


Crowle Gardens Development - Belmore
Street, Ryde
WSUD Concepts
23 February 2011



Water management plan

 Bioretention system

 Stormwater treatment wetland



Stormwater treatment wetland and water body (indicative location only)



Linear bioretention system to treat runoff from southern part of site, including blocks A, E and F

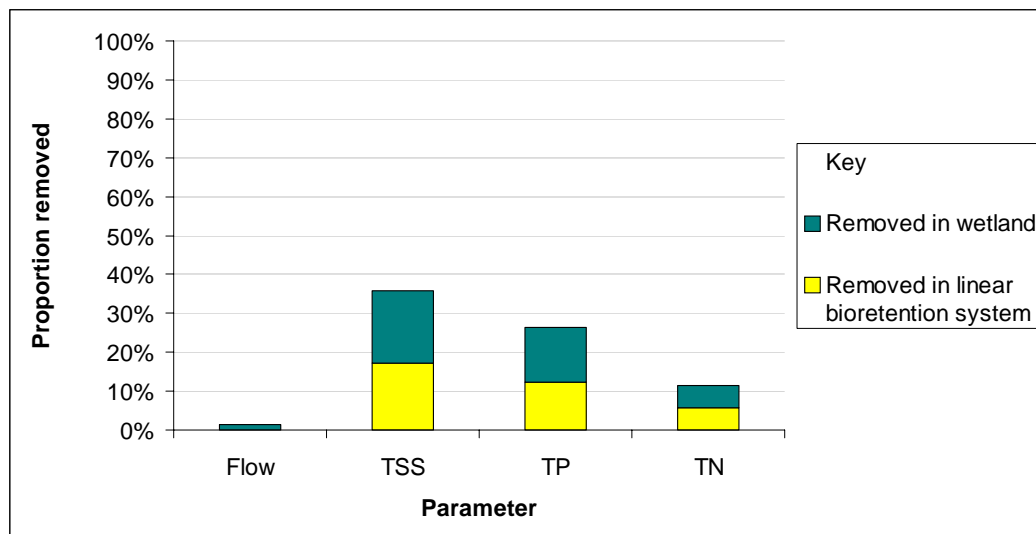


Stormwater treatment

- Treatment objectives are based on mean annual pollutant loads:
 - 45% removal of total nitrogen (TN)
 - 65% removal of total phosphorus (TP)
 - 85% removal of total suspended solids (TSS)
- Three stormwater treatment systems are proposed (in addition, the rainwater tanks will remove pollutants through water harvesting):
 - A **320 m²** bioretention system to treat the southern catchment, including Blocks A, E and F
 - A **125 m²** wetland to treat the northern catchment, including Blocks B, C and D
- These have been estimated to remove the following pollutant loads:

Pollutants	Proportion of total site loads		
	Removed in linear bioretention system	Removed in wetland	Total
Total suspended solids	17%	18%	36%
Total phosphorus	12%	14%	26%
Total nitrogen	6%	6%	11%

Overall the water management systems will fall short of the targets for TSS, TP and TN.



Costs :

- 320 m² bioretention system: \$165,000
- 125 m² wetland: \$40,000
- Total: \$205,000
- Per apartment: \$460

Typical cross-section of a bioretention system

