Concrete Washings and Concrete Cutting Wastewater

If your day to day activities involve the handling of concrete and other cement based products, then before you begin you must consider the potential your activity has to pollute the environment.

How can concrete washings or concrete cutting cause pollution?

Cooling water used in concrete cutting and rinse water used to remove fines will pick up concrete particles and cause the receiving water to turn strongly alkaline. Wash water from concrete trucks and equipment will also be highly alkaline and contain high sediment loads.

Cement wash water and cement based products can cause harm to the environment because:

- They are strongly alkaline due to their lime content. This alkalinity can kill or burn aquatic life.
- High sediment loads can smother and kill the creatures that live in the bed of a water body and cause abrasion and clogging of the gills of fish.
- By reducing sunlight penetration, sediment makes it difficult for plants to get the energy they need to live and for animals to find food.
- Chemical additives can poison the creatures that live in a water body.

Poor work practices while handling fresh concrete or while undertaking concrete cutting, may cause some or all of these problems:

The discharge of wastewater onto the ground and into the stormwater system from:

- Washing the chutes of concrete mixing trucks.
- The use of cooling water in concrete cutting.
- Rinsing freshly laid concrete to remove fines.
- Washing concrete pumping gear and other concreting equipment.

Contact the Tauranga City Council on

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for more information.

How can you stop pollution resulting from this activity?

1. Concrete Trucks and Equipment (Refer Figure 1)

- Use a specifically designed wash area which either discharges into the sanitary sewer (with Council approval) or contains all wastewater in a sealed pond or tank for re-use as concrete make-up water or for equipment washing.
- On large construction sites requiring multiple deliveries, ensure there is a designated washout area which allows water to soak into the ground and not run overland into the stormwater system.

2. Concrete Cutting and the Washing of Fines (Refer Figure 2)

   If cooling water is needed or washing needs to be carried out on site, ensure that there is no discharge to the environment by:

   - Placing hay bales or sandbags to filter runoff, discharging the filtered wash water to the sanitary sewer with the approval of Council.
   - Diverting runoff to a grassed area.
   - Blocking a receiving drain and pumping the wastewater to an area where it can evaporate or soak into the ground.
   - Washing the fines off freshly laid concrete to the side, not into the stormwater drainage system.

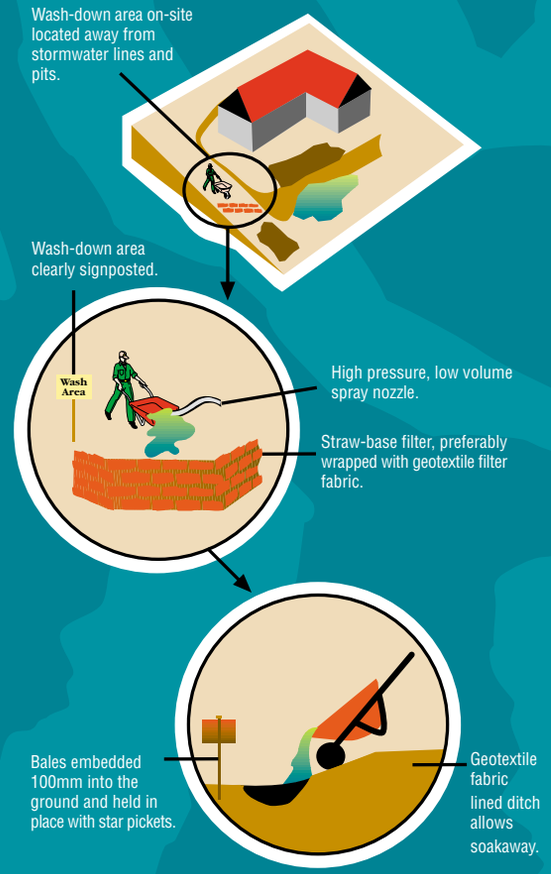
Remember:

Never wash concrete products in areas where wastes will drain to a stormwater drain or stream.

Always clean up all spilt material immediately and dispose of wastes into a bin ensuring that it won't leak out.

Always ensure all workers and/or contractors are aware of these requirements.

Figure 1:



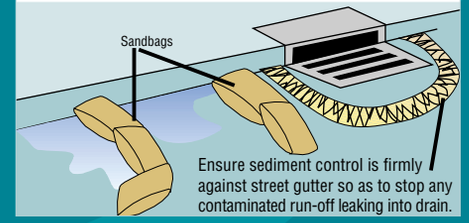
Figures 1 and 2 taken from the New South Wales Environment Protection Authority 'Environmental Best Management Practice Guideline For Concreting Contractors, October 2002'.

Figure 2:

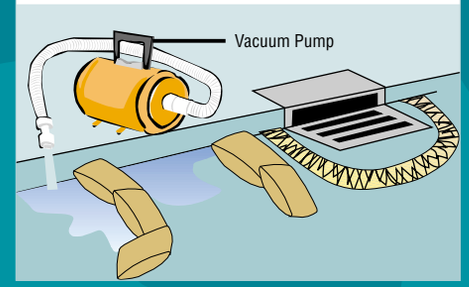
Best management practice for preventing concrete run-off entering stormwater drains (for concrete cutting, hardstand management and washing down exposed aggregate).

Note: It is best to use these controls simultaneously.

1. Establish a dam in the street gutter using sandbags or earth.



2. A vacuum system can be set up to constantly suction up contaminated liquid as it reaches the containment dam. Alternatively, at the end of a particular job, the built-up pool of contaminated liquid can be suctioned up before moving onto the next stage.



3. Always vacuum or sweep up any excess concrete slurry or residue left in the gutter.

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