

Version No: 09 Issue Date: 26/09/2024 Portfolio: Discrete Water Quality	Horizons Regional Council	Section No: 15.7 Appendix No: 4 Page: 1 of 29
	Hydrology Operations Manual	

Water Quality Monitoring Run Guide

Mangatainoka

**POINT DISCHARGE
Monthly 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	<input checked="" 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 checked="" 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 type="checkbox"/>	Pressurized fluids	<input type="checkbox"/>	General waste	<input checked="" 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 checked="" 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 checked="" type="checkbox"/>		

Required PPE– 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	PROTECTIVE GLOVES	PERSONAL FLOATATION DEVICE (PFD)
						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HI VIZ	SAFETY HARNESS	WADERS	HAND SANITISER	VEHICLE BEACON		
						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

Known Hazard	Significant		Can it be Eliminated		Can it be Minimised		Method of control
	Yes	No	Yes	No	Yes	No	
Trip Hazards	✓			✓	✓		Prior to sampling staff must check area is clear of any items that pose a risk. If there is any these 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	✓			✓	✓		Pond edges can be slippery at any time. Sampling from the pond edge must always be done from stable level ground using a sample pole. PFD's must be worn by staff. Vehicles must be driven a sensible distance from any pond edges. [HMP18]
Drowning	✓			✓		✓	Staff should use a sample pole if access into the river/stream is unsafe. The STP ponds can be deep, full of sediments, and have operating equipment on/within them. Sampling of the pond must always be done from stable level ground using a sample pole. PFD's must be worn by staff. Vehicles must be driven a sensible distance from any pond edges. [HMP18]
Machinery – mobile plant	✓			✓		✓	Sample site is within an operating waste water treatment plant, plant and machinery may be on-site during sampling. Staff to wear appropriate PPE, obey on site signage and instruction, and give way to all operational traffic.
Traffic Vehicle movements – PLANT WWTP	✓			✓		✓	WOODVILLE and PAHIATUA STP sample sites are within an operating waste water treatment plant with council and contractor vehicles liable to be present at any time. Staff to obey on site signage and instruction. HRC Vehicle to be parked in a safe and appropriate location. [HMP 16] [HMP 20]
Hazardous Waste – treated Effluent	✓			✓	✓		Sampling activities require the collection of a sample of treated effluent. Staff must wear sampling gloves, eye protection and have access to anti-bacterial hand-gel to sample. Hepatitis B vaccinations are offered by HRC [HMP 30] [HMP 35]
General Waste		✓		✓	✓		General waste can be stored on site depending on operating activity. Sample staff have no need to interact with any waste. All waste created by HRC staff to be taken with them.
UV Radiation	✓			✓	✓		Horizons provide sunscreen and hats. Staff are encouraged to make use of these. [HMP 17]
Manual Handling	✓			✓	✓		There should be no need for sample staff to move any equipment etc. in order to carry

Known Hazard	Significant		Can it be Eliminated		Can it be Minimised		Method of control
	Yes	No	Yes	No	Yes	No	
							out sampling activities. Sampling activities require the collection of a sample of treated effluent. Staff must wear sampling gloves, eye protection and have access to anti-bacterial hand-gel to sample. Hepatitis B vaccinations are offered by HRC. [HMP 30] [HMP 35]
Electrical – low /high voltage	✓			✓	✓		Sampling activity does not require any interaction with live circuitry or equipment. Staff should check sample area is clear of any hazards (i.e. loose cables, live equipment etc.) before sampling. If access/safety is considered compromised sampling is aborted. [HMP 23]
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]
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 of additional and appropriate clothing.
Temperature Extremes - Hypothermia: following emersion	✓			✓		✓	Staff must have access to suitable PPE and spare clothing within their vehicle. [HMP18] [HMP18]
Traffic Vehicle movements – ROADSIDE /GENERAL	✓			✓		✓	Sample site requires parking beside a main road. The vehicle must be parked as far off of the road surface as safe and practicable to do so. Use of hazards lights must be considered. Hi-vis clothing must be worn. [HMP 16] [HMP 20]
Traffic Vehicle movements – RAIL-LINE	✓			✓		✓	WOODVILLE STP sample site requires crossing a live rail line. There are no barriers and visibility splays are limited. The vehicle must be parked as far from the rail-line safe and practicable to do so – DO NOT leave the vehicle on the line whilst opening gates etc. Flashing Beacon lights must be used. Hi-vis clothing must be worn. [HMP 16] [HMP 20]
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 be 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,

Known Hazard	Significant		Can it be Eliminated		Can it be Minimised		Method of control
	Yes	No	Yes	No	Yes	No	
							waterways, houses, and sheds as well as other significant items of interest. [HMP12]
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]

Site Information

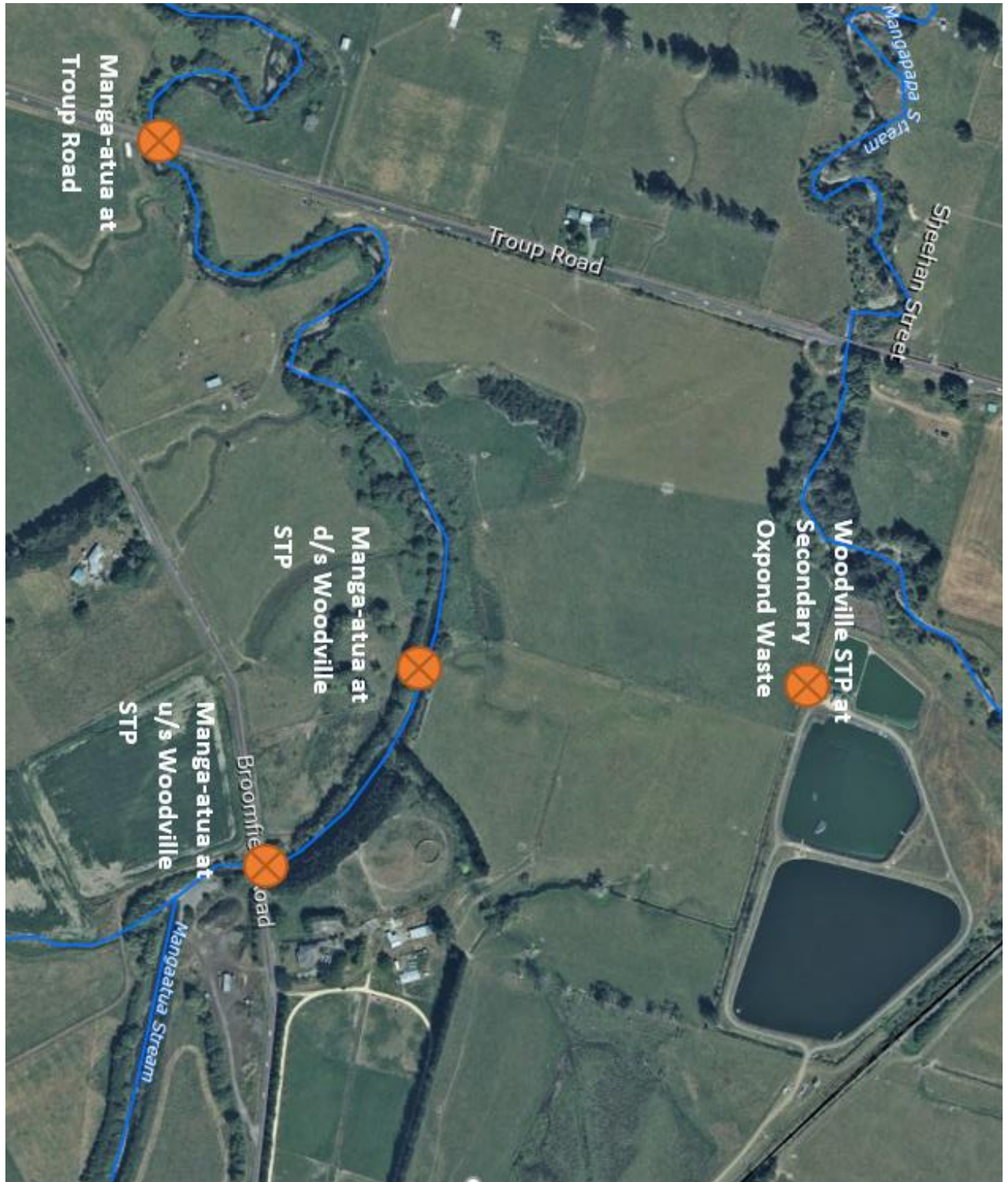
Sampling Order	Hilltop Site Name		Easting /Longitude	Northing /Latitude	Comments
1	Mangaatua at Troup Road	NZMG:	2752365	6091719	Previously the d/s Woodville STO site.
		NZTM:	1842359	5530016	
		WGS84:	175.853506	-40.345224	
	Mangaatua at d/s Woodville STP	NZMG:	2751748	6091608	
		NZTM:	1841743	5529906	
		WGS84:	175.846302	-40.346395	
2	Mangaatua at u/s Woodville STP	NZMG:	2752365	6091719	Gauge Site.
		NZTM:	1842359	5530016	
		WGS84:	175.853506	-40.345224	
3	Woodville STP at Secondary oxpond waste	NZMG:	2752231	6092150	TDC key required for access to race prior to compound & inner gate.
		NZTM:	1842226	5530448	
		WGS84:	175.851775	-40.341375	
4	Tiraumea River at u/s Manawatu confluence	NZMG:	2755526	6086766	Sign into Onside when entering property.
		NZTM:	1845522	5525062	
		WGS84:	175.892607	-40.388992	
5	Mangatainoka at u/s Pahiatua STP	NZMG:	2751217	6081536	
		NZTM:	1841212	5519830	
		WGS84:	175.843868	-40.437211	
6	Mangatainoka at d/s Pahiatua STP	NZMG:	2751345	6081421	Access can be limited in poor weather.
		NZTM:	1841340	5519714	
		WGS84:	175.845420	-40.438212	
7	Pahiatua STP at Tertiary oxpond waste	NZMG:	2750977	6080707	TDC key required for access.
		NZTM:	1840971	5519000	
		WGS84:	175.841349	-40.444747	
8	Ngatahaka at u/s Makakahi Confluence	NZMG:			
		NZTM:	1827668	5496761	
		WGS84:			
9	Makakahi at u/s Eketahuna STP	NZMG:			Gauge Site. AKA Makakahi at Motor Camp
		NZTM:	1828649	5496163	
		WGS84:			
10	Eketahuna STP at Secondary oxpond waste	NZMG:			TDC key required for access.
		NZTM:	1828082	5497364	
		WGS84:			
11	Makakahi at d/s Eketahuna STP	NZMG:			
		NZTM:	1827970	5497699	
		WGS84:			

Equipment Required

Sample Bottles	See bottle guide.
Equipment	<ul style="list-style-type: none"> • Handheld multi-parameter instrument (calibrated) • Sample bottles (including spares) • Black disc, viewer, tape measure • Clarity Tube • Sampling pole • Chilly bins and ice-packs • Field sampling books • Sampling ID labels (created using Hilltop Sampler) • Use gloves and alcohol gel for wastewater and effluent samples
Miscellaneous	<ul style="list-style-type: none"> • Be aware of trains when driving over train track to access Woodville STP and other train crossings without warning lights in the area. • Access to Woodville STP Compound is via TDC key (see Discrete WQ Portfolio holder). • Tiraumea at U/S Manawatu confluence – Sign into Onside app to let Farmer know you are on site before following track down to site. • Tiraumea at U/S Manawatu Confluence – River channel has been moved to protect Rail Bridge – access is now across former channel area. Floods in high flow events – caution, be prepared to abandon sample when flooded. • Mangatainoka at u/s Pahiatua STP – access involves crossing a stream which contains the treated discharge from the Pahiatua STP. • Mangatainoka at d/s Pahiatua STP – access is either by wading upstream or via a steep bank. Access can be compromised in poor weather conditions, assess hazards on the day prior to sampling. • Pahiatua STP at Tertiary oxpond waste – TDC key required (see Discrete WQ Portfolio holder). • Ngatahaka at u/s Makakahi Confluence site access can be slippery. Take your time. • Makakahi at D/S Eketahuna STP site access requires crossing an active golf course. Be aware of potential golf balls flying around.
Additional Comments/ Instructions	<ul style="list-style-type: none"> • Historically, downstream Woodville STP site is sampled first followed by upstream site and finally STP site. • Mangaatua at u/s Woodville STP – site is normally gauged approx. 30m downstream bridge although in low flows approx. 10m upstream bridge offers a good location. • Mangaatua at u/s Woodville STP – site is a location of gravel extraction – both immediately upstream the bridge and also around the site by HRC.

[Contact details can be found here.](#)

**SITE LOCATION MAP – Woodville STP at Secondary
oxpond waste; Manga-atua at Troup Road; Manga-
atua at u/s Woodville STP; Manga-atua at d/s
Woodville STP**







Manga-atua at Troup Road

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 – River	Traffic / vehicle movements – Roadside parking	Electric Fences	Slippery surfaces – mud, periphyton
Trip hazards – cobbles, uneven ground	UV Radiation	Stock/Farm animals	

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):

VEHICLE BEACON	HI VIZ	PFD	WADERS				
							

DIRECTIONS:

- From the Palmerston North office head to Woodville via the Saddle Road (Napier Road).
- Approx.800m before Woodville turn right onto Troup Road.
- Continue over the rail crossing and the first river bridge – this is the Mangapapa at Troup Road Hydro Site.
- After about 1400m you should approach the second river bridge – this crosses the Manga-atua.
- Pull over and park up immediately after the bridge on the right hand side of the road.
- Wear hi-vis for working at a road side.

ACCESS:

- The sample site is approx. 20m downstream of the bridge however, access is limited to immediately above or below the bridge. Access is via the downstream side of the bridge form the RHB.
- Go over the fence and down the bank.
- Be aware that the bank can be slippery and uneven.







Manga-atua at Troup Road viewed looking upstream from Troup Road Bridge (low flow condition 2024). Note recent channel works.



Manga-atua at Troup Road viewed looking downstream from Troup Road Bridge (low flow condition 2024)

Manga-atua at u/s Woodville STP

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 – River		Traffic / vehicle movements – Roadside parking		Electric Fences		Slippery surfaces – mud, periphyton	
Trip hazards – cobbles, uneven ground		UV Radiation		Stock/Farm animals			
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):							
VEHICLE BEACON	HI VIZ	PFD	WADERS				
							
DIRECTIONS: <ul style="list-style-type: none">From the <i>Manga-atua at Troup Road</i> site, continue South on Troup road for a further 200m.Turn Left onto Broomfield Road.Continue for a further 700m and park up on your left off the road before the Manga-atua Broomfield Road Bridge.							
ACCESS: <ul style="list-style-type: none">Sample at a safe and suitable location approx. 20m downstream of the bridge.Access is via the paddock cyclone gate – park inside the gate to leave the road side.The gate is unlocked – leave it as you find it.							
Gauge site: Site name is Manga-atua at Broomfield Road Bridge							

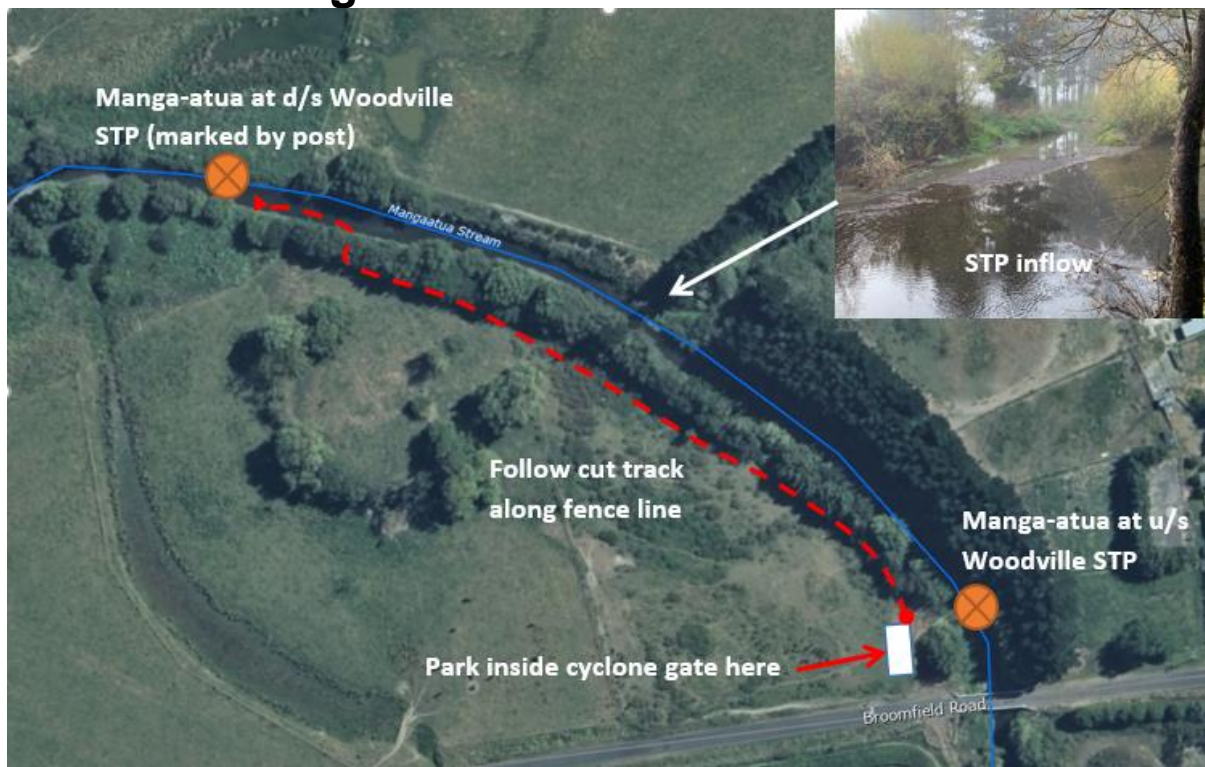


Manga-atua at u/s Woodville STP looking upstream toward
Broomfield Road Bridge from usual gauging section



Manga-atua at u/s Woodville STP looking upstream toward
Broomfield Road Bridge from sample location

Manga-atua at d/s Woodville STP



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 – River	Traffic / vehicle movements – Roadside parking	Electric Fences	Slippery surfaces – mud, periphyton
Trip hazards – cobbles, uneven ground	UV Radiation	Stock/Farm animals	

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):

VEHICLE BEACON	HI VIZ	PFD	WADERS				
							

DIRECTIONS:

- The sample site is accessed from the same parking location as used for the Manga-atua at u/s Woodville STP sample.
- Access is via the paddock cyclone gate – park inside the gate to leave the road side.
- The gate is unlocked – leave it as you find it.
- Wear hi-vis for working at a roadside.

ACCESS:

- The sample site is approx. 325m downstream of the Broomfield Road Bridge. The location is marked by a post on the RHB.
- Follow the fence line to your left (when looking downstream) to find the track – follow this until the end, you should pass the inflow of the STP.
- Be aware that the track can be slippery and uneven. Note it is maintained by Tararua DC – any concerns contact the Discrete WQ portfolio holder.

- Sample at a safe location opposite site marker (hi-vis marked post on RHB).

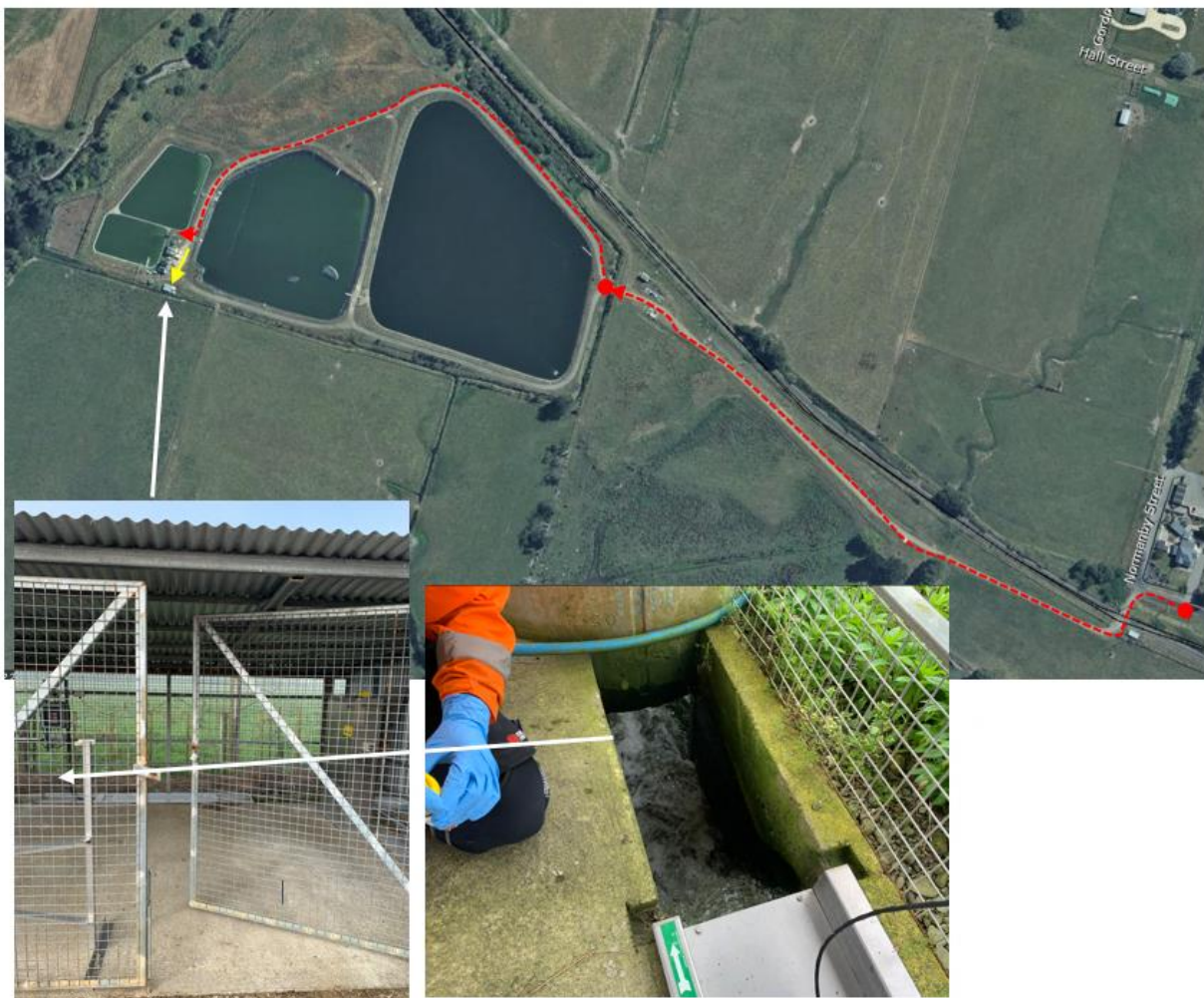









Manga-atua at d/s Woodville STP viewed looking at the sample marker (circled). Taken in low flow conditions 2024.



Manga-atua at d/s Woodville STP viewed looking upstream from sample location toward STP inflow. Taken in low flow conditions 2024.

Woodville STP at Secondary Oxpond Waste



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 – River		Traffic / vehicle movements – Roadside parking		Electric Fences		Slippery surfaces – mud, periphyton	
Trip hazards – cobbles, uneven ground		UV Radiation		Stock/Farm animals			
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):							
VEHICLE BEACON	HI VIZ	PFD	WADERS	HAND SANITISER	SAFETY GLASSES / GOGGLES	SAMPLING GLOVES	
							
DIRECTIONS: <ul style="list-style-type: none"> From the <i>Manga-atua</i> at u/s Woodville STP site, turn left and continue on Broomfield Road for a further 800m. Turn Left onto Masterton Road toward Woodville. After crossing the railway line turn left onto Station Street. Follow this until the road turns sharply right. At this point, to your left there should be a cyclone gate leading to the STP via a track on the opposite side of the train tracks. Be aware of TRAINS. DO NOT park over the railway tracks when accessing the site. 							
ACCESS: <ul style="list-style-type: none"> Continue on the track toward the pond compound. Access the pond via the cyclone gate (not locked) – leave as you find it, sometimes stock can be in compound. Carefully drive around the pond edges to the far corner. Sample in the concrete discharge channel post UV treatment (left hand end – see photos) within the metal shed. A TDC key is needed to access this location. 							




Tiraumea River at u/s Manawatu confluence



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 – River	Traffic / vehicle movements – Roadside parking	Electric Fences	Slippery surfaces – mud, periphyton
Trip hazards – cobbles, uneven ground	UV Radiation	Stock/Farm animals	Localised flooding and deep mud
Undercut river banks			

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):

VEHICLE BEACON 	HI VIZ 	PFD 	WADERS 				
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DIRECTIONS:

- From the *Woodville STP at Secondary Oxpond Waste* site, head back out of the compound and over the rail tracks leaving all gates as you found them.
- Turn Right onto Station Road.
- Turn Right on Masterton Road/SH2 toward Pahiatua.
- After approx. 5.5km you will cross the Manawatu River via the Ngawapurua Road Bridge.
- After crossing the bridge turn right onto the farm – behind the milking sheds is the farmhouse.
- You need to sign into the Onside app before accessing the *Tiraumea River at u/s Manawatu confluence* site.

ACCESS:

- Access the site by driving down the farm track to your left (when facing SH2).
- Follow the track under both bridges – caution on the hard right as you pass under the rail bridge as the track is narrow and has a large drop off on the outside corner.
- Stock may be present en-route to the sites.
- Leave gates as you find them.
- Park up opposite the slope down to where the Tiraumea River used to be.
- Park off the track as much as possible so as to not block stock movement.
- Head down the bank via the paddock on your right (when facing toward the Manawatu River / Woodville) and follow the cut track down to the river.
- Sample from where it is safe – use a sample pole
- Be aware of undercut banks
- In high flows the access route is flooded. In such circumstances it is recommended that sampling is abandoned.



Tiraumea at u/s Manawatu Confluence looking upstream from end of track/sample location



Tiraumea at u/s Manawatu Confluence looking downstream from end of track/sample location







Tiraumea River at u/s Manawatu confluence. Sample point viewed from farm race. Note that the 'channel' in the foreground is slack water marking the original channels meander which has flooded the access, in this instance the sample was abandoned.

**SITE LOCATION MAP – Pahiatua STP at Tertiary
oxpond waste; Mangatainoka at u/s Pahiatua STP;
Mangatainoka at d/s Pahiatua STP.**



Mangatainoka at u/s Pahiatua STP and Mangatainoka at d/s Pahiatua STP

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 – River	Traffic / vehicle movements – Roadside parking		Electric Fences		Slippery surfaces – mud, periphyton		
Trip hazards – cobbles, uneven ground	UV Radiation		Stock/Farm animals		Steep access to d/s site		
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):							
VEHICLE BEACON 	HI VIZ 	PFD 	WADERS 				
DIRECTIONS: <ul style="list-style-type: none">From the <i>Mangatainoka at u/s Tiraumea Confluence</i> site, turn right back onto SH2 and head towards Pahiatua.After about 7km turn right onto a gated farm access track (approx. 300m before Pahiatua Township).							
ACCESS: <p>Mangatainoka at u/s Pahiatua STP;</p> <ul style="list-style-type: none">Follow the track – be aware of stock and/or stock movement.After 330m the track forks; take the left hand path.This should take you along a high bank and then down toward the river level curving to your right.Park here if the ground is soft walk –the lower paddocks get very wet.At the lower paddock you should see a small clearing through the bush and over a small stream.This stream is the Town Creek stream and is where the STP discharges into (!).Cross this and head to the river bank.Sample above the Town creek confluence but downstream from the upstream meander (there is a small surface water drain flowing into this meander). <p>Mangatainoka at d/s Pahiatua STP;</p> <ul style="list-style-type: none">The downstream sample point is approx. 100 downstream of the Town Creek confluence.Normally the channel is split in two, sample from the left hand stem in order to test for the effects of the treated discharge from the STP.There are two access routes;(i) by wading the river immediately upstream of the Town Creek confluence, this is only safe in low flow conditions but can still be very slippery due to algae.(ii) Access down the bank via the track. A small waterlogged ditch also needs to be crossed at its base. This route is unsafe in poor weather conditions and the sampler should judge the risk before proceeding. Due to the access it is not possible to take black disc equipment (a clarity tube strapped over your shoulder is feasible).							



Upstream and downstream Pahiatua STP - Access Gate.



Mangatainoka at u/s Pahiatua STP Sample Location Map



Mangatainoka at d/s Pahiatua STP Sample Location Map.










Mangatainoka at u/s Pahiatua STP looking upstream from sample location



Mangatainoka at d/s Pahiatua STP looking downstream from sample location

Pahiatua STP at Tertiary oxpond waste

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 – River		Traffic / vehicle movements – Roadside parking		Electric Fences		Slippery surfaces – mud, periphyton	
Trip hazards – cobbles, uneven ground		UV Radiation		Stock/Farm animals			
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):							
VEHICLE BEACON 	HI VIZ 	PFD 	WADERS 	HAND SANITISER 	SAFETY EYEWEAR 	SAMPLING GLOVES 	
DIRECTIONS: <ul style="list-style-type: none">From the Mangatainoka at u/s & d/s Pahiatua STP sites, continue toward Pahiatua on SH2 (turn right).Turn right onto Cambridge Street.Take the next right onto Julia Street and follow this to the end.At the end of Julia Street turn left on to a small sealed access road. This leads to the STP.							
ACCESS: <ul style="list-style-type: none">At the gate use the TDC provided key to gain access – shut behind you as sheep can be inside.Park up by the STP buildings on your right at the top of the slope.Walk down the slope & to your right will be the primary sampling location (see photo).Open the hatch to sample.<i>If needed, there is an alternative sampling location next to the stream (see photo). Make sure to note down the sampling location & take a photo.</i>							



Pahiatua STP at Tertiary oxpond Waste Sample Location Map.



Pahiatua STP: Primary Sample Location



Pahiatua STP: Alternative Sample Location

SITE LOCATION MAP – Ngatahaka Stream at u/s Makakahi Confluence



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements

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
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DIRECTIONS:

- From Pahiatua, head south on SH2 to Eketāhuna.
- Once in Eketāhuna, turn right onto Bridge Street after the Four Square. After 650m Bridge St turns left and becomes High St.
- The first on your right is Simpson St. Take this turn and turn immediately right again into Jackson St. Park at the end of this road on the grassy bit on the right hand side.
- Access to the sample site is through the paddock over the stile and down the slope. You can see an old run down concrete building to your right. Make sure you leave it to your right hand side. There are cow tracks you can follow. Be careful it can get muddy and slippery.



SITE LOCATION MAP – Makakahi at u/s Eketāhuna STP



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements

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
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DIRECTIONS:

- From the Ngatahaka u/s Makakahi Confluence site, drive back down Jackson Street in the direction that you came from and turn left onto Simpson Street, then right onto High Street.
- Continue down High Street until you reach Septimus Street (gravel road) and turn left.
- When you reach the end turn left onto Stanly Street.
- The first street on your right is Stout Street, which leads to the Eketāhuna Motor Camp. Take this turn.
- Drive down the slope and you will be able to see the campground to your left. There is a path on your right leading to the river. Take this path. Park at the end of the path on the grass patch. The sampling site is just in front of you.

Gauge site: Site name is MAKAKAHI AT MOTORCAMP

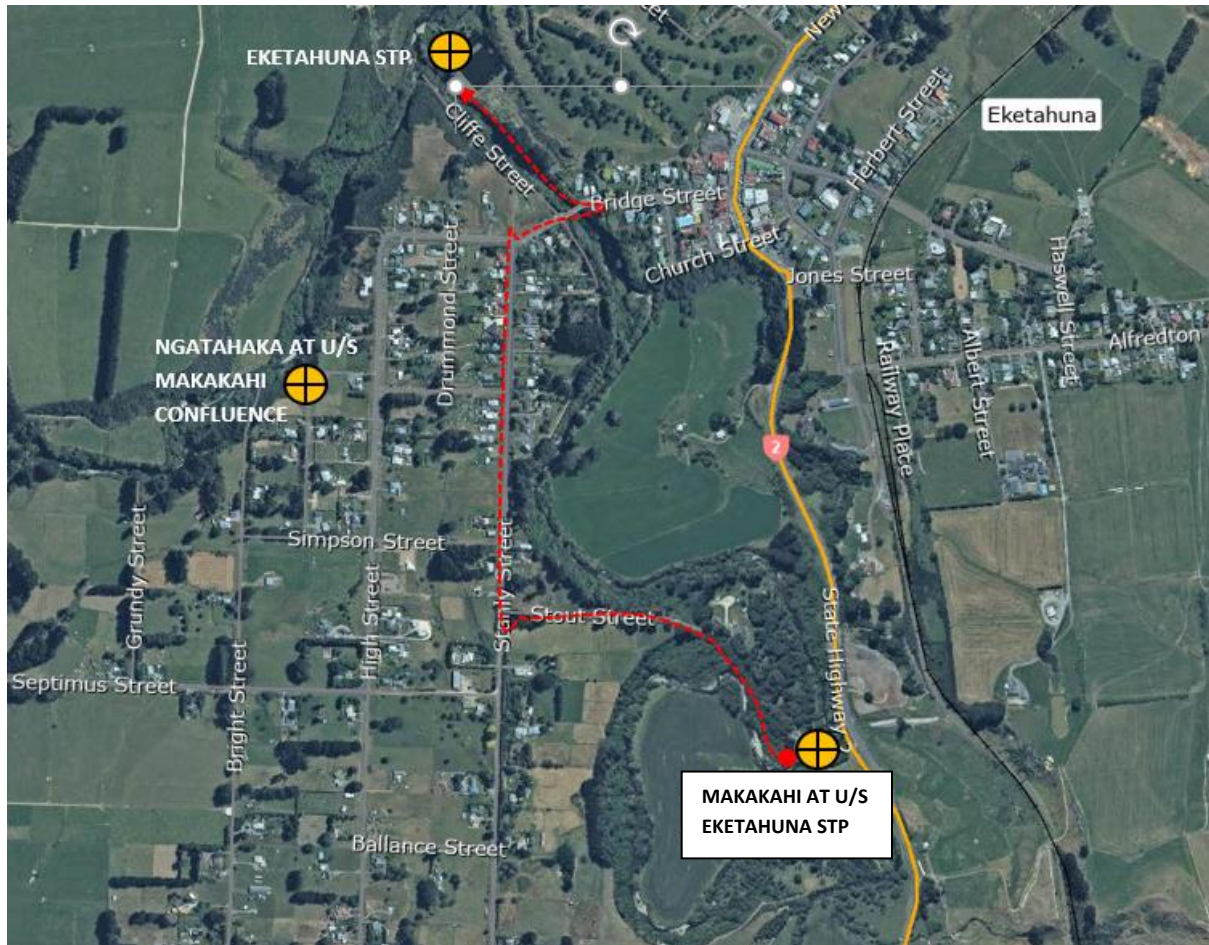


Looking upstream



Looking downstream

SITE LOCATION MAP – Eketāhuna STP



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):

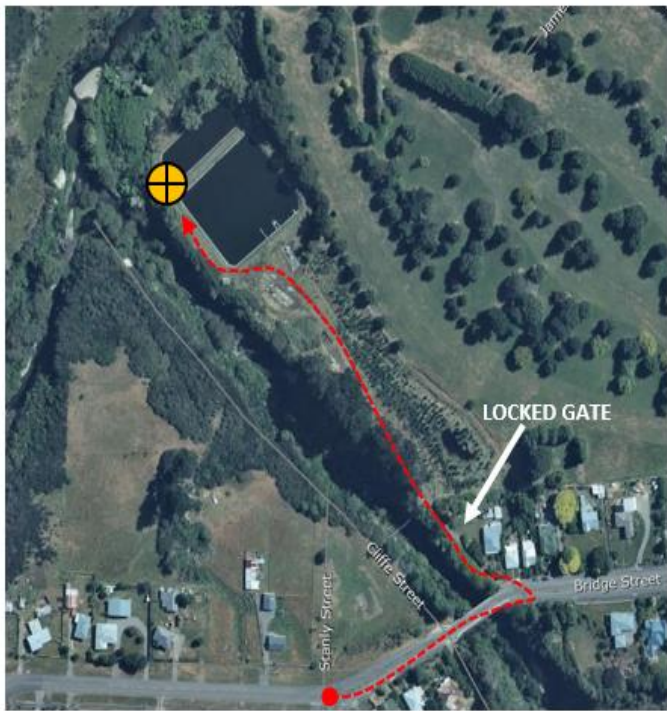
Drowning	UV Radiation	Slippery surfaces	Trip hazards	Traffic / Vehicle Movements
Difficult entry/exit	Potential for difficult rescue	Machinery- mobile plant	Weather/ Temperature Extremes	

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	SAMPLING GLOVES	SAFETY GLASSES / GOGGLES
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DIRECTIONS:

- From the upstream Eketāhuna STP site head back down Stout Street the way that you came and turn right onto Stanly Street.
- At the end of Stanly Street turn right onto Bridge St and take the track on the left immediately after you cross the bridge. You may need to carefully do a 2-point turn to get the right angle. Otherwise park up and walk in.
- You'll need the key for the gate. Continue on until you reach the STP.
- Walk around the first pond to the second smaller pond. CAREFULLY sample from the edge of the pond using a sampling pole.

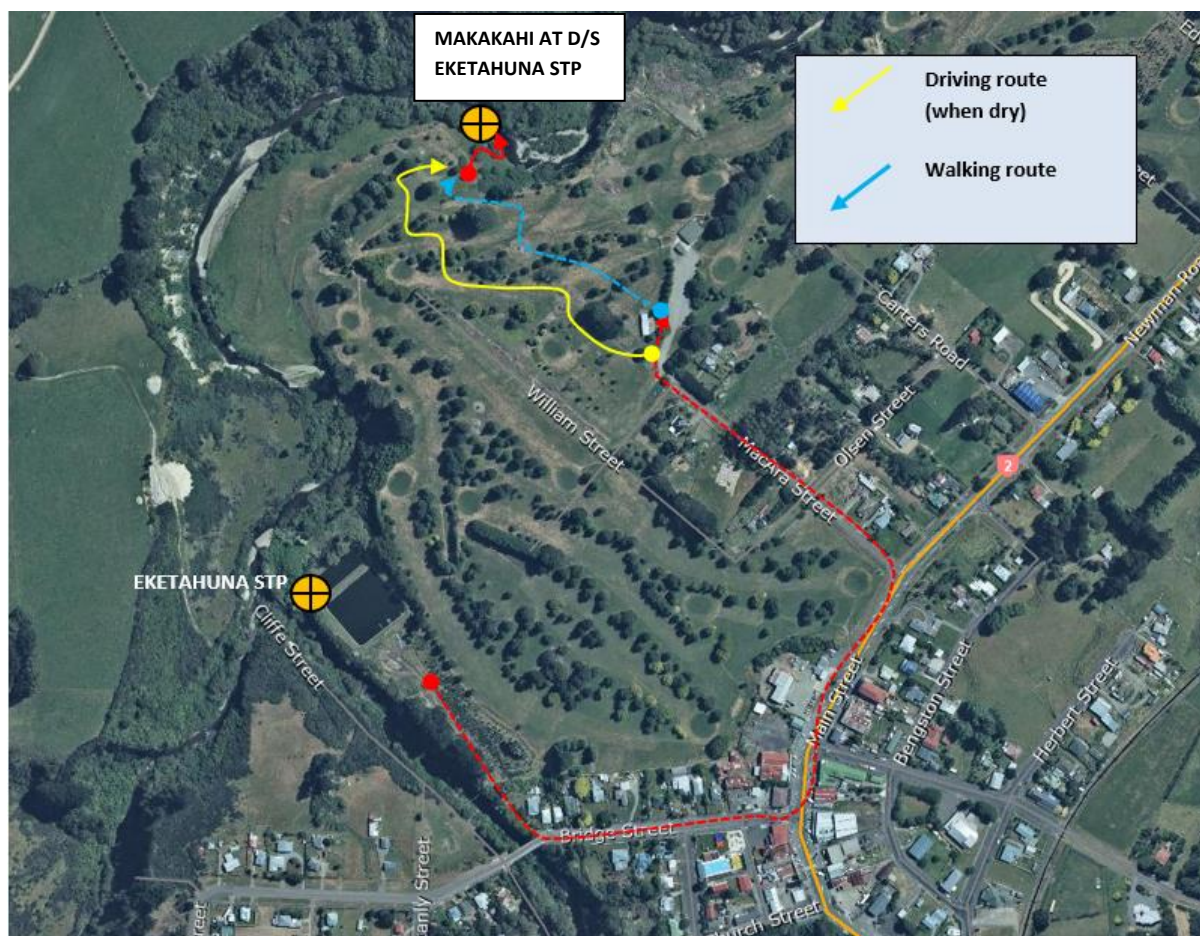


Eketahuna STP: Site Map



Eketahuna STP: Sample Location

SITE LOCATION MAP – Makakahi at d/s Eketāhuna STP



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Weather/Temperature Extremes	Traffic / Vehicle Movements

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
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DIRECTIONS:

- From the Eketāhuna STP travel back to SH2 by continuing on down Bridge Street toward the Four Square and turn left.
- The first street on your left is Macara St which leads to the Golf Course. Take this turn and drive into the car park.
- When wet or busy walk across the golf course down to the river.
- When dry you can drive (do not drive or park on any greens!).
- Head toward the lower green (when driving park near here to out of any play).

ACCESS:

- The sample site is down the bank – take care.
- Sample from the bank (opposite a warratah marker)

