Autonomous Factors	Design factors
A well with a very high pump capacity may serve a very large area that exceeds the spacing determined by other factors. If such a well were to be out of order for a prolonged period, the neighbouring wells would be overburdened, and proper drainage of the area would be impossible.	

Table 5-10 – Autonomous and Design Factors Affecting Design Discharge Rates

5.9.7. Environmental Design Considerations

This Section provides guidance on tubewell design and the potential for impact on the environment. Environmental considerations include:

- Aquifer pollution prevention – design and construction of suitable tubewell housing to prevent unauthorised access.
- Management of poor quality discharge water – tubewell drainage may draw in contaminants from off-site or newly introduced on-site sources. Poor quality water may require treatment prior to its disposal into the reticulation network.

Environmental design considerations should be included as part of the reconnaissance and concept design stages of drainage design development. These considerations shall follow guidance provided in CIRIA document 'Control of water pollution from linear construction projects: technical guidance, Publication C648, 2006'.

5.9.8. Tubewell and Pump Maintenance

To determine any loss in performance some reference mark will be needed and an effective maintenance program established prior to implementation of the drainage design.

To evaluate the performance of a well, the following checklist shall be performed on commissioning each well:

- The static water level in the well.
- The pumping rate and the water level expressed as specific capacity and the ratio of the pumping rate and the drawdown after a specified period of pumping.
- The sand content of the pumped water.
- The total depth of the well.
- The original specific capacity of the well.
- The normal pumping rate and how many hours per day it is operated.

Significant changes in well yield, energy demand, or energy consumption indicate that the well, or the pump, requires maintenance measures.

It is important that the tubewell is designed to allow easy access for monitoring, and maintenance should it be required. Thus design shall follow guidance provided in CIRIA document *'Monitoring, maintenance and rehabilitation of water supply boreholes, Report R 137, 2003'*.