

FACT SHEET

Wastewater/sewage treatment plants (W/STPs) for resorts and caravan parks

This fact sheet provides operators of wastewater/sewage treatment plants (W/STPs) at resorts and caravan parks information about legislative requirements that must be complied with in Queensland.

Wastewater/sewage treatment plants (W/STPs) at resorts and caravan parks need to be sized and operated effectively to cater for varying flows to ensure that the treated discharge is of a suitable quality for disposal and or reuse.

Resorts and caravan parks that do not access municipal wastewater/sewage management services generally use on-site options to collect and treat wastewater/sewage from toilets, showers, baths, laundries and kitchen sinks. The operators must comply with limits for the treated wastewater/sewage typically specified in licences (environmental authorities) granted by regulators such as the Queensland Department of Environment and Science (DES).

The objective of the regulations are to prevent environmental harm, which includes environmental nuisance (such as noxious and offensive odours and excessive noise). The department administers environmental protection legislation such as the *Environmental Protection Act 1994* (EP Act), and the Queensland Environmental Protection Regulation 2008.

Regulation of wastewater/sewage treatment plants (W/STPs)

The EP Act regulates certain activities on the basis that they are environmentally relevant. Where an activity is prescribed to be an environmentally relevant activity (ERA), an environmental authority or licence is required by the operator to carry out such activity.

A wastewater/sewage treatment plant, where the daily peak design capacity is at least, or more than that specified in the Regulation (this being 21 equivalent persons) is defined as an environmentally relevant activity (ERA 63) under the Regulation¹.

Operators therefore undertaking the activity of operating a sewage treatment works with a daily peak design capacity of 21 equivalent persons or more must hold an environmental authority or licence granted by DES to lawfully undertake such activity in Queensland.

Signs of a failing on-site W/STP

In most cases, the failure of on-site W/STPs starts as a small problem. However, these problems can escalate to the point where they become more serious. The signs of a failing system may include:

- slow drains or sewage backing up into a property
- foul smells around the W/STP and/or treated wastewater/sewage disposal areas
- ponding/runoff of treated wastewater/sewage at and/or near/from the treated wastewater/sewage irrigation areas and excessive noise from the W/STP.

Management of on-site W/STPs

Operators should ensure that regular inspection, maintenance and monitoring of on-site W/STPs occur to prevent structural, instrumental and operational deficiencies going unnoticed, possibly compromising the quality of treated sewage being discharged from the W/STP.

If a W/STP is poorly maintained and/or poorly operated, it may fail to treat the raw wastewater/sewage from the resorts and caravan parks to limits specified for effluent quality in licenses or environmental authorities granted by DES.

This could lead to the release of treated wastewater that does not conform to limits and possible enforcement actions (warning letters, fines, and/or prosecution) by DES for not producing treated wastewater in accordance with environmental authorities or licences.

Things to be avoided

In order to ensure that the W/STP is performing typically in accordance with conditions specified in licences or environmental authorities granted by regulatory agencies, the following should be avoided:

- Disposal of household cleaners, bleach, paints, gas or solvents down a sink or drain that may harm or destroy the bacteria in W/STPs necessary to breakdown wastewater/sewage.

- Flushing items down a toilet including nappies, disposable wipes, cat litter or cigarettes which could cause a blockage in the wastewater/sewage collection system, and /or septic tank system and/or W/STP.
- Hydraulically overloading the W/STP with more wastewater/sewage than it was designed to accept, effectively reducing the time the bacteria can treat the wastewater/sewage.
- Using more soaps or detergents than necessary resulting in high concentrations of phosphate in the wastewater/sewage that needs to be treated.
- Disposal of food scraps, coffee grounds, grease or cooking oils down a sink or drain which could harm bacteria necessary to breakdown wastewater/sewage.
- Planting trees in or near the treated wastewater/sewage disposal areas which may prevent sunlight which assists in the treatment and evaporation of treated wastewater/sewage.
- Paving over the treated wastewater/sewage disposal areas reducing the available area for disposal of treated wastewater/sewage and creating a public health risk.
- Repairing the W/STP by an untrained, inexperienced contractor who is not familiar with the particular package treatment plant.

Common risks and environmental issues

Treated wastewater/sewage from on-site wastewater/sewage treatment plants typically contains contaminants such as organic matter, nutrients (normally in the form of nitrogen and phosphorus), salts and waterborne human disease-causing microorganisms (like certain bacteria and viruses).

If not properly treated and managed, these contaminants, when released to the environment, could potentially cause nuisance (classified as environmental harm) through the emission of offensive and noxious odours and pose a risk to the health of humans and harm to the environment. Excessive noise may also be generated from the on-site wastewater/sewage treatment plants.

The potential health and environmental impacts that could result from discharging poorly treated or untreated wastewater/sewage into the receiving environment (land and waters) include:

- soil contamination
- contamination of waterbodies, such as streams, creeks and rivers
- groundwater contamination

- public health risks due to the presence of pathogenic microorganisms
- negative impacts on ecosystems and organisms in receiving waters from high concentrations of oxygen-demanding substances. This may result in death of aquatic biota, ammonia toxicity, as well as high total nitrogen and phosphorus concentrations that cause excessive growth of nuisance plants and algae (termed eutrophication).

Discharging poorly treated or untreated effluent in the receiving environment may also lead to multiple breaches of the EP Act, especially if the treated wastewater/sewage does not comply with limits specified in licence or environmental authorities granted by DES under ERA 63.

Troubleshooting

Operators should consult the W/STP operation manual and contact the supplier of the W/STP, or a qualified technician, and/or engage a qualified wastewater/sewage treatment operator and/or engage a suitably consultant to assess the problem and to undertake repairs and remedial action.

If it is suspected that the W/STP will not be fully operational for an extended period while it is being repaired, operators must implement measures to contain the wastewater/sewage and possibly move it off-site to facilities that are licensed to accept such wastes. Operators must also notify the department immediately on 1300 130 372.

For more information

Further information for businesses that manage waste is available at

https://environment.des.qld.gov.au/waste/waste_industry.html

For licensing enquiries contact: Permits and Licence Management Unit by emailing palm@des.qld.gov.au or phoning 13 QGOV (137 468)

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¹ For the current prescribed design capacity, see s63 Environmental Protection Regulation 2008.