

Waterbody Crossing Covering Document

Overview

Provided in the attached spreadsheet is a summary of all the identified waterbody crossings of which the trail crosses over. These waterbodies range from stream order 5 with up to 200m crossings down to stream order 1 crossings <10m long. Treatments for each vary depending on the terrain, stream order, location and proximity to the local or NZTA road corridor. Preliminary input has been provided by Urban Connections as to recommended crossing types within the road corridor.

- The data provided for location & stream order within this assessment has been taken from the River Environment Classification (REC2) New Zealand National Institute of Water and Atmospheric Research. A kml file overlay was provided and used to check against the mapped route.
- Stream names have been identified via Tairawhiti Maps, google earth & google maps.
- Distances of crossings have been estimated by using the measure tool on google earth and will be subject to some variance once detailed design is reached.

This document is to be used indicatively and guide the detailed design process as well as the AEE. The waterbody crossings document has been compiled by the use of local knowledge, site visits, aerial imagery and road runner dashcam videos. As the information hasn't been ground-truthed, it's important to note that any analysis or conclusions drawn from it should be treated as provisional.

When interpreting this excel sheet the following can be utilised:

Column A: Numbered crossing by section of the track (Main, Port Awanui, Hikurangi)

Column B: Km range of which the waterbody crossing sits within.

Column C: Stream name if identifiable.

Column D: Stream order ranging from 1-5 as identified on the REC2 NZ.

Column E: A reference location.

Column F: The approximate distance of the crossing/structure as estimated from google earth.

Column G: The asset type is denoted as being one of the following

- ❖ Stream
- ❖ Stream mouth
- ❖ Road intersection
- ❖ New foot bridge
- ❖ Existing NZTA bridge – SH35
- ❖ Existing local road bridge – GDC
- ❖ Existing farm track
- ❖ Existing culvert under road

Column H: The road type is identified as N/A, local road or SH35 to identify where the waterbody crossing is located.

Column I: The proposed structure is identified. Each is further described below.

Name in Google Earth File: An alternative or secondary option is noted against those bridges where this may be applicable.

Column K: Comment where provided by Abseil Access

Summary of crossings

Main track

- 1 short timber bridge (Crossing option 5)
- 7 swing bridges (Crossing option 4)
- 1 traffic lights (Crossing option 3)
- 13 push buttons (Crossing option 2)
- 48 warning signage areas (Crossing option 1)
- 88 waterbody crossings on foot
- 2 alternative crossing solutions

Port Awanui Loop

- 8 warning signage areas (Crossing option 1)
- 3 waterbody crossings on foot

Hikurangi Loop

- 6 short timber bridges (Crossing option 5)
- 1 swing bridges or timber bridges (Crossing option 4)
- 2 traffic lights (Crossing option 3)
- 12 push buttons (Crossing option 2)
- 8 warning signage areas (Crossing option 1)
- 14 waterbody crossings on foot

Crossing Types

Urban Connections conducted a site drive over to assess the existing bridge and water body crossings within the road corridor and as a result provided 4 recommendations for waterbody and bridge crossings within the road corridor.

Crossing Option 1 Warning Signage

As shown by the attached cross sections, crossing option 1 provides warning signage for motorists to inform them of the shared use of the bridge with pedestrians.

This option has predominantly been recommended where;

- There is good visibility,
- The crossing is of a short distance or
- Where the speed environment is lower.

Crossing Option 2 Push Button

Option 2 provides a push button system to warn motorists of the shared use of the bridge.

As pedestrians approach the bridge they will press a button which will illuminate a warning sign to signal to motorists that there is a pedestrian crossing.

Vehicles will need to slow their speed in these instances and give way to the pedestrians.

This has been provided for predominantly where visibility is slightly less than optimum.

Crossing Option 3 Traffic Light

Crossing option 3 provides a traffic light system.

This will again be pedestrian activated and once pressed the traffic light will transition to red allowing the pedestrian to cross safely.

This is predominantly where the bridge length exceeds 100m and where there is poor visibility as assessed by Urban Connections.

Crossing Option 4 Swing Bridge

Crossing option 4 provides a swing bridge to cross the waterbody.

Swing bridges within the road corridor have been recommended by Urban Connections.

Several swing bridges have been utilised on private land where the width or order of the stream has been deemed too significant or unsafe to cross on foot. At detailed design, these locations will be further assessed to determine the necessity for a swing bridge, or if any alternative option is viable to lessen the impacts.

Crossing Option 5 - Timber foot bridge

There is currently 1 timber footbridge proposed due to the area being accessible for construction and the required length. During detailed design it may be identified that several of the private swing bridges may be better suited to being timber single span bridges. The concept design of these needs further development and will be guided by the DOC standards and guidelines for similar waterbody crossing structures.

No Structure - Crossing on Foot

The majority of the crossings identified in this assessment are crossable by foot. These foot crossings do not require any physical structures and have assumed that the water level would be safe to cross throughout most of the year. All stream orders along the main track with foot crossings are either 1 or 2 with the exception of 6 crossings. These 6 either cross the rivermouth on the beach, use the existing infrastructure or cross at a safe location on foot. It is acknowledged that there may be periods within the year that the track is required to be closed due to inundation.

No.	km range	Stream	Stream Order	Location	Distance (m)	Asset Type	Road Type	Proposed Structure (2025)	Name in Google Earth File	Abseil Access Comment
Main Trail										
1	3-4km	Unknown Stream	1	Makarori Headland	10	Existing culvert under road	SH35	No structure - Cross on foot	Waterbody Crossing	1.2m wide, 36m long suspension bridge. Downstream
2	8-9km	Turihau Stream	1	Turihau Stream	15	Stream mouth	SH35	No structure - Cross on foot	Waterbody Crossing	
3	12-13km	Waiohau Stream	2	Pouaia Beach	10	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
4	12-13km	Pouaia River	4	Whangara Rd - Pouaia	36	Existing NZTA bridge - SH35	SH35	Crossing Option 4 - Swing Bridge	Crossing Option 4	
5	13-14km	Unknown Stream	1	North Pouaia	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
6	17-18km	Whitihiti Stream	1	Pre-Whangara	20	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
7	17-18km	Puwakaohu Stream	1	Pre-Whangara	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
8	19-20km	Wainoko River	4	Whangara - Wainoko River	50	New bridge	N/A	Crossing Option 4 - Swing Bridge	Crossing Option 4	
9	20-21km	Unknown Stream	1	Pa Road	10	Existing farm track	Local Road	No structure - Cross on foot	Waterbody Crossing	
10	22-23km	Unknown Stream	3	North Whangara Beach	20	Existing farm track/stream outlett	NA	No structure - Cross on foot	Waterbody Crossing	
11	25-26km	Unknown Stream	2	North of Whangara	20	Existing farm track	N/A	No structure - Cross on foot	Waterbody Crossing	1.2m wide, 39m long suspension bridge. Upstream
12	27-28km	Unknown Stream	2	North of Whangara	10	Existing farm track	N/A	No structure - Cross on foot	Waterbody Crossing	
13	31-32akm	Unknown Stream	1	Whangara BS	10	Existing farm track	N/A	No structure - Cross on foot	Waterbody Crossing	
14	32-33akm	Pakarae River	5	Pakarae Road	45	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
15	35-36km	Maunupohahu Stream	3	Waihau Road	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
16	39-40km	Wananga Stream	2	Waihau Bay Beach	50	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
17	39-40km	Waihaake Stream	2	Waihau Bay Beach	10	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
18	40-41km	Waihau Stream	1	Waihau Bay Beach	50	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
19	41-42km	Waihua Stream	1	Waihau Bay Beach	50	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
20	41-42km	Hapeuna Stream	2	Waihau Bay Beach	80	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
21	45-46km	Unknown Stream	1	Shelton Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	1.5m deck, timber bridge
22	45-46km	Unknown Stream	2	Shelton Road	46	Existing farm track	Local Road	No structure - Cross on foot	Crossing Option 1	
23	47-48km	Unknown Stream	4	Wharf Road	6	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
24	47-48km	Stream into Tolaga Bay Estuary	15	Stream into Tolaga Bay Estuary	15	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
24a	49-49.4km	Kaitiwa Stream	1	East of Hapiti Road	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
25	49-50km	Uawa River	6	Main Rd Tolaga Bay - Uawa River	10	Existing NZTA bridge - SH35	SH35	Crossing Option 1 - Warning Signage (use footpath)	Crossing Option 1	
26	56-57km	Unknown Stream	1	Karaka Bay	20	Existing farm track	N/A	No structure - Cross on foot	Waterbody Crossing	
27	56-57km	Unknown Stream	2	West of Karaka Bay	10	Existing farm track	N/A	No structure - Cross on foot	Waterbody Crossing	
28	59-60km	Waikahu Stream	3	Kaiaua Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
29	60-61km	Kopuiri Stream	1	Kaiaua Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
30	61-62km	Waikahu Stream	1	Kaiaua Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	1.2m wide, 75m span. Downstream
31	65-66km	Raponga Stream	2	South of Anaura	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
32	66-67km	Unknown Stream	3	South of Anaura	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
33	70-71km	Hawai Stream	2	Lockwood Road Anaura Bay	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
34	70-71km	Anaura Stream	1	Anaura Bay Campsite	20	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
35	72-73km	Anaura Stream	1	Anaura Road	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
36	72-73km	Waipare Stream	3	Anaura Road	10	Existing Local Road Bridge GDC	Local Road	No structure - Cross on foot	Waterbody Crossing	
37	72-73km	Unknown Stream	1	Anaura Road	10	Existing Local Road Bridge GDC	Local Road	No structure - Cross on foot	Waterbody Crossing	
38	74-75km	Unknown Stream	1	Anaura Road	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
39	75-76km	Unknown Stream	1	Anaura Road	10	Existing Local Road Bridge GDC	Local Road	No structure - Cross on foot	Waterbody Crossing	
40	78-79km	Unknown Stream	1	Nuhiti Beach	8	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Waterbody Crossing	1.2m wide, 75m span. Downstream
41	78-79km	Rural gully	2	North of Nuhiti Beach	5	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
42	79-80km	Unknown Stream	1	North of Anaura Bay	10	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
43	81-82km	Karoroua Stream	2	South of Anaura	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
44	89-90km	Unknown Stream	2	South of Tokomaru Bay	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
45	90-91km	Unknown Stream	1	West of Tokomaru Bay	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
46	91-92km	Unknown Stream	2	Kaitiwa Road	40	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
47	94-94.7km	Waiotu Stream	3	Tokomaru bay Waiapu Street	25	Existing NZTA bridge - SH35	SH35	Crossing Option 1 - Warning Signage (use footpath)	Crossing Option 1	
48	93-94km	Mangahauini River	3	Tokomaru Bay adjacent to Mangahauini Street	25	Stream mouth	N/A	No structure - Cross on foot	Waterbody Crossing	
49	93-94km	Waikoko Stream	1	Tokomaru Bay Beach Road	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
50	94-95km	Te Puka Stream	1	Tokomaru Bay Beach Road	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	1.2m wide, 45m long suspension bridge. Downstream
51	95-96km	Waikoko Stream	2	Te Ariu Tokomaru Bay	25	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
52	95-96km	Mangamate Stream	1	Waima Road Tokomaru Bay	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
53	96-97km	Waima Stream	3	Waima Road Tokomaru Bay	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
54	106-107km	Unknown Stream	1	South of Waipiro Bay	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
55	108-109km	Waikawa Stream	3	South of Waipiro Bay	80	New Bridge	N/A	Crossing Option 4 - Swing Bridge	Crossing Option 4	
56	110-111km	Unknown Stream	1	South of Waipiro Bay	10	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
57	116-117km	Waipiro Stream	3	Waipiro Road crossing Waipiro Stream	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
58	119-120km	Kopuaroa Stream	2	Kiekie Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
59	120-121km	Te Kiekie Stream	2	Kiekie Marae	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
60	120-121km	Unknown Stream	1	East of Kiekie Marae	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	1.2m wide, 45m long suspension bridge. Downstream
61	122-123km	Te Maire Stream	1	East of Kiekie Marae	10	Stream	NA	No structure - cross on foot	Waterbody Crossing	
62	126-127km	Unknown Stream	1	West of Whareponga	N/A	Stream	NA	No structure - cross on foot	Waterbody Crossing	
63	126-127km	Unknown Stream	1	West of Whareponga	N/A	Stream	NA	No structure - cross on foot	Waterbody Crossing	
64	127-128km	Whareponga Stream	3	Southwest of Whareponga	40	New Bridge	NA	Crossing Option 4 - Swing Bridge	Crossing Option 4	
65	127-128km	Whareponga Stream	2	Whareponga Road	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
66	128-129km	Unknown Stream	1	North of Whareponga Road	N/A	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
67	129-130km	Wharekaha Stream	2	North of Whareponga Road	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
68	129-130km	Rural gully	1	South west of Tuparoa	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
69	131-132km	Rural gully	1	South west of Tuparoa	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	1.2m wide, 45m long suspension bridge. Downstream
70	133-134km	Thorarua River	1	West of Tuparoa	20	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
71	133-134km	Mangatarau Stream	1	West of Tuparoa	15	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
72	135-136km	Waitekaha Stream	3	Waitekaha Stream - Adjacent to Tuparoa Road	40	Road intersection	N/A	No structure - Cross on foot	Waterbody Crossing	
73	139-140km	Rural drain	1	Repورا Road	5	Existing culvert under road	N/A	No structure - Cross on foot	Waterbody Crossing	
74	140-141km	Rural drain	1	Repورا Road	5	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
75	141-142km	Repورا Road	1	Repورا Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
76	141-142km	Unknown Stream	1	Repورا Road	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
77	141-142km	Unknown Stream	1	Repورا Road	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
78	143-144km	Makaraka Stream	3	Tuparoa Road - Makaraka Stream	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
79	144-145km	Mangareia Stream	4	Tuparoa Road - Mangareia Stream	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	1.2m wide, 45m long suspension bridge. Downstream
80	145-146km	Waiata Stream	2	Walker Road	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
81	146-147km	Kopuaroa Stream	1	Waioamatini Road - Mangahare Stream	25	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
82	147-148km	Unknown Stream	1	Waioamatini Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
83	148-149km	Mangahare Stream	2	Waioamatini Road - Mangahare Stream	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
84	149-150km	Mangakino Stream	2	Waioamatini Road - Mangakino Stream	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
85	150-151km	Unknown Stream	1	Waioamatini Road South	10	Existing culvert under road	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
86	151-152km	Unknown Stream	2	Te Araroa Road	5	SH35	SH35	No structure - Cross on foot	Waterbody Crossing	
87	151-152km	Waiapu River	6	Te Araroa Road - Waiapu River	200	Existing NZTA bridge - SH35	SH35	Alternative Crossing Condition	Alternative Crossing Condition	
88	153-154km	Unknown Stream	1	Te Araroa Road	5	Existing culvert under road	SH35 (adjacent)	No structure - Cross on foot	Waterbody Crossing	1.2m wide, 45m long suspension bridge. Downstream
89	153-154km	Unknown Stream	1	Te Araroa Road	5	Existing culvert under road	SH35 (adjacent)	No structure - Cross on foot	Waterbody Crossing	
90	154-155km	Whakatu Stream	2	Te Araroa Road - Whakatu Stream	20	Existing NZTA bridge/culvert - SH35	SH35	Crossing Option 1 - Warning Signage	Crossing Option 1	
91	154-155km	Unknown Stream	1	Te Araroa Road	15	Existing culvert under road - SH35	SH35	No structure - Cross on foot behind barrier	Waterbody Crossing	
92	155-156km	Unknown Stream	1	North off Te Araroa Road	15	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
93	157-158km	Mangokopikopiko Stream	1	South of Mangoporo Road	10	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
94	158-159km	Mangoporo River	4	Te Araroa Road - Mangoporo River	170	Existing culvert under road - SH35	SH35	Alternative Crossing Condition	Alternative Crossing Condition	
95	158-159km	Rural drain	1	Tinotika Marae	5	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/barm)	Waterbody Crossing	

96	159-160km	Unknown Stream	1	North of Tinatoka Marae	10	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
97	159-160km	Unknown Stream	2	943 Te Araroa Road	10	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
98	160-161km	Unknown Stream	1	Adjacent Waipapa River	10	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
99	160-161km	Paoaruku Stream	3	Te Araroa Road - Paoaruku Stream	80	Existing NZTA bridge - SH35	SH35	Crossing Option 3 - Traffic Light	Crossing Option 3	
100	161-162km	Mangaiwi Stream	3	Te Araroa Road - Mangaiwi Stream	40	Existing NZTA bridge - SH35	SH35	Crossing Option 1 - Warning Signage	Crossing Option 1	
101	162-163km	Unknown Stream	1	Adjacent Mangaiwi Stream	10	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
102	163-164km	Mangarara Stream	2	Te Araroa Road	10	Existing NZTA bridge - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
103	164-165km	Pukerimu Stream	2	Te Araroa Road - Pukerimu Stream	10	Existing culvert under road - SH35	N/A	No structure - Cross on foot	Waterbody Crossing	
104	164-165km	Unknown Stream	1	Next to 1423 Te Araroa Road	10	Existing culvert under road - SH35	N/A	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
105	165-166km	Unknown Stream	1	Te Araroa Road	10	Existing culvert under road - SH35	N/A	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
106	166-167km	Karakata Stream	1	Te Araroa Road	10	Existing culvert under road - SH35	N/A	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
107	167-168km	Makooa Stream	2	Te Araroa Road	35	Existing NZTA bridge/culvert - SH35	SH35	Crossing Option 1 - Warning Signage	Crossing Option 1	
108	170-171km	Poroporo River	4	Rangitukia Road - Poroporo River	40	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
109	172-173km	Unknown Stream	2	Rangitukia Road - Adjacent Waipapa River	20	Existing culvert under road - SH35	SH35	No structure - Cross on foot (shoulder/berm)	Waterbody Crossing	
110	175-176km	Marahara River	4	Rangitukia Road - Marahara River	70	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
111	175-176km	Unknown Stream	2	694 Rangitukia Road	10	Existing culvert under road - SH35	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
112	176-177km	Unknown Stream	1	Rangitukia Road	N/A	Existing culvert under road - SH35	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
113	177-178km	Waikawa Stream	3	Rangitukia Road	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
114	179-180km	Te Kanapa Stream	1	Rangitukia Road	N/A	Existing culvert under road - SH35	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
115	180-181km	Te Awaha Stream	2	Rangitukia Road	N/A	Existing culvert under road - SH35	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
116	182-183km	Te Waiatu Stream	1	Rangitukia Road	15	Existing culvert under road - SH35	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
117	183-184km	Te Waiatu Stream	2	Rangitukia Road	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
118	184-185km	Unknown Stream	1	Rangitukia Road	N/A	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
119	185-186km	Unknown Stream	1	South-west of Hautai Beach	N/A	Stream	N/A	No structure - Cross on foot	Waterbody Crossing	
120	186-187km	Mangapapa Stream	2	South-west of Hautai Beach	N/A	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
121	188-189km	Mangatuhara Stream	3	South of East Cape Road	10	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
122	188-189km	Unknown Stream	1	Adjacent to Waipapa Stream	N/A	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
123	188-189km	Unknown Stream	1	Adjacent to Waipapa Stream	N/A	Stream	NA	No structure - Cross on foot	Waterbody Crossing	
124	193-194km	Waipapa Stream	4	East Cape Road	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
125	194-195km	Nohemanga Stream	2	East Cape Road	8	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
126	194-195km	Unknown Stream	1	East Cape Road	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
127	196-197km	Taikawaka Stream	2	East Cape Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
128	197-198km	Unknown Stream	1	North of East Cape Road	10	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
129	198-199km	Orutua River	5	East Cape Road - Orutua River	35	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
130	198-199km	Unknown Stream	1	East Cape Road - West of Orutua River	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
131	201-202km	Waipohatuhatu Stream	2	East Cape Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
132	201-202km	Te Waipuhake Stream	2	East Cape Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
133	203-204km	Unknown Stream	1	East Cape Road - East of Te Araroa	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
134	203-204km	Te Pito Stream	1	East Cape Road - East of Te Araroa	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
135	203-204km	Phosinal Stream	2	East Cape Road - East of Te Araroa	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
136	204-205km	Unknown Stream	1	East Cape Road - East of Te Araroa	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
137	205-206km	Awatere River	5	East Cape Road - Awatere River	95	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
138	211-212km	Karakatuwhero River	4	Te Araroa Road - Karakatuwhero River	100	Existing NZTA bridge - SH35	SH35	Crossing Option 4 - Swing Bridge	Crossing Option 4	1.5m wide, 99m long suspension bridge. Downstream
139	212-213km	Unknown Stream	2	Te Araroa Road	N/A	Existing culvert under road - SH35	SH35	Crossing Option 2 - Push Button	Crossing Option 2	
140	213-214km	Unknown Stream	3	Te Araroa Road	10	Existing culvert under road - SH35	SH35	Crossing Option 2 - Push Button	Crossing Option 2	
141	213-214km	Unknown Stream	1	Te Araroa Road	10	Existing culvert under road - SH35	SH35	Crossing Option 2 - Push Button	Crossing Option 2	
142	214-215km	Punaruau Stream	3	Te Araroa Road	10	Existing Local Road Bridge GDC	SH35	Crossing Option 1 - Warning Signage	Crossing Option 1	
143	218-219km	Nukutahua Stream	3	Onepoto Road	20	Existing Local Road Bridge GDC	Local Road	No structure - Cross on foot	Waterbody Crossing	
144	220-221km	Unknown Stream	2	Wharf Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
145	220-221km	Wharekahika River	5	Wharf Road - Wharekahika River	67	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
146	222-223km	Makarae Stream	1	Adjacent to Wharekahika River	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
147	222-223km	Tapirau Stream	2	Wharekahika Road - Tapirau Stream	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
148	225-226km	Rural drains	1	East of Hicks Bay	10	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
149	228-229km	Unknown Stream	2	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
150	228-229km	Unknown Stream	2	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
151	230-231km	Unknown Stream	1	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
152	230-231km	Unknown Stream	2	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
153	231-232km	Unknown Stream	1	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
154	233-234km	Unknown Stream	2	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
155	233-234km	Wharekahika River	5	Wharekahika River - Near Potaka Route Toilet	40	New bridge	N/A	Crossing Option 4 - Swing Bridge	Crossing Option 4	5m timber uprights, FRP deck dusion bonded pvc coated galvanised chainlink side mesh, timber deadman
156	234-235km	Unknown Stream	3	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
157	234-235km	Unknown Stream	1	Adjacent to Wharekahika River	N/A	N/A	NA	No structure - Cross on foot	Waterbody Crossing	
158	237-238km	Owika Stream	4	Owika Stream - Adjacent to SH35	50	New bridge	N/A	Crossing Option 4 - Swing Bridge	Crossing Option 4	5.5m timber uprights, FRP deck dusion bonded pvc coated galvanised chainlink side mesh, timber deadman
159	238-239km	Unknown Stream	1	Te Araroa Road	NA	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	

No.	km range	Stream	Stream Order	Location	Distance (m)	Asset Type	Road Type	Proposed Structure (2025)	Name in Google Earth File
	Port Awanui loop								
1	2-3km	Reporua Stream	3	Reporua - Reporua Stream	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
2	6-7km	Rural drain	2	North of Reporua	10	Existing culvert under road	N/A	Crossing Option 1 - Warning Signage	Crossing Option 1
3	9-10km	Wairoa River	3	Waiomatatini Road	25	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
4	10-11km	Unknown Stream	1	Waiomatatini Road	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
5	11-12km	Unknown Stream	1	Waiomatatini Road	5	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
6	13-14km	Unknown Stream	1	Awanui Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
7	15-16km	Waiotautu Stream	2	Port Awanui	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing
8	16-17km	Te Mania Stream	2	Port Awanui	10	N/A	N/A	No structure - Cross on foot	Waterbody Crossing
9	16-17km	Waiotautu Stream	3	Port Awanui	10	N/A	N/A	No structure - Cross on foot	Waterbody Crossing
10	22-23km	Unknown stream	2	Tikapa Marae	10	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1
11	25-26km	Unknown stream	2	Te Horo Marae	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1

No.	km range	Stream	Stream Order	Location	Distance (m)	Asset Type	Road Type	Proposed Structure (2025)	Name in Google Earth File	Absell Access Comment
SH to Waipiro Connect										
1	9-10km	Unknown stream	1	Hikurangi Loop - Kopuaroa Road	5	Existing culvert under road	Local Road	No Structure - Cross on foot (use road)	Waterbody Crossing	1.2m wide, 36m long suspension bridge Boardwalk with 2.4-6m spans Boardwalk with 2.4-6m spans Boardwalk with 2.4-6m spans Boardwalk with 2.4-6m spans Boardwalk with 2.4-6m spans
2	8-9km	Unknown stream	1	Hikurangi Loop - Kopuaroa Road	5	Existing culvert under road	Local Road	No Structure - Cross on foot (use road)	Waterbody Crossing	
3	8-9km	Unknown stream	1	Hikurangi Loop - Kopuaroa Road	5	Existing culvert under road	Local Road	No Structure - Cross on foot (use road)	Waterbody Crossing	
4	7-8km	Unknown stream	1	Hikurangi Loop - Kopuaroa Road	5	Existing culvert under road	Local Road	No Structure - Cross on foot (use road)	Waterbody Crossing	
5	6-7km	Mokokoko Stream	1	Kopuaroa Rd - Mokokoko Stream	30	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
6	5-6km	Makatote Stream G15B	3	Hikurangi Loop - Adjacent SH35	30	New Bridge	N/A	Crossing Option 4 - Swing Bridge	Crossing Option 4	
7	5-6km	Makatote Stream (Tributaries)	2	Hikurangi Loop - Adjacent SH35	10	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
8	5-6km	Makatote Stream (Tributaries)	1	Hikurangi Loop - Adjacent SH35	10	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
9	5-6km	Makatote Stream (Tributaries)	1	Hikurangi Loop - Adjacent SH35	10	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
10	3-4km	Unknown stream	2	Hikurangi Loop - Adjacent SH35	15	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
11	3-4km	Unknown stream	1	Hikurangi Loop - Adjacent SH35	15	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
12	1-2km	Unknown stream	1	Hikurangi Loop - Adjacent SH35	10	New Foot Bridge	N/A	Crossing Option 5 - Timber Bridge	Crossing Option 5	
13	0-1km	Makatote Stream - Hiku Loop	3	Hikurangi Loop - Adjacent SH35	35	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
Hikurangi Loop										
14	51-52km	Makarika Stream	4	Makarika Road - Makarika Stream	70	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
15	49-50km	Mata River	6	Makarika Road - Mata River	160	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
16	46-47km	Mata River (Tributaries)	3	Horehore Road	25	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
17	46-47km	Mata River (subsidiary)		Hiku Loop day 1	12	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
18	32-33km	Unknown Stream	1	North west of unde Jim Hut	25	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
19	30-31km	Unknown Stream	3	Hukanui Road	25	N/A	Local Road	No structure - Cross on foot	Waterbody Crossing	
20	29-30km	Mokoikiwi	3	East of Hikurangi	30	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
21	28-29km	Mokoikiwi	3	East of Hikurangi	20	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
22	28-29km	Mokoikiwi	3	East of Hikurangi	30	N/A	N/A	No structure - Cross on foot	Waterbody Crossing	
23	20-21km	Tapuaroa River G15A	5	Pakihiroa Road - Tapuaroa River loop day 4	175	Existing Local Road Bridge GDC	Local Road	Crossing Option 3 - Traffic Light	Crossing Option 3	
24	19-20km	Raparapaririki Stream - G15A, G15E	4	Tapuaroa Road - Tapuaroa River loop day 4	220	Existing Local Road Bridge GDC	Local Road	Crossing Option 3 - Traffic Light	Crossing Option 3	
25	18-19km	Unknown stream	1	Tapuaroa Road - Tapuaroa River loop day 4	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
26	17-18km	Unknown stream	1	Tapuaroa Road - Tapuaroa River loop day 4	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
27	17-18km	Mangapai Steam	3	Tapuaroa Road - Tapuaroa River loop day 4	80	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
28	16-17km	Unknown stream	1	Tapuaroa Road - Tapuaroa River loop day 4	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
29	15-16km	Unknown stream	1	Tapuaroa Road - Tapuaroa River loop day 4	10	Existing culvert under road	Local Road	No structure - Cross on foot	Waterbody Crossing	
30	15-16km	Mangawhairiki Stream	2	Tapuaroa Road - Tapuaroa River loop day 4	75	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
31	15-16km	Unknown Stream	1	Tapuaroa Road - Tapuaroa River loop day 4	20	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
32	14-15km	Rural gully	N/A	Tapuaroa Road	20	Existing culvert under road	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
33	14-15km	Unknown Stream	Unable to identify	Wairoa River - Waiomatitini Road	20	Existing Local Road Bridge GDC	Local Road	Crossing Option 1 - Warning Signage	Crossing Option 1	
34	12-13km	Mangahoanga Stream	3	Tapuaroa Road - Mangahoanga Stream	40	tangahonga Bridge Local Road GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
35	10-11km	Unknown Stream	2	Tapuaroa Road	10	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
36	9-10km	Unknown Stream	1	Tapuaroa Road	10	Moekes Bridge Local Road GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
37	9-10km	Waiorongomai River G15A	4	Tapuaroa Road - Waiorongomai River	130	aiorongomai Bridge Local Road GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
38	7-8km	Rural drain	2	Tapuaroa Road	5	Existing culvert under road	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
39	7-8km	Rural drain	1	Tapuaroa Road	5	Existing culvert under road	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
40	5-6km	Mangapapa & Waitaia Stream	3	Tapuaroa Road - Mangapapa Stream	15	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
41	5-6km	Mangarara Stream	1	Tapuaroa Road - Mangarara Stream	20	Mangarara Bridge Local Road GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
42	4-5km	Unknown Stream	2	Tapuaroa Road	25	Existing Local Road Bridge GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	
43	3-4km	Mangarua Stream	2	Tapuaroa Road - Mangarua Stream	20	Mangarua Bridge Local Road GDC	Local Road	Crossing Option 2 - Push Button	Crossing Option 2	