

# Constructed Wetland

## Sewage treatment plant

## Hunnan New District

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

Treatment of domestic sewage  
in a development area

Population equivalent:  
6000 PE

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

Pretreatment:

- screen and operating building
- sedimentation tank
- sludge silo
- pumpstation
- mechanical filter

Sewage sludge treatment:

- sludge dewatering in  
reed planted sludge drying basins

Biological treatment step :

- 3 reed planted artificial wetlands  
(vertical flow)
- with subsurface distribution system

Outlet:

- into stormwater treatment wetlands

Space requirement, without sludge treatment:

- 8000 m<sup>2</sup>

Special features:

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



Reed bed treatment system



Natural stormwater treatment

2006/07 Influent Parameters    Effluent Parameters

COD cromate	191,0 mg/l	11,8 mg/l
NH <sub>3</sub> -N	39,2 mg/l	1,07 mg/l
Total P	4,61 mg/l	0,37 mg/l
BOD <sub>5</sub>	69,63 mg/l	11,00 mg/l