

MOYLE PARK CASE STUDY BANDALONG FLOATING LITTER TRAP



A Bandalong Floating Litter Trap, supplied by Hynds Environmental, proved to be the optimal solution to clean up Tararata Creek and protect the Manukau Harbour.

Installed within one working day, the floating litter trap is an economical, simple way to protect the environment.

The Site

Moyle Park is a green zone situated in Mangere, Manukau City. One of the region's 400 parks and reserves, Moyle Park offers the community a place to enjoy outdoor activities and relaxation.

A notable feature of Moyle Park is Tararata Creek, running along the Park's eastern border and joining a network of streams that ultimately flow into the Manukau Harbour. The waterway not only contributes to the aesthetics of Moyle Park but plays an important role in the ecology of the region.

The Challenge

Tararata Creek has a catchment area of approximately 697 Ha, consisting predominantly of the surrounding residential neighborhood. Stormwater runoff into the stream collects gross debris and waste which pollutes the waterway.

Three stormwater culverts also drain into Tararata Creek, contributing to the contaminants entering the waterway. In addition, a vast amount of litter from the adjoining South Eastern Motorway ends up in the stream.

The Solution

To combat the problem of rubbish and debris flowing into Tararata Creek, Manukau City Council appointed URS New Zealand to recommend the best stormwater treatment option. A Bandalong Litter Trap from Hynds Environmental was specified as the ideal solution to capture and retain floating litter, vegetation and other gross debris.

Hynds Environmental worked with Arrow Civil to custom design the Bandalong Litter Trap to Tararata Creek's unique requirements. Consent conditions included providing fish passage through Tararata Creek and the Bandalong system's innovative design met this criteria, ensuring fish passage was maintained.

Project Summary

- Catchment area: 697 Ha of impervious, grass and paved runoff area
- One Bandalong Litter Trap unit, size 4m x 2m
- Four Bandalong Boom sections, length 3m each
- Captures and retains floating litter, vegetation and gross debris
- Prevents re-entrainment of pollutants
- Installed within one working day
- Ensures fish passage is maintained

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Disruption to services around Tararata Creek was minimal as the Bandalong system does not require substantial earthworks and construction. The profile of the creek bed and banks were simply modified and six ground anchors installed. Galvanized chains were attached to the anchors to hold the 4m x 2m trap securely in place. Collection booms were connected to the front of the trap, spanning 6m on each side to capture and guide floating debris into the trap.

Performance

The Bandalong Floating Litter Trap is designed to capture all floating litter in sensitive waterways. If the waterway is tidal, a counterweight system closes the upstream gate to ensure all captured pollutants remain in the trap.

System Maintenance

The cleaning interval of the Bandalong system is affected by the catchment history of the waterway. However, a simple visual check can determine the need to undertake maintenance of the system.

The retained litter can be removed either manually or by a suitable tractor truck. Litter baskets can also be incorporated into the design of the Bandalong Litter Trap for easy removal.



Installation of the Bandalong Floating Litter Trap.

How They Work

The Bandalong Litter Trap floats on waterways, given buoyancy by exceptionally strong and durable polyethylene pipes. Debris is directed through a one-way mesh gate into the trap where it is retained ready for removal. Re-entrainment is prevented by a system of counterweights and paddles that close the entry gate when the water flow ceases or changes direction due to tide or wind. A 150mm polyethylene side skirt beneath the waterline prevents debris escaping from under the main floats.

Floating boom sections are coupled together to span across waterways to guide the litter into the trap. The boom sections are manufactured from exceptionally strong and durable polyethylene pipe. They are equipped with anti-vandal fittings and have a rubber sleeve over the joint to stop any litter escaping through the joint section. An aluminium mesh skirt under the bottom of the pipe traps any submerged litter or logs.



A Bandalong Litter Trap successfully protecting the environment.

Further Information

For further information on Hynds Environmental's stormwater treatment systems, please call them on 0800 425 433 or visit their website at www.hynds.co.nz.

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Reference EV49 April 2007