

Ménage/Manège Drainage & Construction

Irriplan offers a variety of design solutions for the drainage of maneges. In addition to conventional “profile” drainage solutions, Irriplan offers some cheaper alternatives, using materials and techniques from other industries and applications; these are called the GroovyDrain and FinDrain systems.

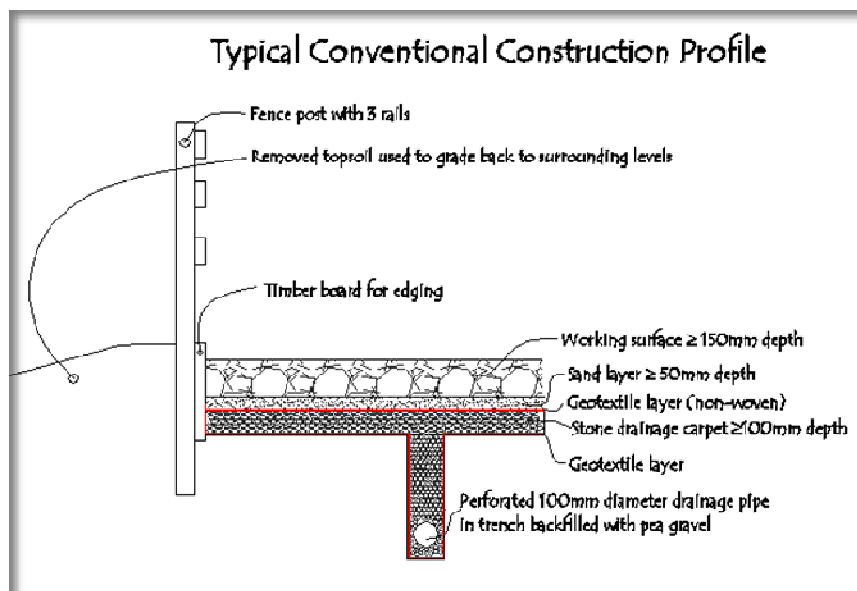
The range of drainage solutions offered have different characteristics and performance.

Drainage system	Typical drainage rate (mm/hr)	Typical cost of drainage using conventional materials	Typical cost of drainage using recycled materials	Typical design life (years)	Easy installation for self-build	Easy to replace working surface
Conventional/Profile	≥50	≥ £12,000	≥ £15,000	≥50	✗	✓
<i>Fin Drain™</i>	≥50	≤ £7,000	NA	≥50	✓	✓
<i>Groovy Drain™</i>	≤30	≤ £4,000	≤ £5,000	≤ 10	✗	✗

Conventional “Profile” drainage

A good quality conventional “profile” drainage system comprises;

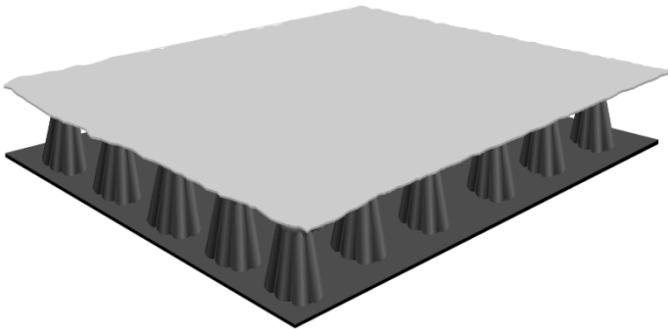
- Main spine drain with laterals (often in a herring-bone pattern) comprising perforated plastic drainage pipe in a trench backfilled with gravel
- Drainage trenches and sub-base lined in geo-textile membrane to prevent ingress of fines clogging up the aggregate and pipes
- Drainage carpet of ≥100mm depth of gravel or crushed stone
- Another geo-textile membrane to prevent ingress of working surface into gravel layer and allow future removal and replacement of the working surface without contaminating the gravel carpet
- ≥50mm layer of sand to weigh down the geo-textile and protect it from horses hooves



The above drainage is very effective, but involves well over 100 tons of aggregate (gravel/crushed-stone and sand) in several layers. The construction process is time-consuming and requires heavy machinery to distribute and place the aggregate. This is the type of system that would typically be specified for a high-use commercial manège or high quality private manège.

To achieve the same performance at more economical cost Irriplan has devised a *Fin Drain™* system. This system is not only more economical but is also quicker to install and easier to construct than conventional profile drainage systems, whilst giving exactly the same performance. Indeed this type of drainage can be constructed on a self-build basis, rather than requiring a specialist contractor.

The *Fin Drain™* system replaces all of the above profile systems layers with a just a single layer; a geo-cusped, fin drain.



Drains of this type are used extensively in civil engineering and building applications and are very tough and durable. It comprises a “sandwich” of air between a tough plastic sheet and a porous geo-textile. Water flows through the porous geo-textile and flows through the “air sandwich”.

The fin drain is laid directly on to the graded ground and the working surface material is laid directly on top of the fin drain. The ground on which the fin drain is laid is graded with a slope so the fin drain discharges into a drain running alongside the manège and backfilled with gravel and topped with the working surface such as waxed sand, fibre-sand, rubber crumb, recycled rubber or shredded carpet/textile.

The system doesn't require any specialist or heavy machinery to lay and install. The typical cost for the entire *Fin Drain™* drainage system is less than £7,000 for a typical 20m x 40m manège (a saving of at least £5,000 compared to a low-end profile drainage system).

The *Fin Drain™* system is suitable for both commercial and private ménages and is ideal for a “self-build” project, since no specialist or heavy machinery is required to install it. Another advantage of this system is the ease with which you can scrape off the working surface and replace it with a new surface.

For the cost conscious Irriplan has devised a very economical drainage solution using a secondary drainage method widely-used for sports pitches and golf course.



The *Groovy Drain*™ system comprises a series of narrow slits in the sub-soil that are filled with a particular gravel that has a very high hydraulic conductivity rate. The depth, width and spacing of the slits and the drains into which they slits run can be altered to meet the drainage budget or to achieve a specific drainage performance. A geo-textile may be added to prevent ingress of dust from the working surface into the drains. This type of drainage scheme is suitable for the budget-conscious who have a relatively low-use manège.

Services offered by Irriplan

Manège Design & Planning

- Site appraisal and feasibility
- 3D site survey and creation of Digital Terrain Model
- Planning application drawings
- Detailed design of all elements including drainage and earthworks to achieve a balanced cut and fill excavation
- Technical specification, bill of quantities, tender document
- Construction supervision

Construction management

For the self-build customer in addition to the above we offer a construction management service that includes;

- Setting-out and staking for ground-works
- Monitoring and approval of ground-works
- Assistance in the procurement of drainage materials

Drainage Design

For those who already have planning permission and a reputable ménage contractor we can offer to provide a drainage design and specification to suit the type and size of your manège.

Irrigation Design

We also design irrigation system for cooling and dust suppression of manèges. We typically design fully-automated sprinkler systems which use mains water which can be adapted for use harvested rain-water or a groundwater from a well or borehole.

For more information or to request a written quotation contact;

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** The correct term is manège, however ménage is commonly (although incorrectly) used.*