



IRRIGATION WATER FOR HOTELIERS, FARMERS AND GARDENERS

The sewerage project delivers purified waste water that we recycle in hotel gardens and for agriculture and horticulture. As a result, tourists can enjoy tropical plants and flowers, and even in the dry season farmers always have access to irrigation water. Strict rules apply to irrigation water and the use of it. This leaflet meant for hoteliers, farmers and gardeners elaborates on this.

Temporary arrangement

The use of purified waste water from the waste water purification installations as such, involves risks to public health and our environment. The government, therefore, requires purified waste water to meet high quality standards. Strict rules also apply to the use of irrigation water and if we observe these requirements and rules we can safely use this irrigation water.

At present, the rules are laid down in an agreement between the supplier Water en Energiebedrijf Bonaire (the Water and Energy Company of Bonaire) and the customer. This is a temporary arrangement awaiting a special island regulation for this purpose. Once the island regulation comes into force, the government will introduce a licensing system.

Because of the aforementioned risks and limited quantity, not everyone will be eligible to receive irrigation water. This water is only intended for hotels and apartment complexes that are connected to the waste water pipeline and for farmers and gardeners. Irrigation water may also be used for (public) green spaces. Private individuals will not be eligible to receive irrigation water.

The application

Those who would like to receive irrigation water, can register at the Department of Management and Public Works (former LVV) of the Public Entity of Bonaire. This department is located on the Kaminda Lagoen 32 (tel: 717-8836). If needed, the staff will help you to fill in the application form.

The delivery of irrigation water

The Water and Energy Company of Bonaire NV (WEB), which purifies waste water, is also responsible for delivering irrigation water. As long as the special

irrigation water pipes are not in use yet, WEB distributes the irrigation water to hotels and apartment complexes by means of tank trucks. Also farmers receive delivery of the irrigation water by tank trucks. A minimum order of 6 m³ applies and, naturally, WEB charges a fee. For more information call WEB (tel: 715 - 8244).



Quality of the waste water

The irrigation water must meet strict requirements. Specific requirements established by the Food and Agriculture Organization of the United Nations apply, but also the requirements set by the World Health Organization.

The following requirements apply to irrigation water:

- The nitrogen (N_{tot}) content of the irrigation water should not exceed 28 mg per liter;
- The content of faecal coliform (f-coli) in the irrigation water should not exceed 1000 CFU per 100 milliliters;
- The chloride content (Cl) of the irrigation water should not exceed 250 mg per liter;
- The conductivity (EC) of the irrigation water should not exceed 2000 µS/cm (microSiemens per centimeter)

Cheaper and healthier

Almost all food products for humans and animals on Bonaire are imported from abroad. This causes their price to be much higher than if it would be possible to produce these foods on Bonaire. Now the availability of purified wastewater makes it possible to grow more foods on the island and at lower prices, which will also suit our wallets. In addition, it means that we can eat more fruits and vegetables, which is beneficial to our health.



The use of waste water

- As part of the application, applicants must submit an irrigation plan and a schedule. The irrigation water can only be supplied after the Directorate of Spatial Planning and Development has approved the application.
- Customers may not re-sell irrigation water to third parties.
- The irrigation water must be absorbed by the soil within 24 hours.
- Irrigation water is absolutely not suitable as drinking water for people or animals.



Fruit and vegetables

Avoid direct contact of irrigation water with crops intended for human consumption. Also ensure no direct contact of irrigation water with people or animals. Furthermore, the following conditions apply:

- Use drip irrigation systems for irrigating vegetables. Place these systems directly under the plants in a way that reduces contact between people and damp earth to a minimum. Also avoid direct contact between the irrigation water and the vegetables;
- Products that will not be cooked before consumption and that have been in direct contact with irrigation water (for example, because they grow lying on the soil or have fallen on it) may no longer be consumed;

- Agricultural and horticultural lands on which irrigation water is used must not be freely accessible. Therefore, a fence must be placed around such areas;
- Only harvest fodder crops two days after the last irrigation water was administered;
- The use of irrigation water is not allowed for the following crops:
 - leafy vegetables such as amsooi, warmoes, celery and lettuce;
 - radish, watermelon and onion.

Green spaces

- When using drip irrigation systems for irrigating green spaces, place these systems directly under the plants in a way that reduces contact between people and damp earth to a minimum.
- When irrigating lawns the following conditions apply:
 - spray or sprinkler systems may not have a greater spray coverage than eight meters in diameter and one meter in height;
 - irrigation is only allowed during the night between 24:00 and 07:00;
 - do not use spray or sprinkler systems within a distance of five meters to buildings.



Area

The following provisions are especially important for the irrigation of green spaces:

- along the ocean, in the area within 10 meters from the high water mark no irrigation and/or fertilization may take place. Irrigation with drinking water and unpolluted rainwater is allowed.
- within the first 500 meters from the high water mark, irrigation water may only be used if it complies with the quality requirements and the other provisions are also observed.
- the use of irrigation water within the first 500 meters from the high water mark may not lead to contamination with a nitrogen load of more than 49 kg per hectare per year.

Characteristics

- All pipes for irrigation water should be strictly separated and clearly distinguished from pipes for drinking water and pipes for other purposes.
- Irrigation water installations must be clearly identified.

More information

More information on the use of waste water in agriculture and horticulture and for green spaces can be obtained at the Department of Management and Public Works (former LVV) of the Public Entity of Bonaire.

The department is located on the Kaminda Lagoen 32 (tel: 717-8836)

This leaflet contains a brief overview of the applicable regulations. In the event of a dispute you cannot rely on this publication. In such cases, always refer directly to the laws and regulations themselves.

A CLEAN BONAIRE FOR US AND OUR CHILDREN