

## Case study: China



Aeration „underground“



Ultra filtration 3\*2 filter modules



### Contact

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#### Residential area:

- Supply for toilet flushing:  
60 apartments; 86 boxes; 210 people
- Operating since June 2006
- Treated water from showers and basins

#### Technical data:

Membrane bioreactor

Capacity: 10,000 l/day

Vol. clear water tank: 6,000 l

Vol. aerobic treatment 10,000 l



### Water Quality Grey Water (BCP Beijing/China)

项目	2002.12.04			2002.12.18			water quality standard for sweeping	water quality standard for flushing
	inlet	outlet	percentage of removal	inlet	outlet	percentage of removal		
Chroma (degree)	0	5		0	15		30	30
PH	7, 9	8, 2		7, 8	8, 4		6.5~9.0	6.5~9.0
SS	65	2	97%	22	0	100%	5	10
BOD <sub>5</sub>	86, 2	3	97%	123	1,8	99%	10	10
COD <sub>cr</sub>	132	12, 9	90%	200	14, 1	93%	50	50
Total Bacteria (every ml)	4, 70E+03	320	93%	3, 60E+03	2	100%	-	-
Coloform (every l)	2, 38E+05	92	100%	2, 38E+05	4	100%	3	3
Turbidity (degree)	48	2	96%	74	1	99%	5	10
TDS							1000	1200
Ammonia	7, 72	0, 86	89%	6, 41	0, 52	92%	10	20
Total rigidity							450	450
Cl							300	350
Fe							0, 4	0, 4
Mn							0, 1	0, 1
Total phosphorus	5, 42	2, 81	48%	4, 02	5, 24	-30%	-	-

### Clear water quality is in the EU regulations for bathing water

#### Grey water recycling project background:

The system was developed within a Chinese/German partnership program (BMBF ID code 02WA0047).



Green building in between the housing complex contains all technical equipment. Local training and awareness rising is part of the project.

	total	Building No.6	Building No.7
apartments	82	51	31
habitants	218	134	84
collected data	68%	85%	52%
kitchen sink			
bath/shower			
laundry/cleaning l/(capita d)	89	90	86
toilet flushing l/(capita d)	34	34	33
irrigation l/(capita d)	30	30	30
total supply l/(capita d)	153	154	149

Example of detailed study before engineering to find out local habits, quantities etc