





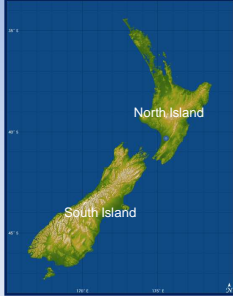
The establishment and use of Containerised Wash Units for oiled wildlife response in New Zealand

Bill Dayer¹, Richard Norman², Kerri Morgan³
 1. DwyerTech Services Ltd, 91 Keith Street, Palmerston North, New Zealand bill@dwyertech.co.nz
 2. 44/91 Wairoa Street, Mount Cook, Wellington, New Zealand 6011. richard.norman@dn.co.nz
 3. New Zealand Wildlife Health Centre, Institute of Veterinary, Animal and Biomedical Sciences, Massey University
 Private Bag 11-222, Palmerston North New Zealand 4442 k.morgan@massey.ac.nz

Where we are




New Zealand



- New Zealand has a coastline of over 15,000kms.
- Choosing a facility location is difficult.
- A containerised mobile washing unit has been developed.



History

- In 1998 New Zealand's oiled bird washing equipment was minimal.
- This equipment was inherited from a previous service provider.
- In February 2002 the Jody F Millennium ran aground in Gisborne harbour.
- A wildlife cleaning response was set up in the local community centre.



The Original Equipment

- Consisted of seven self supporting frames.
- Power and water connections.
- Water heaters.
- Wash tubs.



The Limitations

- The frames were difficult to move.
- The gas califonts were dangerous.
- The piping system was inadequate.

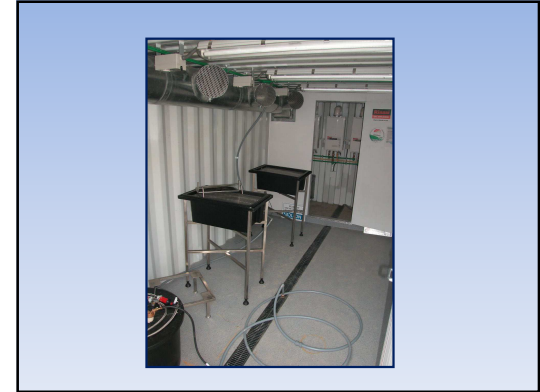
Design

- A containerised washing unit was designed.
- An ISO 20 foot-shipping container was converted in 2002.
- The final design proved to be cost-effective and workable.



Functionality

- The container can have three cleaning stations.
- It has the capacity to run four extra wash stations in an adjacent building.
- The container is a distribution for:
 - Power
 - Lighting
 - Water
 - Air extraction



Plant Room

- Separate from the main area.
- Houses equipment and plant.
- Minimises noise.
- Protects equipment from water when hosing.
- Limits unauthorised access.



Extraction System

- Fresh air grill and ducting.
- Adjustable dampers.
- Extracts fumes, heat and steam.
- Offset duct to reduce noise.
- Discharge at rear of container.



Power Supply

- Single phase.
- Powered by generator.
- Powered from a buildings switchboard.
- Powered from a caravan park outlet.



Power Switching

- All switches, power outlets and the lighting systems are water resistant.
- Separately switched bulkhead lights.

Water Heating

- The hot water is supplied by three Rinnai Infinity 24 califonts.
- Water heaters are electronically controlled.
- Each have pressure regulators.



Maintenance

- On going maintenance costs have been minimal.
- Recent modifications to the water pipe system have allowed more flexibility.
- Three new water valves have been installed and an additional outlet has been welded on the outside of the container.

Versatility

- Water system.
- Wash stands and hot water supply.
- Optional dual water supply.



Water System



- Staging the water heater output reduces pressure and temperature fluctuations.
- A pump is installed inline to boost the water pressure if there is a low-pressure supply or if the water has to be drawn from a water storage container or frame tank.

Water Pipes

- Choosing the right piping system.
- Shipping containers flex significantly during loading and transportation.
- The fixation system has to be able to take flexing.
- The finished product has to operate to high standards.
- Fusiotherm.



Gas Supply



- Gas is supplied from large LPG.
- Bottles have an auto-change regulator.
- Gas versus electric.

Water Softening



- An automatic water softener is installed in the plant room.
- Hard water can extend the time for birds to regain water proofing.

Flooring



Waste Water

- The channel drain runs through the container and exits through the rear wall.
- A water proof power outlet is fitted to the rear of the container.
- Nura tank and pump.
- Frame tank.

Frame Tank



Container Deployment

- The container can be anywhere in New Zealand within 12 to 36 hours, this includes some of the outlying islands.



Setup On Site

- Before the container arrives, the water and power supplies are ready to connect. The frame tank is erected and gas bottles hired.
- The container is leveled to allow the drainage system to work correctly.
- The pipes, cables and waste water systems are connected.
- Set up time.

Current Use of the Wash Container

- The container is set up outside the NZWHC Annex at Massey University.
- The Annex is used for training purposes and this also keeps the mobile facilities ready for deployment, constantly under test.

Conclusion

- Evolution of the mobile washing system for oiled wildlife response in New Zealand has improved significantly since 1998.
- The containerised unit is comparable with other similar models around the world.
- This unit cost around \$40,000 NZD, (approximately 20,000 Euros).

Final Statement

- The ease of transportation and set-up of this system allows for a very versatile, efficient and cost effective way to mobilise an Oiled Wildlife Response (appropriate for the New Zealand setting).

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