Invertebrate Monitoring Run Guide

EASTERN RUN GUIDE

STATE OF ENVIRONMENT (Annual Sampling)

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

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 FLOATATION DEVICE (PFD)
						
☐	☐	☐	☐	☒	☐	☒

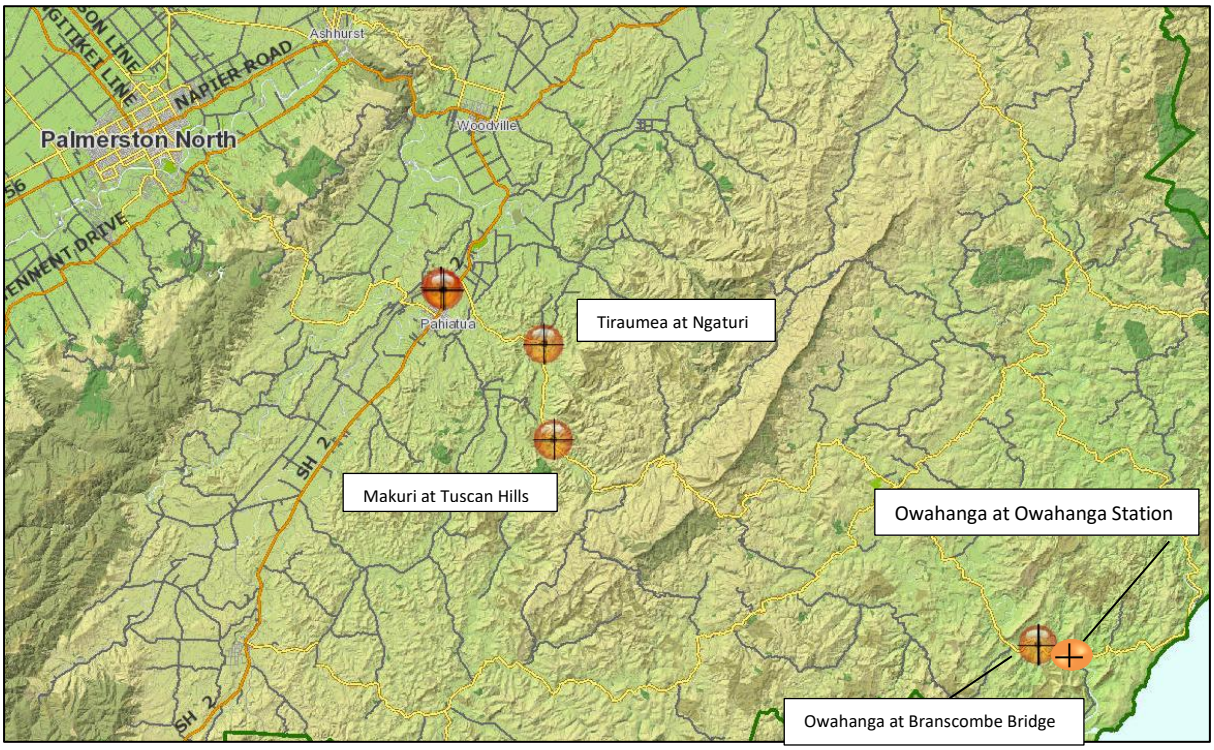
HI VIZ	SAFETY HARNESS	SUN BLOCK & HAND SANITISER	VHF RADIO	THROW BAG	PERSONAL LOCATOR BEACON	
						
☒	☐	☒	☒	☒	☒	

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]
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]
Electrical-Low/High Voltage	✓			✓	✓		Many of the rural sampling sites require traversing across farm paddocks equipped with electric fences that contain stock. If unknown, treat every farm fence as electric and avoid direct contact. Contact the landowner for advise on whether or not the fence is live and discuss alternative routes or options for avoiding the fence if possible.
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.
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].

Known Hazard	Significant		Can it be Eliminated		Can it be Isolated		Method of control
	Yes	No	Yes	No	Yes	No	
Stock/Farm Animals	✓			✓	✓		Although generally docile, farm animals can still be hazardous. The risk should be isolated by finding alternative access routes to the sample location or contacting the owner for assistance. [HMP26]
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 travers 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]

Site Information

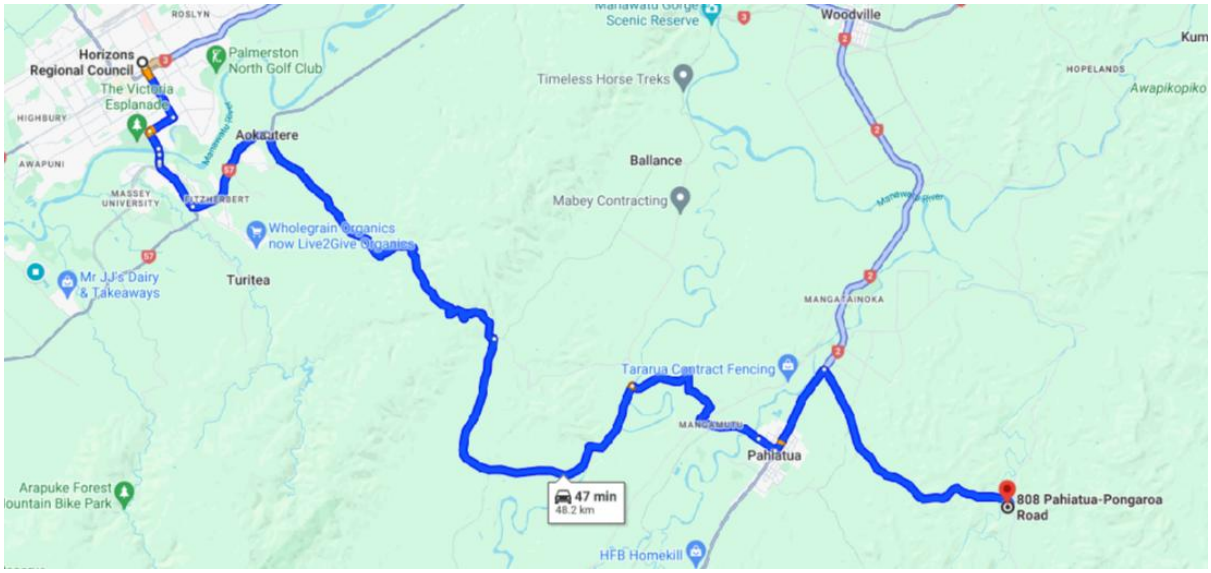
Hilltop Site Name	Easting/Long (NZTM)	Northing/Lat (NZTM)
Tiraumea at Ngaturi	1847730	5516238
Makuri at Tuscan Hills	1848354	5510116
Owahanga at Branscombe Bridge + NEMS	1879373	5496993
Owahanga at Owahanga Station + NEMS	1879990	5496624



Equipment Required

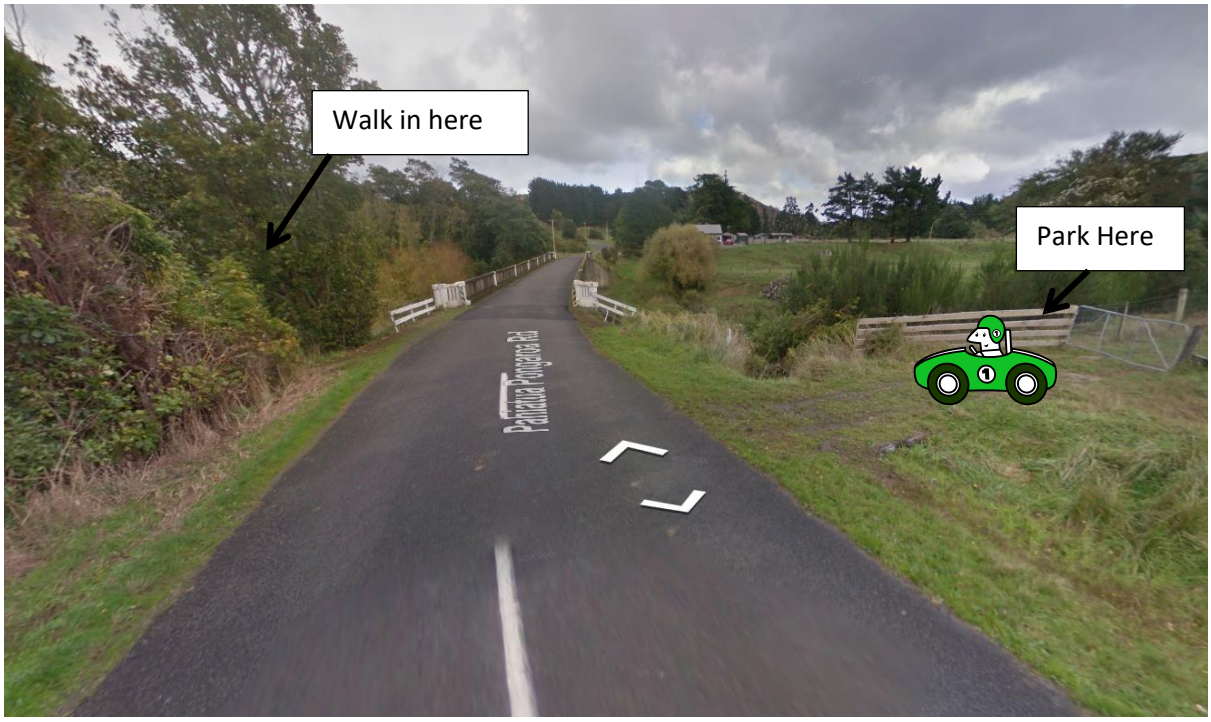
Equipment	• Camera and GPS • Kick net • Invertebrate Pottles and Propan-2-ol • White plastic tray • Metal ruler • Gravelometer • Sampling Worksheet and Pencil • Bathoscope / Viewer • Scrubbing brush, tooth brush, washer bottle, yellow sample bottle lid and ice cream container • Pottles (Approx 10), chilly bins and ice-packs • Personal Locator Beacon • 4WD Vehicle equipped with VHF Radio • Throw Bag

SITE LOCATION MAP – Tiraumea at Ngaturi



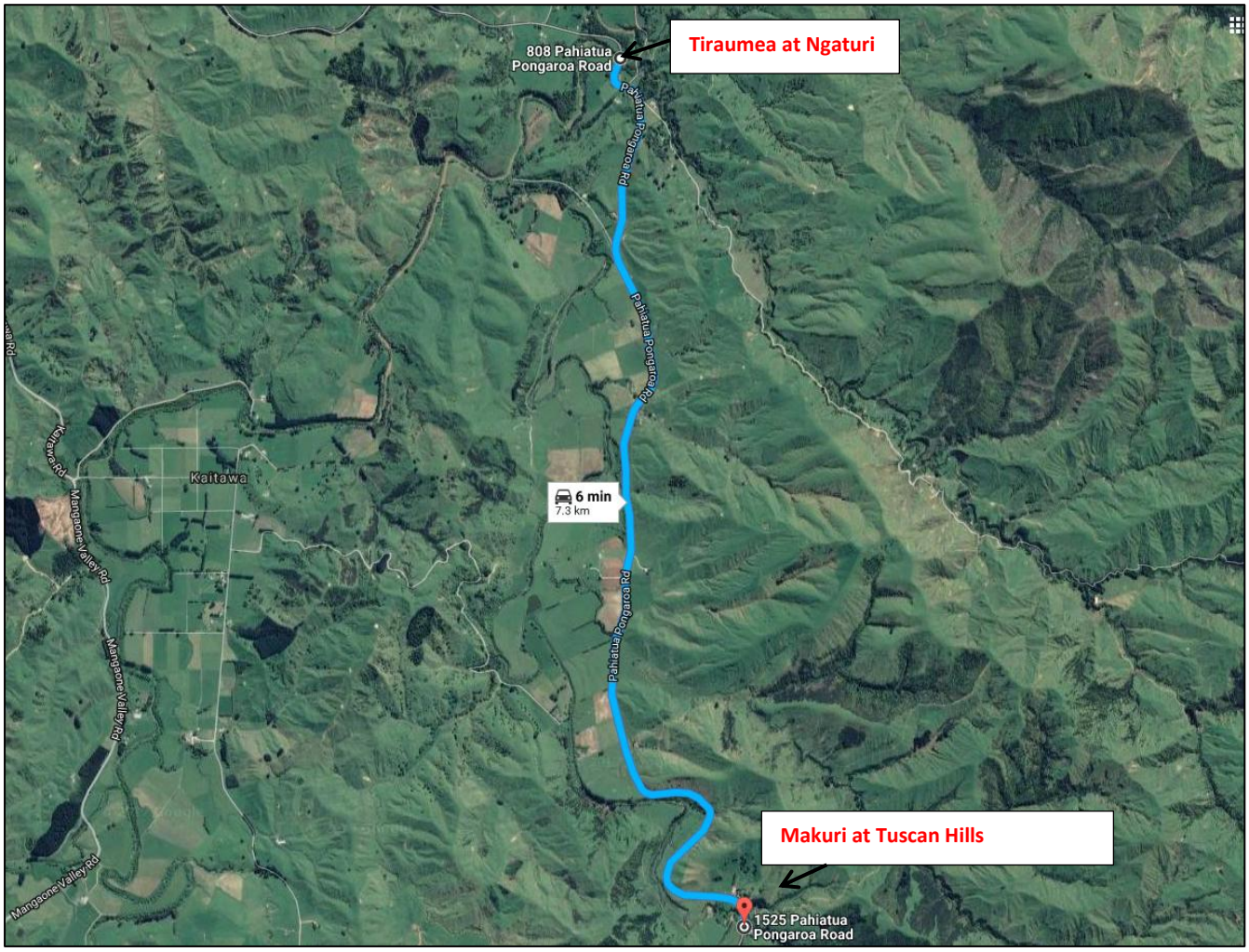
DIRECTIONS:

- From the Palmerston North office travel South-East out of Palmerston North on SH57 towards Aokautere (towards Summerhill).
- Travel along Summerhill Drive, this will eventually turn into Aokautere drive. Continue straight until you see Pahiatua- Aokautere Road on the right. Take this turn.
- Continue along Pahiatua- Aokautere Road, it will eventually turn into Makomako Road. Keep following this road straight until you reach an intersection with Pahiatua-Mangahao Road, turn right onto this road.
- Stay on Pahiatua-Mangahao Road until you come into the Pahiatua Township, when you reach the main road in Pahiatua (SH2) turn left and follow for approximately 2.8km until you reach Pahiatua Pongaroa Rd. Turn right here.
- Follow Pahiatua-Pongaroa Road for approximately 8km until you come to a bridge. Park on the side of the road. Beware not to get too deep in the drain on the roadside especially in winter as it can become very muddy.
- You should see a small white shed in the paddock on the left of the road- this is a Hydrology shed. Cross the fence here and walk down towards the river. Walk under the bridge and walk approximately 50 metres upstream. Find a riffle and sample here.



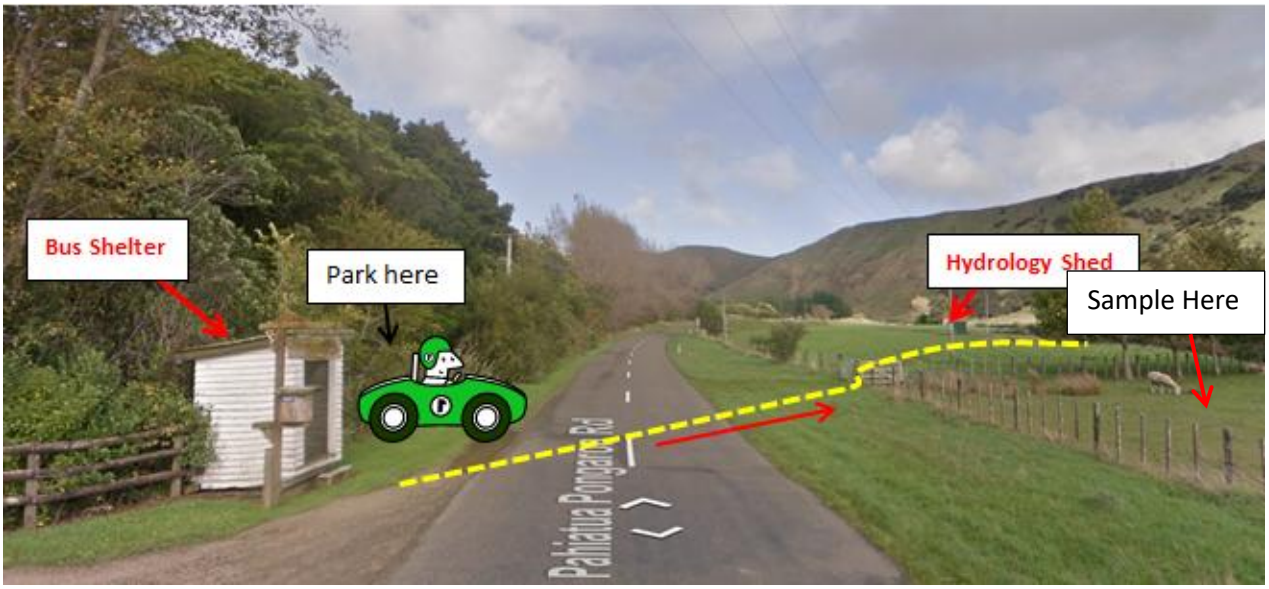
Tiraumea River upstream of bridge

SITE LOCATION MAP – Makuri at Tuscan Hills



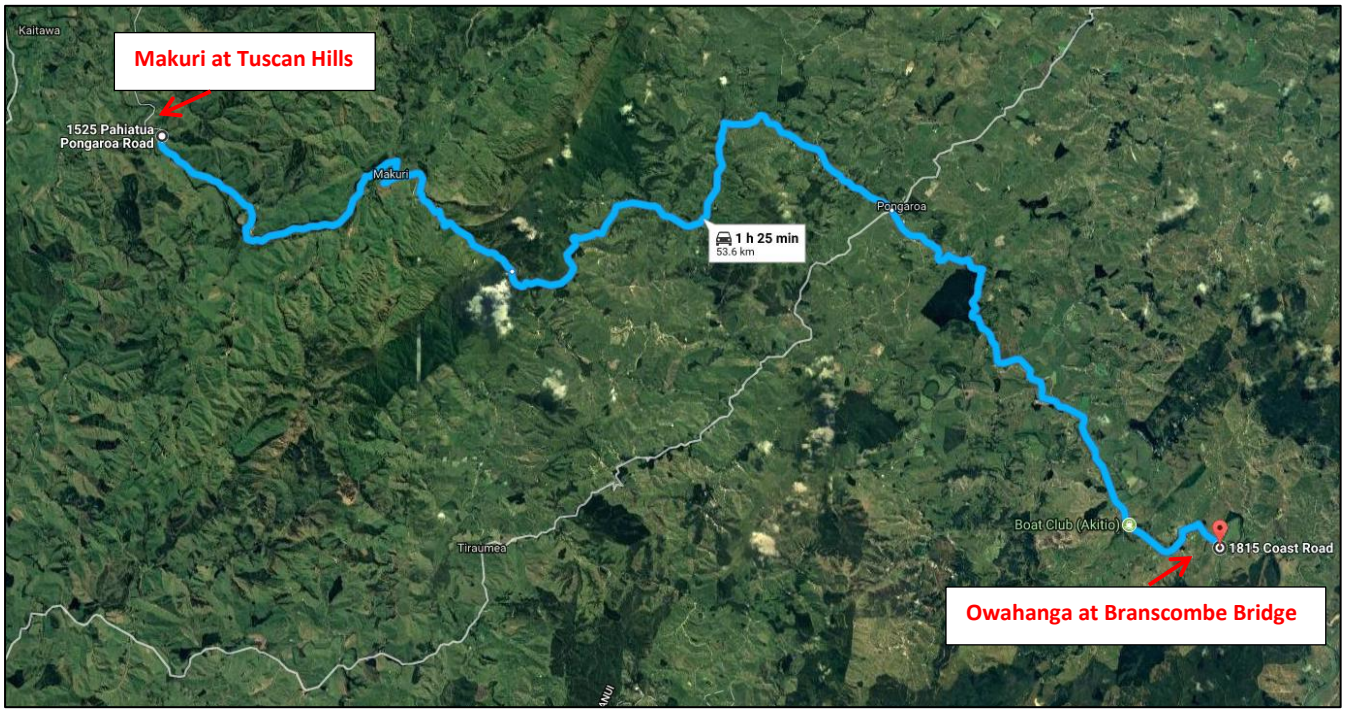
DIRECTIONS:

- From Tiraumea at Ngaturi continue across the bridge and follow Pahiatua-Pongaroa Road for approximately 7km. On your left you will come to a white wooden shelter and Tuscan Hills B&B. On the right hand side of the road there will be a Hydrology shed (a large green shipping container) in the paddock. Park next to the bus shelter and walk into the paddock with the Hydrology shed
- You will come to a steep hill, head down this to the Makuri Stream. Sample in a riffle.



Makuri at Tuscan Hills looking down from the Hydrology shed

SITE LOCATION MAP – Owahanga at Branscombe Bridge + NEMS



DIRECTIONS:

- From Makuri at Tuscan Hills continue down Pahiatua-Pongaroa Road for approximately 35km until you come into the Pongaroa Township (note Pahiatua-Pongaroa Road changes name to Pahiatua Road halfway along the way to Pongaroa).
- Once in Pongaroa drive straight through to continue onto Coast Road. Follow Coast Road for approximately 19km. Drive across the first and second bridges that go across the Owhanga River. After the second bridge there will be a right hand bend and a left hand bend. After the left hand bend, the first farm gate on your left is where you want to turn. This will take you into some stock yards. Drive to the far right corner of the paddock and enter into the neighbouring paddock. Park here and walk towards the trees, you will see a hydro shed. Make your way down to the river and find a suitable riffle to sample from.

Owahanga at Branscombe Bridge looking up stream

SITE LOCATION MAP – Owahanga at Owahanga Station + NEMS

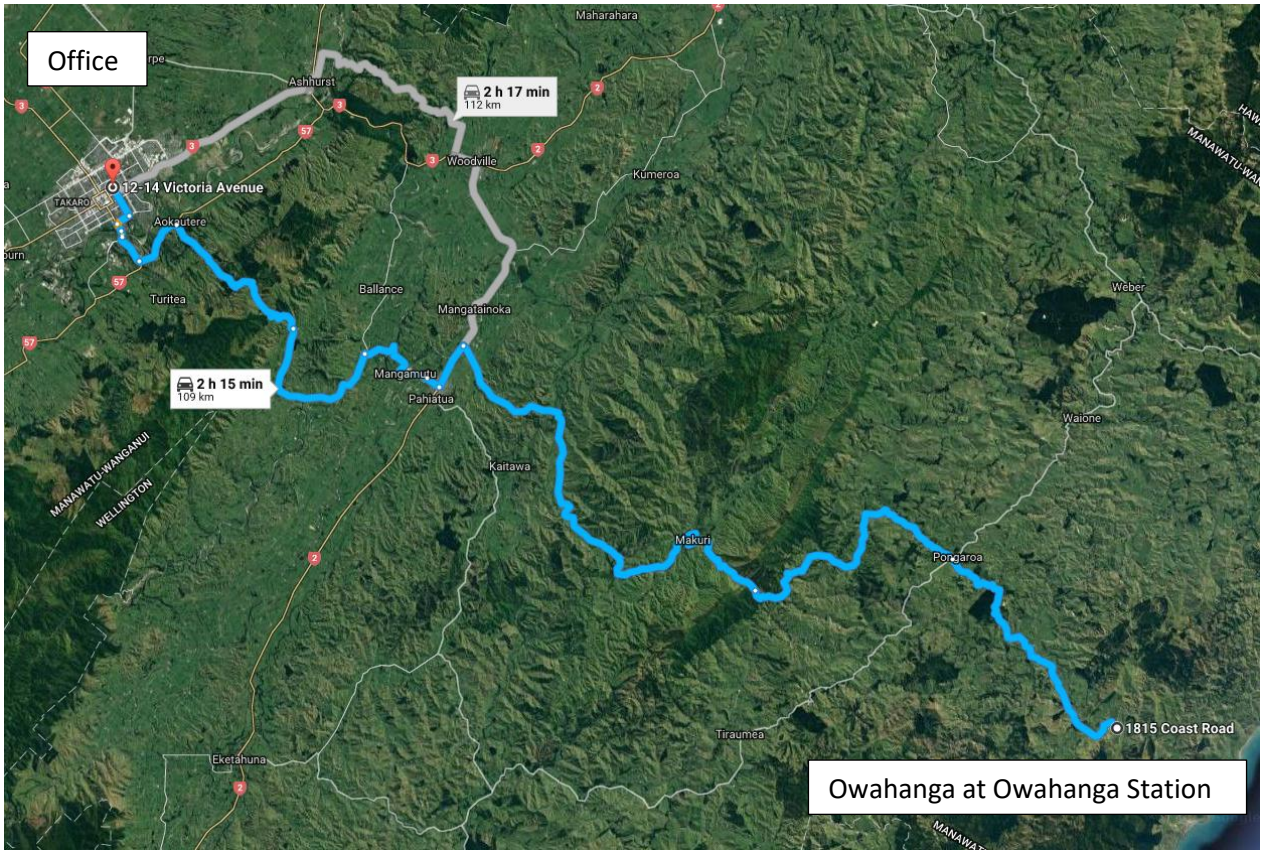
DIRECTIONS:

- From Owahanga at Branscombe Bridge, continue down Coast Road for approximately 250m, until you come to a paddock entrance on your left. Turn into this entrance, and drive around to the end of the dirt road.
- Park here and walk across the paddock towards the trees, through the sheep paddock. Make your way down to the river and find a suitable riffle to sample from.

Owahanga Station looking downstream

Owahanga Station looking upstream

RETURNING TO THE PALMERSTON NORTH OFFICE



DIRECTIONS:

- You will drive back the way you came to the Palmerston North office.
- From Owahanga at Owahanga Station head back the way you came down coast road towards Pongaroa. Once in Pongaroa continue back down Pahiatua Road which then eventually turns into Pahiatua-Pongaroa Road and follow this past the Makuri at Tuscan Hills and Tiraumea at Ngaturi sites until you come to the intersection with SH2.
- Turn left onto SH2 and drive back towards Pahiatua.
- Once in Pahiatua turn right onto Mangahao Road towards Palmerston North (the name of the road eventually changes to Pahiatua-Mangahao Road).
- Follow Pahiatua-Mangahao Road to the end where you will reach an intersection with Makomako Road. Turn left onto Makomako Road which will change names to Pahiatua-Aokautere Road after about 11km.
- Follow Pahiatua-Aokautere Road to the end and you will come to a junction with Aokautere Drive. Turn left onto Aokautere Drive.
- Stay on Aokautere Drive which will change its name to Summerhill Drive as you come into the housing area. Follow Summerhill Drive down a steep hill and over the Manawatu River where the road name will then change to Fitzherbert Ave.
- Continue down Fitzherbert Ave for approximately 500m until you come to the first set of traffic lights and turn right onto Te Awe Awe Street.
- Drive about 900m down Te Awe Awe Street until you come to Victoria Ave. Turn left onto Victoria Ave and drive down to the end until you reach the Horizons office.