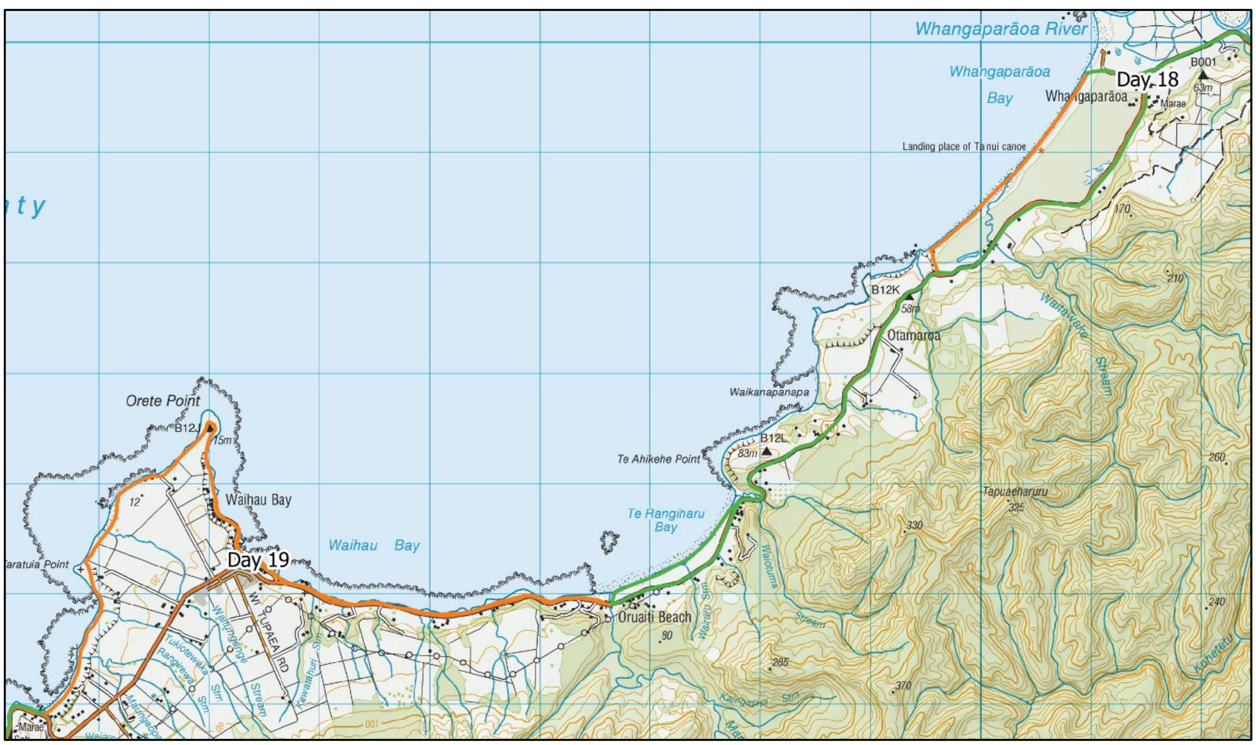
DAY 16


Day 17
Day 16
Wharekahika
River
Hicks Bay
TE ARAROA ROAD
DOWNEY RD
WHAREKAHIKA
ROAD
Wharekahika / Hicks Bay

DAY 17


Day 18
Day 17
Whangaparāoa River
Whangaparāoa Bay

DAY 18


Whangaparāoa River
Whangaparāoa
Bay
Day 18
Whangaparāoa
B001
63m
Marae
Landing place of Tainui canoe
B12K
58m
Otamaroa
Waikanapanapa
B12L
83m
Te Ahikehe Point
Te Rangiharu
Bay
Tapuaeharuru
325
Orete Point
B12J
15m
Waihau Bay
Waihau Bay
Day 19
Oruaiti Beach
Raratuia Point
WI TUPAEA RD

DAY 19


Waihau Bay
Day 19
Taratuia Point
Marae
Sch
B12H
Raukokore
Kaiwakawe Stream
B12E
230m
Papatea Bay
Airstrip
Tawaroa
PUTIKI RD
Papatea
A3T1
A3O9
289m
A3OA
Motu Kaimeanui Island
Maraehako Bay
Motu Papaka Islands
Whanarua Bay
Day 20
Whanarua Bay
Camp
Karirangi
213
A3T0
175m
Whakaahuru
Raukokore

DAY 20


Waikawa Point
Waikawa Stream
Motukotare Island
Motu Papaka Islands
Whanarua Bay
Day 20
Whanarua Bay
Camp
A3Q7
WAIKAWA FOREST
Te Kopua
A3Q8
Ohinemango Point
Mangatakauare Stream
Marae
A3QC
110m
Mouriuri Stream
Wharekura Point
Maraetai Bay
Kopuni Point
Matakaoa Point
COPENHAGEN LOOP ROAD
Day 21
Te Kaha
Kereu River

DAY 21


Matakaoa Point
Te Kaha Point
Day 21
Te Kaha
Hariki Beach
Maraetea Stream
Waiorore
A5LL
136m
Hokaia Creek
Maungaroa
A5LH
214m
Okahu Point
Motunui Island
Awanui
Pariokara
275
ALBERT RD
Omaio
Bay
Pokohinu Point
B1GW
57m
Day 22
Otuwhare
Omaio
A5LJ

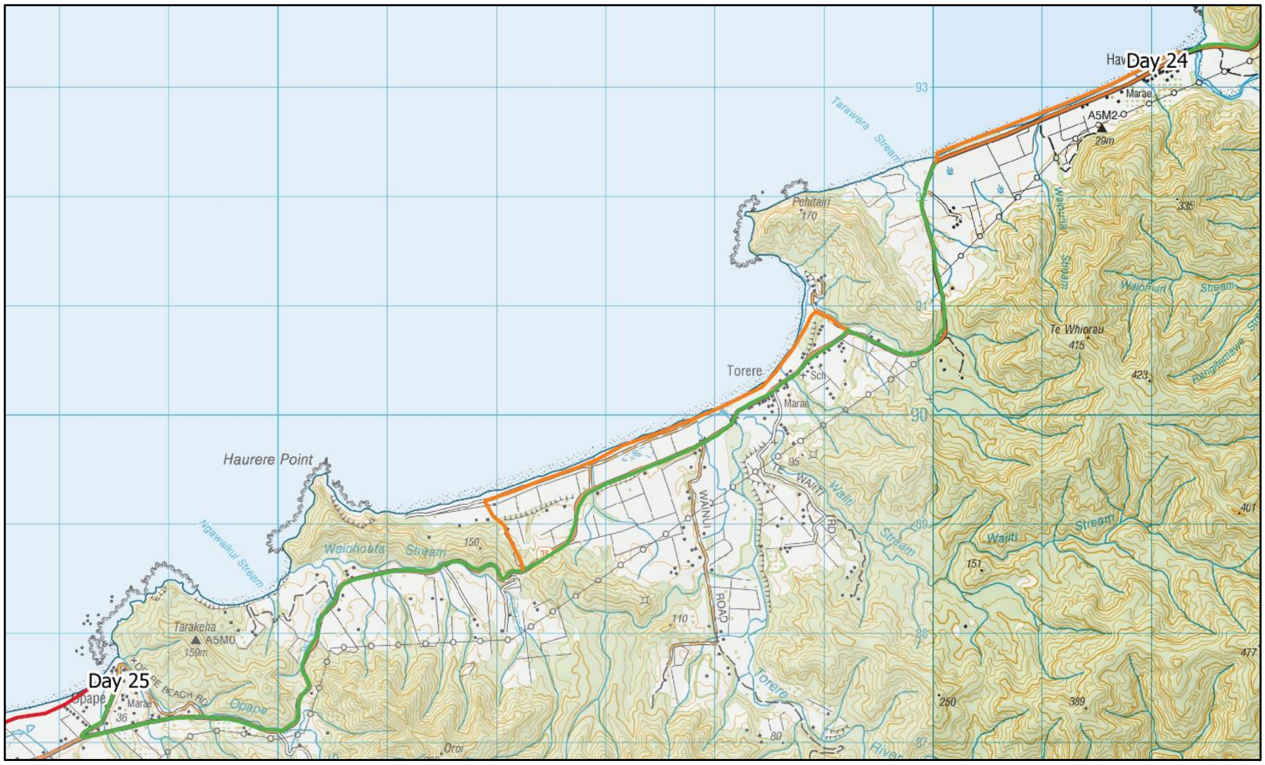
DAY 22


Day 22
Day 23
Ohae Point
Omaio
Sch
A5LJ
147m
Otehirinaki
Puketapu Point
Whitianga Bay
Orangoihunui Point
314
02
03
177°35'
06
07
08
Marae
Whitianga
Tokata Point
Waihapokopoko Stream
483
296
Oariki
A5LM
245m
Tokata
Track
385
Pahao Stream
B1GY
42m
Marae
Sch
Houpoto
HOUPOTO RD
Otamakanohi
206
88
Pukepapa
274
A5LT
420m

DAY 23


Bay of Plenty
Pahao Stream
Day 23
Houpo
Pukepa
Parinui
A5LN
224m
Te Urituki tuki
Beach
Houpoto
110
Maraenui Hill
Lookout
Matawai
Stream
Whituare Bay
35
Rakaukatihi
A5LP
347m
347
Wekakaho
A5MC
71m
Haumiaroa Point
Te Puni
A5MD
83m
Day 24
186
Marae
A5M2
29m
Hawai
Te Ipuhinu
381

DAY 24


Day 24
Day 25
Torere
Haurere Point
Opape
Tarakeha
Pehitairi
Te Whiorau

DAY 25


Day 25
Day 26
Opotiki
Omarumutu
Tirohanga
Tablelands
Waiaua
Te Rere Marae

DAY 26