

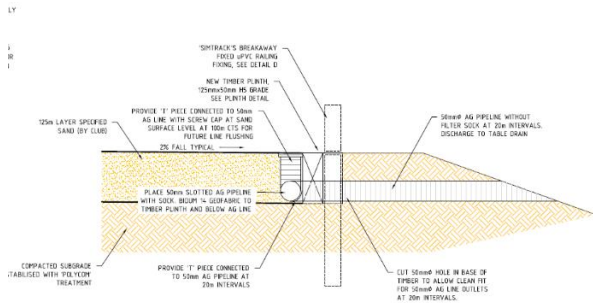
# CASE STUDY NEW SAND TRACK

**Location:** Dubbo

## The Challenge

The Dubbo Turf Club is planning to build a new sand track inside the perimeter of the existing turf.

The track will be composed of 125mm of coarse sand laid on a compacted subbase, and held in place by a 50mm thick wooden plinth. The design calls for drainage through a 50mm diameter ag pipe which exits through the plinth every 20m.



**DETAIL C**  
SCALE 1:50 (A3)

The Project Manager recognised that Capiphon might have an advantage in providing more complete drainage of the track. It was decided to test that opinion by comparing the drainage performance of Capiphon against the system as specified.

A model was constructed from form plywood; two equal compartments, 1150mm by 957mm, and 1500 deep, one containing ag pipe as specified, the other with 600mm of Capiphon poking through the 'plinth'.



Initial tests without the sand showed,

1. Flow rates were equivalent. (Direct comparisons is not possible given the differences in opening ratios and length of belt/pipe in contact with water)
2. That Capiphon completely drained the tank, while a considerable amount of water remained in the ag pipe tank as shown by the water table.

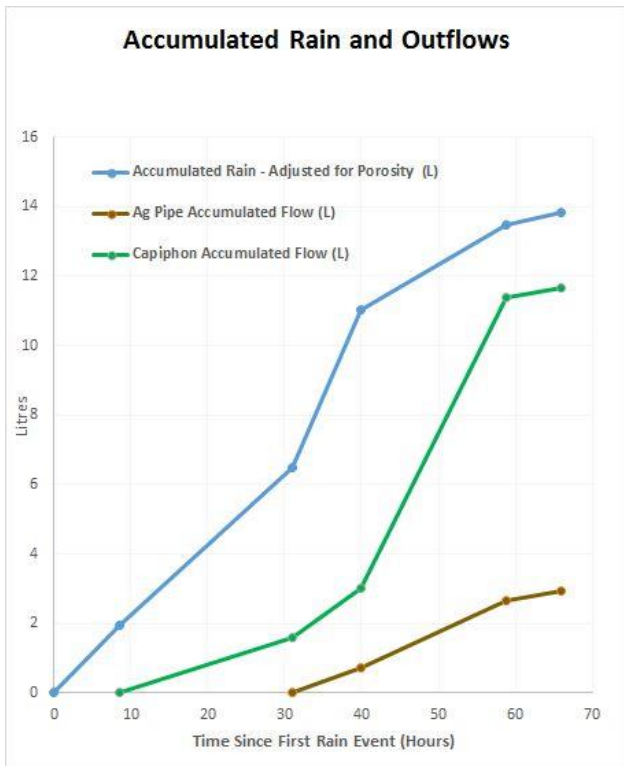
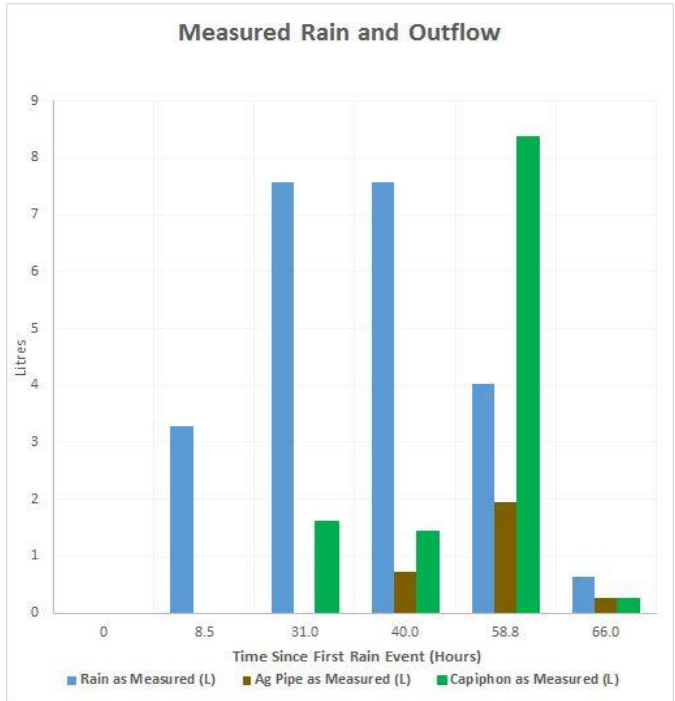


When filled with sand, the results were even more striking. Water from the first rain event was completely taken up by the voids in the sand, but then began to flow from the Capiphon belt after the second rain event. Water did not appear from the ag pipe until several hours later, by which time even more had been delivered by Capiphon.

Rain continued over the next few days and it would appear that Capiphon drained rain from the tank continuously, thus making way for more water to be collected.

Date	Day	Temps		Rain mm	Evap mm
		Min	Max		
		°C	°C		
1	Tu	8.6	16.1	0.6	4
2	We	6.1	17.3	5.4	7
3	Th	11	18.8	0.2	2.8
4	Fr	11.5	24.5	0	4.6
5	Sa	7.2	14.7	7.8	7.4
6	Su	8	17.1	0.2	3.4
7	Mo	10.8	17.9	0.2	3.6
8	Tu	9.3	17.9	0	5.2
9	We	6.6	16.9	0.2	4.2
10	Th	6.7	15.2	0	4.8
11	Fr	9.7	17.3	0	3.6
12	Sa	11.7	15.6	4	3.8
13	Su	10.5	11.8	12.4	4.4
14	Mo	8.8	14.7	14.4	0.8
15	Tu	9.7	19.3	0.4	2.4
16	We	12.4	18.2	0.2	5.6

<http://www.bom.gov.au/climate/dwo/IDCJDW7021.latest.shtml>



At the end of the trial there remained a significant volume of water in the ag pipe tank, and when the sand was removed some two days later, it still appeared to be very wet compared to that in the Capiphon section.

Total drained by Capiphon	8.7 Litres
Total drained by ag pipe	2.9 Litres



