
Definition of Terms

Advanced on-site effluent treatment system – Involves pre-treatment via septic tank and/or secondary treatment process comprising aerobic biological processes and solids control followed by land application of the resulting secondary effluent via subsurface irrigation. (Secondary treatment may comprise either aeration/clarification units, or biofilter/ clarification units, or sand filter units, refer to definition of secondary treatment).

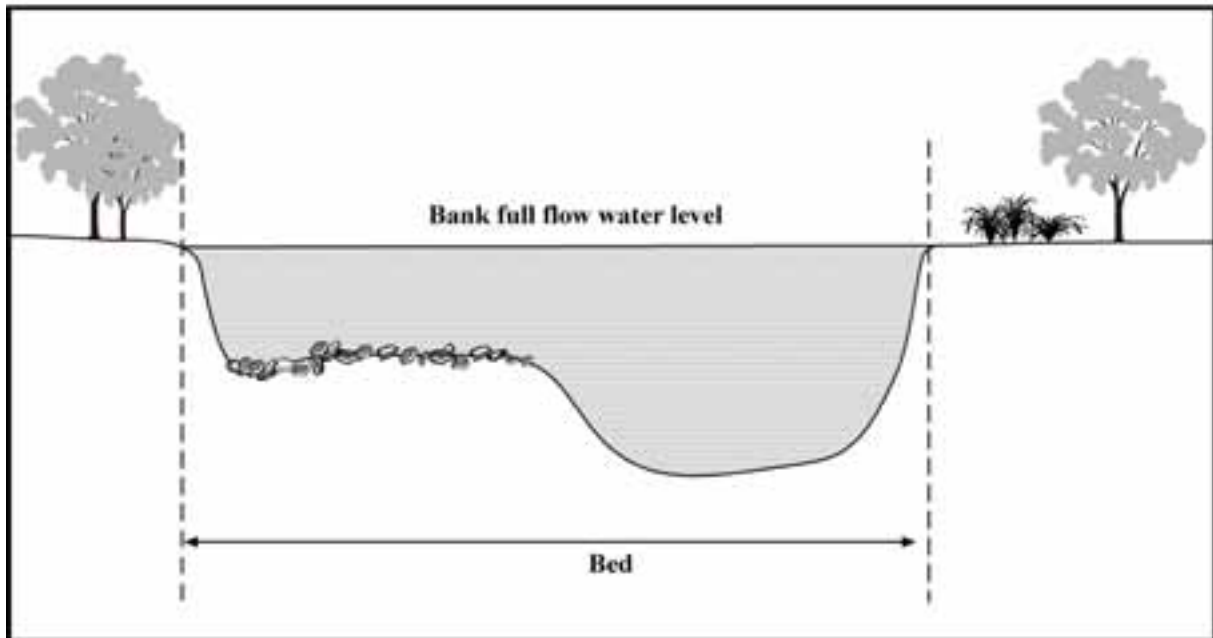
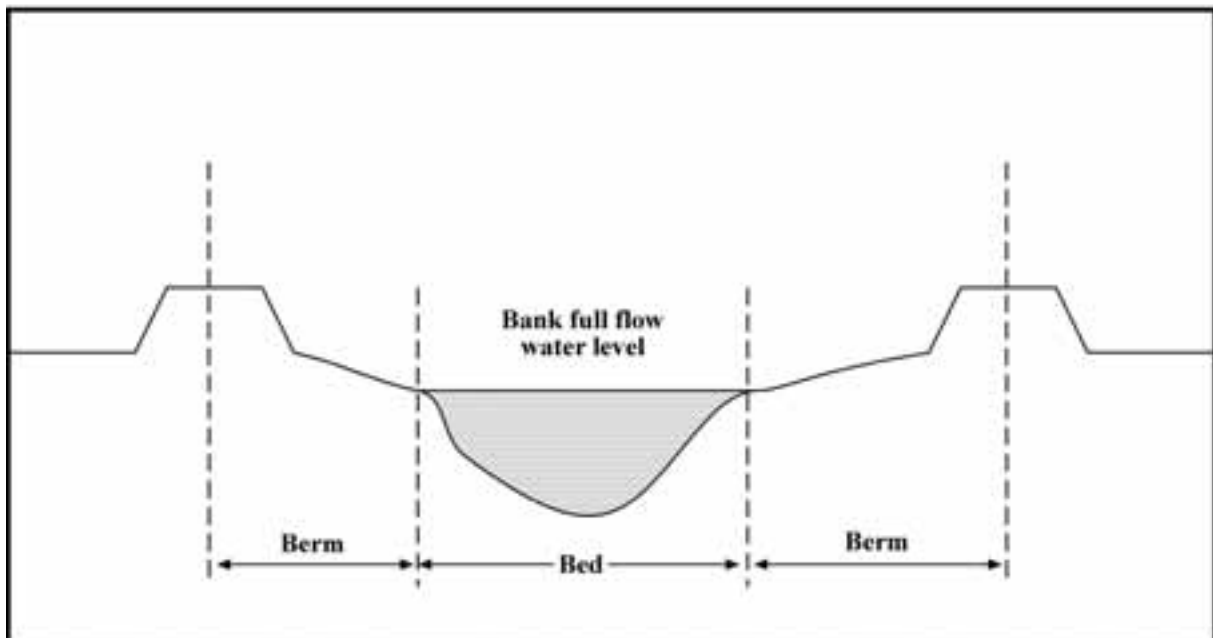
Aerobic – Aerobic conditions are when ample free oxygen is available to maintain bacterial (aerobic bacteria) activity and produce non-odorous by products.

Bed of a lake or river¹¹ – means -

- (a) *In relation to any river—*
 - (i) *For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks;*
 - (ii) *In all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks; and*
- (b) *In relation to any lake, except a lake controlled by artificial means,—*
 - (i) *For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the lake cover at its annual highest level without exceeding its margin;*
 - (ii) *In all other cases, the space of land which the waters of the lake cover at its highest level without exceeding its margin; and*
- (c) *In relation to any lake controlled by artificial means, the space of land which the waters of the lake cover at its maximum permitted operating level; and*
- (d) *In relation to the sea, the submarine areas covered by the internal waters and the territorial sea:*

Refer Figure 6 for guidance.

¹¹ Terms in *italic* text are defined by the Resource Management Act 1991 (the Act). The Act definitions are included in this Plan for information only, and are correct at the date of public notification of this Plan.

Figure 6 - Bed of a River**A River or Stream****B River with Stopbanks**

Note: These diagrams are indicative only, and are intended to provide general guidance.

Bedroom – A bedroom shall be defined as a room used for sleeping. It excludes the following: kitchen, dining room, laundry, bathroom (excluding en suites).

Blackwater – Wastewater discharge from water closets (flush toilets) systems and urinals.

Blowout – Where water in a channel gains enough energy and volume to burst out of the channel.

BOD₅ – Biochemical Oxygen Demand (five day), being a measure of organic material degradable by aerobic bacteria at 20°C over 5 days.

Conductivity – A measure of the quantity of dissolved ions in solution.

Conventional on-site effluent treatment system – Involves pre-treatment via septic tank followed by land application of the resulting primary treated effluent via a soakage field incorporating trenches, or beds, or soakholes.

Dispersal System – Includes trenches; beds; evapotranspiration beds; mounds; LPP (and LPED) aeral loading systems; subsurface and surface irrigation systems.

Dissolved Nutrients – Soluble forms of nitrogen and phosphorus. Septic tank effluent can discharge dissolved nitrogen, in ammonia or nitrate form, to natural waters.

Domestic wastewater – Wastewater originating from household or personal activities including toilets, urinals, kitchens, bathrooms (including shower, washbasins, bath, spa bath but not spa) and laundries. Includes such wastewater flows from facilities serving staff/employees/residents in institutional, commercial and industrial establishments but excluding commercial and industrial wastes, large-scale laundry activities and any stormwater flows.

Effluent – Wastewater discharged following some level of treatment (as primary effluent, secondary effluent).

Ephemeral flowpath – An ephemeral flowpath is where any one of the following criteria are met:

- (a) The flow path is an entrenched dry gully greater than 1 metre deep.
- (b) There is clear evidence of a channel within the valley system where overland flow occurs from time to time.
- (c) There is clear evidence of erosion (such as gully or headward gully erosion) associated with short term water flow from time to time within the valley system.

An ephemeral flowpath excludes the following:

- (a) A valley that does not show any evidence of overland flow channels, or erosion as a result of overland flow.

Refer to the following photographs to assist in the interpretation of Ephemeral Flowpath.

**Example 1**

The flow path is an entrenched dry gully greater than 1 metre deep. This site would qualify as an ephemeral flowpath.

**Example 2**

There is clear evidence of a channel within the valley system where overland flow occurs from time to time.

This site would qualify as an ephemeral flowpath.

**Example 3**

There is clear evidence of erosion (such as gullying or headward gully erosion) associated with short term water flow from time to time within the valley system. This site would qualify as an ephemeral flowpath.



Example 4

The presence of the actively eroding gully head associated with stormwater flow indicates that this valley would be classified as an ephemeral watercourse. Without the presence of the eroding gully system, the valley would not be considered an ephemeral flowpath.



Example 5

The valley does not show any evidence of overland flow channels, or erosion as a result of overland flow.

This site would not qualify as an ephemeral flowpath.



Enterococci – Bacteria originating in the gut of warm blooded animals. Enterococcal numbers have been found to correlate well with the incidence of gastroenteritis in bathers.

Eutrophication – an enrichment of water with nutrients with resultant high primary productivity.

F-specific bacteriophage – See indicator bacteria.

Faecal Coliforms – Coliform bacteria which are usually associated with faecal matter.

Greywater – Greywater comprises the wastewater flow from kitchen, bathroom and laundry facilities. It excludes:

- Human waste matter originating from the toilet or water closet;
- Commercial laundry flows; and

- Garbage grinder (waste disposal unit) wastes.

Grouped data – Where bacterial or chemical analysis results from similar sites are combined for statistical analysis.

Highest Groundwater Table – The highest level that the water table reaches, for a period longer than one week per year.

Indicator Bacteria – Bacteria, for example faecal coliforms, enterococci F specific bacteriophage, which are used to indicate the presence of pathogens or other micro organisms of interest.

Infiltration – The rate at which water is transferred into the soil at a soil/water interface.

Irrigation Lines – A system of using specially manufactured pressurised effluent emitter lines with a uniform application rate over the entire dispersal field. These emitter lines are pressure compensating to allow for their use on sloping or uneven ground. They can be laid on the surface of gardens or in the bush, but must be covered by an inert material or an appropriate alternative. In free draining soils emitter lines are normally buried below the surface of lawns etc.

Land application area – An area where the effluent from a wastewater treatment unit is dispersed into soil for further in-soil treatment and absorption, this will include any soakage field and dispersal area.

LPED (Low Pressure Effluent Distribution) – A system that utilises pump dosed loading from a perforated small diameter pipe insert within standard distribution lines in shallow trenches. Designed for use in free draining soils (category 1 – gravel, coarse sand; rapid draining) it is essentially a variation on conventional distribution systems. LPED may also be used for surface application trickle irrigation or aeral loading into the topsoil.

LPP (Low Pressure Pipe) – A system which distributes effluent through a relatively small number of orifices in a pressurised (low pressure) pipe which occupies the full length of a gravel distribution bed, in a trench which has a flat grade (LPED is a variation of LPP).

On-Site Effluent Treatment System – A system where kitchen, laundry and toilet wastes are collected, treated, and applied to land within the property boundaries of their place of origin. It involves three stages: the piped collection of wastewater flows, the initial treatment of those flows in either a primary or secondary pre-treatment unit, then their controlled discharged to land where additional treatment takes place via natural physical, chemical, and biological processes within the plant-soil matrix. The dispersal of the resulting effluent occurs via plant evapo-transpiration and by percolation through subsoil to ultimately join natural groundwater. On-site effluent treatment systems as referred to in this plan have commonly been termed “on-site effluent treatment systems” in the past. For further description of the principles of on-site treatment, see Appendix B, Description of a Clogging Mat.

Outlet Solids Filter – Outlet Solids filters are used for solids control in place of the outlet-tee in a septic tank. A filter is a durable device, other than a pump screen, designed to prevent solids 3 millimetres or greater in size passing from the tank to the land application area (including soakage field). The installation of an outlet solids filter should ensure service (cleaning and maintenance) access at ground level. In the event of a national standard being set for outlet solids filters the national standard will supersede the aforementioned definition for the purposes of this plan.

Pathogens – Also pathogenic bacteria. Pathogens are disease causing bacteria, and viruses.

Percolation – The process by which water moves through soil after it has infiltrated.

Permeability – The soil characteristic that expresses how rapid percolation is.

Property title – In relation to any land means the fee simple title; or, where the land is Maori freehold land, the Maori freehold title; and, in the cases of a unit title under the Unit Titles Act 1972 or a title for an undivided share in a fee simple or leasehold with or without any other interest in land means the parent fee simple title from which or from the lease of all or part of which that unit title or that undivided share title issued.

Reticulation and or Wastes – The system of pipes that conveys liquid. This can be water reticulation for water supply or sewerage reticulation for wastewater.

Secondary Treatment – Aerobic biological processing and settling or filtering of effluent received from a primary treatment unit. Effluent quality following secondary treatment is expected to be equal to or better than 20 grams per cubic metre 5-day biochemical oxygen demand and 30 grams per cubic metre suspended solids.

Septage – Liquid or solid material removed from a septic tank, cesspool, portable toilet, or similar system that receives only domestic (non commercial) waste.

Septic Tank – The primary pre-treatment unit for an on-site effluent treatment system; it takes in wastewater flows, stores and treats settled solids by anaerobic bacteria.

Septic Tank System – Refer to on-site effluent treatment system.

Septic Tank Survey – A survey where all properties containing septic tanks are visited, the tank contents are pumped out and the capacity and structural integrity of the tank is assessed and an assessment is made of the capacity and operational performance of the soakage field or soakhole. The amount and type of sludge in the tank may also be used as a guide to whether the soakage field or soakhole is operating.

Sewage – Liquid waste matter which is carried off by sewers.

Sewerage – A network of sewers (or drainage pipes) used to convey wastewater by gravity and/or pumping stations and pressure lines.

Shear Plane – A zone of differential permeability in soil or rock which water preferentially travels along and which the rock or soil will preferentially fracture along. This can be a problem if hill soils become unstable as a result of saturation due to on-site effluent treatment.

Shock Loading – A condition where a sudden dose of effluent is applied to a system which usually operates at a lower load, and the bacteria in the system are unable to immediately cope with the load. This is a common problem in on-site effluent treatment systems attached to holiday houses.

Soakhole – Is an effluent treatment hole with the following characteristics:

- a hole of some depth, backfilled with media which allows rapid movement of effluent to depth. It may be lined with porous concrete soak ring(s),
- a small (compared with soakage field) surface area for discharge and effluent absorption, creating a single concentrated point of discharge.
- receives substantial quantities of liquid, (averaging greater than or equal to 200 litres per day) creating hydraulic pressure at the base of the hole.

Splash Zone – The land/water interface for lakes, estuaries and the open coast. The part of the water body where children splash about and play.

Surface Waterbody – means freshwater in a river, lake, stream, pond, or wetland, that is not located within the coastal marine area.

Treatment –The process whereby ultraviolet damage to bacteria and adsorption of phosphorous to clay particles occur and microbiological communities utilise sewage as a food source. In that process the environmental impact and health risk of the effluent is reduced.

Treatment Area – The treatment area is the area within the on-site effluent treatment system that is located on a Lot (section). It includes for the pre-treatment unit, the associated soakage field system and the reserve area set aside for future extension or duplication of the soakage field system. The treatment area incorporates the surface area within which the soakage field system is installed, together with the volume of soil below the base of the system to a minimum depth of 600 millimetres.

Trophic Level Index (TLI) – A numeric system for the monitoring of lake quality adopted by the Ministry for the Environment. TLI is determined using measurements of chlorophyll (Chla mg m⁻³), Secchi depth, Total Phosphorous (TP) and Total Nitrogen (TN). The TLI value integrates measures of key nutrients and algal production over a year, giving an indication of the overall quality of the lake. The TLI number increases as water quality decreases.

Urban Development – Development in urban areas including but not limited to residential, commercial, recreational or industrial zones.

Vibrio sp. – A genus of bacteria, most species of which are aquatic. Marine vibrios can cause gastroenteritis if infected seafood is eaten raw or poorly cooked.

Wastewater – The used water arising from domestic activities in dwellings, institutions or commercial facilities and includes domestic wastewater, or greywater, or backwater. Wastewater is defined as foul water in the New Zealand Building Code.

Water¹² –

- (a) *Means water in all its physical forms whether flowing or not and whether over or under the ground:*
- (b) *Includes fresh water, coastal water, and geothermal water:*
- (c) *Does not include water in any form while in any pipe, tank, or cistern.*

Water Table – The level below which fissures and pores in the soil or strata are saturated with water. Surface of the groundwater in an unconfined aquifer.

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