

Beachlands Wastewater Scheme - Short list options

Option 3a: Irrigation to land and stream discharge

Locality map



Option 3a Land Irrigation and Stream Discharge

Stantec Short List Discharge Options Watercare

Data Sources: NIWA, LINZ NZ, Stantec NZ
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 Coordinate System: NZGD 2000 New Zealand Transverse Mercator

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 Export Date: 11/16/2023 1:03 PM

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Legend

- Indicative Discharge Location
- Land Irrigation Area 300ha
- Beachlands WWTP Designation Boundary
- Beachlands WWTP Property Boundary
- Wastewater Catchment
- Plan Change 88 Area

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Option 3a: Irrigation to land and stream discharge

Discharge location

300 ha of land within 10km radius of the Beachlands Wastewater Treatment Plant (WWTP). Tributary of Te Puru Stream - Direct Discharge.

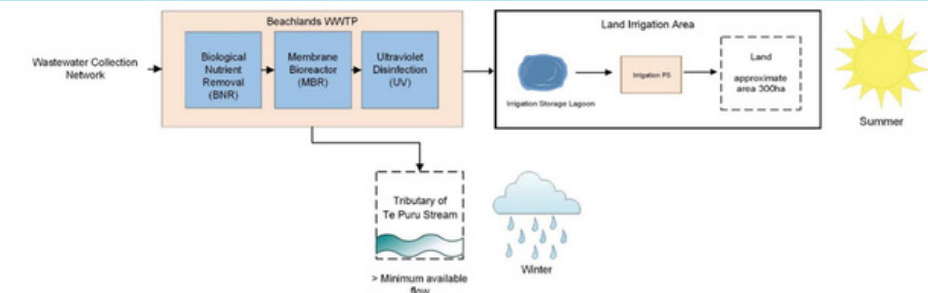
Treatment option

- Biological Nutrient Removal (BNR).
 - MBR.
 - Ultraviolet disinfection (UV).
- BNR + MBR + UV disinfection.

Treatment location

Existing Beachlands Wastewater Treatment Plant (WWTP) site.

Process diagram



Typical treated water quality

Population Equivalent	30,000
Average Daily Flow (ADF) m ³ /day	6,000
Parameter	Median Concentration mg/L
Biochemical Oxygen Demand (BOD)	5.0
Total Suspended Solids (TSS)	5.0
Total Nitrogen (TN)	5.0
Total Phosphorus (TP)	1.0
Faecal Coliforms	<10 cfu/100ml

Key components

Item	Description
Conveyance system	Convey wastewater to suitable land surrounding the WWTP. New discharge structure direct to stream.
Treatment system	Existing Beachlands WWTP site. BNR + MBR + UV disinfection.
Discharge system	Low pressure sprinklers to land and via outlet direct to stream.

Indicative costs

Capital	\$320M to \$470M	Operating and maintenance	\$56M	Whole of life	\$376M to \$526M
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