

Constructed Wetlands as a vertical subsurface flow Reed Bed Treatment System in Northern China

client:
Planning & Design Institute
of Hunnan New District,
Shenyang, China

Treatment of municipal sewage
in a new urban development area

Population equivalent:
6000 PE

Planning: 03 – 05/2003
Construction: 05 – 10/2003

Pretreatment:
- screen and operation building
- sedimentation tank
- sludge silo
- pump station
- mechanical pretreatment filter
(Tekleen)

Sewage sludge treatment:
- reed bed sludge treatment outside
the area

Biological treatment step :
- 3 reed beds (vertical flow)
- with subsurface distribution system

Outlet:
- into stormwater wetland treatment
facility

Space requirement, without sludge treatment:
- 8000 m²

Special features:
- 3 month frost period up to – 30 °C
- special wastewater distribution system
with protection against
root intrusion and biofilm
clogging



Reed bed treatment system



Natural stormwater treatment

	Influent Parameters	Effluent Parameters
COD cromate	191 mg/l	12 mg/l
NH ₃ -N	39 mg/l	1 mg/l
Total P	4 mg/l	0,41 mg/l
BOD ₅	69mg/l	11 mg/l

