Phytoparking

Local waste water treatment system without ‘footprint’

Dion van Oirschot

Director Rietland bvba
Tilburg (NL) / Minderhout (B)
www.rietland.com
Constructed Wetlands

Perfect marriage between nature and technology

- Low Energy Usage
- Robust at varying loads
- Low maintenance
- Relatively large footprint (area)
aerated constructed wetland

Phytoair

Innovation NWC (USA) – licence Rietland

- Surface area 4 x smaller: 0.75 m² per PE
- Very high treatment efficiency
- Energy usage < 30% compared to technical installations of same capacity
- Flexibly adjustable for varying loads: – variable aeration
- Lower costs compared to classical constructed wetlands
Effluent results sanitary waste water

Phytoair

Loodglansstraat, Harbour company Antwerp (sanitary waste water office building)

- **BOD**: < 3 mg/l
- **COD**: 13 mg/l
- **Kj-N**: 1,7 mg/l
- **NH4-N**: 0,4 mg/l
- **TP**: 0,77 mg/l (Argex + tobermoriet)
- **SS**: < 2 mg/l
Treatment results industrial

Phytoair

Frupeco Lendelede: fruit peeling company
Aerated wetland 1.650 m²

<table>
<thead>
<tr>
<th>Parameter</th>
<th>In</th>
<th>Out</th>
<th>Rem. %</th>
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<tbody>
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<td>BOD</td>
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<tr>
<td>COD</td>
<td>6.086</td>
<td>105</td>
<td>98%</td>
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<tr>
<td>TN</td>
<td>5,8</td>
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<tr>
<td>TP</td>
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<td>0,17</td>
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<td>SS</td>
<td>152</td>
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<tr>
<td>Flow</td>
<td>20 – 40 m³/day</td>
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## Treatment results pharmaceuticals

**Phytoair**

Huize Walden, Westmalle (healthcare home)
PhD research Hannele Auvinen (Univ. Ghent)

<table>
<thead>
<tr>
<th>Medicine</th>
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<tr>
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<td>TMD</td>
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</table>
Innovation Rietland: Phytoparking

- Treatment system under parking with grass.
- Net footprint: 0 m²
- Dual purpose: parking and waste water treatment
- Integration with stormwater infiltration possible
- 1 parking place = 16 PE
Construction

Phytoparking

- Air and water passing pavement out of PE
- Distribution pipes service friendly in gutters
- Substrate: Argex®
Thank you for your attention!

Kruibeeksesteenweg 162
Zwijndrecht (Burcht)
tel. +32(0) 3 250 15 15

www.argex.eu

Netherlands
Rosmolenplein 34
Tilburg
+31 13 544 65 99

Belgium
Van Aertselaerstraat 70
Minderhout
+32 3 294 02 65

www.rietland.com