

STORMWATER

17.0 Introduction

Section 126(1)(a) of the Local Government Act 2002 provides that an assessment of water services must set out information about the means by which stormwater is managed within the district.

The urban stormwater systems are well described in the Stormwater Asset Management Plan.

The urban stormwater systems in the Hauraki District consist of a combination of open drains and piped reticulation networks in the three major towns, (Ngatea, Paeroa and Waihi), and in the smaller townships of Kerepehi and Turua. There is limited reticulation in the settlements of Mackaytown/Karangahake, and Waikino. In Whiritoa the network provides for the disposal of stormwater from the road surface only. On-site stormwater is disposed of by ground soakage, or retention for gradual release at a rate equivalent to the undeveloped ground. There is no piped reticulation in Waitakaruru which is served by the land drainage network of the Western Plains Drainage District.

Council is responsible for the maintenance and operation of the piped reticulation in all areas, and for the maintenance of identified Council drains in all areas other than those in private property in Waihi.

In the urban areas, the road network owns and maintains the collection sumps and the leads from the sumps to the stormwater pipes or drains.

The eventual points of discharge of the stormwater systems are the streams and rivers in the district which are the responsibility of the river schemes of the Regional Council, Environment Waikato.

Council holds four Comprehensive Stormwater Discharge Consents from the region. They are based on the geographic areas of Whiritoa, Waihi, Paeroa and the Plains.

Council is currently undertaking the production of Stormwater Catchment Management Plans for the Paeroa and Waihi urban areas.

These plans are intended to identify the extent and limitations of the existing systems and issues, and to provide strategies for the future development of the systems. The development of Catchment Management Plans for the other urban areas will follow the completion of the initial two plans.

Because of the stage of development of the Catchment Management Plans, the public surveys were limited to the urban areas of Whiritoa and Waihi. These areas were identified as potentially having the most pressing issues with the stormwater system. The summary results of the surveys are attached as on under section 9.2.8. The overall result of the surveys was a general "Level of Satisfaction with the Stormwater services" of 58% of those who responded other than "Don't know or Not Applicable". The total for "Neither satisfied or dissatisfied" was 24%, and those "Dissatisfied" was 19%.

18.0 Stormwater Communities

18.1 Community Identification

The communities identified for the stormwater function are as listed below:

- Travelling public
- Urban serviced

19.0 Assessment of Stormwater Services

19.1 Travelling Public

19.1.1 Description

The travelling public community comprises non residential or residential public travelling through the Hauraki District utilising the district services.

19.1.2 Methods Used to Dispose of Stormwater

Road kerb sumps collect runoff from the road surface, and deliver it to the piped stormwater network, which discharges to the receiving waters of a river or stream. In the case of Whiritoa and Waihi, this is solely by gravity to the seafront (in Whiritoa) or the Ohinemuri River (in Waihi). In Paeroa the main outfalls are to the Ohinemuri or Waihou Rivers via floodgated gravity outlets, supplemented by floodpumps when river flood levels prevent outflow. In Ngatea, the outflow to the Piako River is via floodgates and pumps. Kerepehi disposes stormwater by gravity to the land drainage network of the EPDD which is delivered to the Awaiti Canal via floodgates and pumps. Turua stormwater is disposed of via floodgated outlets to the tidal reach of the Waihou River.

19.1.3 Risks Attributable to the Absence of a Reticulated Stormwater Network

Not required to be assessed due to this community having a reticulated stormwater network.

19.1.4 Assessment of the Quality and Quantity of Discharged Stormwater

Water quality is sampled as a condition of the Comprehensive Stormwater Discharge Consents held by Council. The quantity of stormwater discharge is limited by the capacity of the network. This capacity is provided for in the District Plan which prescribes a level of service equivalent to the 10 year event for residential/commercial zones, and five years for industrial/reserve zones. (District Plan Section 9.3.10.4).

19.1.4.1 Collection and Treatment

What type of collection and treatment is provided?

Street kerb sumps and direct residential and commercial connections are piped to the reticulated network and discharged to the receiving waters. No treatment of stormwater is undertaken.

19.1.4.2 Operation and Maintenance

How is the system operated and maintained?

Regular inspections of open drains for maintenance requirements. A programme of CCTV work to ascertain asset condition as outlined in the AMP is proposed.

19.1.4.3 Treatment Process Effects

Are there any detrimental effects from the treatment process, e.g. odour?

None.

19.1.4.4 Resource Consents

Is there a requirement for the system to have a resource consent and if so, is it valid?

Four Comprehensive Stormwater Discharge Consents issued by Environment Waikato are held for the urban stormwater networks in Whiritoa, Waihi Ward, Paeroa Ward, and Plains Ward. Detail is contained in the AMP.

19.1.4.5 System Capacity For Future Demands

Is the system capacity adequate for the future planned demands?

Capacity is currently being assessed as part of the Catchment Management Plans investigations.

19.1.4.6 Existing System Life Expectancy

What is the estimated life of the existing system?

The service life of the structures is 50-100 years plus, at which time they will most likely be replaced or upgraded in a similar configuration to the existing.

The Hauraki District Council has no current intention of disposing of most of its stormwater assets. Apart from the surface drains, the assets are largely in-ground structures (pipes, manholes, floodgates and pump stations). Generally the parts of the pump station structures above ground are the control shed housing the pump motors and control gear. These components are not logically separable from the remainder of the structure.

The one exception to the above is the disposal of the Paeroa Main Drain Pump Station to Environment Waikato.

19.1.5 Current and Estimated Future Demands

This is currently being investigated and will be presented in the Catchment Management Plans.

19.1.6 Options to Meet Demands and their Suitability

This is currently being investigated and will be presented in the Catchment Management Plans.

19.1.7 Intended Role of the Hauraki District Council in Meeting the Demands

Hauraki District Council will continue to be the owner and operator of the urban stormwater network.

19.1.8 Hauraki District Council's Proposal for Meeting the Demands

This is currently being investigated and will be presented in the Catchment Management Plans.

19.2 Urban Serviced

19.2.1 Description

Residents in the urban areas of Whiritoa, Waihi, Paeroa, Kerepehi, Turua, and Ngatea form the urban serviced community.

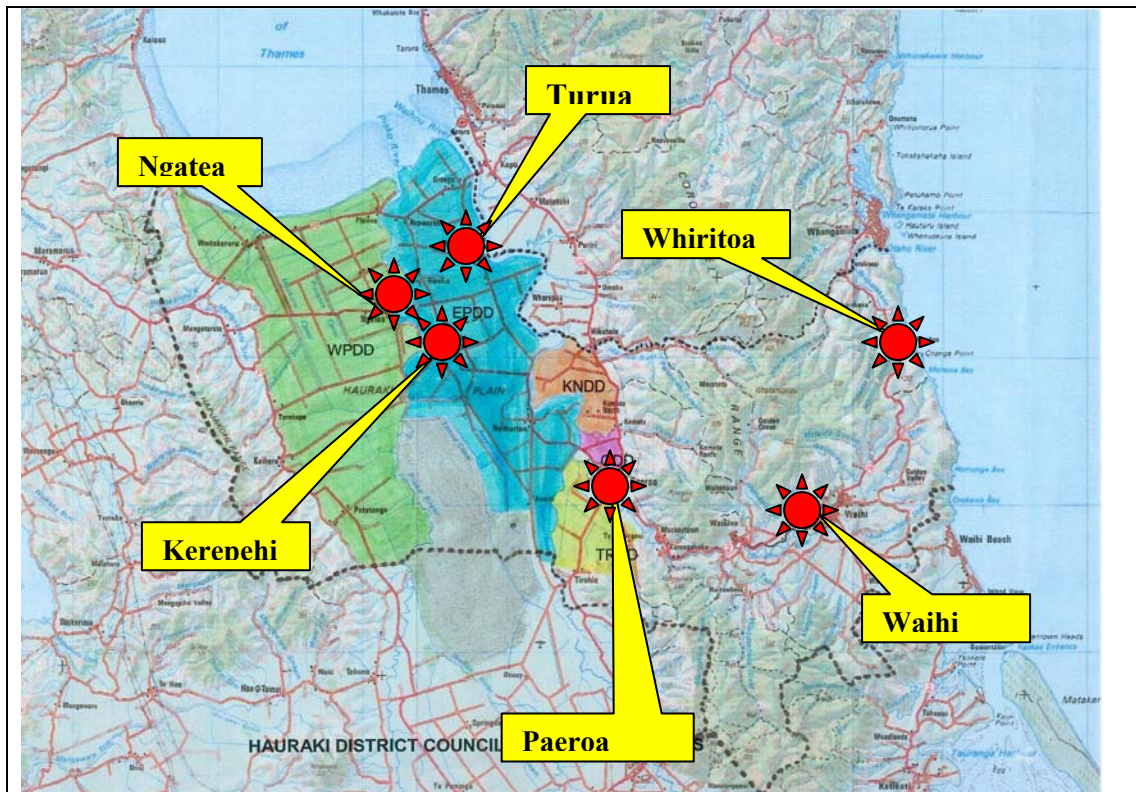


Table 3.2.1.1 – Plan of Hauraki District Council “URBAN SERVICED” community.

19.2.2 Methods Used To Dispose Of Stormwater

Typically, stormwater disposal is provided by public reticulation network from the street sumps or private connections to the point of discharge to the receiving water of a river or stream. In the case of Whiritoa and Waihi, this is solely by gravity to the seafront (in Whiritoa) or the Ohinemuri River (in Waihi). In Paeroa the main outfalls are to the Ohinemuri or Waihou Rivers via floodgated gravity outlets, supplemented by floodpumps when river flood levels prevent outflow. In Ngatea, the outflow to the Piako River is via floodgates and pumps. Kerepehi disposes stormwater by gravity to the land drainage network of the EPDD which is delivered to the Awaiti Canal via floodgates and pumps. Turua stormwater is disposed of via floodgated outlets to the tidal reach of the Waihou River.

In Whiritoa there is no provision for disposal of stormwater from the residential lots within the reticulated network. The pipe system is solely for the disposal of runoff from the road network.

The method of disposal from residential lots is a combination of retention and ground soakage, depending on the soil conditions. Where soils are suitable for soakage, a soak pit of the required capacity is constructed to dissipate the runoff from developed areas at a rate dictated by the soil permeability. Where soil conditions are less permeable, a retention tank system may be employed to provide for interim storage and later release to ground. The principle of 'hydraulic neutrality' is employed, such that the increase in storm runoff due to development of buildings and paved areas does not exceed the rate of runoff from the undeveloped area. Generally retention tanks with reduced discharge lines are used. Often the detention volume is accommodated in the top section of a tank used to collect rain water for domestic use.

In Waihi there is pressure on the reticulated network to accommodate flows from infill and new development. Where ground conditions are suitable, soakage is employed. Methods of retention are actively encouraged to reduce runoff rates.

The incorporation of grassed swales in road berms is used to reduce runoff rates and to improve quality by providing a longer path over grass which acts as a filter.

In Paeroa, Ngatea, Kerepehi and Turua, ground conditions are generally unsuited to soakage, so the discharge of stormwater to the reticulated network is accommodated.

The discharge points to the receiving waters are monitored in accordance with the Stormwater discharge consents held by Council. Refer to the Stormwater Asset Management Plan for details.

The floodgates and pump stations discharging to the Ohinemuri, Waihou and Piako Rivers are assets of the Waihou Valley and Piako River Schemes of the Regional Council (Environment Waikato). The structures have been built by the river schemes, are owned, maintained, and will be replaced by the Regional Council. Council's responsibilities for these structures is limited to shared inspections, clearance of blockages, and in the case of the pumps, the payment of energy accounts for their running time, and the maintenance of the screens clear of weed during operation.

The pumps have automatic start and stop levels, set in conjunction with the Region, reflecting ground levels within the catchment.