8 WATER QUALITY

8.1 Receiving Water Quality

Marine waters are required to meet the ambient marine water quality standards provided in the EAD Standards and Limits for Pollution to Air and Marine Environments, Occupational Exposure Pesticides, and Chemical Use. TG-0003R, dated 2010.

8.2 Stormwater Effluent Quality

The quality of effluent into the stormwater network can only be fully determined through detailed analyses of the quality of water in the stormwater network. DMAT will be investigating stormwater effluent quality in their existing networks. Stormwater effluent quality will therefore be available from the DMAT in due course.

Stormwater discharges are comprised of rainfall draining from roads and other surfaces, as well as water draining from sub-surface drainage schemes.

There is the potential for contaminants to enter the rainfall and water from waterlogged areas from a variety of sources. Possible contaminants, their typical components, sources and impacts on receiving waters are listed below:

- Sediments – This includes sand and dust from the local environment and unmade roads entering the network during rainfall events and the discharge of silty water from construction sites. These could cause siltation in the network and the discharge of high suspended solids and turbidity into the marine environment.
- Hydrocarbons – Hydrocarbons can enter the network during rainfall events from cars, roads, car parks, accidental spills, industrial areas. These are often associated with metals such as zinc and lead. If released into the marine environment these substances can be toxic to aquatic flora and fauna and could eventually cause bioaccumulation in higher animals.
- Herbicides and pesticides - Fertilizer runoff from landscape maintenance and agricultural areas have the potential to enter the stormwater network during rainfall events or other water-related activities. These can be toxic to aquatic life if they enter the marine environment.
- Litter – This includes paper, plastic, rags, plant and grass debris from commercial areas, food outlets and green spaces. Litter could block the network and if released into the marine environment can cause a deterioration of visual amenity.
- Sewage – Uncontrolled and illegal discharges of sewage may occur during maintenance or emergency situations. If released directly into the marine environment, this can cause low dissolved oxygen, human infection and illness from pathogenic organisms, odor, stress to aquatic life, algal growth and eutrophication from introduction of nutrients.
- Fats, Oil and grease from catering outlets – Uncontrolled dumping of these substances directly into the stormwater network may occur. As large quantities of fat, oil and grease cool they congeal and harden and stick to the inner lining of pipes. These can restrict the water flow and cause the pipes to block resulting in odor and flooding problems.