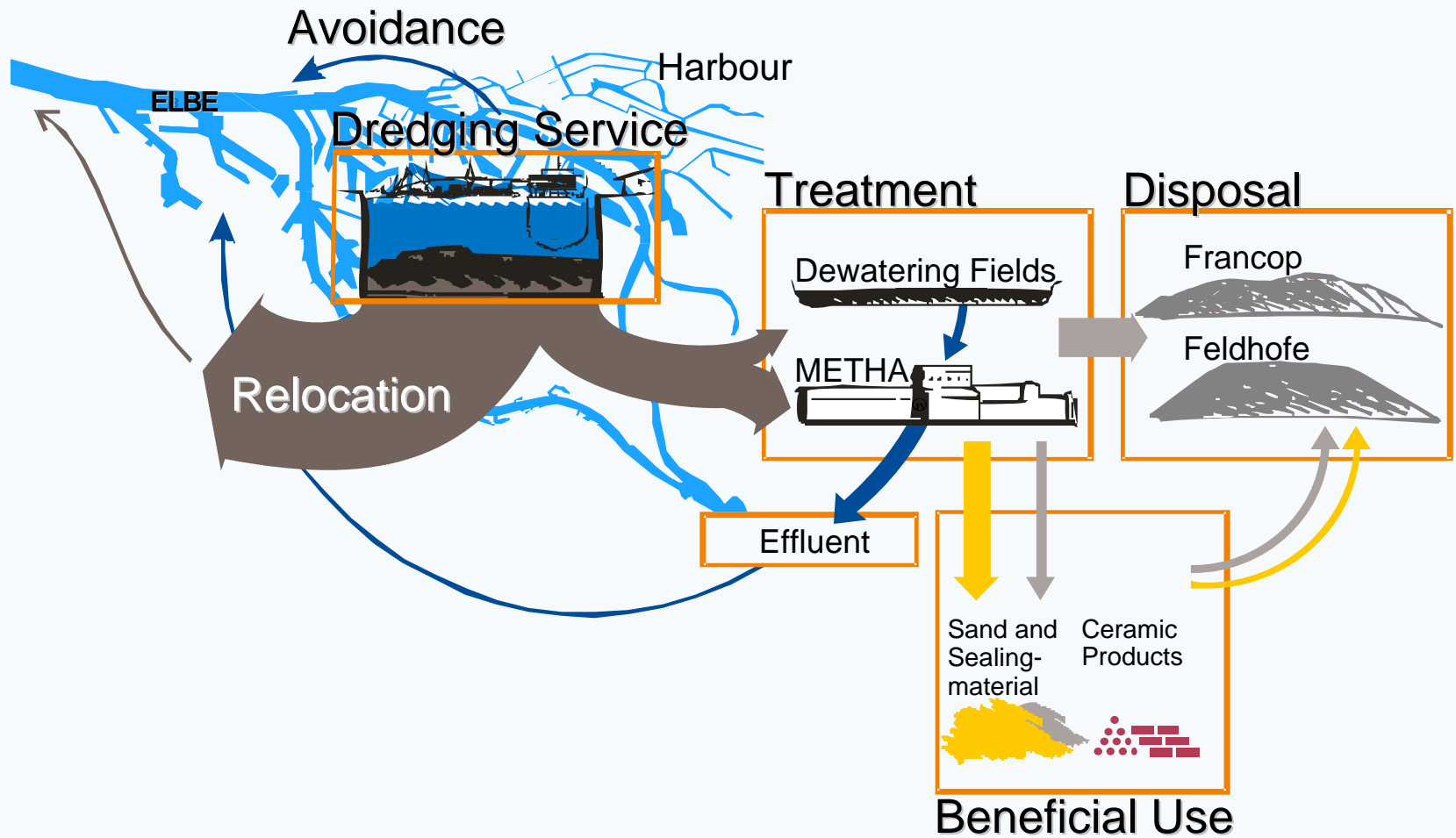


Dredged Material
Treatment and Disposal Facilities

SedNet Special Session:
Managing the Elbe Estuary

9th October 2009


Dredged Material Management



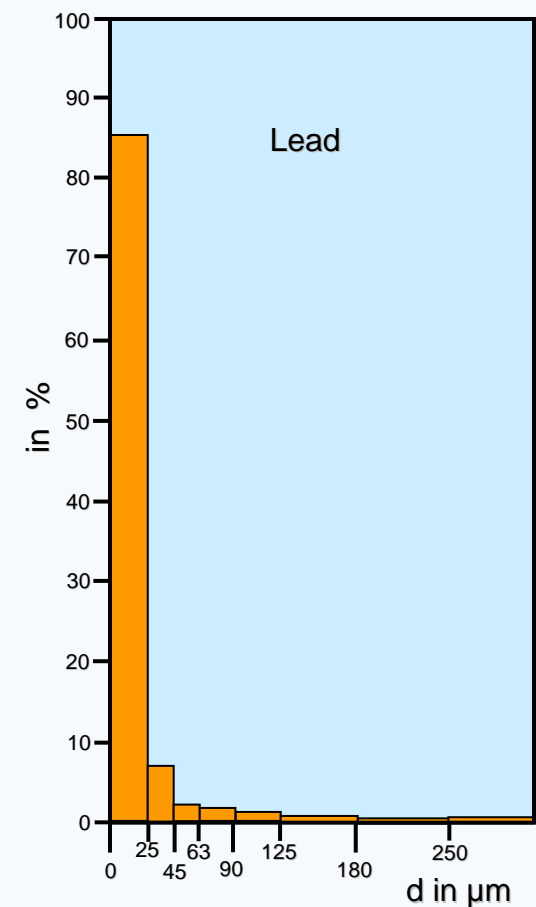
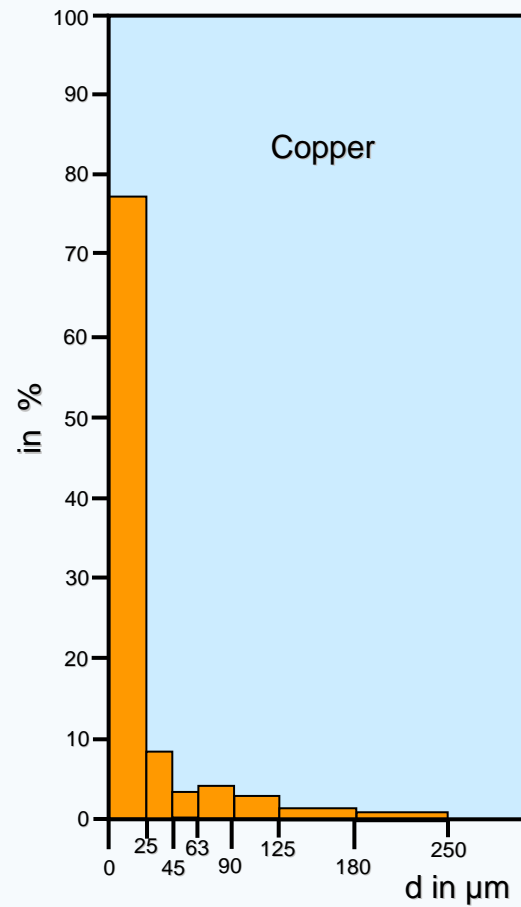
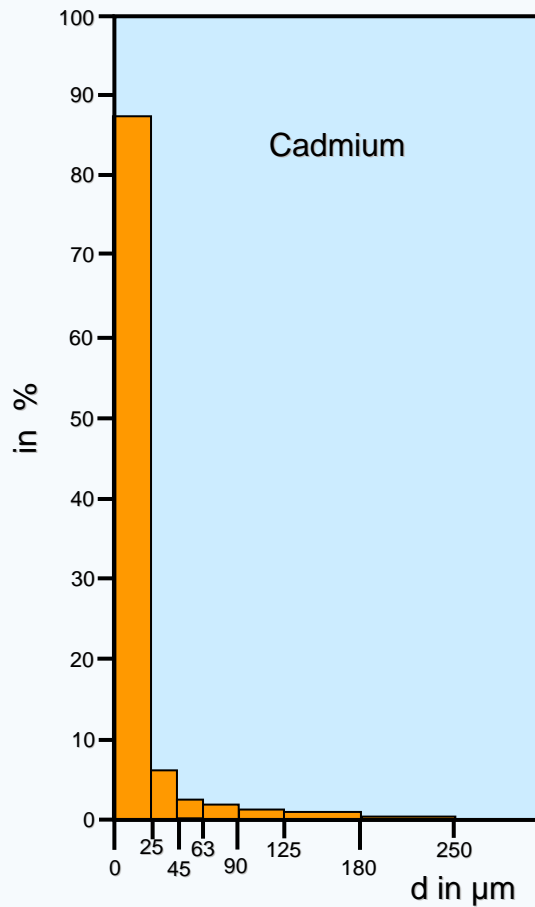
Sites for Dredged Material Treatment



 Treatment Facility

 Disposal Site

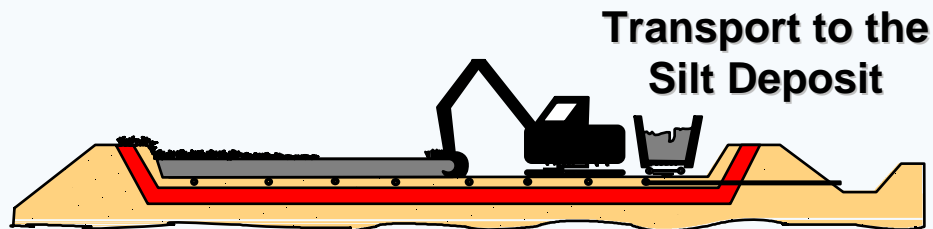
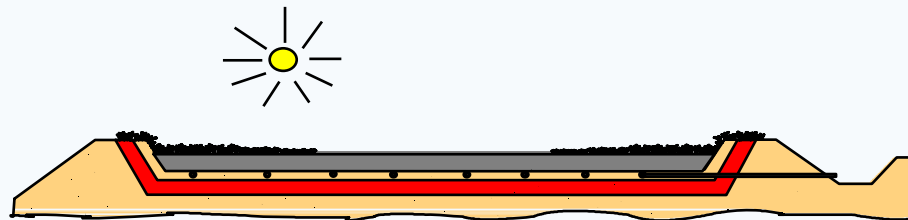
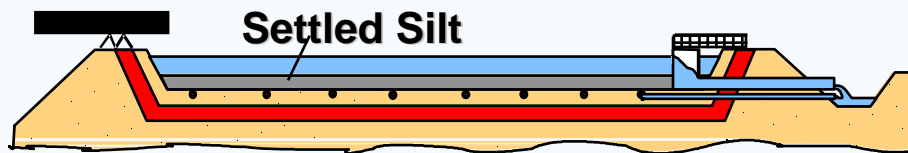
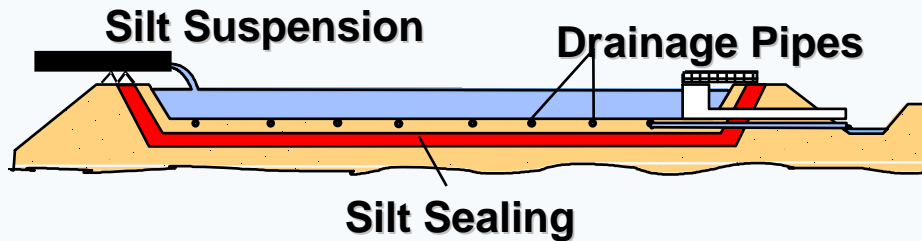
Why Need We Dredged Material Separation?



Treatment – Dewatering Fields Moorburg



Operation Principle of the Dewatering Fields



- Area size of dewatering fields: about 100 ha
- Field size: 2 - 4 ha
- Annual throughput: 200.000 – 300.000 m³

Operation of the Dewatering Fields

Handling of the material in the beginning of the process

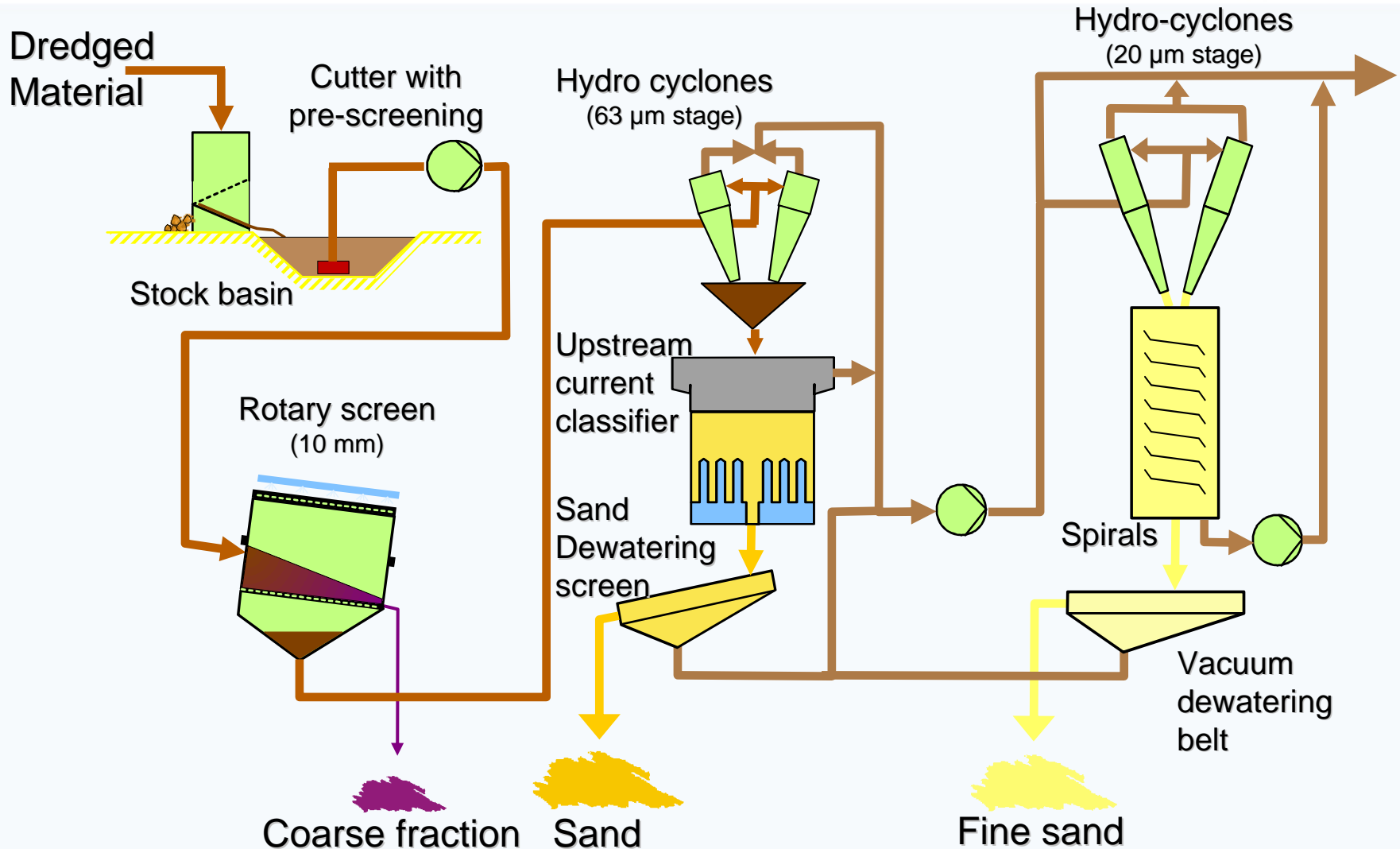


Dewatered Material ready for beneficial use or disposal

Treatment – METHA Plant



Principle Flowsheet of the METHA Plant - Sorting and Separation



Main Components of the METHA Plant

- Sorting and Separation



Rotary screen (10 mm)

Hydro-cyclone
(20 μm)



Spirals

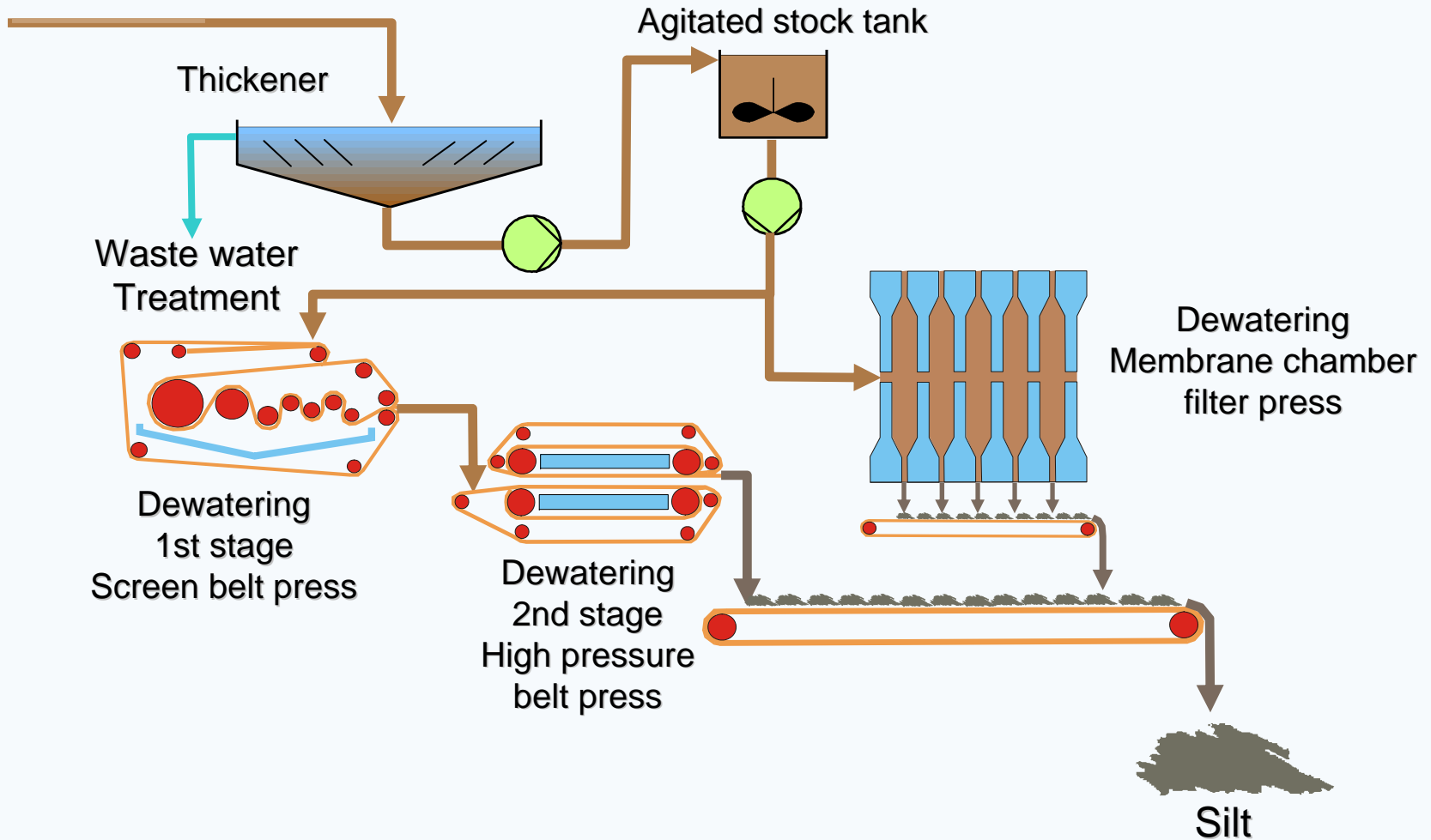


Hydro-cyclones (63 μm)



Upstream
current
classifier

Principle Flowsheet of the METHA Plant - Dewatering



Main Components of the METHA Plant

- Dewatering



Membrane chamber
filter press



Filter belt press



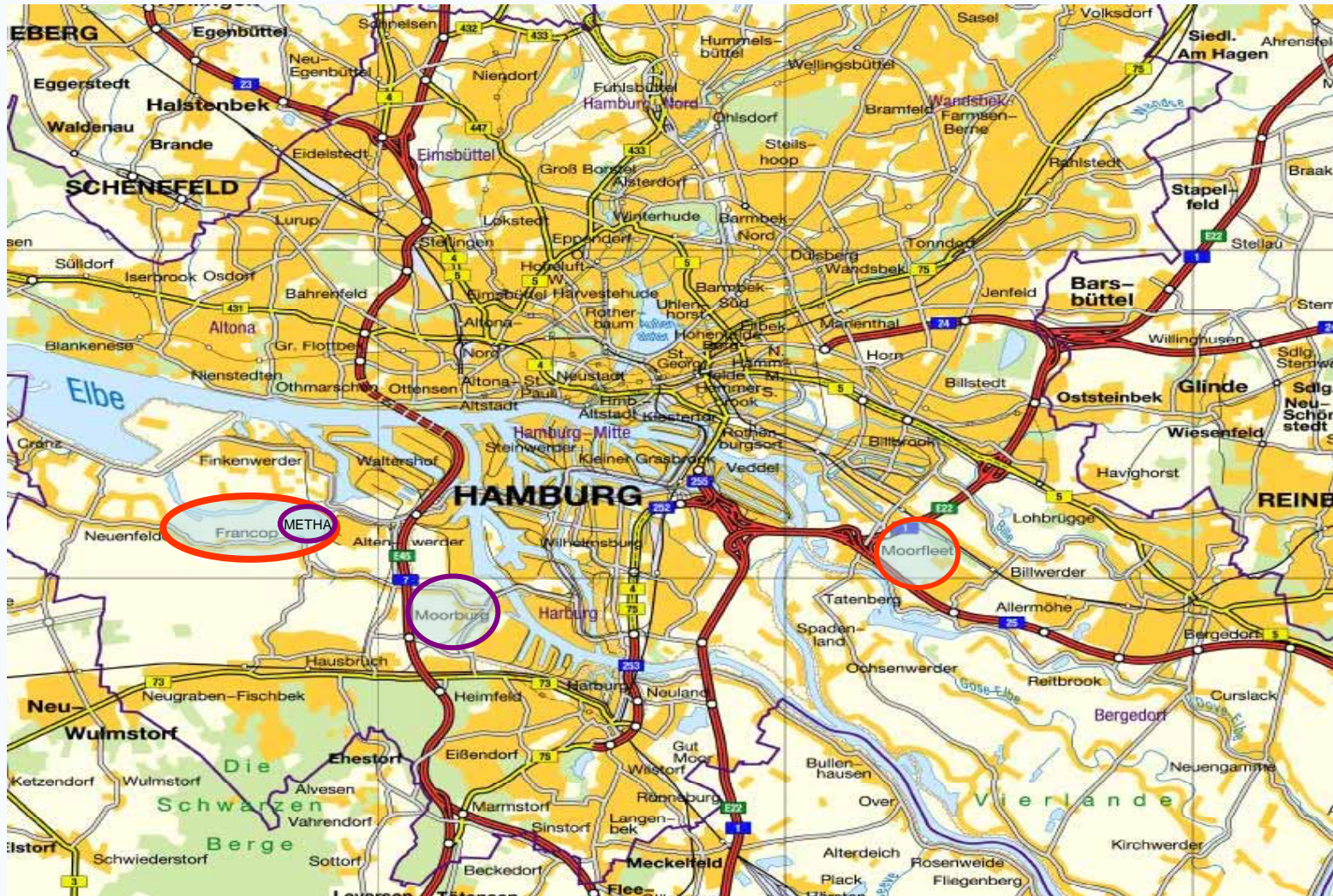
High pressure
belt press

Facts and Figures of the METHA Plant


- **Development of the technology: 1987 - 1992**
- **Commissioning: March 1993**
- **Annual throughput: about 900.000 m³ \cong 450.000 t_{DS}**
- **Investment costs: about 70.000.000 € (1993)**
- **Operation costs: about 13.000.000 €/a**
 - 3.800.000 €/a (Process)**
 - 4.000.000 €/a (Staff)**
 - 5.000.000 €/a (Depreciation & Debt Services)**
- **Staff: 96 employees**

Until today the METHA plant is the largest dredged material treatment plant worldwide

Sites for Dredged Material Treatment



 Treatment Facility

 Disposal Site

Disposal – Francop Disposal Site



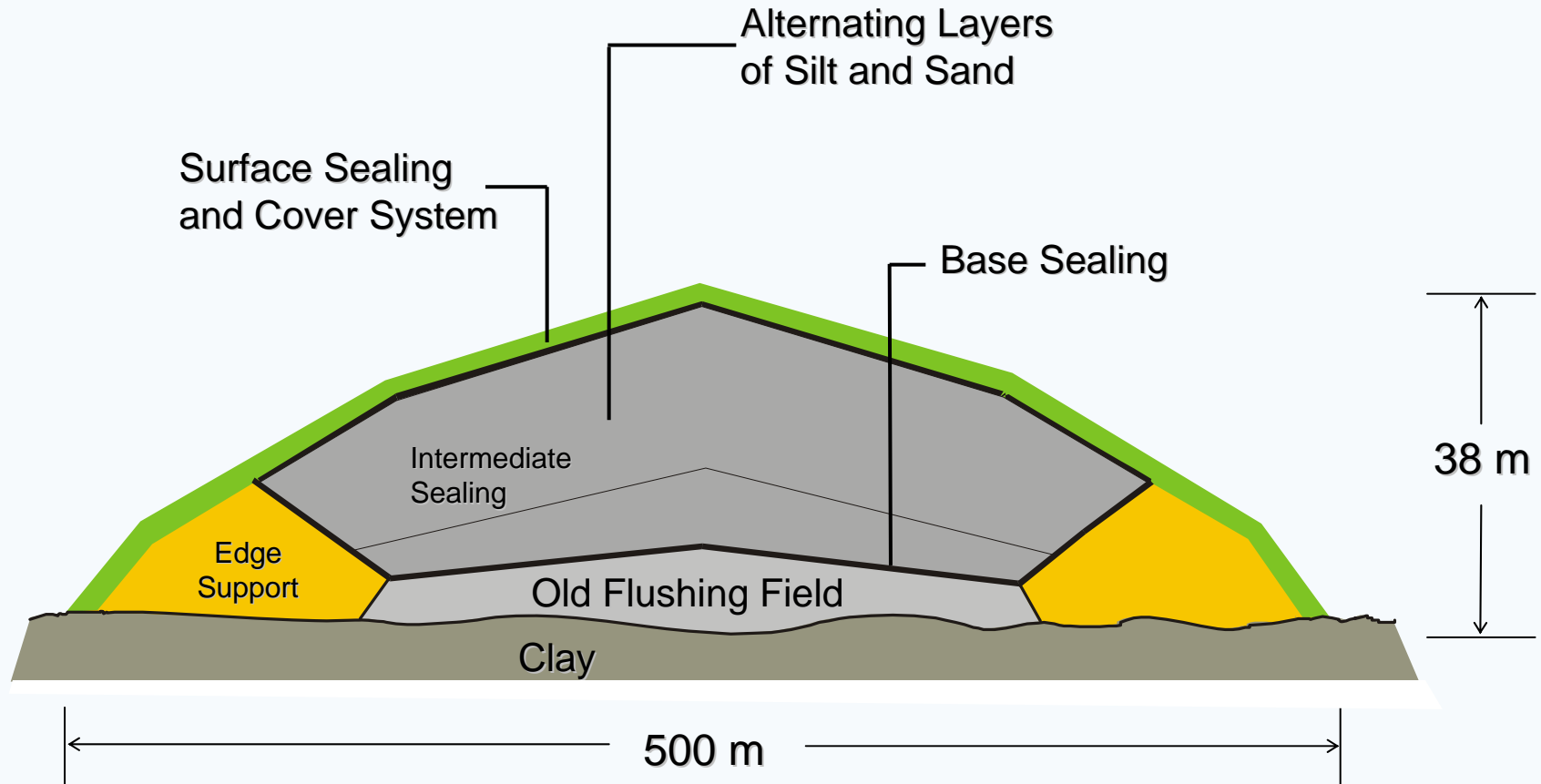
- **Area size:**
about 100 ha
- **Total capacity:**
9.000.000 m³
- **Annual capacity:**
200.000 – 400.000 m³
- **Installation Operation:**
until 2013
- **Continued use:**
Public Park

Disposal – Feldhofe Disposal Site

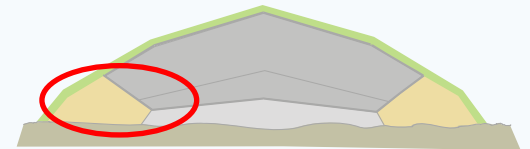
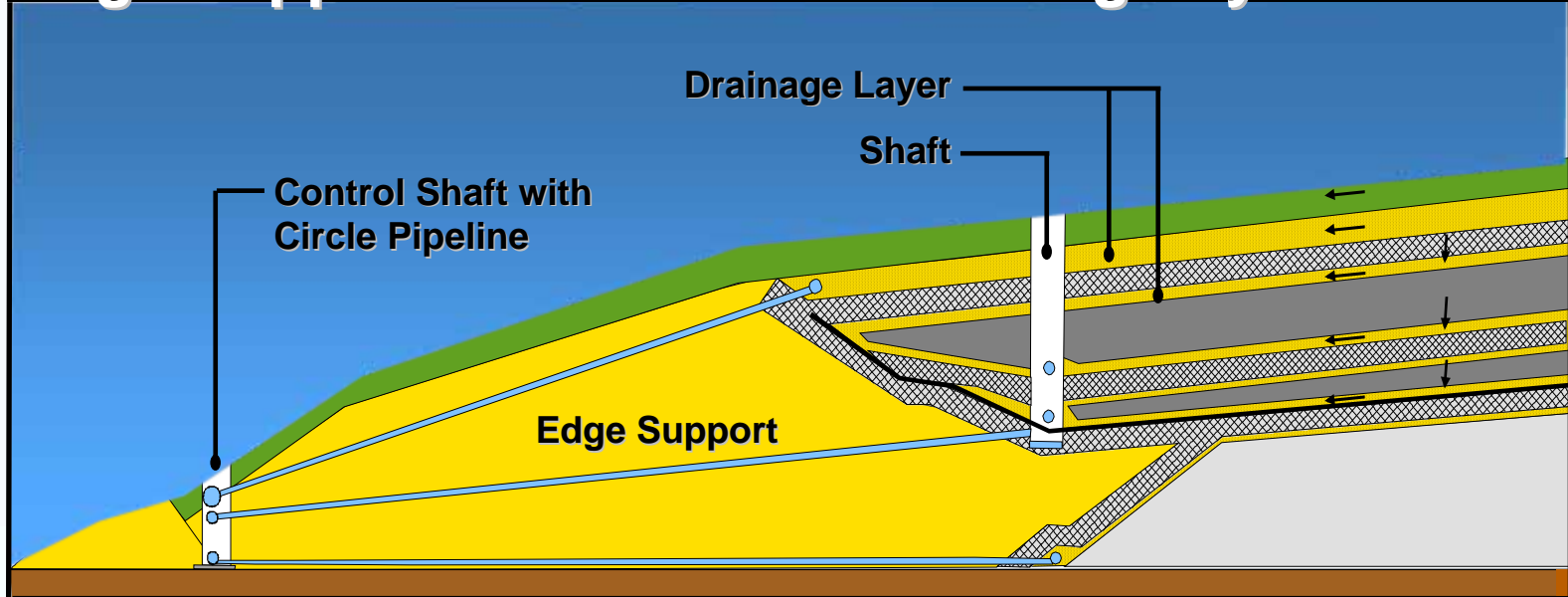


- **Area size:**
about 80 ha
- **Total capacity:**
9.000.000 m³
- **Annual capacity:**
400.000 m³
- **Installation Operation:**
until 2025
- **Continued use:**
Public Park

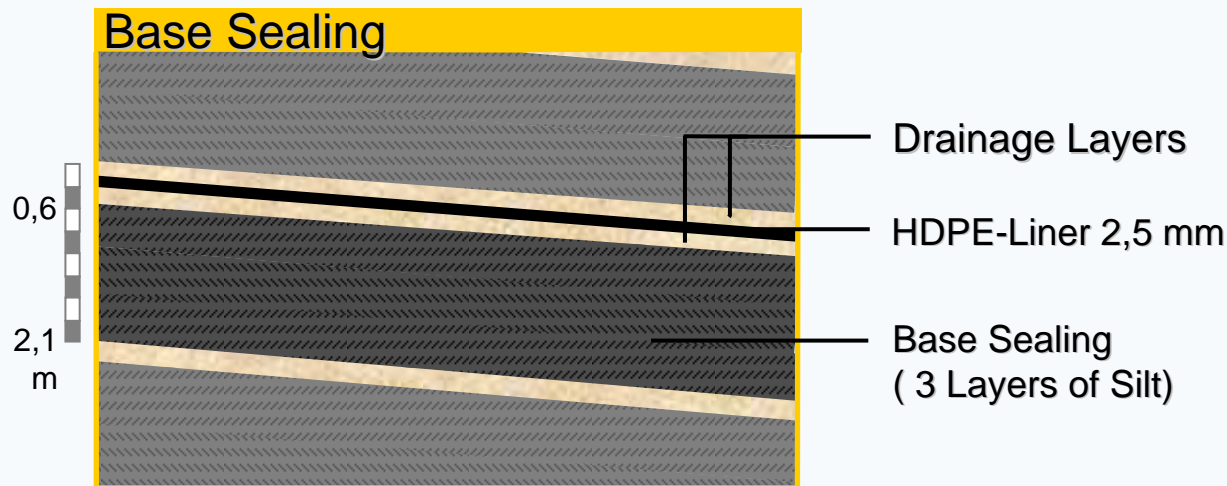
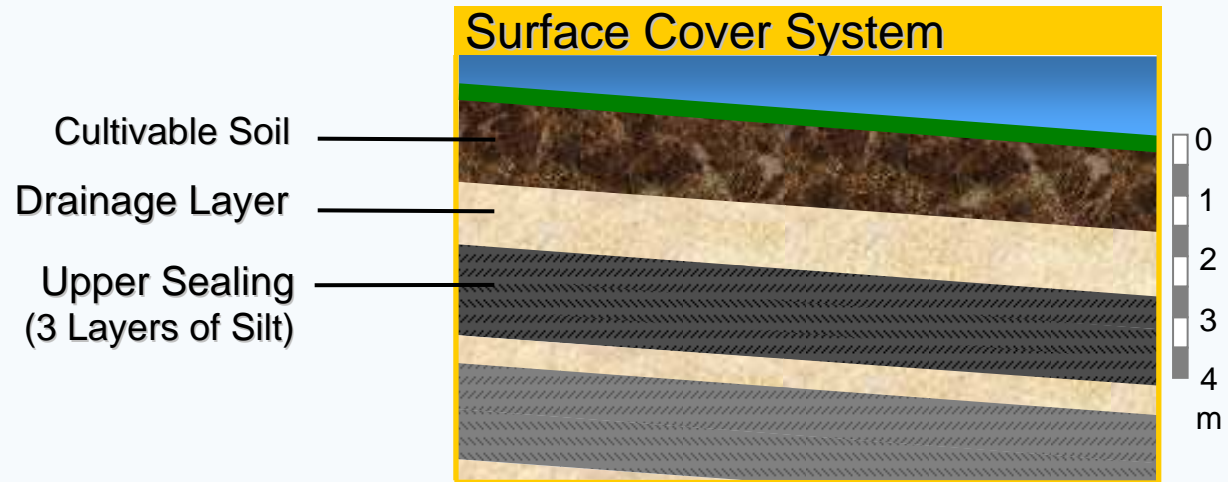
Construction Principle - Francop Disposal Site



Edge Support Structure with Drainage System



Construction Principle - Francop Disposal Site



Disposal – Monitoring Program

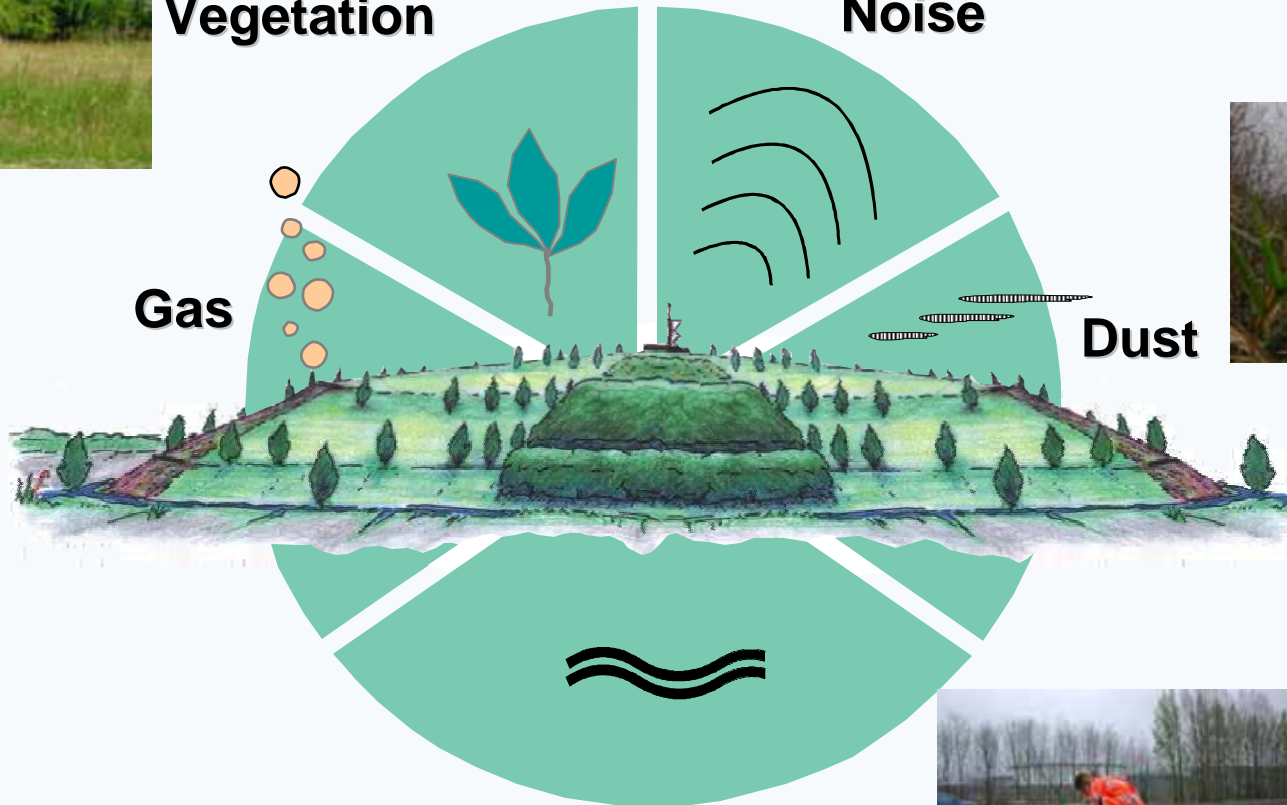


Vegetation

Noise

Gas

Dust

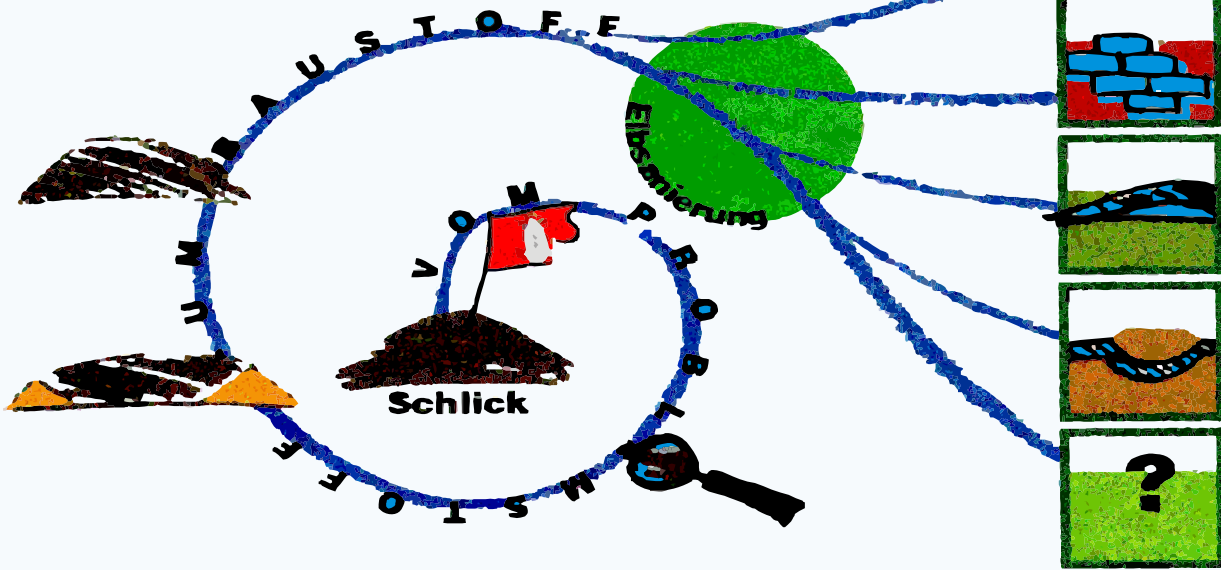


Dredged Material - Beneficial Use

Refilling of harbour basins



Leight weight pellets



Bricks



Dike construction



Thank you for your attention!



Contacts

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