

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 1 of 1
horizons regional council		Hydrology Operations Manual		

Coastal Monitoring Run Guide

EAST COAST

**STATE OF ENVIRONMENT
(Monthly Sampling)**

Version No:
Issue Date:
Portfolio:

3
27/05/2021
Discrete Water Quality

Horizons Regional Council

Section No:
Appendix No:
Page:

15.7
40
2 of 16



Hydrology Operations Manual



Job Hazard & Task Analysis

Hazard Identification – tick all that apply, write additional hazards identified:

The yellow highlighted hazards are known hazards at the time of compiling this document. This **does not negate** the need to assess for and potentially eliminate or isolate any hazards at each sample location at every visit

Hazard	Yes	Hazard	Yes	Hazard	Yes
Confined space	<input type="checkbox"/>	Suspended loads	<input type="checkbox"/>	Noise – plant and equipment	<input type="checkbox"/>
Difficult entry/exit	<input checked="" type="checkbox"/>	Falling objects	<input type="checkbox"/>	Communication – means of	<input checked="" type="checkbox"/>
Oxygen deficiency/excess	<input type="checkbox"/>	Working near cranes and crane runways	<input type="checkbox"/>	Remote area	<input checked="" type="checkbox"/>
Poisonous fumes/gas	<input type="checkbox"/>	Live rails-gantry cranes	<input type="checkbox"/>	Temperature extremes	<input checked="" type="checkbox"/>
Explosive gas	<input type="checkbox"/>	Trip hazards	<input checked="" type="checkbox"/>	Reduced visibility	<input checked="" type="checkbox"/>
Flammable materials	<input type="checkbox"/>	Slippery surfaces	<input checked="" type="checkbox"/>	Unauthorized persons	<input type="checkbox"/>
Combustible materials	<input type="checkbox"/>	Manual handling	<input type="checkbox"/>	High pressure water	<input type="checkbox"/>
Hazardous substances	<input type="checkbox"/>	Sharp materials	<input type="checkbox"/>	Vacuum	<input type="checkbox"/>
Drowning	<input checked="" type="checkbox"/>	Line of fire	<input type="checkbox"/>	Air emissions – dust, fumes	<input type="checkbox"/>
Engulfment	<input checked="" type="checkbox"/>	Pressurized fluids	<input type="checkbox"/>	General waste	<input type="checkbox"/>
UV Radiation	<input checked="" type="checkbox"/>	Pressurized air/gas	<input type="checkbox"/>	Hazardous waste	<input type="checkbox"/>
Electrical – low /high voltage	<input type="checkbox"/>	Traffic / vehicle movements	<input checked="" type="checkbox"/>	Hydrocarbon / chemical spill	<input type="checkbox"/>
Multiple electrical feeds	<input type="checkbox"/>	Machinery – mobile plant	<input type="checkbox"/>	Soil disturbance/erosion	<input type="checkbox"/>
Working at height	<input type="checkbox"/>	Moving parts	<input type="checkbox"/>	Habitat disruption	<input type="checkbox"/>
Ladders	<input type="checkbox"/>	Chemical reaction (Pyrophoric iron)	<input type="checkbox"/>	Lighting	<input type="checkbox"/>
Elevated work platforms	<input type="checkbox"/>	Transport of hazardous substances	<input type="checkbox"/>	Weather extremes	<input checked="" type="checkbox"/>
Potential for difficult rescue	<input checked="" type="checkbox"/>	Stock/Farm Animals	<input type="checkbox"/>		

Required PPE & Safety Equipment– tick all that apply, write additional PPE required:

The yellow highlighted PPE are known required PPE at the time of compiling this document. This **does not negate** the need to assess for the appropriate required PPE measures at each sample location per visit.

SAMPLING GLOVES	EAR PROTECTION	HARD HAT	SAFETY GLASSES / GOGGLES	WORK BOOTS / WADERS	PROTECTIVE GLOVES	PERSONAL FLOTATION DEVICE (PFD)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HI VIZ	SAFETY HARNESS	SUN BLOCK & HAND SANITISER	VHF RADIO	THROW BAG	PERSONAL LOCATOR BEACON	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 3 of 16
horizons regional council		Hydrology Operations Manual		

Known Hazard	Significant		Can it be Eliminated		Can it be Isolated		Method of control
	Yes	No	Yes	No	Yes	No	
Drowning	✓			✓		✓	Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff. Always carry a throw bag when working around water and have a personal locator beacon on hand. It is always preferable to have someone else with you at all times when working around water [HMP 18]
UV Radiation	✓			✓	✓		Horizons provide sunscreen and hats. Staff are encouraged to make use of these. [HMP 17]
Engulfment	✓			✓		✓	Rivers/streams are prone to flash flooding creating the potential for engulfment. Staff must be alert and aware at all times of how the waterways are behaving around them, especially in areas where water is dammed or has structures such as intakes and aqueducts. PFD's must be worn by staff and staff must be trained for working around water. Vehicles must be driven a sensible distance from any river or pond edges. Always carry a throw bag when working around water and have a personal locator beacon on hand. It is always preferable to have someone else with you at all times when working around water [HMP18]
Difficult Entry/Exit	✓			✓	✓		Entry and exit into waterways poses many risks and should be treated with caution. Sampling must be done from stable level ground. Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff and staff must be trained for working around water. [HMP18]
Potential for Difficult Rescue	✓			✓		✓	Sampling must always be done from stable level ground. Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff and staff must be trained for working around water. Vehicles must be driven a sensible distance from any river or pond edges. Always carry a throw bag when working around water and have a personal locator beacon on hand. It is always preferable to have someone else with you at all times when working around water [HMP18]
Trip Hazards	✓			✓	✓		Prior to sampling, staff must check area is clear of items that pose a risk. Trip Hazards should only be moved if safe to do so. Sampling only to commence if the sampler is satisfied that any slip, trip or fall hazards are isolated.

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 4 of 16
horizons regional council		Hydrology Operations Manual		

Slippery Surfaces	✓			✓	✓		Sampling must be done from stable level. Vehicles must be driven a sensible distance from any river or pond edges. [HMP 18]. Staff driving four wheel drive vehicles must have adequate training [HMP 9]
Traffic Vehicle Movements	✓			✓	✓		The designated driver of a vehicle is responsible for ensuring the safety and operational requirements and recommendations are met. All staff working within the road reserve must wear high visibility clothing to AS/NZS 1906.4:2010. This clothing must be fluorescent red orange in colour unless the individual is the site STMS then the garment must be fluorescent lime yellow. [HMP 9] [HMP 16] [HMP 20].
Communications- Means of	✓			✓		✓	Cell phone coverage is not available at all sites. Staff must be capable of communicating via VHF radio in an equipped vehicle. [HMP 24]
Remote Area	✓			✓		✓	Most council vehicles are fitted with the E-Road vehicle locator system. Many vehicles are also fitted with a radio operating on the Horizons digital radio network providing communication and tracking coverages across a majority of the region. [HMP 24]
Temperature/ Weather Extremes	✓			✓		✓	During the duration of a sampling run varying types and degrees of weather may be experienced. All sampling staff are to have access within their HRC vehicle to additional and appropriate clothing. Staff must have access to suitable PPE and spare clothing within their vehicle. [HMP 18]
Reduced Visibility	✓			✓		✓	If you find you are driving in limited visibility slow your driving speed and turn your fog lights on and watch out for vehicles that aren't using their lights. When working in limited visibility if you cease to able to make out your surrounding environment stop work immediately. If working at night it is advisable to traverse the property in daylight first to map out an action plan outlining walking tracks, vehicle tracks, fence lines, stock positions, ponds, waterways, houses, and sheds as well as other significant items of interest. [HMP12]

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 5 of 16
horizons regional council		Hydrology Operations Manual	horizons regional council	

Site Information

Hilltop Site Name	Easting/Long (NZTM)	Northing/Lat (NZTM)	Comments
Owahanga at Branscombe Bridge	1879374	5497034	Water Quality Samples (1x 1 Litre, 1x 500ml, 2x Digitubes, 1x TOT, 1x Bacto Bottle) and SmarTroll Reading
Owahanga at Owahanga Station	1879905	5496628	Water Quality Samples (1x 1 Litre, 1x 500ml, 2x Digitubes, 1x TOT, 1x Bacto Bottle) and SmarTroll Reading
Akitio Estuary at Coast Rd Bridge	1889715	5500127	Water Quality Samples (2x 1 Litre, 1x 500ml, 2x Digitubes, 1x TOT, 2x Bacto Bottle) and SmarTroll Reading
Akitio Beach at Surf Club	1888852	5498174	Water Quality Samples (2x 1 Litre, 1x 500ml, 2x Digitubes, 1x TOT, 2x Bacto Bottle) and SmarTroll Reading



Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 6 of 16
horizons regional council		Hydrology Operations Manual		

Equipment Required

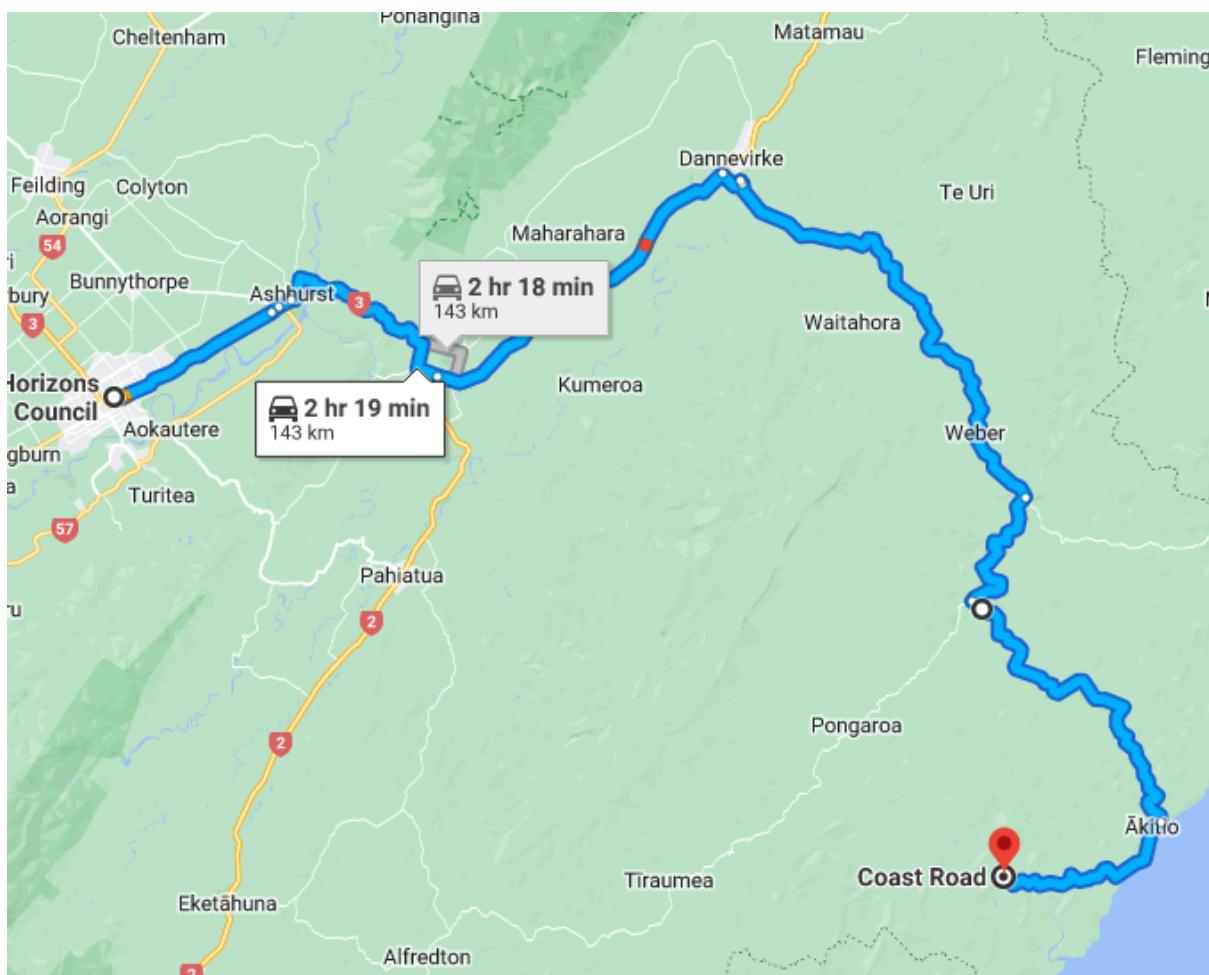
Sample Bottles	Four (4) sample bottle sets - refer to http://tqm.horizons.govt.nz/Hydrology/SOPs/documents/15.4%20Appendix%20LS%20Bottle%20Guide.xlsx
Sample numbers	FOUR (Water Quality) ZERO (Periphyton)
Equipment	<ul style="list-style-type: none"> • SmarTroll (calibrated) – including iPad • Sampling pole • Chilly bins and ice-packs • Field sampling books • Sample Labels • Alcohol gel • Personal Locator Beacon • 4WD Vehicle equipped with VHF Radio • Throw Bag
Additional Comments	A sample pole is advised for sampling at the Akitio Estuary at Coast Rd Bridge.



Hydrology Operations Manual



SITE LOCATION MAP – Owahanga at Branscombe Bridge



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day): These should link back to first page

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements
Engulfment	Communication- means of	Remote Area	Reduced Visibility

REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):

WORK BOOTS / WADERS	PFD	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	THROW BAG	VHF RADIO	HI-VIS

DIRECTIONS:

- From Palmerston North head out east over Saddle Road towards Dannevirke.

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 8 of 16
horizons regional council		Hydrology Operations Manual		

- Head into Dannevirke and turn right onto Miller Street just before the BP station on the left (this is the last petrol station for a while so check your fuel).
- Stay on Miller Street, this turns into Weber Road. Stay on Weber Road.
- After Weber turn right onto Route 52. This is well signposted. Follow Route 52 for approximately 11km and then turn left onto River Road at Waione.
- Stay on River Road the rest of the way until you reach Akitio which has an obvious rusted steel A-Frame welcome sign into the town. Just after you pass this welcome sign you will come to a bridge over the Akitio River. At the fork in town head right.
- Continue on Coast Road – the road will turn to a gravel road, for approx. 12km. Eventually you will come to Branscombe Bridge.
- Park on the Left hand side of the road before you cross the bridge. (you can pull in and turn around and park on the edge of the driveway)
- Climb over the fence and head down the bank to the bridge.



Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 9 of 16
horizons regional council		Hydrology Operations Manual		

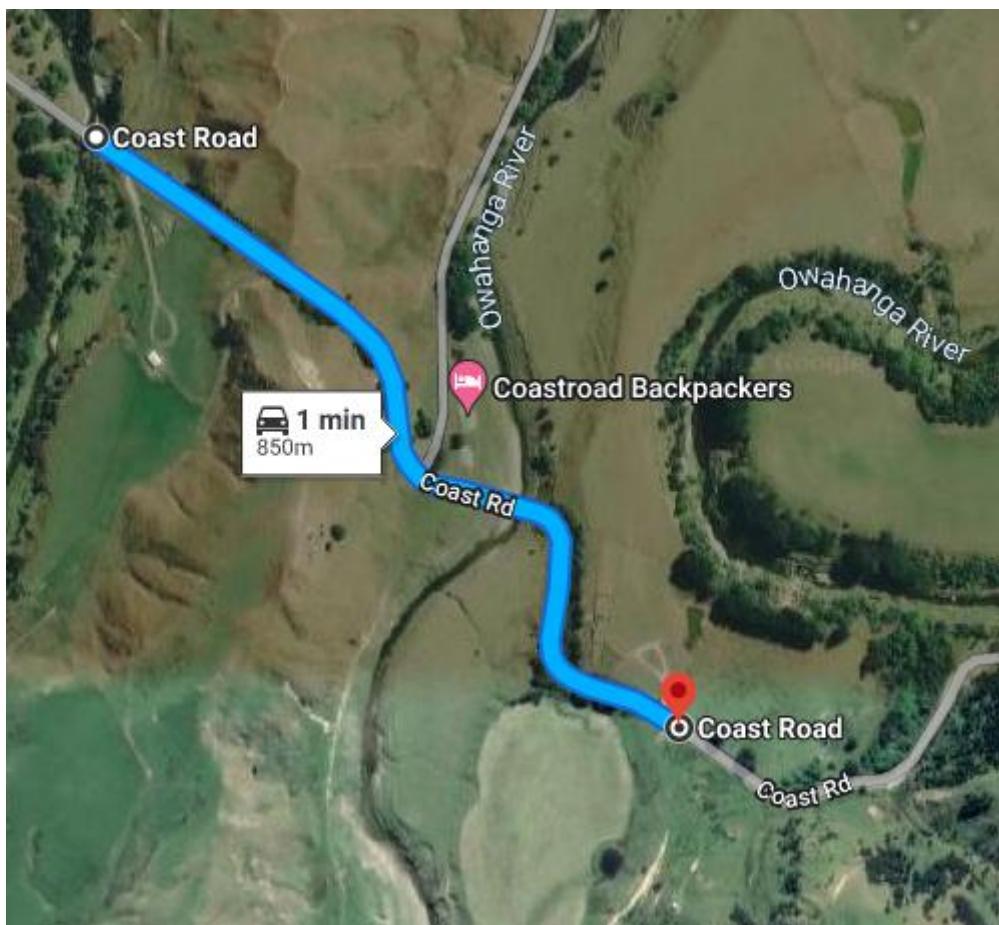




Hydrology Operations Manual



SITE LOCATION MAP – Owahanga at Owahanga Station



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day): These should link back to first page

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements
Engulfment	Communication- means of	Remote Area	Reduced Visibility

REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):

WORK BOOTS / WADERS	PFD	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	THROW BAG	VHF RADIO	HI-VIS
---------------------	-----	----------------------------	-------------------------	-----------	-----------	--------

DIRECTIONS:

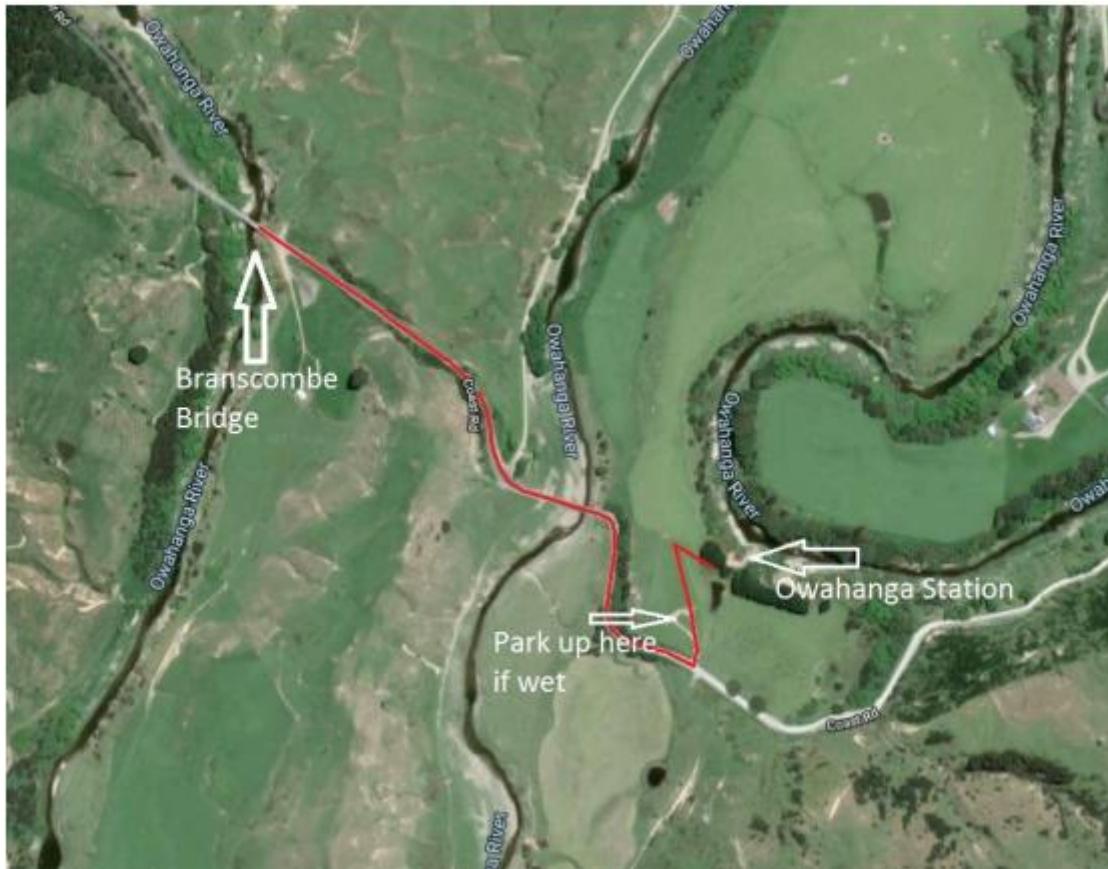
- Turn back the way you came on Coast Road and carry on over the next bridge.

Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 11 of 16
horizons regional council		Hydrology Operations Manual		

- Once you get to the next gravel section enter the station yards on your left (Rautus Yards)
- Through the double gates. Make sure you close the gates as there is usually stock (Bulls) in this paddock even if you can't initially see them.
- If it is wet you will need to park on the stock truck gravel turnaround as the paddock gets very boggy.
- From the Gravel turnaround head towards the tree line and enter the paddock on the right. Follow the fence line on your left until you reach the second gate.
- Follow the path down to the sampling site this is a very narrow slippery track.

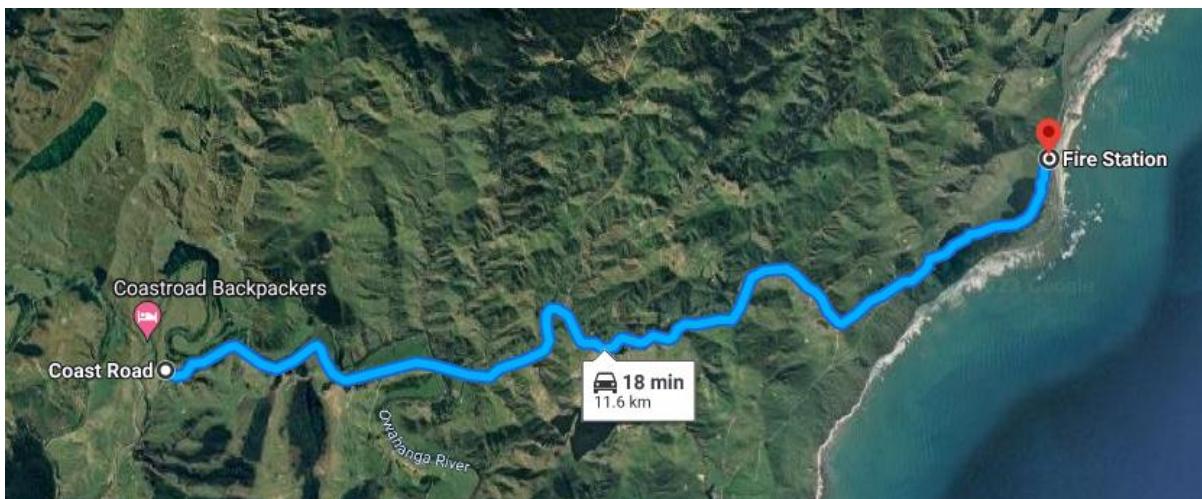


Hydrology Operations Manual



Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 13 of 16
horizons regional council		Hydrology Operations Manual		

SITE LOCATION MAP – Akitio Beach at Surf Club



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day): These should link back to first page

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements
Engulfment	Communication- means of	Remote Area	Reduced Visibility

REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):

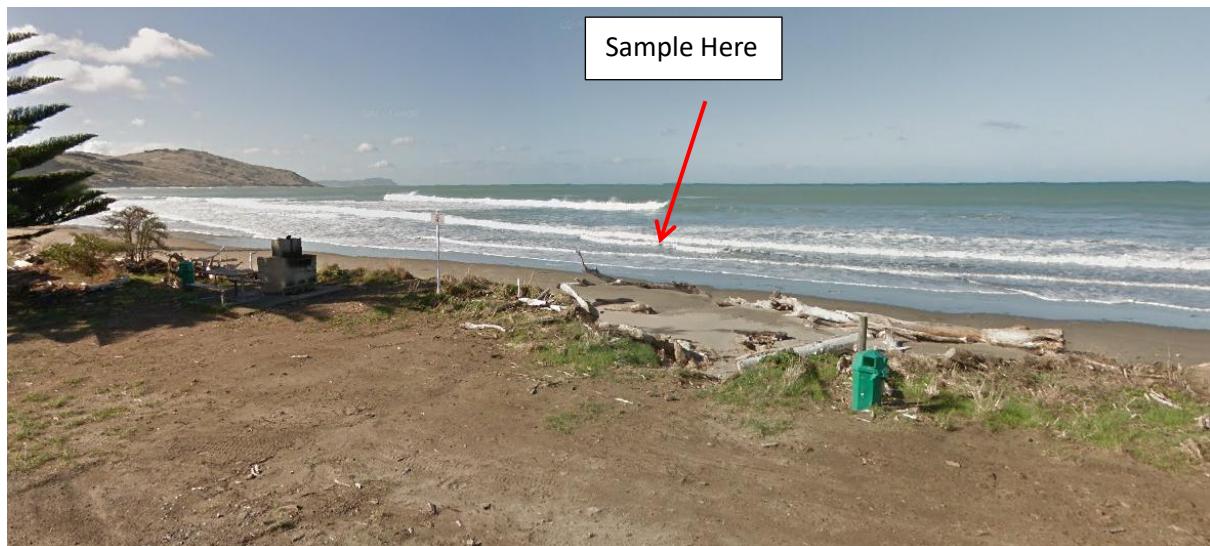
WORK BOOTS / WADERS	PFD	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	THROW BAG	VHF RADIO	HI-VIS
---------------------	-----	----------------------------	-------------------------	-----------	-----------	--------

DIRECTIONS:

- Head back towards Akitio, when coming down the hill above Akitio beach township turn right towards the toilets and fire station.
- Park up opposite the fire station and head out onto the beach to sample.



Hydrology Operations Manual



Version No: Issue Date: Portfolio:	3 27/05/2021 Discrete Water Quality	Horizons Regional Council	Section No: Appendix No: Page:	15.7 40 15 of 16
horizons regional council		Hydrology Operations Manual		

SITE LOCATION MAP – Akitio River Estuary at Coast Road Bridge



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day): These should link back to first page

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements
Engulfment	Communication- means of	Remote Area	Reduced Visibility

REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):

WORK BOOTS / WADERS	PFD	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	THROW BAG	VHF RADIO	HI-VIS
---------------------	-----	----------------------------	-------------------------	-----------	-----------	--------

DIRECTIONS:

- Turn Back towards Akitio and continue back
- On the true left of the river immediately downstream of the bridge there is a track going down to the river. Park at the top of this and walk down the track to do your first sampling site.



Hydrology Operations Manual



Return to the office.