Dam construction.

Diversion

In the first instance, for foundations to be built on the river bed there cant be any water flowing through the sight. To get around this, engineers will built some kind of diversion so the water can flow around the sight. Different types of diversion could be tunnels or channels.

Foundations

The next stage of construction would be building the foundations. To do so, any cracks in the bedrock must be filled with grout, to prevent any seepage. Engineers drill holes down in to the rock and pump grout into the holes. In doing so, any nearby cracks and fissures will be filled with grout.

Construction of the dam itself

There are two methods of building a concrete dam; pour liquid concrete or use a concrete mix and compact it with rollers. When using the pouring method, a formwork, or mould, is built and the concrete is poured in. This method raises the dam at 1-2 metres at a time. Each layer is left to cure prior to the next layer being added. When using the concrete mix, low walls of concrete are built on both the upstream and downstream sides of the dam and then the mix is spread between them. After that, using rollers, the mix is compacted. This method raises the dam approximately 600mm at a time.

Like a concrete dam, earth dams are built in layers. Bulldozers are used to spread the fill material in thin layers. When using earth, 300mm, and when using rock-fill, up to 1m. Simultaneously, the core of the dam, usually clay or concrete, is worked up in layers so its height corresponds with the rest of the dam.