

Capiphon™ Drainage

Cheaper to Install

These are some comparative installation costs for two jobs at a local Primary School in Tasmania. One of them is the case study reported in the ICID paper. In each case, an independent contractor was asked to submit a drainage plan and an estimate of costs before the work. A separate team installed Capiphon™. The contractors were then interviewed in detail to understand the components of their quote.

Weld Street Playground

Even in relatively minor rain events water flows across a sports field and into the soft-fall area under the play equipment. The soil underneath the soft-fall material is clay fill brought in during the construction of the sports field.

The conventional drainage plan involved a trench 450 mm wide, 600 mm deep and 100 m long. The trench would be lined with geotextile fabric, and ag pipe (with sock) laid on a laser-levelled bed of 20 mm gravel. The trench would then be filled to within 150 mm of the surface, the geotextile wrapped over the gravel, and the remaining trench top-filled with soil.

The Capiphon™ installation involved

- scraping the soft-fall back to the clay layer with a small machine (Kanga or Dingo equivalent)
- digging a 10 cm trench with the same machine,
- laying 5 metre lengths of belt on a thin bed of coarse sand, and inserting the belts into 50 mm PVC pipe
- covering the belt with a thin layer of sand and backfilling with the original soft-fall.



Capiphon™ Drainage		Conventional Drainage		Comments
Labour	\$2,400	Labour	\$3,200	At same hourly rate, although Capiphon™ could use lower rate.
PVC Pipes	\$198	Ag Pipe	\$900	50 mm DWV
Sand	\$40	Aggregate	\$1,800	
Excavation	\$680	Excavation	\$2,400	Capiphon™ requires smaller machine. Less spoil to remove.
Capiphon™	\$270	Geofabric	\$1,206	
		Top soil		
	\$3,588		\$9,506	Saving: \$5,918

Anglesea Street

Serious seepage was occurring from two sites after rain, most likely coming from a stormwater pipe damaged during construction of a new wing. The conventional drainage plan was to dig a wide 450 mm and 600 mm deep trench at the bottom and alongside the path. Gravel and geotextile wrapping as usual.

Capiphon™ installation was as described above.



Capiphon™ Drainage		Conventional Drainage		Comments
Labour	\$875	Labour	\$950	At same hourly rate, although Capiphon™ could use lower rate.
PVC Pipes	\$159	Ag Pipe	\$295	
Plumbing & Fittings	\$278	Plumbing & Fittings	\$278	The same in each case.
Sand	\$40	Aggregate	\$520	
Excavation	\$275	Excavation	\$855	Capiphon™ requires smaller machine. Less spoil to remove.
Capiphon™	\$300	Geofabric	\$195	
		Top soil	\$195	
	\$1,952		\$3,288	Saving: \$1,336

First, some cautionary words:

- Each job is different. Costs will depend on size and situation.
- These jobs were retrofit. Installing drainage on a building site where one had access to equipment on site, and the job could be integrated with other earthworks, might produce different figures. The contractors said, however, that the difference would not be significant.
- They thought that, while both jobs were to drain the soft-fall (shredded tree bark) areas of playgrounds and that costs might be slightly different if the drainage were in new ground, they didn't think it would make much difference.

Drainage around a house:

One contractor also confirmed that the Anglesea Street job was not dissimilar to the size of drainage for a new house. Most of his jobs – new house and retrofit – are between \$4,000 and \$6,000. He was of the opinion that, where access was difficult for machinery, conventional drainage would be comparatively more expensive.

Average savings \$1,500 per block.