

Quad Bike Standard Operating Procedure (SOP)

Greater Wellington Regional Council's SOP for the use of quad bikes

Safe Operating Procedure owner	General Manager, People and Capability
Position administering this Safe Operating Procedure	Senior Health and Safety Adviser
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Related policies and legislation	<p>Greater Wellington Regional Council</p> <ul style="list-style-type: none"> • Health and Safety Policy • Keeping Employees Safe at Work (KESAW) • Hazard Management Policy • Incident Management Policy <p>Health and Safety in Employment Act 1992</p>
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Approved: _____
General Manager, People and Capability

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FOR FURTHER INFORMATION

MIKE WARD



Senior Health and
Safety Adviser

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1. Quad Bike Health and Safety Essentials

Before operating a quad bike – the following health and safety essentials must be complied with:

1. The quad bike has been determined to be 'fit for purpose' for the tasks and environment that it is planned to be used for.
2. The operator must be trained and deemed competent for the task/s and environment that it is planned to be used in.
3. All GWRC quad bikes must be fitted with a recognised Crush Protection Device (CPD)
4. All GWRC quad bikes must be registered with NZTA as a VIN exempt motor vehicle.
5. Boots and an approved quad helmet or motorcycle helmet must be worn by the operator at all times.
6. Other PPE (gloves and eye protection) should be available and used when necessary.
7. Passengers can only be carried in accordance with manufacturer's specifications. Any passengers must wear an approved helmet at all times.
8. Quads must not be operated at speeds over 30 km/h. This speed limit applies to any necessary short transits on a public road.
9. The operator must take time to ensure that they are familiar with any known hazards on the location they are intending to operate the quad bike. This can also be confirmed with the land owner or the person in control of the location.
10. The operator must know their skill level and not attempt any quad bike operation that is beyond their competency and confidence level.
11. The operator must check tyre pressure, front and rear brakes, steering, fuel and oil levels before operating the quad bike.
12. The total load must not exceed the manufacturer's specifications – including front and rear carrier weight limits, with all loads balanced and properly secured.
13. Liquid loads must be carried as full containers or specifically designed tanks with baffles or similar features.
14. No towing on quad bikes apart from approved quad specific implements (e.g. Park's quad mower, small quad bike trailer) in compliance with manufacturers' specifications for the quad and implement.
15. For any after-market modification or feature on quad bikes, the following must be satisfied –
 - a. Has the need for the modification or feature been specified for the tasks that the quad is to be used for

- b. Where possible, the modification or feature should be manufacturer approved
 - c. Has the modification or feature been purchased from a recognised dealer
 - d. Has the modification or feature been tested to recognised standards by qualified engineers
16. The planning of work activities must take into account the requirement that the operator needs sufficient hydration and energy to actively ride a quad bike to and from the work location.
 17. PLB's are to be carried by all riders and remote/lone working procedures must be complied with.

The requirements, apart from the fitting of a CPD, set out in this section are applicable to any contractors who operate quad bikes. The staff member responsible for managing the contractor must ensure that the contractor complies with these requirements.

Some of the potential significant hazards an operator can face and need to remain vigilant for while operating a quad bike include:

- *Unfamiliar and/or changeable location, environment and conditions*
- *Steep and/or slippery slopes and tracks*
- *Uneven surfaces*
- *Drains and pot holes*
- *Hidden obstacles (Farm, harrows, PVC pipes, cut over scrub, holes, hollow and old fence batons)*
- *Electric fence and low strung wires*
- *Slippery wet grass and/or surface conditions*
- *Deep and/or flowing water*
- *Unstable, overweight and/or insecure loads*
- *Loading and unloading quads from trailers or utes*
- *Operator dehydration and fatigue*

NOTE: Hazards can change as work is occurring. All quad bike operators need to maintain a high level vigilance at all times.

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2. Purpose

This Standard Operating Procedure (SOP) brings together existing quad bike SOP's from various parts of Greater Wellington Regional Council (GWRC) to provide an agreed approach to the healthy and safe use of quad bikes at GWRC.

This SOP covers the operation of traditional single seat and two seater quad bikes. **The principles in the SOP relate to other staff interaction with quad bikes either as potential passengers on third party quad bikes or their use by contractors, but are not explicitly covered in this SOP.**

At GWRC quad bikes use is limited to:

- Off road transportation
- Short on-road transits
- Carrying small loads of agrichemicals, supplies and equipment
- Towing of dedicated quad mowers and small quad bike trailer

These procedures have been prepared to:

- Ensure the health and safety of staff and other third parties associated with GWRC work, while operating quad bikes on formed tracks and unformed terrain, primarily off the public roads
- Assist with the identification of hazards associated with quad bike operation and the effective management of their risks.

3. Introduction

Quad bike use has evolved to become a vital tool for our operational needs, but require a high level of competency and skill to be operated correctly and safely in the environments that they are operated in at GWRC.

Quad bikes have proven to be very adaptive as a piece of work equipment, particularly in New Zealand, for a vehicle that was originally designed as a recreational vehicle.

A quad bike is probably the most routinely modified piece of equipment in the rural workplace and it has been described as the Swiss army knife of farming. Much of this broadening of the use of quad bikes has evolved because they can be used for a wide range of activities without actually stopping to review whether they should be/or are the most appropriate piece of equipment to be used.

Sadly there has been an average of five people killed in work related quad bike accident in New Zealand every year. Many more have been seriously injured, with the most common injuries involving head trauma and/or crushing related injuries.

The critical elements for the effective management of quad bike related health and safety risk at GWRC includes:

- *Fit for purpose for the selection and modification of the quad bike to best match its intended use.*
- *The quad bike is operated within the scope of the manufacturers recommendations.*
- *Fitting all GWRC quads with a recognised Crush Protection Device (CPD)*
- *Registering all GWRC quads with NZTA as a “VIN Exempt” vehicle and display a registration plate.*
- *Adequate training, supervising and coaching of staff operating the quad bike so that their skills, competence and individual confidence is appropriate for the intended use of the bike.*
- *The required personal protective equipment (PPE) is used at all times when operating the quad bike.*
- *The quad bike is adequately maintained so that it is safe to operate.*
- *The quad bike is loaded, unloaded and transported safely to the location(s) where it is intended to be used.*

These critical elements are described in more detail in following sections.

4. General quad bike hazards

It is recognised that GWRC staff operate quad bikes on a large number of different properties and locations in a variety of environmental conditions. It is critical that prior to beginning work in a location that the operator familiarises themselves with the hazards that they are likely to come across. This can be documented in farm plans, project plans, site specific hazard registers, Parks’ hazard plans or by completing a Job Safety Review (JSR) sheet.

If the operator is not fully familiar with the hazards in a particular location, the operator must contact the land owner or the GWRC staff member responsible for the location to clarify known any hazards (existing and/or new).

Some of the potential significant hazards a staff member can face and need to remain vigilant for while operating a quad bike include:

- | | |
|--|--|
| • <i>Unfamiliar and/or changeable location/environment</i> | • <i>Slippery wet grass and/or surface conditions</i> |
| • <i>Steep and/or slippery slopes and tracks</i> | • <i>Deep and/or flowing water</i> |
| • <i>Uneven surfaces</i> | • <i>Unstable, overweight and/or insecure loads</i> |
| • <i>Drains and pot holes</i> | • <i>Loading and unloading quads from trailers or utes</i> |
| • <i>Hidden obstacles (Farm, harrows, PVC pipes, cut</i> | • <i>Operator dehydration and fatigue</i> |

over scrub and old fence batons)

- *Electric fence and low strung wires*

NOTE: Hazards can change as work is occurring. All quad bike operators need to maintain a high level vigilance at all times.

5. Selecting a quad bike – ‘fit for purpose.’

When selecting a particular quad bike for a work related task or when considering purchasing a new quad bike, the selection must be deemed ‘fit for purpose’.

‘Fit for purpose’ – the most appropriate equipment that will ensure that the desired task can be performed as productively and safely as possible within the scope of existing staff skills and competency

When deciding whether a quad bike is ‘fit for purpose’ consideration must be given to:

- The skill, competence and confidence of the staff who are going to operate the quad bike
- The terrain and environmental conditions it is intended to be operated in
- The need, types and weights of loads to be carried
- Whether there is a need to carry passengers
- The method available to transport the quad bike
- Emerging safety design features

5.1 Purchasing a new quad bike

When purchasing a new quad bike, the bike must be ‘fit for purpose’ and the following factors must be taken into consideration:

- Whether additional manufacturer and/or after-market features will be required e.g.:
 - Bull bars
 - Crush Protection Devices (CPD)
 - Front and/or rear carrier mounted boxes
 - Dog mats, plywood or other carrier surfaces
 - Different wheels and/or tyres
- Specific staff training and/or new quad bike induction/safe operator training, including:

- Differences from previous quad bikes
- Unique features and/or required riding techniques, e.g. braking mechanisms when descending slopes
- Manufacturer specified performance limitations, e.g. total as well as front and rear carriers maximum load weights

When comparing different quad bikes or alternatives, a business case that documents the pro's and con's on each vehicle tested should be prepared to be discussed with the applicable department manager.

A consolidated record of previous tests and reviews of various quad bikes and LUVs by GWRC staff is contain in the [document powerdocs #1281289](#)

5.2 Registering a quad bike for use on public roads

The GWRC fleet of quad bikes are intended for riding primarily off-road. Some operations require the use of public roads for short transits. All GWRC quad bikes should now be registered must be registered and licensed as 'VIN exempt vehicle - either exempt class A or potentially class B for Parks' quad bikes.

The quad bike will need to display a registration plate and while not required to get a warrant of fitness they must be maintained in good mechanical condition. The operator must also hold the relevant driver's licence.

Check the NZTA fact sheets below for relevant information.

<http://www.nzta.govt.nz/resources/factsheets/19/all-terrain-vehicles.html>

<http://www.nzta.govt.nz/resources/factsheets/27/docs/27-exempt.pdf>

Public Roads - A number of locations are considered to be public roads including riverbeds, beaches, public parks and domains. When riding in any of these areas, lights should be displayed front and rear, GWRC specified PPE must be worn and the road rules followed.

Travelling on public roads is a high risk activity because of the other traffic users. Staff should plan activities to minimise the period of time spent travelling on the road. Staff should ride on the verge/shoulder of the road, where possible. The maximum speed limit of 30 km/h applies to all use of a quad bike whether the vehicle is used on-road or off-road. If extended travel is needed on the road, plans should be made to transport the quad bike on a vehicle or trailer.

6. Personal Protective Equipment

When operating a quad bike the minimum PPE that must be worn includes:

- ‘NZE 8600:2002 All-Terrain Vehicle Helmets’ approved helmet or motorcycle helmet – discussed in section 6.1
- Work boots or gumboots (no open footwear)
- Personal Locator Beacon (PLB)
- First aid kit
- At least one form of functioning communication (cell phone and/or radio)
- Crush Protection Device (CPD)
- Handle bar mounted hand guards

Also depending on the tasks being performed additional PPE could include:

- Gloves
- Eye protection – safety sunglasses or motorbike goggles
- Warm protective clothing or clothing that covers the operator, as well as any passenger’s, arms and legs

6.1 Helmets

The applicable manager must ensure that approved helmets are available and in a good condition for all staff riding quad bikes. If a staff member is riding the quad bike regularly a personal helmet must be provided.

The helmet needs to be well-fitting, securely fastened, and maintained in good condition (follow the manufacturer’s instructions regarding care and maintenance).

The quad helmet standard (*NZE 8600:2002 All-Terrain Vehicle Helmets*) must be worn at all times while the vehicle is in operation. The vehicle must be driven at speeds less than 30km/h. An approved motorcycle helmet can also be used as some people may find these more comfortable to wear.



Figure 1: Approved off-road motorbike helmet fitted correctly

Replacement and checking of helmets

The recommended replacement period for an approved helmet is 5 years maximum from the year of manufacture, as the helmet can be weakened by the harsh effect of UV rays in New Zealand.

There are a number of specific areas on the helmet that should be regularly checked. If the condition of the helmet in these specific areas is found to be unsatisfactory then the helmet should either be repaired or replaced. The areas to check include:

Shell

Check the shell for structural cracks, deep cuts and/or dents. These may compromise the structure of the shell (*non-structural cosmetic damage including scratches, scuffing and nicks do not affect the performance of the helmet. Dropping the helmet does not affect performance*).

If the helmet is **impacted**, the helmet should be replaced. There is a difference between ‘**shock impact to the helmet**’ and ‘**dropping the helmet**’ as there has historically been some confusion in this area. The suspension system and/or impact liner offer protection against shock impact. Dropping the helmet does not affect the suspension system or impact liner.

‘Impact’ occurs while wearing the helmet and can have the following effects:

- The cradle ribbon may be stretched and therefore the vertical clearance between the head and the helmet shell may be decreased
- The suspension system anchors (made of reinforced plastic) may be affected. This may affect their capability to absorb another round of impact force

- The impact liner (as in the case of a structural fire fighting helmet) may be compressed. This may affect its capability to absorb another round of impact force

The scenario of dropping a helmet is entirely different. When a helmet is dropped, neither the suspension system, nor the impact liner (if one is fitted) will experience any detrimental effect.

The shell surface may be cosmetically affected (scuffing, marking, etc.) and in the worst case scenario, the paintwork on the shell may be affected; but this does not reduce the helmet's capability in absorbing an impact force thereafter.

Chin strap

Where the chinstrap attaches to the helmet, check for loose fittings. The chinstrap should attach securely to the helmet to ensure it is retained securely on the head.

Check chinstrap buckles, fittings and connections for breakages.

6.2 Crush Protection Devices (CPD)

Following GWRC's investigation into the concerns around Crush Protection Devices (CPD's) the Executive Leadership Team has endorsed the recommendation that all GWRC quad bikes must be fitted with a recognised 'fit for purpose' CPD.

The two type of CPD that GWRC recognises as being 'fit for purpose' include the:

- Angel Wings
- Quadbar



7. Training and competency

Effective initial and on-going induction, training, supervision and coaching is critical to ensure GWRC staff operating quad bikes have the skills, competency and confidence to operate them safely.

Personal development in quad bike skill/competency is based on three tiers from basic external training, role specific skill/competence through to recognition of skill/competence as a GWRC approved internal trainer and assessor.

7.1 Recruitment and selection

When a position requires the incumbent to operate a quad bike, the level of competency of the quad bike operator must be specified in the job description for that position and applicants must be assessed against that standard. It may be appropriate to require an applicant to present appropriate evidence of recognised

NZQA based quad bike training. The applicant may also need to practically demonstrate skill/competence to operate a quad bike safely to the recruiting manager or an approved internal GWRC assessor.

7.2 Tier 1 – External quad bike training

All staff operating quad bikes must complete the first available approved external training course that covers the requirements for the relevant NZQA unit standard listed in Table 1. This includes the completion of any supervised probationary period required before the unit standards can be awarded.

If new staff have already satisfactorily completed these unit standards with an approved external training provider prior to commencing employment with GWRC, evidence of completion will be required. The staff member should be supervised for an initial period so as to satisfy their manager that they are competent and confident. Depending upon the time that has elapsed since completion of the training and the activity assessed, GWRC will make an assessment as to whether the new employee is required to attend the training course again.

Table 1: NZQA Quad bike and LUV related unit standards

NZQA Unit Standard	Title
24554	Ride a quad bike on flat terrain in the workplace
24557	Demonstrate knowledge of the safe operation of a quad bike
24559	Ride a quad bike on hilly terrain
24561	Ride a quad bike with trailed equipment
24563	Ride a quad bike with mounted equipment or a load

7.3 Tier 2: Internal competency assessment and task specific training

Once the staff member has completed Tier 1 training an assessment of the staff member's competency will be undertaken by either an internal GWRC quad bike assessor or external assessor. The competency assessment will be based on the staff member satisfactorily demonstrating their skills, competence and confidence in performing specific quad bike related tasks that are required in the performance of their role.

The skills to be assessed are:

- Work planning and hazard assessment
- Pre-start operator checks

- Flat off-road operation
- Form track operation
- Manoeuvring off-road on uneven surfaces and slopes
- Wet and/or slippery surfaces
- Loading of quads – weight limits, balance and load security
- Loading and unloading of a quad bike from a trailer
- Load and unloading a quad bike from a ute
- Where passengers are able to be carried (in accordance with the manufacturer’s recommendations) - passenger carrying and management
- Slide arrest and the danger of secondary visual tasks
- Operator prestart check and basic maintenance tasks (e.g. cleaning of air filter)

The competency grading assigned to each skill set for every employee is listed in Table 2 below.

From this assessment specific training, supervision and coaching needs will be identified and a development programme established.

Table 2: GWRC Competency grading criteria

Not required currently – not applicable	0
Not competent – requires training	1
Can work under supervision – active coaching provided	2
Competent – can work alone following planned job/task with supervisor	3
Fully competent - can work alone	4
Highly competent – recommend staff member as a recognised coach, trainer and assessor	5

7.4 GWRC approved quad bike trainers and assessors

Where a staff member is assessed at the competency level 5, the staff member’s manager can nominate the staff member as an internal quad bike trainer and assessor.

All staff nominated as internal trainers and assessors will be required to have their skills and competency peer reviewed by a suitable external assessor before they can complete internal assessments of other staff.

These staff will be used in the competency assessment and development of other GWRC quad bike operators. They will help develop and deliver training events

for other staff that relate specifically to the tasks that GWRC are planning to use quad bikes for. In particular this will include seasonal specific training, e.g. wet and muddy conditions prior to winter.

Appendix 1 contains the basic quad bike operator competency assessment checklist that should be completed at least annually for all quad bike operators.

Appendix 2 is a specific competency checklist for the skills related to the loading and unloading of a quad bike from a ute or trailer. This is covered in more detail in section 10 on page 20.

8. Quad bike maintenance

Good maintenance is critical to the safety of all quad bikes. Critical elements of an effective maintenance programme include:

- Pre-start operator checks
- General maintenance
- Scheduled mechanical servicing checks
- Vehicle damage reporting and repair

8.1 Daily maintenance checks

The quad bike fleet must be regularly serviced to a schedule which considers the quad bike's hours and levels of use. In between services the quad bike should be regularly inspected for any faults or problems.

A quad bike operator must check their vehicle for the following before each use:

- 1) Tyre pressures and condition
- 2) Brakes front and back
- 3) Steering
- 4) Fuel
- 5) Oil levels
- 6) All after-market attachments are secure and good condition
- 7) Tool kit is present and complete

8.2 General maintenance

The general maintenance needs to be completed regularly by the quad bike operator and at no less than fortnightly intervals.

- Wash the vehicle regularly
- Remove and clean or replace the air filter
- Ensure controls, especially the throttle and brakes, are checked and adjusted regularly
- After riding through water, check brakes

Appendix 3 contains a list of items that should be reviewed as part of the general maintenance checks.

8.3 Scheduled mechanical servicing checks

Thorough mechanical servicing checks must be completed in line with manufacturer's recommendations by a suitably qualified person.

The items that should be checked as part of a scheduled mechanical servicing check are listed in Appendix 4. This should be completed for each service of a quad bike and kept in an accessible file for the period that the quad bike is part of the GWRC fleet.

8.4 Breakdowns and/or damage

A quad bike must not be operated if it is due for a service or has any obvious mechanical faults which cannot be fixed by the operator. If a mechanical problem occurs in the field, inspect the vehicle and try and fix the problem with the tool kit. Only continue to ride if there is no increased risk to the operator and if it will not further damage the vehicle. Otherwise park the vehicle somewhere safe, take the key and call or walk to get assistance. Take care to note the exact location so another staff member can easily find it, if necessary.

Incidents that result in a quad bike being damaged, but not injury to the operator, should be recorded in the GWRC Incident database as 'property damage' incident and investigated as required by the [GWRC Incident Management Policy](#).

9. Summary of requirements for quad bikes

9.1 Quad bike riding technique

Quad bikes require 'active riding' to operate safely in undulating terrain. Because of the seat design and stability of four wheels, quad bikes feel stable and safe and it is tempting to ride them in just a sitting position. Quad bikes are intended to be ridden 'actively' - meaning the rider adjusts their sitting position to counteract gravity and the weight of the bike. When riding:

- Up steep hills stand up and lean forward over the handle bars
- Downhill move right back on the seat and lean back
- Along a slope, move in your seat to the uphill side of the bike

Environmental conditions can have a big influence on the handling of a quad bike. Conditions are constantly changing and an area which was previously safe to access by the quad bike may change over time. Ground conditions, waterways, visibility, grass and vegetation growth will all change with the seasons. Take into account changing weather conditions and obtain a reliable weather forecast before using the quad bike. Make allowances for this and if in

doubt seek the advice of others on the potential conditions. Consider all access options, using a Side-by-side/LUV, two-wheeled motorbike, 4WD vehicle or simply walking may be more suitable in some conditions.

Terrain across the region varies greatly and even individual properties often have a range of landscapes. Maps and aerial photos are useful for route planning but do not show the condition of tracks or other access routes. The landowner or other staff members will be able to give advice on recent conditions, but remember that conditions can change rapidly. Again, other forms of transport may be more suitable than a quad bike.

9.2 General precautions

General precautions when operating quad bikes:

- Ensure that you have been inducted to the particular quad bike you are planning to operate, so that you understand any unique features it has
- Keep both hands on the handle bars while riding
- Be familiar with the instruments and controls (e.g. kill switch, brakes, gears etc.) before operating a quad bike
- Always keep your feet on the foot pegs at all times
- Never exceed 30km/h
- Do not overfill the fuel tank. Ensure that the engine is off while filling and do not smoke
- Wear comfortable clothing that does not obstruct your manoeuvrability
- Use caution if engaging the quad bike in differential lock position (steering will become heavier) especially on a hard or steep surface
- Be aware of the length of the rear mud-flaps. Long mud flaps can be caught under the rear wheels if reversing on steep slopes, unstable ground or while unloading. This can cause the quad bike to lift at the front
- Ensure daily operator checks of the quad bike (fuel, oil, tyres, brakes, steering etc.)
- Scheduled mechanical servicing and repairs of quad bikes will only be carried out at a professional workshop
- Only use GWRC quad bikes or quad bikes hired from a reputable dealer

9.3 Hills and slopes

Before attempting to travel up, down or across a slope:

- Plan a safe route beforehand

- Stick to formed tracks where possible. If going off-track it is generally easier to head up and down slopes rather than to sidle across them
- When traversing a slope use your body weight to manoeuvre and counter the weight on the slope. When sidling steer slightly up hill if necessary to maintain a straight course
- Avoid slippery steep surfaces where possible. Wet grass, clay tracks and loose rubble on top of hard surfaces can all make formed tracks slippery
- Keep to a constant low speed. Select the correct gear for the terrain, use engine braking when going downhill
- Avoid parking on a steep slope. Do not rely on the handbrake
- If unavoidable, facing downhill is the safest parking option on a hill. If parking facing downhill, after turning off the quad bike, select first gear and apply the hand brake. When parking facing uphill always place the quad bike in reverse and apply the handbrake
- Avoid cornering or turning on a steep hill face (Do not engage differential lock when turning on a steep hill face)
- If you get into difficulty on a steep hill face, stop and park the quad bike in the correct manner and manhandle the machine into a safe position or leave and get help. In emergency situations it can be safer to get off the quad bike on the uphill side and walk along beside it operating the throttle. If the quad bike rolls downhill you will be clear of the vehicle
- Be aware that each make and model of quad bike will handle differently. Always take the time to familiarise yourself with the controls and handling of a different machine

9.4 Braking

- Apply brakes lightly on slippery surfaces
- When going downhill it is best to use a low gear to engine brake. Apply brakes lightly on slippery surfaces – make sure you are fully aware of the correct way to get engine braking working on your quad bike when descending down a slope
- Avoid braking during tight cornering, instead reduce speed before you get to the corner
- When engaged in 4WD or differential lock position, be aware that braking with the front or rear brake only will also lock up all four wheels
- When parking, ensure handbrake is locked on correctly

9.5 Riding through water

When considering riding through water:

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- Never attempt to cross a deep or fast flowing stream or river
- Plan a safe route beforehand on foot to assess the depth and access/exit points. Remember that the stream bed is active and holes and boulders may appear at previously safe crossing sites
- Never take the quad bike through water any deeper than the wheel hubs. If so ensure it receives a maintenance check
- Always cross a river or stream riding with the direction of the water flow, head across and with the current from beach to beach
- If your quad bike is fitted with a fan, switch it off before entering water
- Always test and dry your brakes after riding through water by applying brakes lightly while moving

9.6 Loading

Quad bikes have the capacity to carry loads on the front and rear carriers. Remember that any additional loading on the quad bike will change the handling characteristics of the bike.

- Total weight of a load must not exceed the manufacturer specified maximum safe load limit for the front and rear carriers. Any after-market features that have been added to a quad bike need to be taken into consideration when calculating a total load weight
- Ensure your load is evenly distributed and secured with tie-downs
- When approaching an obstacle while carrying a heavy load, stop and re-distribute the load to suit the obstacle. If climbing a steep hill move heavy loads to the front carrier, downhill move it to the rear carrier. If sidling put the load on the uphill side
- If necessary reduced the load by doing several trips to transport the load
- Never carry any unsecured items on the quad bike carriers or across your knees
- Do not wear a slung rifle across your back
- Liquid loads must be carried as full containers or specifically designed tanks with baffles or similar features

9.7 Trailers

Most quad bikes in the GWRC fleet are fitted with a tow ball. There are a range of quad specific trailers and trailed implements available. Quad bikes are not designed for towing car trailers and must not be used for this purpose.

- Only quad bikes that have a manufacturer's designated towing capacity can be used to tow a quad bike specific trailer
- Never take a loaded trailer onto slopes, always stick to well-maintained formed tracks
- Do not overload the trailer in excess of the manufacturer's recommended maximum load capacity or the quad bikes specified towing capacity
- Ensure your load is evenly distributed and secured, do not overload the trailer
- Never carry passengers on trailers
- Never exceed 20 km/h per hour when towing a trailer or implement

9.8 Passengers

Passengers can only be carried on quad bikes that are specifically designed for that purpose and riders are competent to operate the quad as detailed in this SOP.

When carrying passengers they must all:

- Sit in a seat that is designed for a passenger
- Wear an approved quad bike or motorcycle helmet
- Keep all limbs within the confines of the quad bike while it is in motion.
- Listen to and obey all instructions of the staff member operating the quad bike. Dismount and transverse any difficult terrain on foot when asked to by the staff member operating the quad bike

The staff member operating a quad bike carrying passengers:

- Is responsible for the safety of any passengers while the quad bike is in motion and must exercise extreme caution when carrying passengers on quad bikes
- Must drive the quad at the appropriate speed with regard to terrain and local conditions and on flat, safe ground not to exceed 25 km/h while carrying passengers

10. Loading and transportation of quad bikes

Quad bikes can be transported on either flat deck vehicles/utes or trailers. Quads bikes are to be loaded or unloaded in the following manner:

- Before unloading, loading, and transport always:
 - Select a suitable site to load and unload the quad bike – flat and free from obstacles
 - Check the trailer is attached to the vehicle correctly. This involves checking the coupling attachment, correct tow ball size, safety chain and removal tow bar attachment, if fitted. Remove loads from a quad bike
 - Try to have another staff member help if possible
- Quad bikes may only be ridden onto utes or trailers by trained, assessed and approved staff who must wear a helmet. Never push a quad bike on to vehicles, they are too heavy to push safely
- If using ramps ensure that:
 - They have the appropriate weight capacity for the quad bike that is being loaded/unloaded displayed on the ramps (A guide to calculating if the ramps are appropriate is: $(\text{Quad bike curb weight} + \text{rider weight})/2 \times 1.5$) E.g. If the safe working load for each ramp is 175kg, that's a total load capacity of 350kg for the two ramps
 - They are lined up correctly with the wheels
 - The ramps are secured to the vehicle to stop them sliding or moving during loading
- Engage first gear and 4WD before riding up ramps. Make sure that the brakes are working and you can stop before the end of the tray or trailer. A wet surface on the trailer or ute will reduce stopping ability
- If unloading, have a clear area behind the vehicle or trailer to safely ride the quad bike down to
- When loading/unloading from a vehicle take advantage of the natural terrain to lessen the height of the deck by backing up to low hills, banks etc
- Once loaded leave the quad bike in gear and apply the handbrake before transportation
- Secure the quad bike front and back with ropes, or straps with ratchet tie-downs in good condition
- Check the load regularly during transportation, particularly on rough terrain

- Use crossover ties if you are travelling a long distance or over uneven terrain. Make sure that the quad bike and ramps have been securely tied or latched down before moving the vehicle or trailer
- Make sure that all tools and implements are taken off the quad bike before moving the vehicle



Quad bike correctly loaded and secured on trailer



Correct procedure for unloading a quad bike from trailer. Rider wearing a helmet, all implements removed from the quad, trailer ramp in use, body positioned at the back of the seat, feet firmly on the foot pegs and a run-off area for the bike to ride out to

Appendix 2 contains an operator competency checklist for the loading and unloading of a quad bike onto/from a trailer or ute.

11. References:

1. [Good Practice Guideline for the safe use of quad bikes \(2014\)](#); WorkSafe New Zealand.
2. Quad bike safety- Tips on how to stay safe (October 2010); Accident Compensation Corporation
3. [How to load \(and unload\) a quad bike for transport](#); WorkSafe New Zealand (2014)
4. Handbook for workplaces- Quad bikes on farms (August 2009): Worksafe, Victoria, Australia
5. [Quad Bike Crush Protection Device \(CPD\) Vegetation Snagging Assessment](#): GWRC (2015)
6. NZTA Factsheets:
 - a. <http://www.nzta.govt.nz/resources/factsheets/19/all-terrain-vehicles.html>
 - b. <http://www.nzta.govt.nz/resources/factsheets/27/docs/27-exempt.pdf>

Appendix 1: Quad bike rider competency assessment sheet

Name of individual: _____

Department: _____

Name of Assessor: _____

GWRC Competency grading criteria

Not required currently – not applicable	0
Not competent – requires training	1
Can work under supervision – active coaching provided	2
Competent – can work alone following planned job/task with supervisor	3
Fully competent - can work alone	4
Highly competent – recommend staff member as a recognised coach/trainer of others/assessor	5

When assessing competency for critical quad bike skills – marked in bold italics - record one of the grading criteria above when considering how well the staff member demonstrates the particular skill

I _____ have read and understood the GWRC Quad Bikes Standard Operating Procedure (SOP) Powerdocs #1283728.v1.

Signed: _____

Date: _____

Pre-Start up – Rider should:	Demonstrated	
	Yes	No
Be dressed in suitable clothing and footwear for operations		
<i>Describe the purpose and correct use of machine controls</i>		
State why passengers are not to be carried on quad bikes (unless designed to) and discuss considerations to be taken into account for the particular quad bike if it can take passengers		
<i>Describe and demonstrate the principles of ‘Active Riding’</i>		
<i>Demonstrate how to do a pre-start check</i>		
<i>Demonstrate how to check and confirm even tyre pressures</i>		
<i>Demonstrate how to check the operation and adjustment of brakes</i>		
Other – specify		

Operation – Rider should:	Demonstrated	
	Yes	No
Wear approved helmet (and know how to check the condition)		
Wear appropriate PPE and have or be wearing PPE for tasks being conducted		
Follow the manufacturer’s starting procedures		

Ride in forward direction around a defined course – figure 8 around soft obstacles		
Safely brake at corner of defined course		
Demonstrate how to reverse		
Ride the quad bike, demonstrating control over more difficult terrain such as slopes, gullies, and channel banks		
Know the GWRC quad bike health and safety essentials		
Know what jobs the quad bike is to be used for (and what it should not be used for)		
Demonstrate how to carry an expected load on a quad bike – within weight limits, balanced and properly secured,		
Demonstrate what changes to their riding would be needed due to the load		
Demonstrate how to safely load, transport, unload and store the quad bike		
Demonstrate or state what additional considerations would need to be taken into account when operating a quad bike in wet and or slippery terrain or conditions		
State what they would do to arrest a loss of control slide situation		
Other - specify		
Assessor or employee comments and follow-up actions (include an agreed completion date for any actions)		

Signature of Assessor: _____

_____ **Date**

Signature of staff member: _____

_____ **Date**

Note: This assessment is for internal training and competency assessment purposes only.

Appendix 2: Quad bike operator competency checklist - loading and unloading

Name of individual: _____

Department: _____

Name of Assessor: _____

Activity	Competent		
	Y	N	N/A
Quad bike loading			
Correct fitting of trailer to vehicle			
Clear surface of trailer or vehicle deck			
Good placement of trailer or vehicle for loading			
Correct placement of appropriate ramps and ramps firmly secured			
Quad bike operator wearing helmet and appropriate clothing/ footwear			
All equipment unloaded from quad bike			
Confidently able to ride quad bike on to trailer			
Able to ride quad bike safely on to vehicle			
Able to dismount safely and leave the quad bike secure on the vehicle/trailer deck			
Quad bike securely fastened and ready for safe transportation			
Demonstrated the use of crossover tie down techniques for securing quad bike			
Quad bike unloading			
Good placement of trailer or vehicle for unloading			
All tie downs and other equipment out of the way			
Correct placement of appropriate ramp(s) and ramps secured correctly			
Quad bike operator wearing helmet and wearing appropriate clothing and footwear			
Confident to unload and dismount quad bike from trailer or vehicle safely			

Signature of Assessor: _____

Date

Signature of staff member: _____

Date

Appendix 3: Quad bike pre-start and general maintenance checklist

Fuel, oil & coolant	
	Check fuel, oil, and coolant before use while the engine is shut off
Visually inspect	
	Check for damage or loose parts
	Check for fuel or oil leaks
Wheels and tyres	
	Check tyres for damage
	Check tyre pressure of each tyre
	Check wheel nuts
Throttle	
	Check throttle operates smoothly and freely. Accumulated mud and dirt can restrict cable movement
Brakes	
	Check brakes work correctly before reaching full speed
Air Filter	
	Check air filter not choked with dirt. Clean and replace regularly
Lights and switches	
	Check lights and switches work
Drive chain and chassis	
	Check drive shaft for oil leakage
	Check steering moves freely without undue looseness
Load carrying trays, CPD, bulls bars and other after-market fittings	
	Check condition and any visible structural damage

Maintenance actions needed – For safe operation, any defects identified during the check must be fixed before use.

Appendix 4: Quad bike scheduled mechanical service check

Bike No. / Model	Odometer / hours reading:	Date / Hours next service due	
Brakes		Gear Selectors	
Check adjustments – pads, cables, and fluid levels		Gear levers – check for damage and excessive slack	
Auxiliary brake		Check gear change / kick start spline	
Foot& hand levers adjusted		Cooling systems	
Check disc wear		Fluid levels (If liquid cooled)	
Chassis and suspension		Thermostatic fan	
Shock absorbers – for leak and wear		Leaks and damage	
Suspension operation		4WD system	
Safety guards – check for looseness		CV Joints	
Handlebars, foot decks and major fasteners (use tension wrench)		Drive line and shafts	
Wheels		Check for split boots and drive shafts	
Axle bearings and wheel nuts tight		Signals	
Rims not dented or buckled		Lights	
Tyres are road worthy, with adequate tread depth		Lever controls	
Tyre type and pressure as per manual		Check smoothness of operation	
Use low-pressure type gauge. High pressure gauges are not accurate for quad bike tyres		Check for broken, sharp or bent levers	
Steering		Air Filter	
Smooth movement from lock to lock		Clean, check and replace as needed	
Cables checked for wear and damage		Exhaust	
Throttle operation		Holes and corrosion	
Test while moving handlebars fully to left and right		Excessive noise	
Fluid levels		Looseness	
Spark arrestor fitted		For quads with chain drive	
Transmission fluid		Chain adjustment as per manual	
Engine oil		Sprockets not worn	
Battery fluid		Battery	
Brake fluid		Battery terminals – check for corrosion and tightness	
Fuel tank filled		Electrolyte levels	
		Damaged casing	
Notes / Actions required:			
Check carried out by		Date	
Check completed by – if assistance required		Next check due	

