

Portland Water Reclamation Plant

Domestic sewage average dry weather flow - 3.2ML/d
 Domestic sewage peak wet weather flow - 10.4ML/d



- 1. Inlet works - design flow rate of 250L/s, consisting of two primary inlet channels with step screens removing and washing solid material. Vortex grit chamber and grit classifier removing smaller particles. All solids appropriately washed ready for landfill application.
- 2. IDEA tank anoxic zone - three separate chambers in each IDEA tank with flow connecting weirs. Micro-organisms naturally removing nitrogen and releasing it to the atmosphere as gas.
- 3. IDEA tank aeration zone - two separate IDEA tanks with a capacity of 2ML each. Fine bubble diffused aeration system. Micro-organisms naturally removing carbon and ammonia.
- 4. Blower building - 4 no. 37kW turbo blowers. 3 duty with 1 standby, supplying the diffused aeration system within the IDEA tanks.

- 5. Effluent balancing storage - 1.5ML capacity
- 6. UV system - disinfection prior to discharge to ocean outfall and re-use at site for process water.
- 7. Process water pump station - filtration and booster pump system for reticulated process water throughout the plant site.
- 8. Waste activated sludge & return activated sludge pump station - return of mixed liquor to the head of the IDEA process and wasting of liquor to the sludge lagoon.
- 9. Return pump station - return of supernatant from the sludge lagoon and sludge drying pans. Return of excess effluent to the inlet works from process locations within the plant site.
- 10. Site office - plant control system, meeting room and laboratory.
- 11. Emergency storage / wet weather lagoon - 14ML capacity. Accepting excess flow from the inlet works during high flow periods. Available redundancy storage, if required, to take whole plant offline.
- 12. Sludge lagoon - 14ML capacity. Receives waste activated sludge from IDEA system.
- 13. Sludge drying pans - 7 no. sludge drying pans. Drying beds for decanted sludge from the sludge lagoon as required.
- 14. Ocean outfall - existing ocean outfall receiving all treated effluent from the water reclamation plant.

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Sewage Treatment Flow Chart

