

Donnybrook Farms Pty Ltd

(South East, SA)

Average milking herd: 1,000 cows
 Type of effluent system: Mechanical separation



Effluent from the dairy shed and yard gravitates in to a narrow v-drain located at the back of the dairy yard. Raw effluent is then gravitated underground via two large PVC pipes in to a shallow trafficable sand/stone trap. The trap is cleaned out regularly using the property's front end loader.

Liquid effluent and suspended manure then flows in to a large circular concrete collection sump. The sump is equipped with an agitator and submersible sludge pump. The circular shape reduces the power required for agitation and prevents dead-sections in the sump, where manure solids can accumulate. The sump has an overflow pipe connected to the pond, in the event there is a power or mechanical failure at the dairy.

When the sump reaches a pre-determined level the agitator is engaged, then the pump starts several minutes later. Mixed effluent is pumped up to the Screw Press Separator (SPS). Separated liquid effluent gravitates in to an 8.9ML HDPE lined effluent storage pond, whilst solids fall below the SPS.

Liquid effluent from the storage pond is recycled for hydrant yard washing. This equates to an annual freshwater saving of approximately 14, 600kL. Effluent is applied through a 70 hectare centre pivot during the irrigation months.

Nutrients captured at the dairy shed annually:

- 8,600 kg/yr of Nitrogen
- 1,623 kg/yr of Phosphorous
- 6,027 kg/yr of Potassium

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