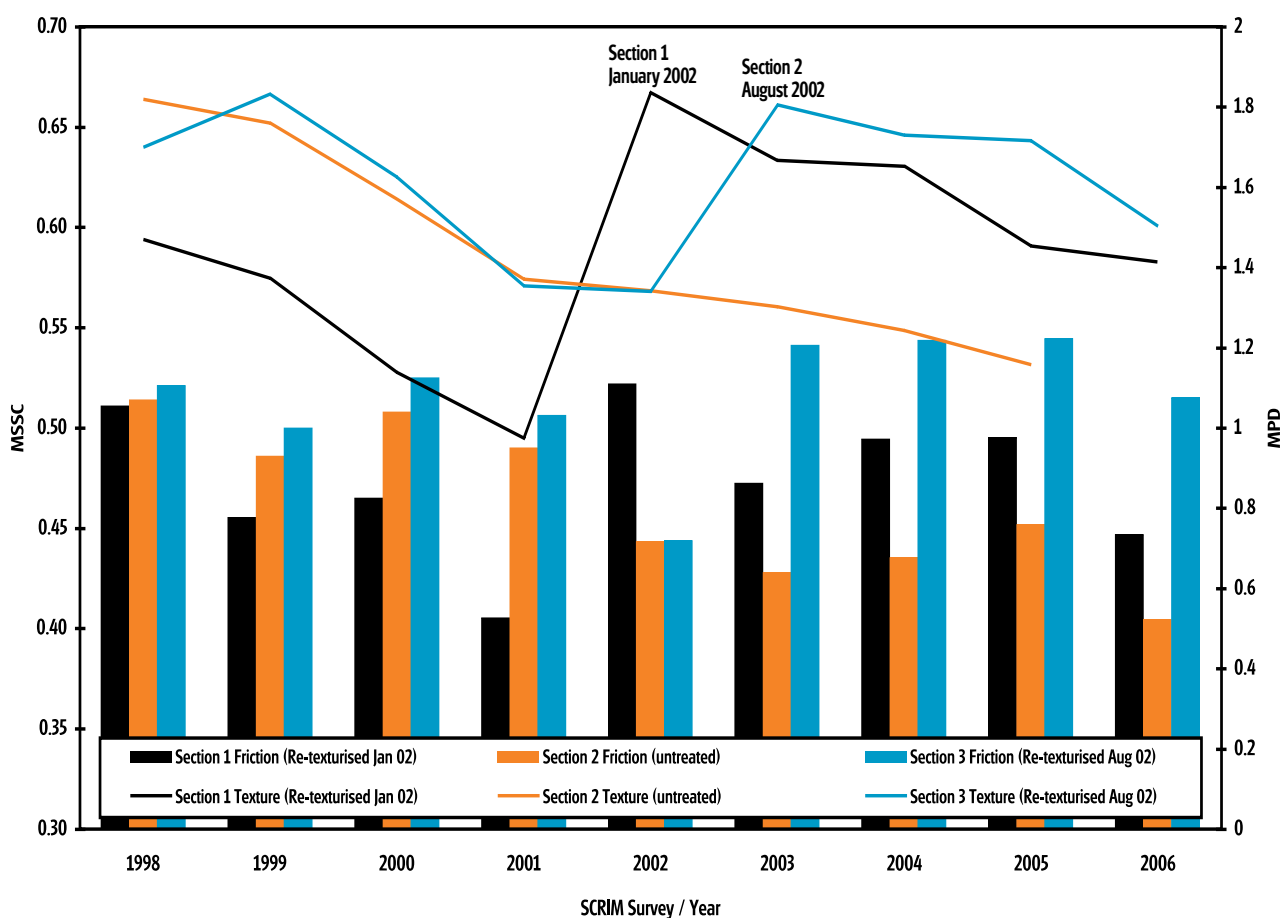


Long term skid monitoring - Northern Motorway, Auckland New Zealand



The above graph shows long-term texture and friction data for the Northern Motorway in Auckland, New Zealand. It was one of the earliest trial sites for the Watercutter and clearly shows the effectiveness of the treatment.

Sections of this road began to fail texture/friction compliance within 5 years of its intended 10 year design life. Watercutting of the two trial sections restored texture and friction levels back to original condition enabling these sections to reach their intended service life.



Fulton Hogan Australia

115-117 Airds Road
Minto NSW 2560
PO Box 682,
Campbelltown NSW 2560
T : +61 2 9280 1911
F : +61 2 9820 1793

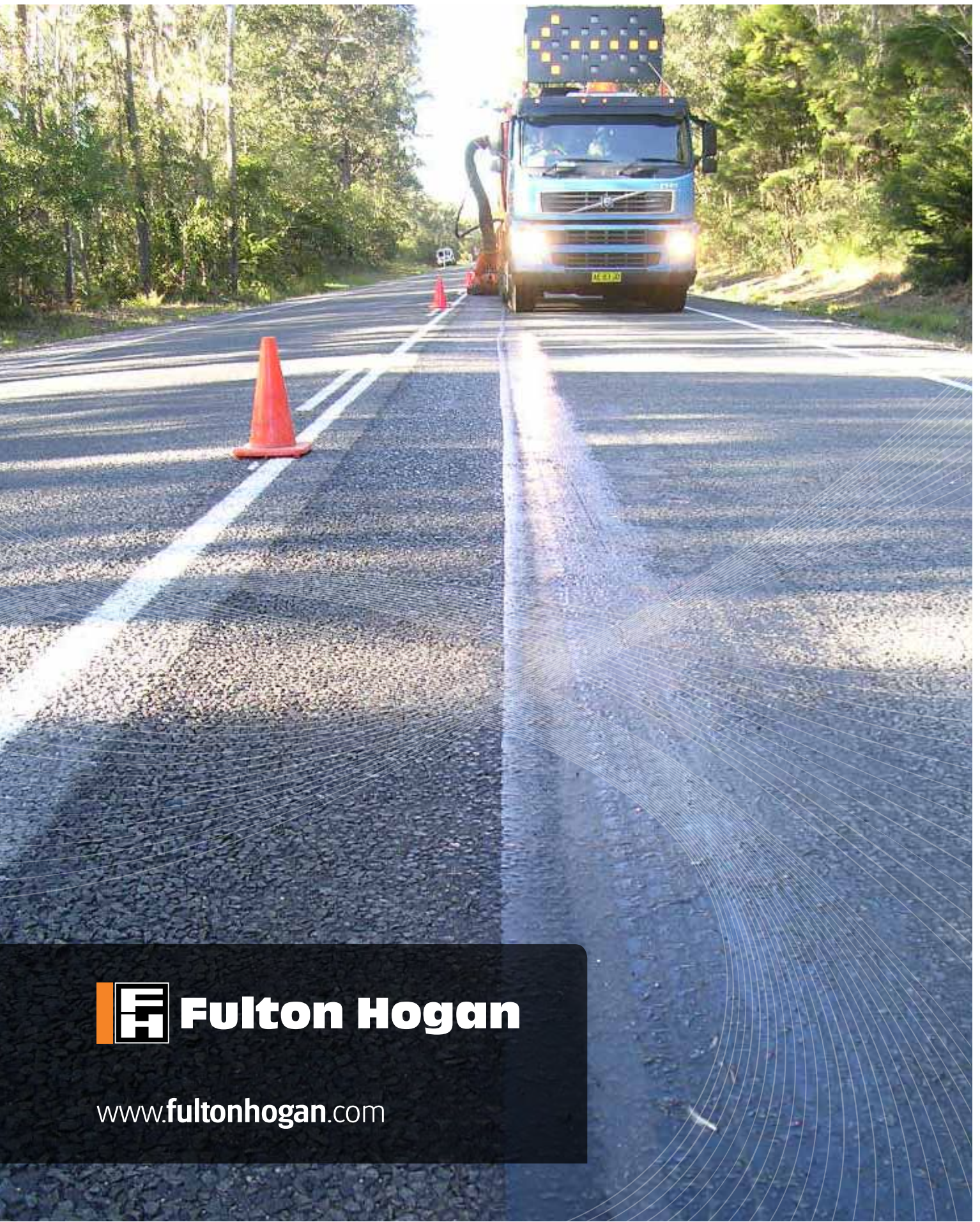
Fulton Hogan New Zealand

Main South Road,
Hornby Christchurch, 8441
Ph. +64 3 349 7039
Fax. +64 3 344 0987

19 Higgins Road,
Frankton, Hamilton, 3242
Ph. +64 7 847 5127
Fax. +64 7 847 2898

info@fultonhogan.com.au
www.fultonhogan.com

WATERCUTTER



 **Fulton Hogan**

www.fultonhogan.com

Watercutter

The Ultra High Pressure (UHP) Watercutter is a cost effective rehabilitation treatment for the restoration of texture and skid resistance on roads and highways.

The purpose of the UHP watercutter is to extend the serviceable life of bituminous seals and pavements that have failed, or are failing, in texture and friction compliance. The restoration of compliance to these two critical elements means significantly reduced risk to the road owner, less frequent re-seals, and a reduction in maintenance costs over the life of the pavement.

Why use the UHP Watercutter?

Road authorities throughout Australia recognise that maintaining adequate pavement texture and surface friction is a key factor in meeting their duty of care to road users. Deficiencies in either surface texture, or friction, can lead to an increase in motor vehicle crashes, particularly in wet conditions. A common cause is excess bitumen on the road surface, otherwise known as 'flushing or bleeding'. This flushing of bitumen is not only a safety issue, it is also a cost burden to road authorities due to the higher maintenance costs over the life of the pavement. The Watercutter can remove problematic flushing without damaging the pavement, restoring both texture and friction, and maximising the service life of the pavement.

Where re-seals are required, the Watercutter can be used to effectively pre-treat flushed areas to restore texture uniformity to the pavement surface.

This eliminates design issues often faced by engineers when designing new seals, over existing seals where excess bitumen (flushing) is present.

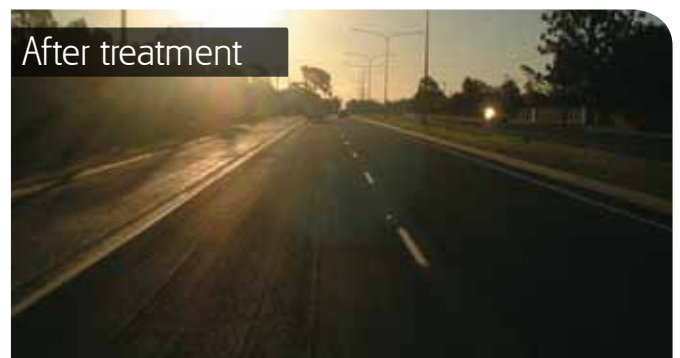


'Flushing or bleeding' is a major safety issue and cost burden for road authorities

The Watercutter has several distinct advantages over traditional treatments including:

- Suitable for use in all weather conditions, including wet weather.
- Less cost per m² than competing treatments.
- Targets the problem area only – not the entire area of the seal.
- No sweeping or line marking required afterwards.
- Immediately trafficable with no aftercare signage required.
- Environmentally friendly – does not use any non-renewable resources, and has arguably the lowest carbon footprint out of all surface rehabilitation processes.
- Lower risk to workers and public – no hot bituminous products or hazardous solvents used e.g. kerosene enrichment, spray seals, hot aggregate embedment.
- Long term solution - unlike UHP Watercutting, conventional resealing and enrichment practices do not address the source of the problem.

The addition of more bitumen and aggregate to a surface that is already flushed or bleeding will almost always result in repetitive flushing. Using the UHP Watercutter to remove this unwanted excess bitumen prior to re-sealing will greatly reduce the likelihood of further flushing, thereby extending the serviceable life of the aggregate surface.



The UHP Watercutter can restore texture and friction and maximise the service life of the pavement.



The UHP Watercutter extends the service life of spray seals and pavements. It can be effectively used for line removal (left), airport rubber removal (centre) and pavement rehabilitation (far right).

What applications are suitable for the UHP Watercutter?

The Watercutter has a broad range of maintenance and rehabilitation applications including:

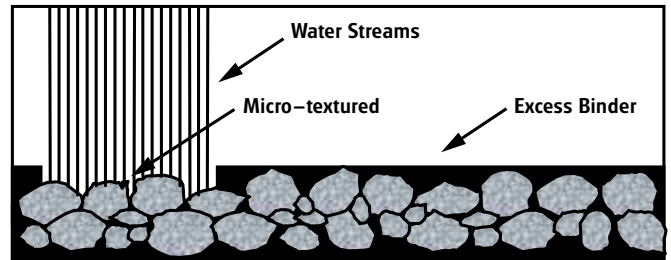
- A targeted pre-seal treatment to remove flushed areas prior to a sealing program.
- A stand alone rehabilitation treatment to restore texture and friction deficiencies on the roads.
- Rubber removal on airport runways and raceways.
- Line marking removal.
- Clean up of major spillages on roads.

How does the UHP Watercutter work?

The UHP Watercutting process involves the use of a very fine, concentrated stream of Ultra High Pressure Water to gently cut away the excess bitumen from the pavement surface. With the excess bitumen removed both surface texture and skid resistance are dramatically improved, without damage to the pavement or seal membrane.

Watercutting for the restoration of pavement texture and skid resistance has been widely used in both Australia and New Zealand for well over a decade. It has undergone extensive trialling and evaluation by numerous road authorities and has proven to be a valuable and sustainable 'whole of life' treatment.

UHP Watercutting is arguably the most environmentally friendly pavement surface rehabilitation process on the planet.



The UHP Watercutting process involves the use of a very fine, concentrated stream of Ultra High Pressure Water to gently cut away the excess bitumen from the pavement surface.



Using the UHP Watercutter to restore pavements is a long term solution for texture and skid deficient surfaces.